OFFICIAL

1965-66

PUBLICATION

ASSOCIATION
OF
AMERICAN PESTICIDE CONTROL OFFICIALS
INCORPORATED

Price $2.00
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BOARD OF DIRECTORS AAPCO 1965-66

Seated: (L-R) O. T. Guice, Jr., President (Miss.); A. B. Heagy, President-Elect (Md.); C. Colton Carr, Secretary (Mich.); Robert H. Guntert, Treasurer (Kan.)

Standing: (L-R) Clayton P. Osgood, Past President (Me.); Errett Deck, Jr. (Wash.); L. H. Senn (S.C.); A. E. Thomas (Okla.)

Members Not Shown: Vernon Mayhood (Calif.); Justus C. Ward, Adviser (USDA)
PART I

ASSOCIATION

REFERENCE MATERIAL
**OFFICERS, COMMITTEES AND INVESTIGATORS 1965-66**  
**ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INC.**

### OFFICERS AND BOARD OF DIRECTORS

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>O. T. Guice, Jr.</td>
<td>State College, Mississippi</td>
</tr>
<tr>
<td>President Elect</td>
<td>A. B. Heagy</td>
<td>College Park, Maryland</td>
</tr>
<tr>
<td>Secretary</td>
<td>C. Colton Carr</td>
<td>East Lansing, Michigan</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Robert H. Guntert</td>
<td>Topeka, Kansas</td>
</tr>
<tr>
<td>Directors</td>
<td>Clayton P. Osgood (Past Pres.)</td>
<td>Augusta, Maine</td>
</tr>
<tr>
<td></td>
<td>L. H. Senn (1966)</td>
<td>Clemson, South Carolina</td>
</tr>
<tr>
<td></td>
<td>Vernon Mayhood (1967)</td>
<td>Sacramento, California</td>
</tr>
<tr>
<td></td>
<td>A. E. Thomas (1967)</td>
<td>Oklahoma City, Oklahoma</td>
</tr>
<tr>
<td></td>
<td>Justus C. Ward (Advisor)</td>
<td>Washington, D. C.</td>
</tr>
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### COMMITTEES

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<tr>
<th>Committee</th>
<th>Chair</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>States Relations</strong></td>
<td>A. E. Thomas, Chm.</td>
<td>Oklahoma City, Oklahoma</td>
</tr>
<tr>
<td>R. H. Guntert</td>
<td></td>
<td>Topeka, Kansas</td>
</tr>
<tr>
<td>Arthur T. Hart</td>
<td></td>
<td>Atlanta, Georgia</td>
</tr>
<tr>
<td>R. A. Moncrief</td>
<td></td>
<td>Montpelier, Vermont</td>
</tr>
<tr>
<td>John W. Scott</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Toxicity &amp; Antidotes</strong></td>
<td>J. S. Leary, Jr. Chm.</td>
<td>Washington, D. C.</td>
</tr>
<tr>
<td>J. H. Cochran</td>
<td></td>
<td>Clemson, South Carolina</td>
</tr>
<tr>
<td>Wayland Hayes, Jr.</td>
<td></td>
<td>Atlanta, Georgia</td>
</tr>
<tr>
<td>A. B. Heagy</td>
<td></td>
<td>College Park, Maryland</td>
</tr>
<tr>
<td>J. C. Krantz, Jr.</td>
<td></td>
<td>Baltimore, Maryland</td>
</tr>
<tr>
<td>J. A. Noone</td>
<td></td>
<td>Washington, D. C.</td>
</tr>
<tr>
<td>F. W. Oberst</td>
<td></td>
<td>Edgewood, Maryland</td>
</tr>
<tr>
<td><strong>Regulations</strong></td>
<td>Jeris G. Eikenberry, Chm.</td>
<td>Lafayette, Indiana</td>
</tr>
<tr>
<td>Arthur T. Hart</td>
<td></td>
<td>Richmond, Virginia</td>
</tr>
<tr>
<td>Kenneth Helrich</td>
<td></td>
<td>New Brunswick, New Jersey</td>
</tr>
<tr>
<td><strong>Definitions</strong></td>
<td>Van P. Entwistle, Chm.</td>
<td>Sacramento, California</td>
</tr>
<tr>
<td>Julius R. Anderson</td>
<td></td>
<td>Jefferson City, Missouri</td>
</tr>
<tr>
<td>Harlan Specht</td>
<td></td>
<td>Reno, Nevada</td>
</tr>
<tr>
<td>R. O. White</td>
<td></td>
<td>Washington, D. C.</td>
</tr>
<tr>
<td><strong>Methods Clearing House</strong></td>
<td>R. S. Thomas, Chm.</td>
<td>Beltsville, Maryland</td>
</tr>
<tr>
<td>W. N. Blickenstaff</td>
<td></td>
<td>Beltsville, Maryland</td>
</tr>
<tr>
<td>L. M. Cox, Jr.</td>
<td></td>
<td>Richmond, Virginia</td>
</tr>
<tr>
<td>Chas. V. Marshall</td>
<td></td>
<td>Ottawa, Ontario, Canada</td>
</tr>
<tr>
<td><strong>Collaborative Check Sample</strong></td>
<td>L. M. Cox, Jr., Chm.</td>
<td>Richmond, Virginia</td>
</tr>
<tr>
<td>L. A. Delp</td>
<td></td>
<td>Topeka, Kansas</td>
</tr>
<tr>
<td>Ernest A. Epps, Jr.</td>
<td></td>
<td>Baton Rouge, Louisiana</td>
</tr>
<tr>
<td>J. E. Schueler</td>
<td></td>
<td>College Park, Maryland</td>
</tr>
<tr>
<td>R. S. Thomas</td>
<td></td>
<td>Beltsville, Maryland</td>
</tr>
<tr>
<td>E. T. Upton *</td>
<td></td>
<td>Kansas, City, Kansas</td>
</tr>
<tr>
<td><strong>Workshop</strong></td>
<td>Errett Deck, Jr., Chm.</td>
<td>Olympia, Washington</td>
</tr>
<tr>
<td>Ernest A. Epps, Jr.</td>
<td></td>
<td>Baton Rouge, Louisiana</td>
</tr>
<tr>
<td>Glenn Horton</td>
<td></td>
<td>University Park, New Mexico</td>
</tr>
<tr>
<td>Ralph Houghton</td>
<td></td>
<td>Toronto, Ottawa, Canada</td>
</tr>
<tr>
<td>William J. Huffman</td>
<td></td>
<td>Lexington, Kentucky</td>
</tr>
</tbody>
</table>

*If there is a change in firms supplying check samples, then chemist from new firm replaces Upton.*
Compendium
R. Z. Rollins, Chm. Dept. of Agri.
Harry J. Fisher Agri. Exp. Station
E. L. Gilbert USDA
Robert H. Guntert Board of Agri.
Kenneth Helrich Dept. Agri. Chem. Rutgers
Larry A. Koehler State Labs, Dept.
J. S. Leary, Jr. USDA
E. R. Winterle Dept. of Agri.

Sacramento, California
New Haven, Connecticut
Washington, D. C.
Topeka, Kansas
New Brunswick, New Jersey
Bismarck, North Dakota
Washington, D. C.
Tallahassee, Florida

Nomenclature & Terminology
S. C. Billings, Chm. USDA
C. Colton Carr Dept. of Agri.
J. A. Noone NACA
W. D. McClellan USDA
A. A. Mulliken CSMA
J. D. Patterson Dept. of Agri.
Stacy B. Randle Dept. Agri. Chem. Rutgers
Elwyn Schall Dept. Biochem, Purdue

Washington, D. C.
East Lansing, Michigan
Washington, D. C.
Beltville, Maryland
New York, New York
Salem, Oregon
New Brunswick, New Jersey
Lafayette, Indiana

By-Laws
G. H. Laramie, Chm. Dept. of Agri.
Henry DeSalvo State Plant Board
W. J. Huffman Agri. Exp. Station
Delmar K. Myers Dept. of Agri.

Concord, New Hampshire
Little Rock, Arkansas
Lexington, Kentucky
Harrisburg, Pennsylvania

Sampling Procedures
M. E. Christensen, Chm. Dept. of Agri.
L. M. Cox, Jr. Dept. of Agri.
A. D. Cromartie USDA
R. A. Moncrief Dept. of Agri.

Salt Lake City, Utah
Richmond, Virginia
Washington, D. C.
Atlanta, Georgia

Uniform Policy
A. B. Heagy, Chm. State Inspection Service
Errett Deck, Jr. Dept. of Agri.
L. H. Senn State Crop Pest Comm.

College Park, Maryland
Olympia, Washington
Clemson, South Carolina

Model Custom Applicators Law
C. A. Bower, Chm. Dept. of Agri.
O. T. Guice, Jr. State Plant Board
Vernon Mayhood Dept. of Agri.

Oklahoma City, Oklahoma
State College, Mississippi
Sacramento, California

INVESTIGATORS

LEGISLATION
Henry L. Page Dept. of Agri. & Mkts.

Albany, New York

REGISTRATION
Leland J. Fife Dept. of Agri.

Boise, Idaho

PESTICIDE-FERTILIZER MIXTURES
Paul E. Irwin Dept. of Agri.

Richmond, Virginia
MEMBERS WHO HAVE OCCUPIED THE OFFICE OF PRESIDENT

<table>
<thead>
<tr>
<th>Name</th>
<th>City</th>
<th>State</th>
<th>Term</th>
</tr>
</thead>
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<tr>
<td>H. H. Hoffman</td>
<td>St. Paul, Minnesota</td>
<td>Minnesota</td>
<td>1948-49</td>
</tr>
<tr>
<td>J. F. Fudge</td>
<td>College Station, Texas</td>
<td>Texas</td>
<td>1949-50</td>
</tr>
<tr>
<td>A. B. Lemmon</td>
<td>Sacramento, California</td>
<td>California</td>
<td>1950-51</td>
</tr>
<tr>
<td>E. W. Constable</td>
<td>Raleigh, North Carolina</td>
<td>North Carolina</td>
<td>1951-52</td>
</tr>
<tr>
<td>R. C. Berry</td>
<td>Richmond, Virginia</td>
<td>Virginia</td>
<td>1952-53</td>
</tr>
<tr>
<td>Floyd Roberts</td>
<td>Bismarck, North Dakota</td>
<td>North Dakota</td>
<td>1953-54</td>
</tr>
<tr>
<td>E. A. Epps</td>
<td>Baton Rouge, Louisiana</td>
<td>Louisiana</td>
<td>1954-55</td>
</tr>
<tr>
<td>C. A. Bower</td>
<td>Oklahoma City, Oklahoma</td>
<td>Oklahoma</td>
<td>1955-56</td>
</tr>
<tr>
<td>F. H. Gates</td>
<td>Denver, Colorado</td>
<td>Colorado</td>
<td>1957-58</td>
</tr>
<tr>
<td>W. C. Geagley</td>
<td>Lansing, Michigan</td>
<td>Michigan</td>
<td>1958-59</td>
</tr>
<tr>
<td>J. D. Patterson</td>
<td>Salem, Oregon</td>
<td>Oregon</td>
<td>1959-60</td>
</tr>
<tr>
<td>E. R. Winterle</td>
<td>Tallahassee, Florida</td>
<td>Florida</td>
<td>1960-61</td>
</tr>
<tr>
<td>R. H. Guntert</td>
<td>Topeka, Kansas</td>
<td>Kansas</td>
<td>1961-62</td>
</tr>
<tr>
<td>M. E. Christensen</td>
<td>Salt Lake City, Utah</td>
<td>Utah</td>
<td>1962-63</td>
</tr>
<tr>
<td>S. B. Randle</td>
<td>New Brunswick, New Jersey</td>
<td>New Jersey</td>
<td>1963-64</td>
</tr>
<tr>
<td>Clayton P. Osgood</td>
<td>Augusta, Maine</td>
<td>Maine</td>
<td>1964-65</td>
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MEMBERS WHO HAVE OCCUPIED THE OFFICE OF SECRETARY-TREASURER

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>A. B. Heagy</td>
<td>College Park, Maryland</td>
<td>1947-60</td>
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MEMBERS WHO HAVE OCCUPIED THE OFFICE OF SECRETARY

<table>
<thead>
<tr>
<th>Name</th>
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</tr>
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<tbody>
<tr>
<td>P. E. Irwin</td>
<td>Richmond, Virginia</td>
<td>1960-64</td>
</tr>
<tr>
<td>C. Colton Carr</td>
<td>Lansing, Michigan</td>
<td>1964-</td>
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MEMBERS WHO HAVE OCCUPIED THE OFFICE OF TREASURER

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>A. B. Heagy</td>
<td>College Park, Maryland</td>
<td>1960-63</td>
</tr>
<tr>
<td>Robert H. Guntert</td>
<td>Topeka, Kansas</td>
<td>1963-</td>
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BY-LAWS OF ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INCORPORATED

ARTICLE I
Names, Offices and Agent

The principal office of the Association of American Pesticide Control Officials, Incorporated, (hereinafter referred to as the "Association"), shall be located in the District of Columbia. The Association shall have its registered office and a registered agent in the District of Columbia as required by the District of Columbia Nonprofit Corporation Act.

ARTICLE II
Members

Section 1. Active Members. The following categories of persons shall be eligible for active membership in the Association:

(1) The officers charged by law with execution of the State, Territorial, Provincial, Dominion, and Federal laws in the Continent of North America, Hawaii, and Puerto Rico regulating the production, labeling, distribution, sale and use of pesticides.

(2) The heads or chiefs of experiment stations, departments of agriculture, bureaus, divisions, sections, and laboratories and employees thereof charged by law with the examination of pesticides.

(3) Research workers employed by State, Territorial, Provincial, Dominion, or Federal Agencies who are engaged in the investigation of pesticides or their component parts.

Section 2. Voting. Each State, Territory, Province, Dominion, and Federal Agency engaged in regulating or investigating pesticides and paying annual dues as prescribed in Article VI of these By-Laws, shall designate one member as the voting representative of that State or Agency. That representative, or his proxy, shall be entitled to vote for the election of officers and directors and such other matters relating to the management of the Association as are submitted to the membership for vote.

Section 3. Life Membership. The Board of Directors shall have authority to bestow life membership upon any individual who has made an outstanding contribution to the work of the Association. Such person shall thereafter be entitled to exercise all the rights of membership, but shall be exempt from the payment of annual membership dues.

ARTICLE III
Meeting of Members

Section 1. Annual Meeting. An annual meeting of the Association shall be held at least once each year at such time as shall be determined by the Board of Directors; provided, however, that in cases of emergency the Board of Directors may direct that the annual meeting not be held and that the business which otherwise would be conducted at the annual meeting be conducted by mail ballot as is provided in Section 8 of this Article, or by informal action as is provided in Section 5 of this article.

Section 2. Special Meetings. Special meetings of the members may be called by the President, the Board of Directors, or at the request of not less than five (5) voting representatives.

Section 3. Place of Meeting. The Board of Directors may designate any place either within or without the District of Columbia as the place for any annual meeting or any special meeting called by the Board of Directors.

Section 4. Notice of Meetings. Written or printed notice stating the place, day, and hour of any meeting of the members shall be delivered, either personally or by mail, to each member not less than ten (10) nor more than fifty (50) days before the date of such meetings, by or at the direction of the President, or the Secretary, or the officers or persons calling the meeting. In case of a special meeting, or when required by statute, or by these By-Laws, the purpose or purposes for which the meeting is called shall be stated in the notice. If mailed, the notice of the meeting shall be deemed to be delivered when deposited in the United States mail addressed to the member at his address as it appears on the records of the Association, with postage thereon prepaid.
Section 5. *Informal Action by Members.* Any action required by law to be taken at a meeting of the members, or any other action which may be taken at a meeting of members, may be taken without a meeting if a consent in writing, setting forth the action so taken, shall be signed by all the members entitled to vote with respect to the subject matter.

Section 6. *Quorum.* Those members present in person or by proxy shall constitute a quorum at any meeting of the Association which is duly called pursuant to the provisions of these By-Laws.

Section 7. *Proxies.* At any meeting of members, a member entitled to vote may vote by proxy executed in writing by the member, or by his duly authorized attorney-in-fact. No proxy shall be valid after eleven (11) months after the date of its execution unless otherwise provided in the proxy.

Section 8. *Voting by Mail.* At the direction of the Board of Directors voting on any matter, including the election of directors or officers, may be conducted by mail in such manner as the Board of Directors shall determine.

**ARTICLE IV**

**Officers**

Section 1. *Officers.* The following officers shall be elected by the membership at each annual meeting by a majority vote of those present and voting, and shall serve for the year beginning with the adjournment of the annual meeting at which they are elected and ending with the adjournment of the next annual meeting:

President-Elect, who shall become President of the Association upon the adjournment of the next succeeding annual meeting,

Secretary, and

Treasurer.

Section 2. *Vacancies.* If any office other than that of President or President-Elect shall become vacant, the office shall be filled by the Board of Directors for the remainder of the term. If the office of President shall become vacant, the President-Elect shall thereupon become President of the Association for the unexpired term, provided that such service shall not affect such person becoming President of the Association upon the adjournment of the next annual meeting. In the event that the office of President becomes vacant at a time when the office of President-Elect is also vacant, the Board of Directors shall fill the office of President for the remainder of the term.

Section 3. *President.* The President shall be the principal executive officer of the Association and shall in general supervise and control all of the business and affairs of the Association. He shall preside at all meetings of the members and of the Board of Directors. He may sign, with the Secretary or any other proper officer of the Association authorized by the Board of Directors, any deeds, mortgages, bonds, contracts, or other instruments which the Board of Directors has authorized to be executed, except in cases where the signing and execution thereof shall be expressly delegated by the Board of Directors or by these By-Laws or by statute to some other officer or agent of the Association; and in general he shall perform all duties incident to the office of President and such other duties as may be prescribed by the Board of Directors from time to time.

Section 4. *President-Elect.* In the absence of the President or in event of his inability or refusal to act, the President-Elect shall perform the duties of the President, and when so acting, shall have all the powers of and be subject to all the restrictions upon the President. The President-Elect shall perform such other duties as from time to time may be assigned to him by the President or by the Board of Directors.

Section 5. *Secretary.* The Secretary shall keep the minutes of the meetings of the members and of the Board of Directors in one or more books provided for that purpose; see that all notices are duly given in accordance with the provisions of these By-Laws or as required by law; be custodian of the corporate records and of the seal of the Association and see that the seal of the Association is affixed to all documents, the execution of which on behalf of the Association under its seal is duly authorized in accordance with the provisions of these By-Laws; keep a register of the members of the Association and of their addresses; and in general perform all duties incident to the office of Secretary and such other duties as from time to time may be assigned to him by the President or by the Board of Directors.
Section 6. Treasurer. If required by the Board of Directors, the Treasurer shall give a bond for the faithful discharge of his duties in such sum and with such surety or sureties as the Board of Directors shall determine. He shall have charge and custody of and be responsible for all funds and securities of the Association; receive and give receipts for moneys, due and payable to the Association from any source whatsoever, and deposit all such moneys in the name of the Association in such banks, trust companies, or other depositaries as shall be selected by the Board of Directors; and in general perform all the duties incident to the office of Treasurer and such other duties as from time to time may be assigned to him by the President or by the Board of Directors.

Section 7. Assistant Secretary and Assistant Treasurer. The Board of Directors may elect and may prescribe the duties of an Assistant Secretary and an Assistant Treasurer, each of whom shall hold office at the pleasure of the Board of Directors.

ARTICLE V
Board of Directors

Section 1. Constitution of the Board. The Board of Directors shall consist of the President, President-Elect, Secretary, Treasurer, immediate past President and four (4) elected members. Two (2) of the four (4) elected members shall be elected by ballot at each annual meeting to serve for a term of two (2) years and until their successors are elected and qualified. The President shall serve as Chairman of the Board. No two (2) members of the Board of Directors shall come from the same state.

Section 2. Regular Meetings. A regular annual meeting of the Board of Directors shall be held without other notice than this By-Law at the time of, or immediately following the annual meeting of the members. The Board of Directors may provide by resolution the time and place of holding of additional regular meetings of the Board without other notice than such resolution. Minutes of the proceedings of the Board of Directors shall be maintained and reported to the Association.

Section 3. Special Meetings. A special meeting of the Board of Directors may be called by or at the request of the President or any two (2) Directors. Notice of any special meeting of the Board of Directors shall be given at least two (2) days previously thereto by written notice delivered personally or sent by mail or telegram to each Director at his address as shown by the records of the Association. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail in a sealed envelope so addressed, with postage thereon prepaid. If notice be given by telegram, such notice shall be deemed to be delivered when deposited in the telegraph company. Any Director may waive notice of any meeting. The attendance of a Director at any meeting shall constitute a waiver of notice of such meeting, except where a Director attends a meeting for the express purpose of objecting to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the Board need be specified in the notice or waiver of notice of such meeting, unless specifically required by law or by these By-Laws.

Section 4. Quorum. Five (5) members shall constitute a quorum of any duly called regular or special meeting of the Board of Directors.

Section 5. Manner of Acting. The act of a majority of the Directors present at a meeting at which a quorum is present shall be the act of the Board of Directors, unless the act of a greater number is required by law or by the By-Laws.

Section 6. Vacancies. Any vacancy occurring in the Board of Directors may be filled by the Board of Directors. A Director elected to fill a vacancy shall be elected to fill the unexpired term of his predecessor in office.

Section 7. Informal Action by Directors. Any action required by law to be taken at a meeting of Directors, or any other action which may be taken at a meeting of Directors, may be taken without a meeting if a consent in writing, setting forth the action so taken, shall be signed by all of the Directors.

ARTICLE VI
Dues

Section 1. Active Members. Each State, Territory, Province, Dominion, or Federal Agency shall pay annually Fifteen Dollars ($15.00) for voting membership.
ARTICLE VII
Committees and Investigators

Section 1. Nominating Committee. Not less than six (6) months prior to the annual meeting, the President shall appoint a nominating committee consisting of three (3) members who shall be the last three past Presidents of the Association who are available to serve, or if three past Presidents are not available to serve, other members shall be appointed to the extent necessary to constitute the three members of the committee.

The committee shall submit to the Secretary in writing a slate of candidates for election as officers and directors for the ensuing year. Additional recommendations may be made from the floor at the annual meeting by any member of the Association.

Section 2. Other Committees and Investigators. The President may appoint such other committees and investigators as in his opinion are necessary for the management of the affairs of the Association or for studying and developing standards and uniformity in legislation, regulatory principles, and definitions concerning pesticides.

ARTICLE VIII
Legislative Standards and Definitions

Any proposed new legislation, regulatory principle, definition, or amendment to existing legislation, regulatory principle, or definition, must be referred to the Board of Directors before being presented to the membership for action. The Board of Directors shall review all such proposals and present them together with its recommendations to the members of the Association for action. Any new definition or change, except an editorial change, in a definition becomes tentative when first adopted and remains tentative until it is thereafter adopted or rejected. A recommendation shall be made on all matters in tentative status at each annual meeting.

ARTICLE IX
Contracts, Checks, Deposits and Funds

Section 1. Contracts. The Board of Directors may authorize any officer or officers, agent or agents of the Association, in addition to the officers so authorized by these By-Laws, to enter into any contract or execute and deliver any instrument in the name of and on behalf of the Association, and such authority may be general or confined to specific instances.

Section 2. Checks, Drafts, etc. All checks, drafts, or orders for the payment of money, notes or other evidences of indebtedness issued in the name of the Association, shall be signed by such officer or officers, agent or agents of the Association and in such manner as shall from time to time be determined by resolution of the Board of Directors. In the absence of such determination by the Board of Directors, such instruments shall be signed by the Treasurer and countersigned by the President or the President-Elect of the Association.

Section 3. Deposits. All funds of the Association shall be deposited from time to time to the credit of the Association in such banks, trust companies, or other depositaries as the Board of Directors may select.

Section 4. Gifts. The Board of Directors may accept on behalf of the Association any contribution, gift, bequest, or devise for the general purposes or for any special purpose of the Association.

ARTICLE X
Books and Records

The Association shall keep correct and complete books and records of account and shall also keep minutes of the proceedings of its members and Board of Directors, and shall keep at the registered office a record giving the names and addresses of the members entitled to vote. All books and records of the Association may be inspected by any member, or his agent or attorney, for any proper purpose at any reasonable time.
ARTICLE XI
Fiscal Year and Annual Report

Section 1. Fiscal Year. The fiscal year of the Association shall begin on the first day of July and end on the last day of June of the year following.

Section 2. Annual Report. The Secretary, or any of the other officers in his stead, shall prepare an annual report on forms prescribed and furnished by the Commissioners of the District of Columbia, containing the information required by Section 83 of the District of Columbia Nonprofit Corporation Act and shall also pay the annual report fee.

ARTICLE XII
Waiver of Notice

Whenever any notice is required to be given under the provisions of the District of Columbia Nonprofit Corporation Act or under the provisions of the Articles of Incorporation or the By-Laws of the Association, a waiver thereof in writing signed by the person or persons entitled to such notice, whether before or after the time stated therein, shall be deemed equivalent to the giving of such notice.

ARTICLE XIII
Dissolution

Dissolution, voluntary or involuntary, shall be governed by the District of Columbia Nonprofit Corporation Act. After satisfying all liabilities and obligations of the Association, all funds and property not subject to limitations imposed by law or contract shall be distributed to organizations chosen by the Board of Directors which are of a nature similar to this one and which are exempt from taxation under section 501 of the Internal Revenue Code of 1954 and succeeding acts.

ARTICLE XIV
Amendments to By-Laws

The By-Laws may be amended at any regular or special meeting of the members of the Association by a two-thirds vote of the members present or voting by proxy; provided, that the notice of the meeting shall contain a notice of the intention to amend or repeal existing By-Laws or adopt new By-Laws, together with a copy of the proposed amendment or the proposed new By-Laws. The Board of Directors may submit its recommendations on any such proposed amendments, but such action is not required.

(Editor's Note: The above By-Laws were adopted by the membership of the Association to replace the former Constitution and By-Laws of the Association at Clemson, South Carolina, on August 4, 1965.)
STATEMENT OF ELECTION TO ACCEPT
OF
ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS,
INCORPORATED

To: The Recorder of Deeds, D.C.,
Washington, D.C.

Pursuant to the provisions of the District of Columbia Nonprofit Corporation Act, the undersigned corporation elects to avail itself thereto:

FIRST: The name of the corporation is ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INCORPORATED.

SECOND: A resolution recommending that the corporation accept the District of Columbia Nonprofit Corporation Act, was adopted in the following manner:

The resolution was adopted at a meeting of members held on August 4, 1965, at which a quorum was present, and the resolution received at least two-thirds of the votes which members present or represented by proxy at such meeting were entitled to cast.

THIRD: The purposes of the corporation shall be to establish and maintain an association through which officials of any state, territory, dominion, federal or other governmental agency on the North American Continent, Hawaii and Puerto Rico, and employees thereof charged with a responsibility in enforcing the laws regulating the production, labeling, distribution, sale or use of pesticides may unite: to promote uniform and effective legislation, definitions, rulings, and enforcement of laws relating to the control of the sale, distribution, and use of pesticides; to encourage and sponsor the adoption, by all member agencies, of the most effective and adequate methods of analysis of pesticides; to develop high standards of pesticides inspection techniques and procedures; to promote adequate labeling and safe use of pesticides; to provide facilities and opportunities for free exchange of information, discussion and cooperative study of problems confronting members of the association; and to cooperate with members of industry in order to promote the usefulness and effectiveness of pesticide products.

FOURTH: This corporation is not organized for pecuniary gain or profit; no capital stock shall be issued, and no dividends paid. The corporation is to have members.

FIFTH: The corporation is to have one class of active membership only. At meetings of the membership one designated representative of each state, territory, dominion and federal agency engaged in the regulation or investigation of pesticides or their component parts, is entitled to a single vote.

SIXTH: The manner in which the directors shall be elected is provided in the by-laws.

SEVENTH: Provisions for the regulation of the internal affairs of the corporation, including provisions for the distribution of assets on dissolution or final liquidation shall be found in the by-laws.

EIGHTH: The address of its registered office in the District of Columbia is 1625 K Street, N.W., Washington and the name of its registered agent at such address is Ashley Sellers, a resident of the District of Columbia.

NINTH: The names and respective addresses, including street and number, of its officers and members of the Board of Directors are:

Clayton P. Osgood, President . . . . . . . . . . . . . . . . . . . State Office Building
Augusta, Maine

O. T. Guice, Jr., Vice-President . . . . . . . . . . . . . . . . . . P. O. Box 1538
State College, Mississippi

C. Colton Carr, Secretary . . . . . . . . . . . . . . . . . . . . . . . 1615 S. Harrison Road
East Lansing, Michigan

Robert H. Guntert, Treasurer . . . . . . . . . . . . . . . . . . . . State Office Building
Topeka, Kansas
Attest:

/s/ C. Colton Carr
C. Colton Carr
Secretary

(The Corporation has no seal)

State of South Carolina, County of Pickens

Clayton P. Osgood, President and C. Colton Carr, Secretary of the Association of American Pesticide Control Officials, Incorporated personally appeared before me on the 4th day of August, 1965 and acknowledged the above signatures to be their official acts as President and Secretary respectively.

/s/ B. D. Cloaninger
Notary Public

(NO T A R Y S E A L)
RESOLUTIONS, POLICY AND INTERPRETATIONS
OF
THE ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS

COLORING SEED

3.0 Resolved that pesticides which are represented for seed treatment purposes should be colored with a dye that will distinctly color the seed on which it is applied. (1955)

3.1 Resolved that the Association of Pesticide Officials cooperate with related associations in a program to require the coloring of treated seeds which have a potential health hazard. (1955)

DISTRIBUTION

4.0 Resolved that the Association opposes strenuously the practice of dispensing pesticides from bulk containers for retail distribution. (1955)

4.1 Resolved that control measures should be adopted to eliminate the distribution of pesticidal vaporizers for home use. (1958)

LABELING

12.0 Resolved that directions for control should be shown on labels for all pests referred to on the label. (1955)

12.1 Resolved that legally required label information must be printed in type of size and placement which will render it conspicuous and easily readable. (1961)

12.2 Resolved that the word "safe" and similar declarations should not appear upon pesticide labels. (1961)

12.3 Resolved that pesticide labels be required to show directions for decontaminating used containers of highly toxic pesticides. (1962)

12.4 Resolved that this Association oppose any requirement that a state registration number be required as a part of the labeling of any pesticide. (1964)

REGISTRATION

18.0 Resolved that no pesticide should be offered for sale or distributed after its registration has terminated. (1955)

18.1 Resolved that pesticides offered for sale only to veterinarians for professional use should be subject to registration. (1955)

18.2 Resolved that materials used by pest control operators and not sold or distributed to the public are not subject to registration. (1955)

18.3 Resolved that it is the opinion of the Association of American Pesticide Control Officials that to the extent that regulatory control over sale and distribution of agricultural chemicals is necessary, in the interest of the uniformity of regulatory control, it should be imposed in accordance with the following principles:

1) Any regulatory control deemed necessary over agricultural chemicals intended to affect the physiological processes of plants such as gibberellins, plant regulators, desiccants and defoliants, other than plant foods, should be imposed by amendment to the Uniform State Insecticide, Fungicide, and Rodenticide Act and the counterpart state acts, rather than under the State Fertilizer Laws.

2) In the case of a product which consists of a combination of both plant foods and pesticides or other regulated chemicals or products claiming both plant food and other regulated chemical value, it should be subject to control under both the applicable aforementioned laws. (1958)
18.4 Resolved that it shall be the policy of the Association of Pesticide Control Officials that each scented variety of a specific pesticide shall be separately and independently registered; and, furthermore, that separate and individual brand registrations be required for each variety or physical form of any pesticide which may be offered for sale in a variety of physical forms and differentiating labeling even though the composition may be the same. (1960)

18.5 Resolved that products bearing the same brand name but different manufacturer designation should be separately registered. (1961)

18.6 Resolved that a new certificate and number be issued if a change is made during a registration period in the statement of ingredients even though the brand name may remain unaffected. (1961)

18.7 Resolved that the use and distribution of pesticides intended for experimental purposes only be regulated and controlled either by law, regulation or effective administrative policy. (1961)

18.8 Resolved that a separate registration be required for fertilizer-pesticide mixtures for each grade or guaranteed analysis of either the fertilizer mixture or the pesticide ingredient. (1961)

18.9 Resolved that the following forms of animal or plant life be declared as pests for the purpose of bringing under State Insecticide, Fungicide and Rodenticide Acts those products distributed for preventing, destroying, repelling, or mitigating such forms of life, as provided in the Act:

- Mammals, including but not limited to dogs, cats, moles, bats, wild carnivores, rabbits, armadillos, and deer;
- Birds, including but not limited to starlings, English sparrows, crows, and blackbirds;
- Fishes, including the jawless fishes such as the sea lamprey, the cartilaginous fishes such as the sharks, and the bony fishes such as the carp;
- Amphibians and reptiles, including but not limited to poisonous snakes;
- Aquatic and terrestrial invertebrates, including but not limited to slugs, snails, and crayfish;
- Roots or other plant parts growing where not wanted. (1961)

18.10 Resolved that pesticide-fertilizer mixtures when mixed upon request shall be subject to registration under applicable existing statutes. (1961)

18.11 Resolved that pesticide products dispensed by veterinarians are subject to registration unless specifically prescribed by the doctor and labeled in accordance with the well established practices of druggists. Products intended for use by veterinarians and animal hospitals must be registered if packaged and distributed in regularly labeled containers. (1961, Amended 1962)
Title. It should conform to state requirements. The following is a suggestion:
a more complete title should be used where necessary;

"AN ACT relating to the distribution, sale, or transportation of adulterated
or misbranded insecticides, fungicides, rodenticides, defoliants, desiccants,
plant regulators, nematocides, and other economic poisons /and devices/;
regulating traffic therein; providing for registration and examination of
such materials, imposing penalties, and for other purposes." 7

(As enacted, etc.)

Section 1. Title. This Act may be cited as the Insecticide, Fungicide, and Rodenticide
Act of ___________________.

Section 2. Definitions. For the purposes of this Act --

a. The term "economic poison" means (1) any substance or mixture of substances in-
tended for preventing, destroying, repelling, or mitigating any insects, rodents, nematodes,
fungi, weeds, or other forms of plant or animal life or viruses, except viruses on or in living
man or other animals, which the Commissioner shall declare to be a pest, and (2) any substance
or mixture of substances intended for use as a plant regulator, defoliant or desiccant.

b. The term "device" means any instrument or contrivance intended for trapping,
destroying, repelling, or mitigating insects or rodents or destroying, repelling, or mitigating
fungi, weeds, nematodes, or such other pests as may be designated by the Commissioner, but
not including equipment used for the application of economic poisons when sold separately there-
from.

c. The term "insecticide" means any substance or mixture of substances intended for
preventing, destroying, repelling, or mitigating any insects which may be present in any environ-
ment whatsoever.

d. The term "fungicide" means any substance or mixture of substances intended for pre-
venting, destroying, repelling, or mitigating any fungi.

e. The term "rodenticide" means any substance or mixture of substances intended for pre-
venting, destroying, repelling, or mitigating rodents or any other vertebrate animal which the
Commissioner shall declare to be a pest.

f. The term "herbicide" means any substance or mixture of substances intended for pre-
venting, destroying, repelling, or mitigating any weed.

g. The term "nematocide" means any substance or mixture of substances intended for pre-
venting, destroying, repelling, or mitigating nematodes.

h. The term "plant regulator" means any substance or mixture of substances, intended
through physiological action, for accelerating or retarding the rate of growth or rate of matura-
tion, or for otherwise altering the behavior of ornamental or crop plants or the produce thereof,
but shall not include substances to the extent that they are intended as plant nutrients, trace ele-
ments, nutritional chemicals, plant inoculants, and soil amendments.

i. The term "defoliant" means any substance or mixture of substances intended for caus-
ing the leaves or foliage to drop from a plant, with or without causing abscission.

j. The term "desiccant" means any substance or mixture of substances intended for arti-
ficially accelerating the drying of plant tissues.

k. The term "nematode" means invertebrate animals of the phylum nemathelminthes and
class Nematoda, that is, unsegmented round worms with elongated, fusiform, or saclike bodies
covered with cuticle, and inhabiting soil, water, plants or plant parts; may also be called nema-
or eelworms.
1. The term "insect" means any of the numerous small invertebrate animals generally having the body more or less obviously segmented, for the most part belonging to the class Insecta, comprising six-legged, usually winged forms, as, for example, beetles, bugs, bees, flies, and to other allied classes of arthropods whose members are wingless and usually have more than six legs, as, for example, spiders, mites, ticks, centipedes, and woodlice.

m. The term "fungi" means all non-chlorophyll-bearing thallophytes (that is, all non-chlorophyll-bearing plants of a lower order than mosses and liverworts) as, for example, rusts, smuts, mildews, molds, yeasts, and bacteria, except those on or in living man or other animals.

n. The term "weed" means any plant which grows where not wanted.

o. The term "ingredient statement" means either --

(1) a statement of the name and percentage of each active ingredient, together with the total percentage of the inert ingredients, in the economic poison; or

(2) a statement of the name of each active ingredient, together with the name of each and total percentage of the inert ingredients, if any there be, in the economic poison (except Option 1 shall apply if the preparation is highly toxic to man, determined as provided in Section 5 of this Act); and, in addition to (1) or (2) in case the economic poison contains arsenic in any form, a statement of the percentages of total and water soluble arsenic, each calculated as elemental arsenic.

p. The term "active ingredient" means --

(1) in the case of an economic poison other than a plant regulator, defoliant, or desiccant, an ingredient which will prevent, destroy, repel, or mitigate insects, nematodes, fungi, rodents, weeds, or other pests;

(2) in the case of a plant regulator, an ingredient which, through physiological action, will accelerate or retard the rate of growth or rate of maturation or otherwise alter the behavior of ornamental or crop plants or the produce thereof;

(3) in the case of a defoliant, an ingredient which will cause the leaves or foliage to drop from a plant;

(4) in the case of a desiccant, an ingredient which will artificially accelerate the drying of plant tissue.

q. The term "inert ingredient" means an ingredient which is not an active ingredient.

r. The term "antidote" means the most practical immediate treatment in case of poisoning and includes first aid treatment.

s. The term "person" means any individual, partnership, association, corporation, or organized group of persons whether incorporated or not.

t. The term "Commissioner" means the Commissioner, Secretary, or Director of Agriculture.

u. The term "registrant" means the person registering any economic poison pursuant to the provisions of this Act.

v. The term "label" means the written, printed, or graphic matter on, or attached to, the economic poison or device, or the immediate container thereof, and the outside container or wrapper of the retail package, if any there be, of the economic poison or device.

w. The term "labeling" means all labels and other written, printed, or graphic matter --

(1) upon the economic poison or device or any of its containers or wrappers;

(2) accompanying the economic poison or device at any time;

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1/ In States in which the Act will not be administered by the State Department of Agriculture, the name of the proper official should be inserted.
x. The term "adulterated" shall apply to any economic poison if its strength or purity falls below the professed standard or quality as expressed on labeling or under which it is sold, or if any substance has been substituted wholly or in part for the article, or if any valuable constituent of the article has been wholly or in part abstracted.

y. The term "misbranded" shall apply --

(1) to any economic poison if its labeling bears any statement, design, or graphic representation relative thereto or to its ingredients which is false or misleading in any particular;

(2) to any economic poison --

(a) if it is an imitation of or is offered for sale under the name of another economic poison;

(b) if its labeling bears any reference to registration under this Act;

(c) if the labeling accompanying it does not contain instructions for use which are necessary and, if complied with, adequate for the protection of the public;

(d) if the label does not contain a warning or caution statement which may be necessary and, if complied with, adequate to prevent injury to living man and other vertebrate animals;

(e) if the label does not bear an ingredient statement on that part of the immediate container and on the outside container or wrapper, if there be one, through which the ingredient statement on the immediate container cannot be clearly read, of the retail package which is presented or displayed under customary conditions of purchase;

(f) if any word, statement, or other information required by or under the authority of this Act to appear on the labeling is not prominently placed thereon with such conspicuousness (as compared with other words, statements, designs, or graphic matter in the labeling) and in such terms as to render it likely to be read and understood by the ordinary individual under customary conditions of purchase and use; or

(g) if the case of an insecticide, nematicide, fungicide, or herbicide, when used as directed or in accordance with commonly recognized practice, it shall be injurious to living man or other vertebrate animals or vegetation, except weeds, to which it is applied, or to the person applying such economic poison; or

(h) in the case of a plant regulator, defoliant, or desiccant when used as directed it shall be injurious to living man or other vertebrate animals or vegetation to which it is applied, or to the person applying such economic poison: Provided, That physical or physiological effects on plants or parts thereof shall not be deemed to be injury, when this is the purpose for which the plant regulator, defoliant, or desiccant was applied, in accordance with the label claims and recommendations.

Section 3. Prohibited Acts.

a. It shall be unlawful for any person to distribute, sell, or offer for sale within this State or deliver for transportation or transport in intrastate commerce or between points within this State through any point outside this State any of the following:

(1) Any economic poison which has not been registered pursuant to the provisions of Section 4 of this Act, or any economic poison if any of the claims made for it or any of the directions for its use differ in substance from the representations made in connection with its registration, or if the composition of an economic poison differs from its composition as represented in connection with its registration: Provided, That, in the discretion of the Commissioner, a change in the labeling or formula of an economic poison may be made within a registration period without requiring reregistration of the product.
(2) Any economic poison unless it is in the registrant's or the manufacturer's unbroken immediate container, and there is affixed to such container, and to the outside container or wrapper of the retail package, if there be one through which the required information on the immediate container can not be clearly read, a label bearing,

(a) the name and address of the manufacturer, registrant, or person for whom manufactured;
(b) the name, brand, or trademark under which said article is sold; and
(c) the net weight or measure of the content subject, however, to such reasonable variations as the Commissioner may permit.

(3) Any economic poison which contains any substance or substances in quantities highly toxic to man, determined as provided in Section 5 of this Act, unless the label shall bear, in addition to any other matter required by this Act,

(a) the skull and crossbones;
(b) the word "poison" prominently, in red, on a background of distinctly contrasting color; and
(c) a statement of an antidote for the economic poison.

(4) The economic poison commonly known as standard lead arsenate, basic lead arsenate, calcium arsenate, magnesium arsenate, zinc arsenate, zinc arsenite, sodium fluoride, sodium fluosilicate, and barium fluosilicate unless they have been distinctly colored or discolored as provided by regulations issued in accordance with this Act, or any other white powder economic poison which the Commissioner, after investigation of and after public hearing on the necessity for such action for the protection of the public health and the feasibility of such coloration or discoloration, shall, by regulation, require to be distinctly colored or discolored; unless it has been so colored or discolored: Provided, That the Commissioner may exempt any economic poison to the extent that it is intended for a particular use or uses from the coloring or discoloring required or authorized by this section if he determines that such coloring or discoloring for such use or uses is not necessary for the protection of the public health.

(5) Any economic poison which is adulterated or misbranded, / for any device which is misbranded/ b. It shall be unlawful --

(1) for any person to detach, alter, deface, or destroy, in whole or in part, any label or labeling provided for in this Act or regulations promulgated hereunder, or to add any substance to, or take any substance from, an economic poison in a manner that may defeat the purpose of this Act;

(2) for any person to use for his own advantage or to reveal, other than to the Commissioner or proper officials or employees of the State or to the courts of this State in response to a subpoena, or to physicians, or in emergencies to pharmacists and other qualified persons, for use in the preparation of antidotes, any information relative to formulas of products acquired by authority of Section 4 of this Act.

Section 4. Registration.

a. Every economic poison which is distributed, sold, or offered for sale within this State or delivered for transportation or transported in intrastate commerce or between points within this State through any point outside this State shall be registered in the office of the Commissioner, and such registration shall be renewed annually: Provided, That products which have the same formula, are manufactured by the same person, the labeling of which contains the same claims, and the labels of which bear a designation identifying the product as the same economic poison may be registered as a single economic poison; and additional names and labels shall be added by supplement statements during the current period of registration: Provided, further, That any economic poison imported into this State, which is subject to the provisions of any Federal Act providing for the registration of economic poisons and which has been duly registered under the provisions of said Act, may, in the discretion of the Commissioner, be exempted from registration under this Act, when sold or distributed in the unbroken immediate container in which it was originally shipped. The applicant for registration shall file with the Commissioner a statement including --
(1) the name and address of the applicant and the name and address of the person whose name will appear on the label, if other than the applicant;

(2) the name of the economic poison;

(3) a complete copy of the labeling accompanying the economic poison and a statement of all claims to be made for it including directions for use; and

(4) if requested by the Commissioner a full description of the tests made and the results thereof upon which the claims are based. In the case of renewal of registration, a statement shall be required only with respect to information which is different from that furnished when the economic poison was registered or last reregistered.

b. The applicant shall pay an annual fee of $________ for each economic poison registered, such fee to be deposited into the Treasury of the State to the credit of a special fund to be used only for carrying out the provisions of this Act: Provided, however, That any applicant may register annually any number of brands after the payment of annual fees aggregating $________.

c. The Commissioner, whenever he deems it necessary in the administration of this Act, may require the submission of the complete formula of any economic poison. If it appears to the Commissioner that the composition of the article is such as to warrant the proposed claims for it and if the article and its labeling and other material required to be submitted comply with the requirements of Section 3 of this Act, he shall register the article.

d. If it does not appear to the Commissioner that the article is such as to warrant the proposed claims for it or if the article and its labeling and other material required to be submitted do not comply with the provisions of this Act, he shall notify the applicant of the manner in which the article, labeling, or other material required to be submitted fail to comply with the Act so as to afford the applicant an opportunity to make the necessary corrections. If upon receipt of such notice, the applicant does not make the corrections, the Commissioner may refuse to register the article. The Commissioner, in accordance with the procedures specified herein, may suspend or cancel the registration of an economic poison whenever it does not appear that the article or its labeling complies with the provisions of this Act. Whenever an application for registration is refused or the Commissioner proposes to suspend or cancel a registration, notice of such action shall be given to the applicant or registrant who shall have thirty days from the date of such notice to request a hearing on the proposed action of the Commissioner. The hearing shall be conducted by the Commissioner, or his designee, for the purpose of receiving evidence relevant and material to the issues, following the conclusion of which the Commissioner shall issue an order with findings of fact and notify the applicant or registrant thereof. The Commissioner's order shall be based only on substantial evidence of record taken at the hearing.

Any person who will be adversely affected by such order may obtain judicial review thereof by filing in the Court, within sixty days after the entry of such order, a petition praying that the order be set aside in whole or in part. A copy of the petition shall be forthwith transmitted by the Clerk of the Court to the Commissioner and thereupon the Commissioner shall file in the Court the record of the proceedings on which he based his order. The Court shall have jurisdiction to affirm or set aside the order complained of in whole or in part. The findings of the Commissioner with respect to questions of fact shall be sustained if supported by substantial evidence when considered on the record as a whole. Upon application, the Court may remand the matter to the Commissioner to take further testimony if there are reasonable grounds for the failure to adduce such evidence in the prior hearing. The Commissioner may modify his findings and his order by reason of the additional evidence so taken and shall file the additional record and any modification of the findings or order with the Clerk of the Court.

e. Notwithstanding any other provisions of this Act, registration is not required in the case of an economic poison shipped from one plant within this State to another plant within this State operated by the same person.

Section 5. Determinations; Rules and Regulations; Uniformity.

a. The Commissioner is authorized, after opportunity for a hearing --

(1) to declare as a pest any form of plant or animal life or virus which is injurious to plants, men, domestic animals, articles, or substances;

(2) to determine whether economic poisons are highly toxic to man; and
(3) to determine standards of coloring or discoloring for economic poisons, and to sub-
ject economic poisons to the requirements of Section 3a (4) of this Act.

b. The Commissioner is authorized, after due public hearing, to make appropriate rules
and regulations for carrying out the provisions of this Act, including rules and regulations pro-
viding for the collection and examination of samples of economic poisons or devices.

c. In order to avoid confusion endangering the public health, resulting from diverse re-
quirements, particularly as to the labeling and coloring of economic poisons, and to avoid in-
creased costs to the people of this State due to the necessity of complying with such diverse re-
quirements in the manufacture and sale of such poisons, it is desirable that there should be uni-
formity between the requirements of the several States and the Federal Government relating to
such poisons. To this end the Commissioner is authorized, after due public hearing, to adopt by
regulation such regulations, applicable to and in conformity with the primary standards estab-
lished by this Act, as have been or may be prescribed in the United States Department of Agricul-
ture with respect to economic poisons.

Section 6. Enforcement.

a. The examination of economic poisons or devices shall be made under the direction
of the Commissioner for the purpose of determining whether they comply with the requirements
of this Act. If it shall appear from such examination that an economic poison or device fails to
comply with the provisions of this Act, and the Commissioner contemplates instituting criminal
proceedings against any person, the Commissioner shall cause appropriate notice to be given to
such person. Any person so notified shall be given an opportunity to present his views, either
orally or in writing, with regard to such contemplated proceedings and if thereafter in the opinion
of the Commissioner it shall appear that the provisions of the Act have been violated by such
person, then the Commissioner shall refer the facts to the District Attorney for the county in
which the violation shall have occurred with a copy of the results of the analysis or the examina-
tion of such article: Provided, however, That nothing in this Act shall be construed as requiring
the Commissioner to report for prosecution or for the institution of libel proceedings minor viola-
tions of the Act whenever he believes that the public interests will be best served by a suitable
notice of warning in writing.

b. It shall be the duty of each District Attorney to whom any such violation is reported
to cause appropriate proceedings to be instituted and prosecuted in the Court without delay.

c. The Commissioner shall, by publication in such manner as he may prescribe, give
notice of all judgments entered in actions instituted under the authority of this Act.

Section 7. Exemptions.

a. The penalties provided for violations of Section 3a of this Act shall not apply to --

(1) any carrier while lawfully engaged in transporting an economic poison within this State,
if such carrier shall, upon request, permit the Commissioner or his designated agent to copy all
records showing the transactions in and movement of the articles;

(2) public officials of this State and the Federal Government engaged in the performance
of their official duties;

(3) the manufacturer or shipper of an economic poison for experimental use only,

(a) by or under the supervision of an agency of this State or of the Federal Government
authorized by law to conduct research in the field of economic poisons, or

(b) by others if the economic poison is not sold and if the container thereof is plainly and
conspicuously marked "For experimental use only - Not to be sold," together with the manufac-
turer's name and address: Provided, however, That if a written permit has been obtained from
the Commissioner, economic poisons may be sold for experiment purposes subject to such re-
strictions and conditions as may be set forth in the permit.

b. No article shall be deemed in violation of this Act when intended solely for export to a
foreign country, and when prepared or packed according to the specifications or directions of the
purchaser. If not so exported, all the provisions of this Act shall apply.
Section 8. Penalties.

a. Any person violating Section 3a (1) of this Act shall be guilty of a misdemeanor and upon conviction shall be fined not more than $___________.

b. Any person violating any provision of this Act other than Section 3a (1) shall be guilty of a misdemeanor and upon conviction shall be fined not more than $___________. Provided, That any offense committed more than five years after a previous conviction shall be considered a first offense; and provided, further, That in any case where a registrant was issued a warning by the Commissioner pursuant to the provisions of this Act, such registrant shall upon conviction of a violation of any provision of this Act other than Section 3a (1) be fined not more than $___________, or imprisoned for not more than one year, or be subject to both such fine and imprisonment; and the registration of the article with reference to which the violation occurred shall terminate automatically. An article the registration of which has been terminated may not again be registered unless the article, its labeling, and other material required to be submitted appear to the Commissioner to comply with all the requirements of this Act.

c. Notwithstanding any other provisions of this section, in case any person, with intent to defraud, uses or reveals information relative to formulas of products acquired under authority of Section 4 of this Act, he shall be fined not more than $__________ or imprisoned for not more than one year, or both.

Section 9. Seizures.

a. Any economic poison or device that is distributed, sold, or offered for sale within this State or delivered for transportation or transported in intrastate commerce or between points within this State through any point outside this State shall be liable to be proceeded against in any Court in any county of the State where it may be found and seized for confiscation by process of libel for condemnation:

(1) in the case of an economic poison,
   (a) if it is adulterated or misbranded;
   (b) if it has not been registered under the provisions of Section 4 of this Act;
   (c) if it fails to bear on its label the information required by this Act;
   (d) if it is a white powder economic poison and is not colored as required under this Act.

(2) in the case of a device, if it is misbranded.

b. If the article is condemned, it shall, after entry of decree, be disposed of by destruction or sale as the court may direct and the proceeds, if such article is sold, less legal costs, shall be paid to the State Treasurer: Provided, That the article shall not be sold contrary to the provision of this Act; and provided, further, That upon payment of costs and execution and delivery of a good and sufficient bond conditioned that the article shall not be disposed of unlawfully, the Court may direct that said article be delivered to the owner thereof for relabeling or reprocessing as the case may be.

c. When a decree of condemnation is entered against the article, court costs and fees and storage and other proper expenses shall be awarded against the person, if any, intervening as claimant of the article.

Section 10. Delegation of Duties. All authority vested in the Commissioner by virtue of the provisions of this Act may with like force and effect be executed by such employees of the Department of Agriculture as the Commissioner may from time to time designate for said purpose.

Section 11. Cooperation. The Commissioner is authorized and empowered to cooperate with, and enter into agreements with, any other agency of this State, the United States Department of Agriculture, and any other State or agency thereof for the purpose of carrying out the provisions of this Act and securing uniformity of regulations.

Section 12. Separability. If any provision of this Act is declared unconstitutional, or the applicability thereof to any person or circumstance is held invalid, the constitutionality of the remainder of this Act and the applicability thereof to other persons and circumstances shall not be affected thereby.
Section 13. Effective Date. All provisions of this Act, except Section 3, "prohibited acts"; Section 8, "penalties"; and Section 9, "seizures", shall take effect upon enactment, and Sections 3, 8, and 9 shall take effect as follows:

(1) as to devices, upon enactment;
(2) as to rodenticides and herbicides, 6 months after enactment; and
(3) as to insecticides, fungicides, and all other economic poisons, one year after enactment.

Section 14. Repeals. Jurisdiction in all matters pertaining to the distribution, sale and transportation of economic poisons /and devices/, is by this Act vested exclusively in the Commissioner, and all acts and parts of acts inconsistent with this Act are hereby expressly repealed.

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2/ The provisions of Section 13 as to the effective dates of this Act are merely suggestive.
OFFICIAL REGULATIONS
UNDER
THE MODEL STATE INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT

Adopted August 14, 1963
Amended August 4, 1965

1. Words in Singular Form. Words used in the singular form in the regulations in this part shall include the plural, and vice versa, as the case may require.

2. Terms Defined and Construed. All terms used in these regulations in this part shall have the meaning set forth for such terms in the Act. In addition, such terms shall be construed as follows:

(a) Act. "Act" means the (Pesticide)(Insecticide, Fungicide and Rodenticide) Act of

(b) (Secretary)(Commissioner). ("Secretary")("Commissioner") means the

(c) (Pesticides)(Economic Poisons). ("Pesticides")("Economic Poisons") includes

(d) Fungicide. "Fungicide" includes but is not limited to:

(1) Plant fungicides, seed fungicides, fungicidal wood preservatives, and mildew and mold preventatives.

(2) Disinfectants, antiseptics and sterilizers, except those for use only on or in living man or other animals.

(e) Active ingredient. An "Active ingredient" is an ingredient which:

(1) Is capable in itself, and when used in the same manner and for the same purposes as directed for use of the product, of preventing, destroying, repelling, or mitigating insects, fungi, rodents, weeds, nematodes, or other pests, or altering through physiological action the behavior of ornamental or crop plants or the produce thereof, or causing leaves or foliage to drop from a plant, or artificially accelerating the drying of plant tissue.

(2) Is present in the product in an amount sufficient to add materially to its effectiveness; and

(3) Is not antagonistic to the activity of the principal active ingredient; Provided, however, That the (secretary)(commissioner) may require an ingredient to be designated as an active ingredient if, in his opinion, it sufficiently increases the effectiveness of the (pesticide)(economic poison) to warrant such action.

(f) Rodent. "Rodent" means any animal of the order Rodentia, including, but not limited to, rats, mice, rabbits, gophers, prairie dogs, and squirrels.

(g) Designated agent. "Designated agent" means any employee or agent of the state authorized by the (secretary)(commissioner) to make investigations in connection with the enforcement of the Act.
(h) Nematocide. "Nematocide" includes only those products intended for preventing, destroying, repelling, or mitigating nematodes inhabiting soil, water, plants or plant parts. The term does not include products intended for use against nematodes in or on living man or other animals.

(i) Plant regulator. "Plant regulator" includes those substances intended to alter the behavior of ornamental or crop plants or the produce thereof through physiological rather than physical action. The term includes, but is not limited to, substances intended to accelerate or retard the rate of growth or maturation of ornamental or crop plants, enhance fruit set, prevent fruit drop, accelerate root formation and elongation, prolong or break dormancy of ornamental or crop plants or the produce thereof, but shall not include substances intended solely for use as plant nutrients or fertilizers.

(j) Herbicide. "Herbicide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any weed, including any alga or other aquatic weed.

3. Administration. The (secretary)(commissioner) is authorized to take such action as may be necessary in the administration and enforcement of the Act and the regulations in this part.

4. Language to be Used. All statements, words, and other information required by the Act or the regulations in this part to appear on the label or labeling of any (pesticide)(economic poison) shall be in the English language; Provided, That in the case of articles intended solely for distribution to points outside the continental United States the appropriate foreign language may be used in lieu of the English language.

5. Omission of Label or Labeling. The omission of a label or labeling from any (pesticide) (economic poison) shall not affect any provision under the Act or the regulations in this part with respect to any statement required to appear on such label or labeling.

   (a) Contents of label. The label of every (pesticide)(economic poison) must show, clearly and prominently, the name of the product; the name and address of the manufacturer, the registrant, or person for whom manufactured; the net contents; the ingredient statement; and a warning or caution statement which may be necessary to prevent injury to living man and other useful vertebrate animals, useful vegetation, and useful invertebrate animals. The label of any (pesticide)(economic poison) which is highly toxic to man must also contain the skull and crossbones, and the word "poison" in red on contrasting background and the antidote statement in immediate proximity thereto. The antidote statement shall include directions to call a physician immediately. The label of every (pesticide)(economic poison), if necessary to prevent injury to living man and other vertebrate animals, useful vegetation, and useful invertebrate animals, must contain an appropriate warning or caution statement as required in 9.

   (b) Name and address of manufacturer. An unqualified name and address given on the label shall be considered as the name and address of the manufacturer. If the registrant's name appears on the label and the registrant is not the manufacturer, or if the name of the person for whom the (pesticide)(economic poison) was manufactured appears on the label, it must be qualified by appropriate wording such as "Packed for....", "Distributed by....", or "Sold by...." to show that the name is not that of the manufacturer. When a person manufactures a (pesticide) (economic poison) in two or more places or in a place different from the manufacturer's principal office, the actual place of manufacture of each particular package need not be stated on the label except when, under the special circumstances existing, the failure to name it may be misleading to the public. The address of the manufacturer, registrant, or person for whom manufactured shall include the street address, if any, unless the street address is shown in a current city directory or telephone directory.

   (c) Name, brand, or trade-mark of (pesticide)(economic poison). The name, brand, or trade-mark of the (pesticide)(economic poison) appearing on the label shall be that under which the (pesticide)(economic poison) is registered.

   (d) Net content.
   (1) The net content shall be exclusive of wrappers or other material, and shall be deemed to be average content unless stated as a minimum quantity.
   (2) Net content shall be stated in the terms of weight or measure in general use by consumers and users of the (pesticide)(economic poison). If there is no
general use, the net contents statement shall be in terms of liquid measure if
the product is a liquid, and in terms of weight if it is a solid, semisolid,
viscous, or a mixture of liquid and solid. Statements of liquid measure shall
be in terms of the United States gallon, quart, pint, and fluid ounce, at 68°F.
The statement of weight shall be in terms of avoirdupois pound and ounce. All
statements of net contents shall be in terms of the largest unit present.

(3) If the contents are stated as a minimum quantity, variation below is not per-
missible and variation above shall not be unreasonably large.

(4) If the contents are not stated as a minimum quantity, variation shall be per-
mitted only to the extent that it represents deviations unavoidable in good pack-
ing practice. The average quantity in the packages in a shipment shall not fall
below the average quantity stated, nor shall there be any unreasonable variation
from the average in the contents of any package.

7. Ingredient Statement.
   (a) Location of ingredient statement. The ingredient statement must appear on that part
of the label displayed under customary conditions of purchase except in cases where
the (secretary)(commissioner) determines that, due to the size or form of the con-
tainer, a statement on that portion of the label is impractical, and permits such
statement to appear on another side or panel of the label. When so permitted, the
ingredient statement must be in larger type and more prominent than would other-
wise be possible. The ingredient statement must run parallel with other printed
matter on the panel of the label on which it appears and must be on a clear contrast-
ing background not obscured or crowded.

   (b) Names of ingredients. The well-known common name of the ingredient must be given
or, if the ingredient has no common name, the correct
chemical name. If there is
no common name and the chemical composition is unknown or complex, the (secre-
tary)(commissioner) may permit the use of a new or coined name which he finds to be
appropriate for the information and protection of the user. If the use of a new or
coined name is permitted, the (secretary)(commissioner) may prescribe the terms
under which it may be used. A trade-mark or trade name may not be used as the
name of an ingredient except when it has become a common name.

   (c) Percentages of ingredients. Percentages of ingredients shall be determined by
weight and the sum of the percentages of the ingredients shall be 100. Sliding scale
forms of ingredient statements shall not be used.

   (d) Designation of ingredients.
       (1) Active ingredients and inert ingredients shall be so designated, and the term
"inert ingredient" shall appear in the same size type and be equally as promi-
nent as the term "active ingredient."

       (2) If the name but not the percentage of each active ingredient is given, the names
of the active and inert ingredients shall, respectively, be shown in the descend-
ning order of the percentage of each present in each classification and the name
of each ingredient shall be given equal prominence.

   (e) Active ingredient content. As long as a (pesticide)(economic poison) is subject to the
Act the percentages of active ingredients declared in the ingredient statement shall
be the percentages of such ingredients in the (pesticide)(economic poison).

   (a) (Pesticides)(Economic Poisons) which fall within any of the following categories when
tested on laboratory animals as specified in subparagraphs (1), (2), or (3) of this
paragraph are highly toxic to man or contain substances or quantities of substances
highly toxic to man within the meaning of the Act (such (pesticides)(economic poisons)
being hereinafter in this part referred to as (pesticides)(economic poisons) highly
toxic to man): Provided, however, That the (secretary)(commissioner) may, upon
application and after opportunity for hearing, exempt any (pesticide)(economic poison)
which is in any of these categories, but which is not in fact highly toxic to man, from
the requirements of the Act and the regulations in this part with respect to (pesticides
(economic poisons) highly toxic to man:

       (1) Oral toxicity. A (pesticide)(economic poison) which has a single dose LD50 of 50
milligrams or less per kilogram of body weight when administered orally to both
9. Warning or Caution Statement. Warning or caution statements, which are necessary and sufficient to warn the user, and must state clearly and in nontechnical language the particular hazard involved in the use of the (pesticide)(economic poison), e.g., ingestion, avoid accident, injury, or damage.

(b) The label of every (pesticide)(economic poison) which is highly toxic to man as described in § 8 shall bear the word "DANGER" along with the word "POISON" in red on a contrasting background in immediate proximity to the skull and crossbones and an antidote statement including directions to call a physician immediately, on the front panel or that part of the label displayed under customary conditions of purchase: Provided, however, The (secretary)(commissioner) may permit reasonable variations in the placement of the antidote statement if some preference such as "See antidote..."
statement on back panel" appears on the front panel near the word "POISON" and the skull and crossbones.

(c) Warning or caution statements which comply with the requirements of Interpretation 18 of the Regulations for the enforcement of the Federal Insecticide, Fungicide and Rodenticide Act, as that Interpretation now exists or may from time to time be amended, shall deem to be in compliance with the requirements of these regulations.

10. Registration.
(a) Eligibility. Any manufacturer, packer, seller, distributor or shipper of a (pesticide) (economic poison) is eligible as a registrant and may register such (pesticide) (economic poison).

(b) Effect of registration. If a (pesticide)(economic poison) is registered under the Act no further registration under the Act is required; Provided, That (1) the product is in the manufacturer's or registrant's original unbroken immediate container; and (2) the claims made for it and the directions for its use do not differ in substance from the representations made in connection with registration.

(c) Procedure for registration. Applications for registration should be addressed to . Application forms will be furnished upon request. Applications should be submitted as far in advance as possible and at least thirty days before the time when it is desired that registration take effect.

(d) Effective date of registration. Registration of a (pesticide)(economic poison) shall become effective on the date the certificate of registration is issued.

(e) Responsibility of a registrant. The registrant is responsible for the accuracy and completeness of all information submitted in connection with his application for registration of a (pesticide)(economic poison).

(f) Changes in labeling or formulae.
(1) Changes in substance in the labeling or changes in the formula of a registered (pesticide)(economic poison) must be submitted in advance to the . The registrant must describe the exact changes desired and the proposed effective date, and, upon request, shall submit a description of tests which justify such changes.

(2) After the effective date of a change in labeling or formula the product shall be marketed only under the new claims or formula, except that a reasonable time may be permitted by the (secretary)(commissioner) to dispose of properly labeled stocks of old products.

(g) Claims must conform to registration. Claims made for a (pesticide)(economic poison) must not differ in substance from representations made in connection with registration, including representations with respect to effectiveness, ingredients, directions for use, or pests against which the product is recommended.

11. Coloration and Discoloration. Unless exempted by Section 17 of these regulations, the white (pesticides)(economic poisons) hereinafter named shall be colored or discolored in accordance with this section. The hues, values, and chromas specified are those contained in the Munsell Book of Color, Munsell Color Company, 10 East Franklin Street, Baltimore, Md.

(a) Coloring agent. The coloring agent must produce a uniformly colored product not subject to change in color beyond the minimum requirements specified in the regulations in this part during ordinary conditions of marketing or storage, and must not cause the product to be ineffective or result in its causing damage when used as directed.

(b) Arsenicals and barium fluosilicate. Standard lead arsenate, basic lead arsenate, calcium arsenate, magnesium arsenate, zinc arsenate, zinc arsenite, and barium fluosilicate shall be colored any hue, except the yellow-reds and yellows, having a value of not more than 8 and a chroma of not less than 4, or shall be discolored to a neutral lightness value not over 7.

(c) Sodium fluoride and sodium fluosilicate. Sodium fluoride and sodium fluosilicate shall be colored blue or green having a value of not more than 8 and a chroma of not less than 4, or shall be discolored to a neutral lightness value not over 7.
12. Adulteration; Valuable Constituent.

(a) A valuable constituent will be considered as wholly abstracted whenever the designation or representation of the product imports its presence therein and such constituent has been wholly omitted therefrom in the preparation of the product or has been wholly removed from the completed product.

(b) A valuable constituent will be considered as partly abstracted whenever the designation or representation of the product imports its presence therein, and such constituent is not present in the usual or customary amount or in the amount indicated in the labeling.


(a) False or misleading statements. Among representations in the labeling of a (pesticide) (economic poison) which render it misbranded are the following:

1. A false or misleading statement concerning composition of the product.

2. A false or misleading statement concerning the effectiveness of the product as a (pesticide) (economic poison) (or device).

3. A false or misleading statement about the value of the product for purposes other than as a (pesticide) (economic poison) (or device).

4. A false or misleading comparison with other (pesticides) (economic poisons) (or devices).

5. A false or misleading representation as to the safety of the (pesticide) (economic poison) or of its ingredients including a statement such as "nonpoisonous", "non-injurious", or "nonhazardous" unless the product is in fact safe under all conditions.

6. Any statement directly or indirectly implying that the (pesticide) (economic poison) (or device) is recommended or endorsed by any agency of this state.

7. The name of a (pesticide) (economic poison) which contains two or more ingredients if it suggests the name of one or more but not all such ingredients, even though the names of the other ingredients are stated elsewhere in the labeling:

Provided, however, That it is permissible, when the percentage of each active ingredient is given in the name, to omit reference in name of the product to the inert ingredients.

8. Prominent reference in the labeling to one or more active ingredients without giving their percentages in immediate proximity thereto or without giving equal prominence to the other active ingredients or to the presence of inert ingredients.

9. A true statement used in such a way as to give a false or misleading impression to the purchaser.

(b) Justification of false and misleading statements not permitted.

1. The use of any false or misleading statement on any part of the labeling, given as the statement or opinion of any person or based upon such statement or opinion shall not be justified, nor may such statement be justified by the fact that the statement or opinion is actually that of such person.

2. The use of a false or misleading statement in the labeling cannot be justified by an explanatory statement.


(a) Collection of samples. Samples of (pesticides) (economic poisons) (and devices) shall be collected by a designated agent. An official representative sample shall be one
taken by the (secretary)(commissioner) or his duly authorized agent. An unbroken original package shall be taken as the official sample where the (pesticide)(economic poison) is packed in small bottles, or small packages. Where the (pesticide) (economic poison) is packed in large containers, the official sample shall be a portion taken from one original package in a lot.

(b) Examination of samples. Methods of examination of samples shall be those adopted and published by the Association of Official Agricultural* Chemists, where applicable, and such other methods as may be necessary to determine whether the product complies with the Law.

(c) Notice of apparent violation.

(1) If from an examination or analysis a (pesticide)(economic poison)(or device) appears to be in violation of the Act, a notice in writing shall be sent to the person against whom criminal proceedings are contemplated, giving him an opportunity to offer such written explanation as he may desire. The notice shall state the manner in which the sample fails to meet the requirements of the Act and the regulations.

(2) Any such person may, in addition to his reply to such notice, file within twenty days of receipt of the notice a written request for an opportunity to present his views orally in connection therewith.

(3) No notice or hearing shall be required prior to the seizure of any (pesticide) (economic poison)(or device).

15. Notice of Judgment. Publication of judgments of the courts in cases arising under the criminal or seizure provision of the Act shall be made in the form of notices, circulars, or bulletins as the (secretary)(commissioner) may direct.

16. Products for Experimental Use.

(a) Articles for which no permit is required.

(1) A substance or mixture of substances being put through tests in which the purpose is only to determine its value for (pesticide)(economic poison) purposes or to determine its toxicity or other properties, and where the user does not expect to receive any benefit in pest control from its use is not considered a (pesticide) (economic poison) within the meaning of section 2(c). Therefore, no permit under the Act is required for its shipment.

(2) A (pesticide)(economic poison) shipped or delivered for experimental use by or under the supervision of any Federal or State agency authorized by Law to conduct research in the field of economic poisons shall not be subject to the provisions of the Act and the regulations in this part:

Provided, That a permit for such shipment or delivery is obtained prior thereto. Permits will be of two types, specific and general. A specific permit will be issued to cover a particular shipment on a specified date to a named person. A general permit will be issued to cover more than one shipment over a period of time to different persons.

(2) If a (pesticide)(economic poison) is to be tested for a use which is likely to result in a residue on or in food or feed, a permit for shipment or delivery will be issued only when:

*Editor's Note: Agricultural changed to Analytical 10/14/65.)
(i) The food or feed product will not be used for food or feed except for laboratory or experimental animals, or

(ii) Convincing evidence is submitted by the applicant that the proposed use will not result in an amount of residue which would be hazardous to man or other animals.

(3) A permit for shipment or delivery of any experimental (pesticide)(economic poison) for testing in any place likely to be frequented by people will be granted only if it is clearly shown in the application for such permit that the applicant's instructions for use reasonably assure the avoidance of injury to all persons concerned.

(4) All applications for permits covering shipments for experimental use shall be filed in duplicate and must be signed by the shipper or the person making the delivery and must contain the following:

(i) Name and address of the shipper and place or places from which the shipment will be made.

(ii) Proposed date of shipment or proposed shipping period not to exceed one year.

(iii) A statement of the composition of material to be covered by the permit which should apply to a single material or group of closely allied formulations of the material.

(iv) A statement of the approximate quantity to be shipped.

(v) Available data or information or reference to available data or information on the acute toxicity of the (pesticide)(economic poison).

(vi) A statement of the nature of the proposed experimental program, including the type of pests or organisms to be experimented with, the crops or animals for which the (pesticide)(economic poison) is to be used, the areas where it is proposed to conduct the program, and including the results of previous tests where necessary to justify the quantity requested.

(vii) When food or feed is likely to be contaminated, either a full statement of action which will be taken to prevent the food or feed from being consumed, except by laboratory or experimental animals, or convincing evidence that the proposed experiment will not result in injury to man or useful animals.

(viii) The percentage of the total quantity specified under sub-division (iv) of this subparagraph which will be supplied without charge to the user.

(ix) A statement that the (pesticide)(economic poison) is intended for experimental use only.

(x) Proposed labeling which must bear (a) the prominent statement "For Experimental Use Only" on the container label and any accompanying circular or other labeling, (b) a warning or caution statement which may be necessary and if complied with adequate for the protection of those who may handle or be exposed to the experimental formulations, (c) the name and address of the applicant for the permit, (d) the name or designation of the formulation, and (e) if the (pesticide)(economic poison) is to be sold, a statement of the names and percentages of the principal active ingredients in the product:

Provided, That, if the shipper shall submit a copy of a valid experimental permit issued under the provisions of the Federal Insecticide, Fungicide and Rodenticide Act and the accepted labeling related thereto, the (secretary) (commissioner) may exempt the shipper from the requirement of submitting as a part of the application, the data and information hereinabove specified in subparagraphs (v) to (x) inclusive.

(5) The (secretary)(commissioner) may limit the quantity of a (pesticide)(economic poison) covered by a permit to such less quantity than requested as he may determine if the available information on effectiveness, toxicity or other hazards is
not sufficient to justify the scope of experimental use proposed in the application, or make such other limitations in the permit as he may determine to be necessary for the protection of the public.

(6) A (pesticide)(economic poison) intended for experimental use shall not be offered for general sale by a retailer or others, or advertised for general sale.

(c) Cancellation of permits. Any permit for shipment for experimental use may be cancelled at any time for any violation of the terms thereof.

17. Exemptions.

(a) Any (pesticide)(economic poison) specified in 11 of these regulations which is intended solely for use by a textile manufacturer or commercial laundry, cleaner or dyer as a mothproofing agent, which would not be suitable for such use if colored and which will not come into the hands of the public except when incorporated into a fabric, shall be exempt from the requirements of section 3a(7) of the Act and 11, of these regulations.

(b) The (pesticide)(economic poison) sodium fluoride shall be exempt from the requirements of section 3a(4) of the Act and 11 (c) of these regulations when,

(1) it is intended for use as fungicide solely in the manufacture or processing of rubber, glue, or leather goods;

(2) Coloration of said (pesticide)(economic poison) in accordance with said requirements will be likely to impart objectionable color characteristics to the finished goods;

(3) Said (pesticide)(economic poison) will not be present in such finished goods in sufficient quantities to cause injury to any person; and

(4) Said (pesticide)(economic poison) will not come into the hands of the public except after incorporation into such finished goods.
Title. It should conform to state requirements. The following is a suggestion; a more complete title should be used where necessary:

"An Act Relating to the application of insecticides, fungicides, herbicides, defoliants, desiccants, plant growth regulators, nematocides and similar materials by aircraft or ground equipment."

(Be it enacted, etc.)

Section 1. Declaration of Purpose. The purpose of this Act is to regulate, in the Public interest, the custom application of insecticides, fungicides, herbicides, defoliants, desiccants, plant growth regulators, nematocides and other materials as may be so named by the Commissioner by regulation. New pesticides are continually being discovered or synthesized which are valuable for the control of insects, fungi, weeds, nematodes, and for use as defoliants, desiccants, plant regulators and related purposes. However, such materials may seriously injure health, property, or wildlife if not properly used. Pesticides may injure man or animals, either by direct poisoning or by gradual accumulation of poisons in the tissues. Crops or other plants may also be injured by their improper use. The drifting or washing of pesticides into streams or lakes can cause appreciable damage to aquatic life. A herbicide applied by aircraft or ground equipment for the purpose of killing weeds in a crop which is not itself injured by the herbicide may drift, sometimes for miles, and injure other crops or plants with which it comes in contact. Therefore, it is deemed necessary to provide for regulation of the custom application of such pesticides.

Section 2. Definitions. For the purpose of this Act --

(A) The term "pesticide" means (1) any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects, rodents, nematodes, fungi, weeds, and other forms of plant or animal life or viruses, except viruses or in living man or other animals, and (2) any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant and (3) any other substances intended for such use as may be named by the Commissioner by regulation after calling a public hearing for such purpose.

(B) The term "insecticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects which may be present in any environment whatsoever.

(C) The term "fungicide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any fungi.

(D) The term "herbicide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any weed.

(E) The term "defoliant" means any substance or mixture of substances intended for causing the leaves or foliage to drop from a plant, with or without causing abscission.

(F) The term "desiccant" means any substance or mixture of substances intended for artificially accelerating the drying of plant tissue.

(G) The term "plant regulator" means any substance or mixture of substances intended through physiological action, for accelerating or retarding the rate of growth or rate of maturation or for otherwise altering the behavior of plants, but shall not include substances to the extent that they are intended as plant nutrients, trace elements, nutritional chemicals, plant inoculants, and soil amendments.

(H) The term "nematocide" means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating nematodes.

(I) The term "insect" means any of the numerous small invertebrate animals generally having the body more or less obviously segmented, for the most part belonging to the class insecta, comprising six-legged, usually winged forms, as, for example, beetles, bugs, wasps and flies, and to other allied classes of arthropods whose members are wingless and usually have more than six legs, as, for example, spiders, mites, ticks, centipedes, and wood lice.
(J) The term "fungi" means all non-chlorophyll-bearing thallophytes (that is, all non-chlorophyll-bearing plants of a lower order than mosses and liverworts) as, for example, rusts, smuts, mildews, molds, yeasts, and bacteria, except those on or in living man or other animals.

(K) The term "weed" means any plant or part thereof which grows where not wanted.

(L) The term "nematode" means invertebrate animals of the phylum nemathelminthes and class nematoda, that is, unsegmented round worms with elongated, fusiform, or sac-like bodies covered with cuticle, and inhabiting soil, water, plants, or plant parts; may also be called nemas or eelworms.

(M) The term "person" means any individual, firm, partnership, association, corporation, company, joint stock association, or body politic, or any organized group of persons whether incorporated or not; and includes any trustee, receiver, assignee, or other similar representative thereof.

(N) The term "Commissioner" means the Secretary, Commissioner, or Director of Agriculture.

(O) The term "custom application of pesticides" means any application of pesticides by aircraft or ground equipment for hire.

(P) The term "aircraft" means any contrivance now known or hereafter invented, used or designed for navigation of, or flight in, the air.

(Q) The term "ground equipment" means any machine or device (other than aircraft), for use on land or water, designed for, or adaptable to, use in applying pesticides as sprays, dusts, aerosols, or fogs, or in other forms.

Section 3. Licenses.

(A) No person shall engage in custom application of pesticides for hire or compensation within this state at any time without a license issued by the Commissioner. Application for a license shall be made in writing to the Commissioner on a designated form obtained from said Commissioner's office. Each application for a license shall contain information regarding the applicant's qualifications and proposed operations and other relevant matters as required pursuant to regulations promulgated by the Commissioner.

The Commissioner may require an annual fee of $ for each license issued and in addition an inspection fee of $ for each aircraft and $ for each piece of ground equipment. Should any piece of equipment fail to pass inspection upon the first inspection making it necessary for a second inspection to be made, an added inspection fee in the same amount shall be paid. In addition to the required inspection, unannounced inspections may be made without charge to determine if equipment is maintained to meet requirements.

(B) The Commissioner shall require an applicant for a license to show upon examination that he possesses adequate knowledge concerning the proper use and application of pesticides. The examination shall require a working knowledge of:

1. The proper use of the equipment.

2. The hazards that may be involved in applying the materials, including

   (a) the effect of drift of the materials on neighboring lands,
   (b) the effect of the materials on plants or animals in the area, including the possibility of damage to plants or animals or the possibility of illegal pesticide residues resulting on them.

1/ See Section 9 for exemptions.

2/ In states where only certain areas are liable to be affected by the application of pesticides, the following could be inserted: "in counties or areas designated by the Commissioner."
(C) If the Commissioner finds the applicant qualified and if the applicant files the bond or insurance required under paragraph (E) of this section, the Commissioner shall issue a license, which shall expire at the end of the calendar year of issue; provided such financial security required under paragraph (E) of this section is not dated to expire at an earlier date, in which case said license shall be dated to expire upon expiration date of said financial security. The license may restrict the applicant to the use of a certain type or types of equipment or pesticides or to certain areas if the Commissioner finds that the applicant is qualified to use only such type or types. If a license is not issued as applied for, the Commissioner shall inform the applicant in writing of the reasons therefor. Any person holding a valid license as of the current year of issue may renew such license for the next year without having to take another examination; Provided, however, that if the license is not renewed by March 1 of each year then such licensee shall again be required to take another examination. (Some states may wish to require all non-resident licensees to appoint a legal resident agent upon whom process may be served, thereby, making such non-resident amenable to the jurisdiction of the Courts of said state. For those states desiring such a provision in the law, an added paragraph under the paragraph (C) might be added as follows:

"Any non-resident applying for a license under this act to operate in the State of shall file a written power of attorney designating the Secretary of State as the agent of such non-resident upon whom service of process may be had in the event of any suit against said non-resident person, and such power of attorney shall be so prepared and in such form as to render effective the jurisdiction of the Courts of the State of over such non-resident applicant. Provided, however, that any such non-resident who has a duly appointed resident agent upon whom process may be served as provided by law shall not be required to designate the Secretary of State as such agent. The Secretary of State shall be allowed such fees therefor as provided by law for designating resident agents. The Commissioner shall be furnished with a copy of such designation of the Secretary of State or of a resident agent, such copy to be duly certified by the Secretary of State."

(D) The Commissioner may suspend, pending inquiry, for not longer than ten days, and, after opportunity for a hearing, may revoke or modify the provisions of any license issued under this section, if he finds that the licensee has failed to fulfill any contract or is no longer qualified, has engaged in fraudulent business practices in the custom application of pesticides, or has made any custom application in a faulty, careless, unsafe, or negligent manner, or has violated any of the provisions of this Act or regulations made thereunder.

(E) The Commissioner shall require each person, firm, association or corporation who is granted a license under this Act to furnish to, and file with, the Commissioner a fidelity bond or insurance policy, conditioned that the principal therein named shall pay for any and all damages suffered by any person, firm, association or corporation, by reason of negligence of the principal or his or its agents or employees in the conduct of the business authorized by this Act, and as otherwise conditioned by said Commissioner; provided that in no case shall a bond or other security provided for herein be less than dollars. (The amount of financial responsibility will depend on the situation in the state concerned. Some states may elect to require a given amount of security for the licensee as a whole or a given amount may be required for each piece of equipment. The extent of the operations of the licensee might be a factor in determining the amount and manner of security.) Any person, firm or corporation having a right of action against such person, firm, association or corporation, or any other person, may bring suit against them or either of them for damages caused by their negligence in conduct of the business authorized here-
under, but in no event, however, shall the surety be named in or made a party to such
action. No action for such damages may be brought or maintained, however, unless
the person claiming the damages shall have filed with the Commissioner a written
statement claiming that he has been damaged, on a form prescribed by the Commis-
sioner within sixty (60) days after the date that damages occurred, or prior to the
time that twenty-five (25) per cent of a crop damaged shall have been harvested. Such
statement shall contain, but shall not be limited thereto, the name of the person
responsible for the application of said pesticide, the name of the owner or lessee of
the land on which the crop is grown and for which damages are claimed and the date
on which it is alleged that the damage occurred. The Commissioner shall prepare a
form to be furnished to persons to be used in such cases and such form shall contain
such other requirements as the Commissioner may deem proper. The Commissioner
shall, upon receipt of such statement, notify the licensee and the owner or lessee of
the land or other person who may be charged with the responsibility, for the damages
claimed, and furnish copies of such statements as may be requested.

Where damage is alleged to have been done, the claimant shall permit the licensee
and his representatives, such as bondsman or insurer to observe within reasonable
hours the plants or animals alleged to have been damaged in order that such damage
may be examined. Failure of the claimant to permit such observation and examina-
tion of the damaged plants or animals shall automatically bar the claim against the
licensee.

Should the surety furnished become unsatisfactory, said applicant shall upon notice
execute a new bond or insurance and shall he fail to do so, the Commissioner shall
cancel his license and give him notice of said fact and it shall be unlawful thereafter
for such person to engage in said business without obtaining a new license.

(F) In all actions for damages to plants, animals, or persons caused by application of
pesticides as provided herein the plaintiff and/or claimant shall allege and prove that
the damage complained of is the result of negligence on the part of the party or parties
defendants and/or their agents or employees, or persons with whom they have con-
tracted to apply such pesticides.

(G) The Commissioner may issue a license on a reciprocal basis with other states with-
out examination to a non-resident who is licensed in another state substantially in
accordance with the provisions of this Act; provided financial security as provided
in Section 3 paragraph (E) of this Act is met.

(H) Any person aggrieved by any action of the Commissioner may obtain a review thereof
by filing in the court within thirty (30) days of notice of the action a written petition praying that the action of the Commissioner be set aside. A copy of such petition shall forthwith be delivered to the Commissioner, and within
thirty (30) days thereafter the Commissioner shall certify and file in the court a
transcript of any record pertaining thereto, including a transcript of evidence re-
ceived, whereupon the court shall have jurisdiction to affirm, set aside or modify the
action of the Commissioner, except that the findings of the Commissioner as to the
facts, if supported by substantial evidence, shall be conclusive.

Section 4. Inspection. The Commissioner may provide for inspection of any ground equipment
or of any device or apparatus used for custom application of pesticides by aircraft and may re-
quire repairs or other changes before its further use for custom application.

Section 5. Regulations. The Commissioner shall have authority to issue Regulations after a
public hearing following due notice to all interested persons to carry out the provisions of this
Act and in such Regulations may prescribe methods to be used in the custom application of pesti-
cides. Where the Commissioner finds that such Regulations are necessary to carry out the pur-
poses and intent of this Act such Regulations may relate to the time, place, manner and method
of application of the pesticides, may restrict or prohibit use of materials in designated areas
during specified periods of time and shall encompass all reasonable factors which the Commis-
sioner deems necessary to prevent damage or injury to:

(1) Plants, including forage plants, on adjacent or nearby lands.

(2) Wildlife in the adjoining or nearby areas.

(3) Fish and other aquatic life in waters in reasonable proximity to the area to be
treated.
The effect of drift or careless application on pollinating insects, animals, or persons.

In issuing such Regulations, the Commissioner shall give consideration to pertinent research findings and recommendations of other agencies of this state or of the Federal Government.

The Commissioner may by Regulation require that notice of a proposed application of a pesticide be given to landowners adjoining the property to be treated or in the immediate vicinity thereof, if he finds that such notice is necessary to carry out the purposes of this Act. The Commissioner may also by Regulation adopt after public hearing, following due notice, a list of restricted use pesticides in designated areas if he finds that the characteristics of such pesticides require that Regulations restricting their use are necessary to prevent injury on lands other than the land to which they are applied or to persons, animals, crops, pests or vegetation other than the pests or vegetation which they are intended to destroy. The Commissioner may include in the Regulation the time and conditions of use of such restricted use pesticides and may, if he deems it necessary to carry out the provisions of this Act, require a permit for each application of a restricted use pesticide. Any order issued under this section shall be based only upon substantial evidence of record taken at the public hearing.

Section 6. Reports. The Commissioner may by Regulation require any licensee to maintain such records and furnish reports giving such information with respect to particular applications of pesticides and such other relevant information as the Commissioner may deem necessary.

Section 7. Information. The Commissioner may, in cooperation with the State Agricultural College, publish information regarding injury which may result from improper application or handling of pesticides and methods and precautions designed to prevent such injury.

Section 8. Penalties. Any person violating the provisions of this Act or the Regulations issued hereunder shall be guilty of a misdemeanor and, upon conviction, shall be fined not more than $____ dollars for the first offense, and not more than $____ dollars for each subsequent offense. (The amount of the fine per penalty will depend on the situation in the state concerned.)

Section 9. Exemptions. This Act shall not apply to custom application of pesticides to prevent, destroy, repel, or mitigate insects or fungi within or under buildings or within vehicles, ships, aircraft, or other means of transporting persons or property by land, water, or air.

Section 10. Enforcement. For the purpose of carrying out the provisions of this Act the Commissioner may enter upon any public or private premises at reasonable times in order to have access for the purpose of inspecting any aircraft or ground equipment subject to this Act.

Section 11. Delegation of Duties. The functions vested in the Commissioner by this Act may be delegated by him to such employees of the Department of Agriculture as the Commissioner may from time to time designate for such purposes.

Section 12. Cooperation. The Commissioner may cooperate with any other agency of this state or its subdivisions or with any agency of any other state or of the Federal Government for the purpose of carrying out the provisions of this Act and of securing uniformity of Regulations.

Section 13. Separability. If any provision of this Act is declared unconstitutional, or the applicability thereof to any person or circumstances is held invalid, by a court of competent jurisdiction, the constitutionality of the remainder of the Act and the applicability thereof to other persons and circumstances shall not be affected thereby.

Section 14. Repeal. All Acts and parts of Acts inconsistent with this Act are hereby expressly repealed.

Section 15. Effective Date. This Act shall become effective ________________.
<table>
<thead>
<tr>
<th>Common Name and Use</th>
<th>Chemical Name</th>
</tr>
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<tbody>
<tr>
<td>amiben (Herbicide)</td>
<td>3-amino-2, 5-dichlorobenzoic acid</td>
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<td>Chemical Name</td>
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42
<p>|                | FISHES | AMPHIBIANS | AQUATIC &amp; TERRESTRIAL INVERTEBRATES | ROOTS | VIRUSES | USE UNIFORM REG. FORMS | REQUIRE FEDERAL REG. NO. ON APP. | PROVIDE FOR REG. UNDER PROTEST | PROVIDE FOR ADVISORY COMMITTEE | REG. 1080 FOR USE OTHER THAN BY GOV. AGENCIES | PROVIDE MEANS TO REFUSE REG. | ISSUE STOP SALES | REGISTER DISINFECTANTS | ANALYZE SERVICE SAMPLES |
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**Fees and Expiration Dates**

- **Michigan**: $10 ea. 1st 10, $4 ea. addl., Oct. 31
- **Minnesota**: $7.50 ea. 1st 5, $2 ea. addl., June 30
- **Mississippi**: $15 ea. 1st 10, $6 ea. addl., Dec. 31
- **Missouri**: $7.50 ea. 1st 10, $5 ea. addl., Dec. 31
- **Montana**: Uniform, Dec. 31
- **Nebraska**: $5 per brand, $125 maximum, Dec. 31
- **Nevada**: $10 ea. 1st 10, $3 ea. addl., Dec. 31
- **N. Hamp.**: $10 per brand, $100 maximum, Dec. 31
- **N. Jersey**: $5 ea. 1st 10, $2 ea. addl., Dec. 31
- **N. Mexico**: $10 per brand, Dec. 31
- **N. Dakota**: $6 ea. 1st 5, $1 ea. addl., Dec. 31
- **Ohio**: Special***
- **Oklahoma**: $10 per brand, Dec. 31
- **Oregon**: $20 ea. 1st 5, $75 total 1st 4-25, $2 ea. addl., over 25
- **Penn.**: $7.50 ea. 1st 10, $2 ea. addl., Dec. 31
- **Rhode Island**: $10 per brand, $50 maximum, May 31
- **S. Carolina**: $20 ea. 1st 10, $10 ea. addl., $400 maximum, Dec. 31
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<td>$5 per brand $200 maximum</td>
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1. Herbicides only
2. Rodents only
3. Dogs only
4. Starlings only
5. Slugs only
6. Under another state agency
7. Requested not required
8. Crows only
9. Moles only

* Similar to Federal Law. No provisions for registration under protest.
** Does not include plant growth regulators.
*** Covers herbicides only.
<table>
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<tr>
<th></th>
<th>FISHES</th>
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<th>VIRUSES</th>
<th>ROOTS</th>
<th>USE UNIFORM REG. FORMS</th>
<th>PROVIDE MEANS TO REG. UNDER PROTEST</th>
<th>PROVIDE FOR REG. NO. ON APP.</th>
<th>USE 1080 FOR REG. OTHER THAN BY GOV. AGENCIES</th>
<th>REQUIRE USE OF ADVISORY COMMITTEE</th>
<th>PROVIDE FOR REG. UNDER PROTEST NO.</th>
<th>ISSUE REG. TO REGIST. DISINFECTANTS</th>
<th>ANALYZE AND REGISTER REQUIREMENTS</th>
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ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INC.
OFFICIAL SAMPLING PROCEDURE

GENERAL METHODS

Sampling Procedure for Pesticides

Examine shipping cases closely for code numbers, different labels, and other pertinent information. Give special attention to products subject to deterioration. Experienced judgment must be used in each instance.

CAUTION: Use care in sampling and transporting toxic materials to avoid personal injury and contamination of transportation facilities in case of breakage. When dealing with rodenticides and weed-killers, avoid mutual contamination with other products during transportation. Every sample container should be suitably marked according to the requirements of the laboratory to properly identify the product.

(a) Small package retail units. One unopened unit (1 lb. if dry, 1 pint if liquid).

In the case of small baits in cake form, two units as a minimum should be secured. Size of sample is governed by composition of material and analytical methods to be used in examination.

(b) Large package dry products (25 lbs. or more). Sample unopened containers. Sample with trier long enough to reach bottom of container by inserting into container at one edge or corner and probing diagonally toward opposite edge or corner. Take cores by code or batch number. Cores from same code or batch number may be composited to give a sample of sufficient size for analysis or cores from same code or batch number may be handled separately and individually analyzed. Trier should be thoroughly cleaned after each batch is sampled.

Store samples in air-tight glass, metal, plastic or cardboard containers.

(c) Large package liquid products (5 gallons or more). Agitation of the container prior to sampling should be carried out according to the manufacturer's directions on the label. Use glass, plastic tubing, or stainless steel trier with plunger, or rubber tubing for certain materials. Store samples in glass containers or containers of other noncorrosive material with screw top caps lined with teflon or other inert material. Plastic containers may be used only for carefully selected products.
PART II

PROCEEDINGS

OF

19th ANNUAL MEETING
Tuesday, August 3, 1965

1:30 p.m. - Registration

2:00 p.m. - General Session

Invocation
Report of the Secretary
Report of the Treasurer
Announcements & Appointment of Committees
Roll Call by States

2:30 p.m. - President's Address

Recognition of past Secretary-Treasurer A. B. Heagy

3:00 p.m. - "As Of Now"

3:30 p.m. - "Safety of Petroleum Products in Pesticide Formulations"

4:00 p.m. - Adjourn General Session

4:05 p.m. - Workshop Session

5:30 p.m. - Industry Reception

6:30 p.m. - Industry Dinner

8:30 p.m. - States Relations Meeting
Wednesday, August 4, 1965

8:00 a.m. - Special Closed Session
   (Closed Meeting for Control Officials Only)

8:55 a.m. - General Session
   Announcements

9:00 a.m. - "Public Health Service Pesticide Activities"
   Robert J. Anderson,
   Assistant Surgeon General, Chief,
   Bureau of State Services
   U.S. Public Health Service, HEW,
   Washington, D.C.

9:30 a.m. - "The Pesticide Registration Problems"
   Justus C. Ward, Director
   Pesticide Regulation Division, ARS
   U.S. Department of Agriculture
   Washington, D.C.

10:00 a.m. - Reports of Investigators and Special Committees
   Toxicity and Antidotes  J. S. Leary, Jr.
   Regulations  Floyd Roberts
   Terms  Van P. Entwistle
   Methods Clearing House  R. L. Caswell
   Collaborative Check Sample  L. A. Delp
   Compendium  R. Z. Rollins
   Nomenclature  S. C. Billings
   Constitution and By-Laws  G. H. Laramie
   Proceedings Publication  Floyd Roberts
   Custom Applicators Bill  O. T. Guice, Jr.
   Legislation  A. E. Thomas
   Registration  Martin M. Poyner
   Pesticide-Fertilizer Mixtures  J. C. Jones
   Uniform Policy  A. B. Heagy
   States Relations  A. E. Thomas
   Workshop  Errett Deck, Jr.
   Necrology

Report of Credentials Committee
Report of Executive Committee
Report of Auditing Committee
Report of Resolutions Committee
Unfinished Business
Report of the Nominating Committee
Election of Officers
Recognition of Past President

12:30 p.m. - Adjournment

* * * * * * * * * * * * * * * * *
### REGISTRATIONS
#### NINETEENTH ANNUAL CONVENTION
#### August 3 - 4, 1965

#### STATE REPRESENTATIVES

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<tr>
<th>Name</th>
<th>Department or Title</th>
<th>State</th>
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<tbody>
<tr>
<td>Alampi, Phillip</td>
<td>Secretary of Agriculture</td>
<td>Trenton, New Jersey</td>
</tr>
<tr>
<td>Albro, Myron D.</td>
<td>Department of Agriculture &amp; Markets</td>
<td>Albany, New York</td>
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<td>Anderson, Julius R.</td>
<td>Department of Agriculture</td>
<td>Jefferson City, Missouri</td>
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<tr>
<td>Berry, Rodney</td>
<td>Department of Agriculture (Retired)</td>
<td>Richmond, Virginia</td>
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<tr>
<td>Burleson, Harry R.</td>
<td>Agricultural Experiment Station</td>
<td>College Station, Texas</td>
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<tr>
<td>Carr, C. Colton</td>
<td>Department of Agriculture</td>
<td>Lansing, Michigan</td>
</tr>
<tr>
<td>Christensen, M. E.</td>
<td>State Crop Pest Commission</td>
<td>Salt Lake City, Utah</td>
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<tr>
<td>Cochran, J. H.</td>
<td>Department of Agriculture</td>
<td>Raleigh, North Carolina</td>
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<td>Constable, E. W.</td>
<td>Department of Agriculture</td>
<td>Lincoln, Nebraska</td>
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<td>Dannreuther, Victor</td>
<td>Agricultural Experiment Station</td>
<td>Durham, New Hampshire</td>
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<td>Davis, H. A.</td>
<td>Department of Agriculture</td>
<td>Olympia, Washington</td>
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<td>Deck, Errett, Jr.</td>
<td>Department of Agriculture</td>
<td>St. Paul, Minnesota</td>
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<td>Dennisoun, Rollin M.</td>
<td>State Plant Board</td>
<td>Little Rock, Arkansas</td>
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<tr>
<td>DeSalvo, Henry</td>
<td>Department of Agriculture</td>
<td>Winter Garden, Florida</td>
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<td>Dixson, W. Ralph</td>
<td>State Chemist Office</td>
<td>Lafayette, Indiana</td>
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<td>Eikenberry, J. G.</td>
<td>Department of Agriculture</td>
<td>Sacramento, California</td>
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<td>Entwistle, Van P.</td>
<td>Dept. of Agriculture &amp; Immigration</td>
<td>Baton Rouge, Louisiana</td>
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<td>Epps, Ernest A., Jr.</td>
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<td>New Haven, Connecticut</td>
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<td>Topeka, Kansas</td>
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<td>Guntert, Robert H.</td>
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<td>Bozeman, Montana</td>
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<td>Gunther, Burton E.</td>
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<td>Hart, Arthur T.</td>
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<td>Herigstad, Oscar</td>
<td>State Chemist</td>
<td>College Park, Maryland</td>
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<td>Heagy, A. B.</td>
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<td>Clemson, South Carolina</td>
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<td>Heniford, Mr.</td>
<td>Department of Agriculture</td>
<td>University Park, New Mexico</td>
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<td>Kissam, Mr.</td>
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<td>Amherst, Massachusetts</td>
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<td>KuZmeski, John W.</td>
<td>Official Chemist, Feed &amp; Fert. Control</td>
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<td>Concord, New Hampshire</td>
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<td>U. S. Public Health Service</td>
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<td>Billings, Samuel C.</td>
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<td>Ward, Justus C.</td>
<td>U. S. Department of Agriculture</td>
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**CANADIAN GOVERNMENT REPRESENTATIVES**

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<td>Marshall, Charles V.</td>
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<td>Terre Haute, Indiana</td>
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<td>Dixon, Julian</td>
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<td>Cayce, South Carolina</td>
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<td>Farrell, Dr. George W.</td>
<td>Humble Oil &amp; Refining Co.</td>
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<td>Fritsch, Carl W.</td>
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<td>Houston, Texas</td>
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<td>Gilbert, Eldon F.</td>
<td>E. I. DuPont de Nemours &amp; Co., Inc.</td>
<td>Minneapolis, Minnesota</td>
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<td>Green, H. D.</td>
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<td>Wilmington, Delaware</td>
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<td>Geigy Chemical Corporation</td>
<td>Memphis, Tennessee</td>
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<td>Noone, Joseph A.</td>
<td>National Agricultural Chemicals Assn.</td>
<td>Aberdeen, North Carolina</td>
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<td>Parker, James</td>
<td>Armour Agricultural Chemical Co.</td>
<td>Atlantic, Iowa</td>
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<td>Peterson, L. E.</td>
<td>Elanco Products Co. Div. of Eli Lilly</td>
<td>Columbia, South Carolina</td>
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<td>Olin Mathieson Chemical Corp.</td>
<td>Indianapolis, Indiana</td>
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<td>Truitt, Thomas H.</td>
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**PRESS**

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<tbody>
<tr>
<td>Galant, Raymond</td>
<td>Food Chemical News</td>
<td>Washington, D.C.</td>
</tr>
</tbody>
</table>
PRESIDENT'S ADDRESS
Clayton P. Osgood, President

It is the privilege of your president, and a personal pleasure, to welcome you to this meeting. I extend a special welcome to those attending for the first time. I urge all of you to participate in the meeting; we need your help. I also extend a hearty welcome to those from industry; we are always glad to have you meet with us.

We are meeting here for the 19th annual session of our organization. One reason is to comply with our By-Laws which require that regular meetings "be held at least once each year." The purpose of the meeting is to carry out the object of our Association "to promote uniform and effective legislation, definitions, rulings and enforcement of laws relating to the control of sale and distribution of insecticides, fungicides and other pesticides." We will have the opportunity of listening to some very informative talks, as is evident from a perusal of the program. These are important, for much of this information cannot be obtained elsewhere.

New problems will always be with us--this is an integral part of progress. We are here to consider them as well as to reconsider many old ones. It is hoped that all persons attending these meetings will enter into discussions and take advantage of the equally important opportunity offered of exchanging ideas with other control officials. The meeting will have been worthwhile if, after comparing problems and listening to the speakers, we go home better prepared to do our job.

Rodney Berry from Virginia made this statement in his presidential address several years ago, and I think it bears repeating. "If you forget everything else that I may say here today, please remember this one statement. If you will take an active part in the work of this organization, the efficiency of your office will improve, your work will be lightened and your state will benefit. If you are not doing so, I challenge you to try it for a year."

Our organization is not old, but has accomplished much in the years it has existed. At first much of our original effort was directed toward securing uniformity, and uniformity was really needed, not only in the administration of the laws of our respective states, but also in the uniform handling of product labeling. Uniformity of interpretation is of real importance and has been brought about to a great extent by attendance at annual meetings. This is work that must continue.

Some of us remember when copper, lead and arsenic were the only ingredients in a pesticide. Not much was heard of, or known about, residues. With the end of World War II came a deluge of new and wonderful chemicals. These created the need of many new controls. As a result, The Miller Pesticide Amendment to the Federal Food, Drug & Cosmetic Act was passed by Congress. This authorized and directed the establishing of residue tolerances by the Federal Food and Drug Administration. A re-evaluation of some of these tolerances is now taking place. Some of the most able and better informed scientists in this country are being brought in to study certain phases of the overall problem of residues. Two more Federal agencies now are advising U. S. D. A. as well as special committees. For those who have not already done so, I strongly urge that they read the report recently released by the National Academy of Sciences--National Research Council. Their recommendations regarding "negligible residues" or "permissible residues" should go a long way to clear up the "no tolerance" or "zero tolerance" dilemma in which enforcement agencies have found themselves. All this activity is being carried on to see that the consumer is properly protected.

If this Association is to keep abreast of the times, it must concern itself with the use and application of chemicals as well as their sale, distribution and labeling. To this end, I recommend that this Association broaden its scope. We should ask and encourage officials enforcing and administering pesticide applicator control laws to meet with us. We have many common problems. This group is increasing in numbers as more states enact legislation.

Much work of a purely scientific nature cannot be done at the state level. However, practical observations can be made as to the use, as well as the continued use of them year after year which might contribute to a possible build-up in the soil for example, or to the continued effectiveness in certain local areas.

If crops or food containing above the tolerance are found, the proper use or abuse of the pesticide could be investigated. This is information with which this organization can and should concern itself. Justus Ward has asked for our help and cooperation. This is an area whereby information of some value may be made available to the Department of Agriculture.
Before coming here you received a copy of the Proposed New Constitution and By-Laws. The Executive Committee, at its meeting in Washington, voted to make funds available for the purpose of revising the Constitution and By-Laws. The Committee has done a fine job. I hope you will give their recommendation careful consideration.

Standing committees have functioned since the founding of our Association. From time to time special committees have been provided for. When and if favorable consideration is given to a new Constitution and By-Laws, I recommend that the Executive Committee make a thorough study of purpose and function and responsibilities of all committees. I recommend that this information be made available to all members.

Work is proceeding on the compendium and I am sure a progress report will be made by our treasurer, Robert Guntert, who has agreed to assemble the material from Robert Rollins and have the same printed and mailed out. Once this has been printed it must be kept up to date and ways of accomplishing this are being discussed.

We have a new secretary this year. It is becoming more difficult to find some member who can take the time to execute the duties required of the office. The first year is most time-consuming, as your Secretary surely can attest. Because of this, and the fact that the duties of the office, as well as those of our allied organizations, will become more demanding and time consuming, it has been proposed to me that consideration be given to the possibility of procuring the services of one and the same person who could give a goodly amount of his time to the Associations. Each association has a good secretary doing outstanding work much beyond all expectations, and certainly no criticism is intended. It is just an idea to perhaps keep in mind, when changes are made.

EDUCATION

We must work for a better understanding of the important role of pesticides. Misunderstanding, half-truths, and sincere statements by poorly informed persons have caused apprehension and doubt in the minds of those who should be well informed of the facts and be able to use them to the best advantage of all. Too many people believe we produce more food than we can consume and fail to attribute this increase in production to the use of pesticides. The public should be made aware of the fact that we must continue the use of chemicals or have much less food and at higher costs. One person has summarized his thinking on the matter in a statement to the effect that, "we must decide whether to die of starvation at 30 or from poisoning at 90."

Industry has a great stake in the future use of pesticides. It is doing a fine job and I think it has put its house in order, so to speak, but there is much more to be done.

The importance of the use and effect of pesticides can be judged somewhat by the attention given by our Federal government. No less than four agencies, United States Department of Agriculture, Federal Food and Drug Administration, United States Public Health Service, and Sport Fish and Wildlife Service of the Department of the Interior are examining every use made and the consequences of that use. Even so, every control official can and must do his part.

The Executive Committee met as usual this year with Justus Ward and his associates. Several control officials besides the committee were present. Mr. Ward brought us up to date on legislation and other matters. These meetings are of inestimable value and I recommend everyone who can to attend these sessions. As was the case last year, funds were made available for the committee members' expenses. I recommend that this be continued. The executive committee held a day long meeting. Attendance of the entire committee is of great help in the consideration of its problems and for making plans for the association.

I want to take this opportunity to thank Justus Ward and his associates for continuing to make possible these very worthwhile meetings.

I have mentioned that there are three organizations now checking with the U.S. Department of Agriculture. Our organization must work closely with all of them. This year we have a representative of the U.S. Public Health Service on our Toxicology and Antidote Committee. The representative is Wayland J. Hayes, Jr., Medical Director and Chief, Toxicology Section, Communicable Disease Center, Atlanta, Georgia. His appointment was confirmed too late to appear in the official publication. Many of us have been working with Food and Drug Administration and know of their importance in the field of pesticide residues. We will welcome their continued cooperation.
I cannot end this talk without expressing my debt of gratitude to those who have been of
great assistance to me during this past year. First, to our Secretary; his has been a most
difficult year. He has done an excellent job.

I wish to thank Paul Irwin, our former secretary, for the help he has continued to be to
the entire executive committee. We all appreciate the work of our treasurer and the extra
responsibility he has so willingly accepted. We have received the continued support of industry;
it is most beneficial to be able to discuss with them our mutual problems.

And lastly, I want to thank each and every member for their help and indulgence. You are
the ones responsible for continued progress of this association.

REPORT OF THE SECRETARY

C. Colton Carr, Secretary

The 1964 annual meeting was held at Poland Spring, Maine, with 100 people in attendance. Business matters covered at the meeting included amendments to the Constitution and By-Laws, and adoption of recommendation of various committees and investigators. These were reported in detail in the OFFICIAL PUBLICATION. Copies of the speeches made by individuals appearing on the program also are in the OFFICIAL PUBLICATION.

The report of the meeting with USDA on Friday, October 23, 1964, was published in detail in the November, 1964, PEST CONTROLLER. The report of the 1965 Spring Meeting of the Executive Committee and other interested members of the AAPCO with the USDA Pesticides Regulation Division attended by 24 officials from 19 states was reported in the May 1965 PEST CONTROLLER.

The activities of the office of Secretary varied considerably from the efficient operation of previous years. During the year 1964-65, the Secretary performed the following duties:

(1) Struggled with the details of publishing and distribution the OFFICIAL PUBLICATION.

(2) Prepared and distributed three issues of the PEST CONTROLLER plus several mailings to the Executive Committee and a general mailing of the recommendations of the Constitution and By-Laws Committee and "Statement of Election to Accept" to bring the Association in line with the present laws of the District of Columbia for Nonprofit Corporations.

(3) Represented the Association at the AOAC annual banquet in October.

(4) Helped arrange details for the Spring Meeting of the Executive Committee with the Pesticides Regulation Division of USDA in March.

(5) Helped arrange program and other details for the 1965 annual meeting in August.

(6) Handled the usual correspondence and related duties connected with the office of Secretary.

The assistance, cooperation and tolerance of the officers, committee members, association membership and industry friends are deeply appreciated by the Secretary.
Just about the time I addressed you three years ago Miss Carson wrote a book, and the pesticide world will never be the same again.

Regardless of your opinion of Miss Carson, be it good, bad, or indifferent, you must admit she wrote a powerful book. It was on the best-seller list for months, and was translated into several foreign languages.

This book caused a tremendous wave of anti-pesticide reaction in the press. It caused a Presidential study and report which we familiarly refer to as "The Wiesner Report." This report turned out to be a blueprint for the federal agencies to follow in the ensuing months.

The book caused a United States Senate Subcommittee to hold exhaustive hearings, running into thousands and thousands of pages of testimony, and resulting in the passage of S.1605. This Act provided for federal registration numbers to be required on the pesticide labels of all pesticides moving in interstate commerce. It also had a provision substituting judicial review for registration under protest.

This book also resulted in several state legislatures appointing investigative committees to study the pesticide situation in their states. Some of these studies resulted in legislation being enacted, and others in regulations being tightened up.

This book and its aftermath resulted in the USDA and USPHS getting tremendous increases in appropriations for research purposes. Each of these agencies also got some increases for regulatory purposes.

Hopefully, the Fish and Wildlife Service is going to get a considerable increase in funds to do research in the field of pesticides as a result of this book. At the present time, there is a ceiling of two and a half million dollars per annum placed on this item. Legislation is before the Congress, however, which would remove this ceiling. At a hearing on this bill just recently, the Fish and Wildlife Service stated that they would need three and a half million dollars next year, five million dollars the year after that, and seven million dollars the next year.

This book also caused the USPHS, the FDA, and the Fish and Wildlife Service to get a great deal of additional regulatory authority over pesticides through executive decree. It also caused all government agencies to reexamine their regulatory programs as well as their operating programs in cases where they use pesticides in carrying out their responsibility.

Last, but certainly not least, it has caused the pesticide industry to examine all phases of its operation with a fine-toothed comb.

During these last three years much good as well as much harm has resulted from this book and the ensuing actions.

During this time federal agencies have learned to work together fairly well. Industry is learning to work with the Public Health Service much better. Industry and the Fish and Wildlife Service have gotten to understand each other much better; to see each other's viewpoints better, and are now working together quite productively.

Much of the emotionalism has died down during these last three years, although occasionally it crops up in places. For instance, we have seen some lately in Wisconsin exhibited both in the newspapers and in the halls of the General Assembly. Also, in the current issue of TRUE magazine, Secretary Udall has an article that is written in the Carson style and is full of insinuations and hate. I was very disappointed to see Mr. Udall resort to such tactics.

As of now much monitoring is being done by USDA, USPHS, and the Fish and Wildlife Service. This is quite widespread and I think is being fairly well coordinated. We are hopeful that the combination of these monitoring efforts will give us a much clearer picture of the contamination of our environment or the lack of it by pesticides.

There is much good research under way by the Departments of Agriculture, Health, Education, and Welfare, and Interior. Unquestionably the results of this research, when coupled with that of the states and of industry, will be most illuminating and most rewarding. Several states are screening crops for pesticide residue prior to marketing. Some of this is done by
mobile laboratories and some by inspection forces sending samples into permanently located laboratories. Particularly good programs are under way in Florida, California, Virginia, and New York. Others have active programs, and still others are endeavoring to get started on such a program.

Virginia has had an active program in this field since 1930, and, based upon my intimate knowledge of the experiences there I feel very strongly that this type of program needs to be expanded, and that this should be done at public expense. I believe that if this work is paid for either in whole or in part by the actual user, it will not be very satisfactory.

Something over a year ago various regulatory agencies, both state and federal, conveyed to us their anxiety about three particular areas of our business about which they were concerned. First, they were concerned about the cross-contamination of pesticide chemicals. Secondly, they were concerned about the waste disposal system at manufacturing and formulating plants, and thirdly, they were concerned about the disposal of empty containers, particularly the 30- and 55-gallon drums which tend to accumulate in the hands of the formulators, the custom applicators, and the larger growers.

We gave very serious consideration to this communication, as we do all matters referred to us by these agencies. I discussed the situation with a number of you, with the representatives of other agencies who are not here, with a number of people in industry, with our sister organizations such as the Chemical Specialties Manufacturers Association, the National Plant Food Institute, and the Manufacturing Chemists' Association. After all of this, we discussed it among our various committees, and finally, with our Board of Directors at our Annual Meeting in October of last year.

The Board decided that the attack on these problems should be one of high priority during our current fiscal year, and directed the establishment of an ad hoc Committee to carry out the work. The Committee was established under the chairmanship of Mr. Howard J. Grady, of the Chevron Chemical Company, and has come to be known as "The Grady Committee." Mr. Grady knows the pesticide industry intimately, having spent forty years in it. He knows the industry, the products, the problems, the people, the regulatory agencies, and how all of the above fit together.

Mr. Grady put together, with our help, a very fine Committee, and then divided it into three Subcommittees, one for each of the problem areas. He led these Subcommittees in developing manuals in each of these three fields. These manuals were the result of literally thousands of hours of research, consultation, study, and drafting. We are now in the midst of holding five regional workshops for the purpose of discussing these manuals and these problems. Meetings have already been held in Atlanta, Dallas, Chicago, and San Francisco. The fifth and last will be held next week in Philadelphia.

Representatives of the U. S. Department of Agriculture, the U. S. Public Health Service, the Food and Drug Administration, and the Fish and Wildlife Service have been invited to join State Departments of Agriculture, State Departments of Health, State Departments of Conservation, State Departments of Fish and Game, State and Municipal Water Control Boards and Land-grant Colleges and State Universities in discussing these manuals and problems with the manufacturers and formulators of pesticide chemicals. The results of these meetings have been most gratifying, and have resulted in these groups looking at these problems in unity and in a constructive manner.

During the last several months a number of articles, reports, etc. have come out which have been much more favorable to agriculture and the pesticide industry.

In November of 1964, Sir Harold Sanders, at one time Chief Scientific Advisor on Agriculture to the British Ministry of Agriculture, Fisheries and Food, said:

"... Despite a careful search made some 3 years ago, no cases were unearthed in this country of illness caused by residues of toxic pesticides in food."

In February 1965, Dr. Frederick J. Stare, M.D., of Harvard University, and one of the world's foremost human nutritionists, said in a syndicated column:

"One irrefutable fact the critics of pesticides have been unable to answer is this true statement: there is not one medically documented instance of ill health in man, not to mention death, that can be attributed to the proper use of pesticides, or even to their improper use as far as ill health from residues on foods."

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In April 1965, the United States Department of Health, Education, and Welfare issued a press release dated April 9, 1965, which said in part:

"Pesticide residues are detectable in the American food supply by today's highly sensitive analytical methods, but the amounts of such residues are insignificant from a health standpoint, according to findings announced today by the Food and Drug Administration, U. S. Department of Health, Education, and Welfare.

"Pesticide levels found in the test samples were generally less than one percent of the safe legal tolerance. Many of the most commonly used pesticides were not found at all.

"The FDA studies are made on market-basket samples collected from grocery stores in three major U. S. cities. Groceries selected are representative of those that would be in a nutritionally satisfactory diet of a hypothetical average 16-to-19-year-old boy -- biggest eater in the U. S. population."

In May 1965 the Subcommittee on Department of Agriculture of the Committee on Appropriations of the United States House of Representatives, under the Chairmanship of The Honorable Jamie L. Whitten, of Mississippi, released a report by the Surveys and Investigations Staff entitled "Effects, Uses, Control, and Research of Agricultural Pesticides."

In July of this year a Committee of the National Academy of Sciences/National Research Council which had been studying the zero tolerance and no-residue registration situation released its report.

I, of course, must speak to you about uniformity. In pesticides, where proprietary products are so important, and interstate movement of products so prevalent, uniformity of legislation, regulation and labeling is of paramount importance.

I was in Europe this spring, and I found that they have an even more complex problem with regard to the approval, registration, and distribution of pesticides than we do in this country. This, of course, is the result of the countries being quite small, having a great deal of national pride, and each country speaking a different language. There much of the research has to be done in each country and the labeling cleared in each language. It's enough to drive you crazy.

Research and development costs have risen each time that increased requirements for efficacy and safety have been made by regulatory agencies. This has finally resulted in a situation where the development costs are so great that only those products that look like they will have an international appeal are deemed to be worthy of development. It takes this much sales volume to get our money back.

We as a nation must keep pesticides flowing freely within our borders for the sake of the individual states that we might be competitive one with another, and for the sake of the nation that we might have an adequate food supply for our own needs and as working tools in the hands of the diplomats in their quest for world peace.

We are always more than glad to cooperate with you and representatives of this great Association in developing or revising model bills and model regulations.

We hope that you as individuals will talk to us about any new bills or any amendments to old acts that you have in mind introducing in your state, or any problems which caused you to feel the need for such. As you know, Joe Noone and Bob Ackerly have a great deal of knowledge and experience in the field of state laws and regulations, and any of us are delighted to discuss the matter with you and help you in any way we can at any time. We will always be an advocate of our point of view, but we will always be honest with you and we will try to be fair.
SAFETY OF PETROLEUM PRODUCTS USED IN PESTICIDES
George W. Fiero, Ph.D.
Chairman C.S.M.A. Labeling and Regulatory Advisory Committee

Petroleum products have several roles in pesticide applications[1]. They have been used commercially as insecticides for over 100 years. Light fractions are herbicides, both selective and general, depending upon the composition. Mineral oils have been shown to be fungicidal when used against banana diseases. Odorless base oils have long been used as carriers for household insecticides. Both aliphatic and aromatic petroleum fractions are extensively used as solvents for organic pesticides. Liquified petroleum gases are employed as aerosol propellants. Petroleum products are used as auxiliary plant chemicals in form of a mulch.

Our subject, safety, however, is a broad term and, when applied to petroleum products, implies freedom from a number of hazards including flammability, acute and chronic oral ingestion, inhalation and cutaneous affects. However, long use has shown that with normal care petroleum products are as safe, or safer, than the toxicants with which they are used.

The flammability of carriers is particularly important in connection with application of liquid pesticides since they are applied in the form of a spray. However, many agricultural pesticides are purchased by the grower in the form of emulsifiable concentrates. Because such concentrates are diluted many-fold with water, there would be practically no flammability hazard even though the concentrate was prepared with a flammable solvent. The flammability hazard, therefore, is present only when transporting, storing and handling the concentrate.

Flammability hazards are usually based on flash points which depend upon the volatility of the hydrocarbons. Proper labeling is included in Interpretations 18(2). Sprays with a low flash point should not be used indoors and care must be taken even if used outdoors. For this reason, most household type sprays employ a carrier with a flash point in excess of about 125°F.

While it is true that droplets of a relatively high flash solvent will ignite when sprayed directly into a flame, over forty years' use of oil-base household sprays have shown this not to be a problem.[3] Few, if any, fires have resulted from insecticides being sprayed into a flame. While there has been much ado about the aerosol flame-elongation test, personally, I feel this potential hazard is highly exaggerated even though it is a spectacular test.

Liquified petroleum gases are extremely flammable. However, when properly formulated, they do not present a hazard in practice. In some bases, they may constitute only a small proportion of the propellant, and the halogenated hydrocarbon should be present in sufficient concentration to act as a flame retardant. More commonly, LP-gases are used in aqueous formulations in which case the water acts as a flame retardant. Usually, the valves employed "bleed" out the gas so that appreciable quantities of gas are not left in the can when the fluid has all been sprayed. There has been considerable discussion about possible leakage of LP-gas from the aerosol container. Under ICC regulations[4] all aerosol cans are inspected for leakage in a water bath at 130°F, and as a result the undetected leakage, if any, is so small that there can be no hazard. Even if the entire LP-gas contents of a new 14 oz. aerosol can containing 30% LP-gas were to leak at one time, the quantity would only be about 125 gm. It would require ten times that much to result in an explosion in a small (10 x 12 feet) room!

Acute oral ingestion. Normally, one is concerned with the inherent toxicity as measured by the LD50. This is the quantity which kills 50% of the experimental animals. Petroleum products possess a very low order of toxicity, with LD50 values usually well over the 5 gm/kg body weight which is the level for labeling under Interpretation 18(2) or the Federal Hazardous Substances Labeling Act.[5]

Aspiration. In the case of all liquids, not only hydrocarbons, there may be an aspiration hazard. Even though a liquid has a high oral LD50, if it is aspirated into the lungs, it may cause injury or death. Because petroleum products have been extensively used in the household, and kerosene, solvents, and polishes have resulted in aspiration by children trying to swallow them, the FDA and USDA prescribe cautions for these substances even though they do not fall into the oral LD50 "toxic" range.

Aspiration of liquids from the mouth into the lungs occurs in a few seconds. The volume of liquid is self-limiting and the individual receives a single dose. This may result in extensive pulmonary edema and hemorrhage. "It is axiomatic that, if a child lives 24 hours after the aspiration incident, he is out of danger."[6] Aspiration of light hydrocarbons causes an acute response and should not be confused with "lipoid pneumonia" which may be produced by higher viscosity oils. "Lipoid pneumonia" is a low-grade, chronic, localized tissue reaction which is not fatal.
Dr. H. W. Gerarde of Esso Research and Engineering Company has studied the aspiration hazard of liquids into the lungs. His biological procedure has been recommended by the National Research Council as a test method. It is much more severe than human aspiration since he forces aspiration of the liquid into the animal.

Dr. Gerarde's studies with hydrocarbons indicate that the hazard decreases with the increasing viscosity of the hydrocarbon. Thus pure N-alkanes from C_6 to C_14 resulted in 100% fatality. In the case of other series, the lower weight molecules appeared to possess greater hazard.

For petroleum products, it was found that aspiration hazard varied with viscosity as shown in Figure 1. Blends of 355 SSU @ 100°F viscosity oil with kerosene showed no aspiration hazard with a 50:50 blend having a viscosity of 58 SSU @ 100°F. This relationship was also shown using commercial petroleum products with various viscosities as shown in Figure 2.

Dr. Gerarde has shown that straight mineral oils including oils with a viscosity of about 65 SSU @ 100°F, used as components of orchard spray oils do not result in an aspiration hazard. On the other hand, a formulated spray oil containing 3% emulsifier and 99.7% of a 65 SSU @ 100°F viscosity oil produced a mortality of 4/10 and lung weight in these animals over 3-1/2 times that of the control animals. However, in case of a formulated 72 SSU @ 100°F viscosity oil, the mortality was only 1/10.

Moreover, Dr. Gerarde has shown that many liquids other than petroleum hydrocarbons possess this hazard. The complete range of alcohols from three through ten carbon atoms produced 100% mortality in rats. Even ethyl alcohol resulted in 50% mortality. Thus statements that only petroleum distillates possess this hazard are false. The reason for special labeling requirements for petroleum distillates is that there is considerable human experience because of the widespread use of kerosene, solvents, etc.

Aerosols do not possess the same aspiration hazards as the substance in liquid form. Large doses of hydrocarbons from aerosols tested in rats indicate the nonexistence of an acute aerosol hazard associated with the normal use of hydrocarbon aerosols. Unpublished data (which was submitted to the FDA and USDA) showed that the hazard did not exist even in residual pressurized sprays with 25% Propellant 12 and 75% petroleum base oil.

Chronic Oral Toxicity. It has been demonstrated that, other than benzene, petroleum hydrocarbons possess very low order of chronic toxicity. Indeed, as Dr. Gerarde points out in his article entitled "The Ubiquitous Hydrocarbons" (12), various hydrocarbons are widely distributed in nature and in food. In 1960, Mrs. McTurk and Dr. Eckardt of Esso Research and Engineering Company made a complete search of the literature on the safety of mineral oil to be included in a food additive petition. They concluded that mineral oils have no chronic toxicity at levels in which it would be found in food.

Inhalation. In the case of pesticides, inhalation hazards are two-fold: (1) vapor and (2) mist. With the exception of benzene, petroleum products do not present a vapor inhalation hazard in normal pesticidal usage. The "Threshold Limit Values" for xylene is 100 ppm, for most other aromatic petroleum solvents is 200 ppm, and for aliphatic solvents is 500 ppm; for benzene it is 25 ppm! (This is the maximum allowable concentration of hydrocarbons in air for workers during an eight hour day for five days per week.) Most pesticide solvents possess boiling points so high (low vapor pressure at room temperature) that this concentration would not be reached in practice. Furthermore, products with more volatile solvents (such as xylene) are used for agricultural purposes out of doors, and usually in forms of aqueous emulsions.

Since pesticides are applied as mists, inhalation of particles must be considered. The toxicity of a typical aromatic solvent, Heavy Aromatic Naphtha (HAN®), was investigated by Keboe et al (15). The studies involved the intermittent exposure of experimental animals to low pressure aerosol of the solvent. A low order of toxicity was indicated.

The API Oil Mist Liaison Committee reviewed the health implications associated with inhalation of oil mist. They concluded that considerable populations of workers are exposed to inhalation of oil mists, but there is no evidence to suggest oil mists have been responsible for illness. They found average exposure levels to be below 15 mg per cubic meter.

Skin Contact. Petroleum products, even aromatic hydrocarbons, are not absorbed percutaneously at a sufficiently rapid rate to cause systemic intoxication by penetration of the intact skin. However, repeated contact with petroleum solvents may cause irritation as a result of defatting the skin. However, in most pesticidal applications, contact is not great. Of course, solvents should be removed from the skin and clothing wetted with solvents should be removed. Orchard spray oils are of such a viscosity that they usually do not defat the skin.
Figure 1
The relationship of viscosity to mortality in rats dosed with kerosene-lubricating oil blends. (6)

Figure 2
Mortality in rats dosed with petroleum hydrocarbons varying in viscosity. (6)
Thus, it is evident that with normal care petroleum products may be safely used in pesticides. These uses are summarized in Table 1.

LITERATURE CITED


2. Interpretation with respect to warning, caution, and antidote statements... C. F. R. 362.116


4. L. C. C. Tariff 10, 73.302

5. C. F. R. 191.1 (f) (1)


8. Gerarde, H. W. - Private communication submitted to USDA by Humble Oil & Refining Company

9. Ibid. Unpublished data

10. C. F. R. 191.7 (a) (4)


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AN ANSWER TO THE PESTICIDES CHALLENGE

Robert J. Anderson, M.D.,
Assistant Surgeon General and Chief
Bureau of State Services, U. S. P. H. S.

Mr. Osgood, members of the Association of American Pesticide Control Officials, and guests.

Thank you for the opportunity to speak here this morning.

Your organization has been working on pesticide problems for nearly 20 years. Therefore, it must be some satisfaction for you to note how few responsible people are ignoring the pesticides challenge today.

Most manufacturers and applicators strive for the best possible combination of effectiveness and safety in the production and use of pesticides.

Agricultural Extension Service representatives try to reconcile the farmer's need for pest control with everyone's need for health.

Local, State, and Federal conservationists undertake to control pests on public lands without hazarding people or beneficial life forms.

College and university educators endeavor to graduate students trained in the environmental sciences.

Researchers stand ready to explore more scientific mysteries.

Public health workers are accepting responsibilities for protecting people from pest control risks.

The precept is well known that efforts to achieve acceptance of challenging responsibilities will fall short of expectations unless all concerned act jointly on a common problem.

The pesticides news this morning is that people are acting together to resolve the common dilemma of pesticides.

This is answering a challenge cooperatively. It's teamwork.

We've all heard about bewildering pesticide complexities -- the profusion of choices among some 600 chemicals of which about 200 are of first-rate importance in terms of toxicity and use; the 60,000 or more U. S. Department of Agriculture registered formulations with varying degrees of hazard for man and beneficial life; the yearly additions of new chemicals and formulations; and the multipliers of complexity in pesticide use in thousands of communities.

Yet, in agriculture and public health, chemicals remain our most effective means of pest control. Either we use them or reduce capabilities for producing food and controlling insect carriers of disease.

We state our dilemma as if we felt our choices were either to give up pesticides' advantages or gamble with acute poisoning and little-understood, long-term human and wildlife health effects. But we know our choices are not that divergent. We all are working to understand how best we may reach desired goals.

That we are getting team play to moderate the pesticides dilemma is evidenced by a series of workshops the National Agricultural Chemicals Association has just completed to distribute and promote discussion of three technical manuals. These are on how to dispose of containers and plant wastes and prevent pesticides cross contamination.

The workshops and manuals should provide effective communication among pesticide manufacturing and using industries. But no one conceives of them as solving all aspects of the container problem.

Children who find not-quite-empty drums attractive for their games, don't read manuals. Neither do parents who use pesticide containers as water cans, trash bins, or for propping up the family car.
A few minutes ago, I said that few responsible people are ignoring the pesticides challenge today. It would have been as accurate to say that no one dares ignore this challenge if only because, in the final analysis, people cause pesticide hazards, with rare exceptions.

Lightning starting a chemical-pesticide warehouse fire would be a rare exception. But fire hazard prevention is the job of people — firemen, and volunteer assistants from industry, agriculture, wildlife conservation, public health, and others who might have to be summoned to the scene quickly to avoid harm to hundreds, perhaps thousands of people.

The Omaha Fire Department set off a chain reaction of summons this year to a fire in a chemical warehouse containing nearly 500,000 pounds of ten percent parathion and ten percent aldrin formulations. The word was flashed from the city's chief water utilities chemist to the Public Health Service water pollution office in Kansas City; sampling stations along the Missouri River; Nebraska state health and fish and game authorities; U.S. Department of Agriculture Extension Service people in Nebraska; and Public Health, Interior, and Agriculture officials in Washington, D.C.

A large amount of water from the fire was contained in a drainage ditch near the warehouse. Federal assistance was given for decontamination of the water and for burial and detoxification of chemicals left in the burned building. Amazingly enough, no dangerous chemical residue levels were discovered in the Missouri and no fish kills have been reported to date.

Few examples of team performance in meeting a pesticides challenge are as spectacular as the Omaha fire. Most other examples are undramatic, but also important.

Certainly there is long-term importance in the fact that local and State Authorities today are forming their own versions of the Federal Committee on Pest Control. They're bringing in formulators, agriculturalists, foresters, conservationists, public health doctors, and anyone else with an interest in pesticides to consider and act upon mutual problems.

At last count, nearly 30 non-Federal committees or commissions had been formed. Some of them are regional and conduct extensive interstate programs on pesticide research and monitoring. Many are not yet active.

But the fact that the committees or commissions exist makes them important. Organizations which exist only on paper, however, will remain inactive until all with a stake in solution of the pesticides dilemma have done all they can to foster the spirit of teamwork.

Let me give you a few examples of PHS pesticide activities.

Federal communicable disease and sanitary engineering experts are taking advantage of research and technical assistance provisions of the Public Health Service Act to provide information to private, local, and State agents about mosquito and other insect control.

Federal water scientists are monitoring pesticide contamination at stations on nearly all major river basins in the nation.

Federal scientists have developed experimental equipment for sampling pesticides in air. Thus, we shall have our first means for efficiently extracting air-borne volatile chemical pest control agents.

Food protection scientists in the Public Health Service continue to expand man's knowledge of pesticide residues in milk and other food. Other scientists, working under Public Health contracts, conduct research on pesticide exposures among workers in selected communities. Meanwhile research administrators at the National Institutes of Health make decisions about grants and contracts for pesticides research in conjunction with investigations of allergy, infectious and neurological diseases, cancer, and other human ailments.

The Health Service last November launched a new pesticides program. The staff's first job, after it became organized, was to contract with county and State health departments and academic institutions to conduct the first large-scale investigations of possible long-term relationships between pesticides and human health. The work is under way in communities in ten States — Arizona, California, Colorado, Florida, Hawaii, Louisiana, Michigan, New Jersey, Texas and Washington. Twenty or more States may participate eventually.

The studies cover not only people within selected communities, but persons outside who may be interesting subjects for epidemiological research by reason of occupational exposure or as members of the general population.
Five years, or more, will be devoted to the community investigations. This should allow time for in-depth development of information about (1) how communities use pesticides, (2) what levels the chemicals reach in the environment, (3) what health effects pesticide workers may experience and (4) whether relationships may exist between human disease and pest control chemicals found in organs and tissue by post mortem and biopsy analyses.

Uppermost in the minds of health research scientists is the only significant question about pesticides which none yet can answer conclusively. This is the question:

What are likely to be the health consequences for Americans after they have received pesticides for years either as workers getting comparatively heavy doses or as targets for microscopic chemical bullets from the environment?

Aspects of the community study in Florida illustrate what may be done to extend pesticides research into the past and future. An organization is being established by the State Board of Health to investigate mortality rates and causes and health experiences among 30,000 persons estimated to have registered under Florida law as pesticide formulators and applicators since 1948. Few parallel situations are known for pesticides exposure research that can look back 17 years for possible health effects among an epidemiologically significant number of people still available for future study.

Another striking feature of the Florida work is research which suggests a relationship, yet to be demonstrated, between the onset of illness and rises in organophosphate pesticide metabolite in the urine of applicators. The possibility also is being investigated that the metabolite may be associated with temporary kidney malfunction which, if repeated, could lead eventually to damage.

One of the Florida scientists, who also is an assistant University of Miami professor of medicine, does what he calls "detective work." He interviews anyone who conceivably might have information about pesticide poisonings -- as in the case of a barber.

The barber kept parathion with his stock of male cosmetics and sold it in plain paper sacks. A customer bought some of the material. His child, less than two years old, died from swallowing a little of it. In the absence of applicable local law, the barber was convicted under the Federal statute which prohibits the sale of unlabeled pesticides in interstate commerce.

The same medical detective learned that large multi-walled bags, containing small amounts of pesticide, had been thrown into an irrigation canal. While not enough poison escaped the bags to harm people whom the canal supplies with water, there were dead fish.

To provide technical support for the community studies and other pesticides program work, but also to conduct basic research, the Public Health Service is building a laboratory on the south campus of the University of Miami's School of Medicine. A small unit of the facility is in operation. The rest will be ready after the middle of next year. It will have a staff of about 40 people to investigate such problems as chronic effects of pesticides during the life spans of test animals and subtle consequences from exposures to micro-insults of pesticides as distinguished from gross manifestations of disease.

A National Pesticides Intelligence System is being organized within the new Public Health program. Members of this team will collect, interpret, and publish environmental pesticides exposure data as a basis for anticipating hazardous accumulations of pesticides. They also will disseminate information about the pharmacology and toxicity of pesticides to officials and others with public health responsibilities.

Federal public health workers are cooperating increasingly with the Food and Drug Administration and Departments having responsibility for Federal pest control, such as Agriculture, Interior, and Defense.

The Federal Committee on Pest Control was brought into being last summer to replace the Federal Pest Control Review Board which had been functioning since June 1961.

The FCPC, like the Board, must weigh risks against benefits expected from Federal Pest Control. But, unlike the Board, it also (1) scrutinizes non-Federal pest control, (2) reviews U.S. government pesticides research, (3) works on environmental monitoring problems, and (4) coordinates the production of information materials about pesticide hazards and what is being done to reduce them.
FCPC Subcommittees on Research, Monitoring, and Information meet and report to it regularly. The monitoring group, to cite an example of team activity, is designing the country's first system for continuously detecting regional and national changes in pesticide levels in water, soil, food; fish and wildlife; and people. Data obtained will be fed into the National Pesticides Intelligence system.

No FCPC recommendation for pest control program changes, incidentally, has yet been rejected by the agency concerned despite the fact that the Committee functions without statutory authority.

Our hope is that the FCPC may become a model for getting the most pest control for the least hazard.

The Departments of Interior and Health, Education, and Welfare operate under a Memorandum of Agreement with the Department of Agriculture for joint review of pesticide manufacturers' registration petitions. This affords some assurance that decisions under the Federal Insecticide, Fungicide, and Rodenticide Law reflect health and conservation viewpoints.

The Department of Agriculture recently acted, with Public Health Service support, to end the use of thallium sulfate as a pesticide in or around the home. Agriculture now requires the material to be applied only by qualified local, State, or Federal personnel. Children have died from food-thallium mixtures sold as bait for pests.

Many clues to solution of pesticides problems will be provided by scientific investigation. For this reason, government agencies have been authorized by Congress substantially to increase pesticides research to accelerate efforts to develop alternatives to chemical pest control.

One Department of Agriculture research group now devotes more than two-thirds of a larger insect control budget to the development of less hazardous pesticides or non-chemical agents. Another has doubled its effort in this direction. Department of Interior research also seeks ways to take some of the risk out of the pest war. The Public Health Service plans comparable research.

Investigations -- underway and planned -- have improved the outlook for pest control risk reduction. Department of Agriculture scientists, for example, have demonstrated that parasites and predators can give outstanding control of some insect pests. Interior Department researchers feel that enough field work has been done to warrant substitution of malathion for DDT to control mosquitoes with little hazard for birds and mammals, if all safety rules are obeyed.

Public Health and other scientists believe that future programs may integrate such methods as sex sterilization to reduce insect populations with good sanitation practices and the use of pesticides.

Federal and State investigators generally agree, however, that non-chemical agents cannot yet approach the overall effectiveness of chemical controls.

The President's Science Advisory Committee Report, the "Use of Pesticides,"(1) described an almost unrelieved dilemma. But that was in May 1963. Today the dilemma is not quite so acute and local, State and Federal workers are moderating it further, recognizing more clearly than ever needs for:

Proper use of pesticide containers and safer disposal of plant wastes.

Expert monitoring of environmental residues of pesticides.

Planning to meet such emergencies as the Omaha chemical warehouse fire.

More active local, State, and regional pesticide committees or commissions with representation from agriculture, conservation, education, science, industry -- and public health.

Stronger local and State statutes, or better enforcement of existing law, also may be needed to back up efforts to persuade home sprayer, farmer, or commercial applicator not to use pesticides until they have tried, for instance, the fly swatter, a change in crop-planting schedules, or less poisonous chemicals.

Your Association can help supply these needs. It can look for opportunities to improve container use and plant waste disposal. It can foster better monitoring techniques. It can aid in
the development of more effective emergency planning. It can generate greater public awareness of the hazards of using pesticides without employing all possible safeguards or exploring non-chemical or, at least, safer alternatives. It can provide guidance for fully representative local, State, and regional pest control project reviews. It can work with local, State, and Federal officials on better laws.

Team effort is needed in all areas of public and private responsibility for pesticides. As we supply the need, we continue to moderate the pesticides dilemma. We answer its challenge. But we'd better not wait much longer to make our answer big enough.

Reference

PESTICIDE REGISTRATION PROBLEMS
Justus C. Ward, Director
Pesticides Regulation Division, USDA

Preparation of this informal talk was delayed until the evening of last Tuesday, July 27, 1965 with the knowledge that every day that passed had 24 hours in which to help solve old ones or cause new problems and I wanted to bring you the latest possible information.

On that date I was working in San Francisco following participation in the fourth NACA Grady Committee Workshop to discuss "Cross Contamination" of pesticides and its serious consequences. By a rather logical coincidence, Dr. Robert J. Anderson of the Public Health Service who has been our featured speaker here today was also at the San Francisco meeting and gave a very good summary of his agency's interests, responsibilities, and programs in the pesticide area to the group out there.

In light of the title of this talk, it is of interest to note that Dr. Anderson mentioned the problems of mutual importance to Agriculture and Health specialists and forecast that they were subject to solution, an opinion with which I agree.

Since this discussion is to be in part at least an explanation of what has happened to registration policies and procedures since the Poland Spring meeting last August, and is to be for the information of state pesticide enforcement officials and the representatives of the industry who have taken the trouble to follow us to Clemson, I will try to be factual in my story. In a very real sense our experiences in the Federal program may forecast for those of you operating in enforcing state laws what should be expected in your areas as well.

Last year I told a few of you all I knew about the impact of "Silent Spring," the Weisner Report, and our amendments to existing regulations on the registration process. My brief comments on the so-called Interdepartmental Agreement were limited to disclosure that the Secretaries of Agriculture, Health, Education, and Welfare and Interior had signed a document formalizing a program and we were requesting the needed funds to recruit the essential new people before starting the formal operations. We got our increased budget and started looking for new people. When that developed into a major project, we decided to start our part of the interdepartmental cooperation with the existing staff to get some experience and determine just how big the job would be and how best to handle it.

In essence, the Agreement set up the requirement that Agriculture and Food and Drug Administration would on a regular weekly basis respectively notify the Public Health Service and Fish and Wildlife Service of all actions leading to registration or to the setting of tolerances. Then, as stipulated in the Agreement the U. S. Department of Agriculture specifically would receive pertinent comments regarding registration from Public Health Service, Food and Drug Administration, and Fish and Wildlife Service within the following week. If an agency questioned the acceptance of a proposed usage, that agency was obligated under the Agreement to do so in writing, submitting the scientific basis for such adverse recommendation. The U. S. Department of Agriculture was then to consider all the recommendations of the advisory agencies prior to taking final action on registration. It was further agreed that if the specialists in the respective agencies could not agree, the matter should be referred to the Secretaries for decision.

In operating under an informal intergovernmental referral system for many years, we had been in the habit of requesting comments only on new "patterns of use" rather than on all applications for registration. In spite of favorable results from use of this system for over fifteen years, a change was demanded by the Agreement, so we started out on October 4, 1964, to prepare abstracts of every label received during the week. We then sent a full file to designated liaison officials in Public Health Service, Fish and Wildlife Service, and Food and Drug Administration. Almost at once, the Food and Drug Administration requested we discontinue sending them the weekly list and obligate ourselves to continue the type of cooperation developed by years of experience. When that stand was transmitted in a formal memorandum, we discontinued forwarding weekly listings to Food and Drug Administration.

In the meantime, however, replies to the first listings were received from the other two agencies and we suddenly found ourselves in a position to pass on to the applicant for registration many detailed requests for changes in ingredient statement names, changes in label detail, as well as requests for more data if our files were found to be incomplete. This mass of work suddenly and dramatically disrupted the routine of registration action, and we found ourselves almost completely bogged down and facing an impossible task. So on November 15, we stopped the program until a revised approach could be planned and some new help could be obtained and trained. By January 5, 1965, we were ready to try again. By that time we had conceded that if the Fish and
Wildlife Service and Public Health Service were to review each label, the best way to provide for such review was to request each applicant to submit five copies of each label with his application, and to furnish extra copies of all pertinent data, so all available information needed by Public Health Service and Fish and Wildlife Service would be received at the same time that the labels reached us. Operating under this system the Fish and Wildlife Service soon learned that there were many categories of pesticide usage that would not endanger wildlife so that agency soon asked us to screen out those classes of products and not forward them for checking by their small pesticide review staff. This action and that of Food and Drug Administration helped, but the whole registration problem had become so acute that the solution resembled untangling of a monumental traffic jam and became a slow and painful process. Whereas a routine application for registration had been processed in four or five weeks in September of 1964, and the weekly Friday "count" of all pending actions in the Pesticides Regulation Division was about 600, by January of 1965 the "count" was over 4000 and the time needed to handle a registration to take into account all comments was 10-12 weeks.

All this delay hit at the time the trade was preparing for spring distribution and it created a major crisis for many companies.

In only a few cases were serious changes in individual label statements required, indicating that by and large, the basis principles of routine reviews utilized by U. S. Department of Agriculture were unchallenged. There were several differences of opinion on chemical names and non-precise wording of caution statements. There were some cases where Public Health Service or Fish and Wildlife Service suggestions were impossible to comply with because of limitation in the law. There was, however, one very serious problem, - how best to put advice into use without disrupting the trade unnecessarily.

In reviewing individual labels, conscientious scientists in the advisory agencies picked up cases where they felt changes in label details appeared to be justified and these were recommended. Sometimes such label claims were duplicated on many competitive products so as to require proposed new wording on the one label would imply that all similar labels should be changed in the same way. Frequently the proposed new statements were not significantly different--and no scientific proof to justify the change was available. In other cases, the challenge was to a pattern of use, which had had many years of experience. Such favorable use almost assured that it could not readily be established to be unsafe. Under these circumstances, it has been most difficult to require labeling in every case to reflect the advice of our cooperators. We have felt from the start of the Agreement that if Public Health Service and Fish and Wildlife Service would be willing to accept one label giving an illustration of each new pattern of use for review and would then apply the know-how of their experts in determining whether or not the pattern should be registered--and if not, to assemble the evidence to back a refusal to register, this type of cooperation would be most helpful. Then, if the review of old labels on a "pattern of use" basis could go just one step farther--to the extent that proof sufficient to justify cancellation if that is needed and to fight a challenge in court--would be obtained, we would then be in position to cancel all uses which were proved to be questionable by any agency of Government.

In spite of these unanswered questions considerable value has already come out of the developments of the last year. I am confident more will come as we learn by experience how we can work together to best advantage. It appears, however, that some added improvements are needed before all agencies with the divergent interests and responsibilities which they must retain in order to perform their primary functions effectively, will be able to work ideally together in the area of registration of pesticides.

The routine procedures will be aided materially, however, as we develop a higher level of mutual respect between all the competent people working in this complex field. This is being done.

This discussion of the cooperative complications of registration, however, should not overshadow certain other problems dealing with the proper use of pesticides which are becoming increasingly important. Most of you have had a part of the new chemical analytical progress, but perhaps a few comments on what this has done to registration policies, will be pertinent. The most important impact has come in the challenge the improved sensitivity of methods has made to the "No Residue" concept of registering uses of pesticides on food crops. In short, the chemists have become so competent that they can find a chemical now where it could not be detected at all before. This fact has made both the "zero tolerance" and the "no residue" terms inexact and unrealistic, insofar as the utilization of chemicals in the production and protection of food is concerned. This was recognized by both U. S. Department of Agriculture and Food and Drug Administration sometime ago, and a NAS-NRC Committee was formed to study the problem and propose solutions. This Committee has reported and the regulatory agencies are studying the report to see how best to activate the proposals. Any reasonable readjustment of standards in
this will be a basic one and will really solve a most involved problem.

In the meantime, however, there are immediate questions arising which need solution. The heptachlor epoxide and dieldrin-alfalfa and clover problem, the dieldrin-potato, the endrin-cauliflower, and the dieldrin-sugar beet pulp contaminations are all examples. Until there are new standards for so-called "negligible residues" which will give a valid basis for continuation or re-establishment of such uses, our only legal moves will be to withdraw uses on food crops where any detectable residues even with the most sensitive methods can be shown to result from the directed use.

In view of all these developments, it is obvious that we are facing more and more serious problems in the registration and regulation of pesticides than we have had at any time in the past. It will be vital for us to continue our state and Federal cooperation if these problems are to be solved, and the public is still to receive the protection which it has always obtained, through conscientious enforcement of existing laws.

Regulatory officials are looking forward to the findings of research such as that described by the Dr. Anderson for aid. When the data are in and evaluated, the enforcement of law will be based more on fact than on professional judgment, as it should be.
TERMS COMMITTEE REPORT
Van P. Entwistle, Chairman

No business concerning terms applied to pesticides has been received by the committee during the past year.

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METHODS CLEARING HOUSE COMMITTEE REPORT
Robert L. Caswell, Chairman
Pesticides Regulation Division
Agricultural Research Service
USDA, Washington, D.C.

We have not yet distributed any methods of analysis this year. Due to the very heavy work load on registration, we were unable to devote adequate time to method development work. However, we plan to distribute several revised methods including a method for dithiocarbamates, improved screening methods using thin-layer and gas chromatography and revised factor tables. A revision of the "Index of Analytical Methods Employed in the Analysis of Official Samples" is being prepared. We are considering the distribution of new infrared procedures and we hope to prepare an outline of a gas chromatographic procedure for formulations. We would appreciate receiving new methods from any of the state officials or manufacturers and we welcome any suggestions for the improvement of our present methods.

The mailing list has grown to over 170 State, Federal, and industrial laboratories, including laboratories in foreign countries. Many sets of our present methods have been distributed.

The new edition (10th) of "Official Methods of Analysis of the AOAC" will be published late this year and will include new methods for pesticides.

Please inform us of any change in your address so we may keep our mailing list up to date.

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COLLABORATIVE CHECK SAMPLE COMMITTEE REPORT
Loren A. Delp, Chairman

This year's program again has followed along the lines in essentially the same manner as in past years.

Enrollment in the program consisted of 61 laboratories, of which 43 were control and 18 representing industry. This is a gain of nine control, and a loss of two industry laboratories over last year's enrollment.

Nine pesticide materials, which were selected by popular vote of the collaborators, were submitted over a nine month period. It should again be emphasized that this program is basically a comparison study of the analytical technique of the various individuals and to fulfill this aim, it is necessary for the collaborators to follow the submitted procedure as closely as possible.

The committee wishes to express its appreciation to Mr. Edwin T. Upton, Chief Chemist, Thompson-Hayward Chemical Company, Kansas City, Missouri, for his contribution in time and material.

Since the present Chairman has held the post for three years, it is felt the program could be improved by passing it on for new ideas and refinement. Therefore, it is requested that he be relieved of these duties for 1966.
It is recommended that the Official Regulations Under the Model State Insecticide, Fungicide and Rodenticide Act be amended by striking the entire Section 8 and inserting in lieu thereof the following:

8. Pesticides (economic poisons) highly toxic to man.

(a) Pesticides (economic poisons) which fall within any of the following categories when tested on laboratory animals as specified in subparagraphs (1), (2), (3) of this paragraph are highly toxic to man or contain substances or quantities of substances highly toxic to man within the meaning of the Act (such pesticides (economic poisons) being hereinafter in this part referred to as pesticides (economic poisons) highly toxic to man): Provided, however, That the Commissioner may, upon application and after opportunity for hearing, exempt any pesticides (economic poison) which is in any of these categories, but which is not in fact highly toxic to man, from the requirements of the Act and the regulations in this part with respect to pesticides (economic poisons) highly toxic to man:

(1) Oral toxicity. A pesticide (economic poison) which has a single dose LD/50 of 50 milligrams or less per kilogram of body weight when administered orally to both male and female rats which have been fasted for a period of 24 hours (or to other rodent or nonrodent species specified by the Commissioner); or

(2) Toxicity on inhalation. A pesticide (economic poison) which has an LC-50 of 2,000 micrograms or less of dust or mist per liter of air or 200 parts per million or less by volume of a gas or vapor, when administered by continuous inhalation for one hour to both male and female rats (or to other rodent or nonrodent species specified by the Commissioner), if the Commissioner finds that it is reasonably foreseeable that such concentration will be encountered by man; or

(3) Toxicity by skin absorption. A pesticide (economic poison) which has an LD/50 of 200 milligrams or less per kilogram of body weight when administered by continuous contact for twenty-four hours with the bare skin of rabbits (or other rodent or nonrodent species specified by the Commissioner).

(b) Tests on other species. Tests on other specified rodent or nonrodent species may be required by the Commissioner with respect to individual pesticides (economic poisons) or to classes of pesticides (economic poisons) whenever he finds that tests on other species are necessary to determine whether a pesticide (economic poison) is highly toxic to man.

(c) Terms LD/50 and LC/50. An LD/50 as used in connection with oral toxicity and skin absorption toxicity tests specified in paragraph (a)(1) and (3) of this section is the dose and LC/50 as used in connection with inhalation tests specified in paragraph (a)(2) of this section is the concentration which is expected to cause death within 14 days in 50 percent of the test animals so treated.

(d) Toxicity based on human experience. If the Commissioner finds, after opportunity for hearing, that available data on human experience with any pesticide (economic poison) indicates a toxicity greater than that determined from the above-described tests on animals, the human data shall take precedence and, if he finds that the protection of the public so requires the Commissioner shall declare such a pesticide (economic poison) to be highly toxic to man for the purposes of this Act and the regulations thereunder.

It is recommended that the entire Section 9 be stricken and that there be inserted in lieu thereof a new Section 9 as follows:

9. Warning or caution statement.

Warning or caution statements, which are necessary and, if complied with, adequate to prevent injury to living man and useful vertebrate animals, useful vegetation, and useful invertebrate animals, must appear on the label in a place sufficiently prominent to warn the user, and must state clearly and in nontechnical language the particular hazard involved in the use of the pesticide (economic poison), e.g., ingestion, skin absorption, inhalation, flammability or explosion, and the precautions to be taken to avoid accident, injury, or damage.
(a) The label of every pesticide (economic poison) shall bear warnings or cautions which are necessary for the protection of the public, including the statement "Keep out of reach of children," and a signal word such as "DANGER," "WARNING," or "CAUTION" as the Commissioner may prescribe, on the front panel or that part of the label displayed under customary conditions of purchase: Provided, however, The Commissioner may permit reasonable variations in the placement of that part of the required warnings and cautions other than the statement "Keep out of reach of children" and the required signal word, if in his opinion such variations would not be injurious to the public. If a pesticide (economic poison) is marketed in channels of trade where the likelihood of contact with children is extremely remote, or if the nature of the product is such that it is likely to be used on infants or small children without causing injury under any reasonably foreseeable conditions, the Commissioner may waive the requirement of the statement "Keep out of reach of children" if, in his opinion, such a statement is not necessary to prevent injury to the public. The Commissioner may permit a statement such as "Keep away from infants and small children" in lieu of the statement "Keep out of reach of children" if he determines that such a variation would not be injurious to the public.

(b) The label of every pesticide (economic poison) which is highly toxic to man as described in § 8 shall bear the word "DANGER" along with the word "POISON" in red on a contrasting background in immediate proximity to the skull and crossbones and an antidote statement including directions to call a physician immediately, on the front panel or that part of the label displayed under customary conditions of purchase: Provided, however, The Commissioner may permit reasonable variations in the placement of the antidote statement if some preference such as "See antidote statement on back panel" appears on the front panel near the word "POISON" and the skull and crossbones.

(c) Warning or caution statements which comply with the requirements of Interpretation 18 of the Regulations for the enforcement of the Federal Insecticide, Fungicide and Rodenticide Act, as that Interpretation now exists or may from time to time be amended, shall deem to be in compliance with the requirements of these regulations.

In the absence of a committee on the Model State Insecticide, Fungicide and Rodenticide Act, President Osgood has requested that this committee make recommendations pertaining to it.

It is recommended that the Model State Insecticide, Fungicide and Rodenticide Act be amended by striking the entire subsection 4(d) and adding in lieu thereof the following:

   d. If it does not appear to the Commissioner that the article is such as to warrant the proposed claims for it or if the article and its labeling and other material required to be submitted do not comply with the provisions of this Act, he shall notify the applicant of the manner in which the article, labeling, or other material required to be submitted fail to comply with the Act so as to afford the applicant an opportunity to make the necessary corrections. If upon receipt of such notice, the applicant does not make the corrections, the Commissioner may refuse to register the article. The Commissioner, in accordance with the procedures specified herein may suspend or cancel the registration of an economic poison whenever it does not appear that the article or its labeling complies with the provisions of this Act. Whenever an application for registration is refused or the Commissioner proposes to suspend or cancel a registration, notice of such action shall be given to the applicant or registrant who shall have thirty days from the date of such notice to request a hearing on the proposed action of the Commissioner. The hearing shall be conducted by the Commissioner, or his designee, for the purpose of receiving evidence relevant and material to the issues, following the conclusion of which the Commissioner shall issue an order with findings of fact and notify the applicant or registrant thereof. The Commissioner's order shall be based only on substantial evidence of record taken at the hearing.

Any person who will be adversely affected by such order may obtain judicial review thereof by filing in the Court, within sixty days after the entry of such order, a petition praying that the order be set aside in whole or in part. A copy of the petition shall be forthwith transmitted by the Clerk of the Court to the Commissioner and thereupon the Commissioner shall file in the Court the record of the proceedings on which he based his order. The Court shall have jurisdiction to affirm or set aside the order complained of in whole or in part. The findings of the Commissioner with respect to questions of fact shall be sustained if supported by substantial evidence when considered on the record as a whole. Upon application, the Court may remand the matter to the Commissioner to take further testimony if there are reasonable grounds for the failure to adduce such evidence in the prior hearing. The Commissioner may modify his findings and his order by reason of the additional evidence so taken and shall file the additional record and any modification of the findings or order with the Clerk of the Court.
PESTICIDE COMPRENDIUM COMMITTEE REPORT
Robert Z. Rollins, Chairman

The manuscript for the Pesticide Compendium is nearing completion and will be forwarded soon to Robert H. Guntert, who will arrange for its printing.

The new edition covers about 700 pesticides and plant growth regulators. A few food additives and feed additives of similar composition or use have also been included.

A full outline page is provided for each compound even though information is not included under all subject headings for all compounds. This skeleton format provides space for insertion of additional notes, and it will greatly facilitate collection and arrangement of more complete data for the subsequent editions.

Difficulties of drafting and reproduction prevented inclusion of structural formulas in this edition, but it is hoped that these can be included in a subsequent one.

Special effort has been made to include the common names established by the American Standards Association, British Standards Institution, and other organizations, as well as some of the commonly used brand names.

For many compounds, the names and addresses of primary producers or formulators have been included as sources of further information.

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CONSTITUTION AND BY-LAWS COMMITTEE REPORT
George H. Laramie, Chairman

The Constitution and By-Laws Committee offer the following recommendations:

RESOLVED, that the proposed By-Laws as distributed with the July 1965 issue of Pest Controller (Volume 19, No. 2) be amended as follows:

(1) By adopting the proposed changes set forth in said Bulletin,

(2) By changing from 3 to 5 the quorum for the Board of Directors as specified in Article V Section 4.

RESOLVED, Further, that the proposed By-Laws, as so amended, be adopted as a substitute for the present Constitution and By-Laws of the Association.

RESOLVED, that the Association of American Pesticide Control Officials hereby elects to accept the District of Columbia Non-Profit Corporation Act.

RESOLVED, Further, that the appropriate officials of the Association be authorized and instructed to prepare and execute the Statement of Election to Accept and such other documents as may be necessary to effectuate this resolution.

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UNIFORM POLICY COMMITTEE REPORT
A. B. Heagy, Chairman

No problems or suggestions have been submitted for consideration by this committee.

76
The 1964 report of this committee reviewed the background of pesticidal nomenclature and the procedures used for establishing suitable common names. Additional nomenclature developed in the last twelve months, including the various names discussed in last year's report, has all been adopted by the various organizations concerned. The following is a pertinent extract of the current program of the Insecticide Terminology Committee of the Entomological Society of America:

"1. The following proprietary names are proposed to be acknowledged as additions to the proprietary section of the publication 'Consolidated List of Approved Common Names of Insecticides and Certain Other Pesticides':

<table>
<thead>
<tr>
<th>Name or Designation</th>
<th>Chemical Definition</th>
<th>Primary Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compound 4072</td>
<td>2-chloro-1-2(2,4-dichlorophenyl)vinyl diethyl phosphate</td>
<td>I</td>
</tr>
<tr>
<td>Morestan</td>
<td>6-methyl-2,3-quinoxalinedithiol cyclic S,S-dithiocarbonate</td>
<td>I</td>
</tr>
</tbody>
</table>

In addition, it is proposed to adopt the name metaldehyde since there is an increasing interest in this pesticide chemical. This name will be subsequently published in proper alphabetical order in the alphabetical list of common names."

Dr. Dayton Klingman, Chairman of the Terminology Committee of the Weed Society of America, has furnished me the following list of additional nomenclature established by his Committee in the last year.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Other Designations</th>
<th>Chemical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>benefin</td>
<td></td>
<td>N-butyl-N-ethyl-alpha, alpha, alpha-trifluoro-2,6-dinitro-p-toluidine</td>
</tr>
<tr>
<td>cypromid</td>
<td></td>
<td>3',4'-dichlorocyclopropane-carboxanilide</td>
</tr>
<tr>
<td>dichlorprop</td>
<td>2,4-DP</td>
<td>2-(2,4-dichlorophenox) propionic acid</td>
</tr>
<tr>
<td>mecoprop</td>
<td>MCPP</td>
<td>2-(2-methyl-4-chlorophenoxy) propionic acid</td>
</tr>
<tr>
<td>siduron</td>
<td></td>
<td>1-(2-methylcyclohexyl)-3-phenylurea</td>
</tr>
</tbody>
</table>

The membership may also be interested in an action of the K62 Committee of the American Standards Association dated June 9, 1964, but not generally distributed until December 8, 1964, establishing the name norbormide for the rodenticidal chemical 5-(alpha-Hydroxy-alpha-2-pyridylbenzyl)-7-(alpha-2-pyridyl-benzylidene)-5-norbornene-2, 3-dicarboximide. The Fish and Wildlife Service of the Department of Interior recognizes the term "DRC 1339" for the avicidal chemical 3-chloro-p-toluidine hydrochloride. Also the term "avitrol 200" is used commercially to represent the bird control chemical 4-aminopyridine hydrochloride.

Recommendation:

The Committee has no particular recommendations to offer except to solicit any support that the Association membership can furnish, either individually or collectively, in expediting the development and use of common nomenclature that can be recognized on a National and International basis.
SAMPLING PROCEDURES COMMITTEE REPORT
M. Elmer Christensen, Chairman

A comprehensive pesticide sampling guide was included in the AAPCO Publication, 1964, Pages 45 - 55. In October, 1964, the AOAC Referee for pesticides sampling proposed several changes in general methods of sampling pesticides. The changes were made following a careful study of previously published methods and constitute an improvement in many respects.

The committee proposes that the AOAC General Methods Sampling Procedure be adopted as the official sampling policy of this association.

A copy of the procedure accompanies this report.*

*(Editor's Note: See page 48 for approved sampling procedure.)

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PROCEEDINGS PUBLICATION COMMITTEE REPORT
Floyd Roberts, Chairman

The publication of the Association containing proceedings of the 1964 meeting was published with changes made in it as recommended by this committee and adopted at the last annual meeting. One important change consisted in changing the name of the publication from "Proceedings" to "Official Publication."

There came to light during this past year that this committee had not been given a clear-cut directive of its full responsibilities expected by the executive committee and this resulted in some misunderstandings. It is recommended that this committee be given a directive, particularly concerning the publishing of publications of the Association.

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REPORT OF COMMITTEE ON MODEL CUSTOM APPLICATION ACT
O. T. Guice, Jr., Chairman

The Committee continued its function during the year in updating the Model Custom Application Act. This has now been completed and a revised copy of the Act is attached hereto* for final adoption by the Association. The Committee in updating the Act has consulted with Mr. Robert L. Ackerly of National Agricultural Chemicals Association for his advice and recommendations and same has been incorporated in the Act. The Model Act as now written is quite comprehensive and it is hoped that it will cover future problems for many years to come. After final adoption by the Association, it should be referred to the Council of State Governments and other interested organizations for final approval.

The Chairman wishes to express his thanks to Mr. Robert L. Ackerly for his kind assistance and advice, and to members of the Committee for their suggestions and wholehearted response in updating the Model Application Act. Without the help of these individuals, this would not have been possible.

*(Editor's Note: See pages 35 through 39 for complete text of revised Model Custom Application Act as adopted by the membership of the Association.)
REPORT OF RESOLUTIONS COMMITTEE
M. R. VanCleave, Chairman

WHEREAS, the continuing success of the Association of Pesticide Control Officials is due in large part to the efforts and diligence of the officers in carrying out the duties and responsibilities of their respective office, now, therefore, be it resolved that we express our sincere appreciation to President Clayton P. Osgood, Vice-President O. T. Guice, Jr., Secretary C. Colton Carr, and Treasurer Robert H. Guntert for their faithful service.

WHEREAS, many of the association's objectives are attained largely through the co-operation and untiring efforts of the various investigators, committee chairmen, and committee members, now, therefore, be it resolved that we express our appreciation and thanks to these workers for the services they have rendered.

WHEREAS, the progress of the association is attained only through the co-operation of the members of industry, the state and Federal agencies, now, therefore, be it resolved that we express our sincere appreciation to all industry members, as well as Federal and state officials for their co-operation and support.

Be it further resolved that the Secretary be instructed to express our appreciation to each speaker for his fine contribution to this 19th program.

Be it further resolved that the association acknowledge and express its appreciation for the hospitalities extended to it by the Chemical Specialties Manufacturers Association and the National Agricultural Chemicals Association and the staff of the Clemson House during our convention.

Finally, be it resolved that a special vote of thanks be given to Bruce Cloaninger and his staff, and Clemson University for all they have done to make this 19th convention the pleasant sojourn it has been for each of us and our families.

REPORT OF AUDITING COMMITTEE
J. H. Cochran, Chairman

On August 3, 1965, the Auditing Committee met and examined the Treasurer's books and records. The records were found to be accurate and correct.

Mr. Guntert is to be commended for the fine job that he has done.

TOXICITY AND ANTIDOTES COMMITTEE
J. S. Leary, Jr.

There was no report for the Toxicity and Antidotes Committee.
This report contains a digest of changes in State and Federal pesticide laws as the result of legislation since our last meeting at Poland Spring, Maine, and also, this is a digest of the changes in the states' pesticide applicators and structural pest and termite control laws of interest to a number of our member states. This is a compilation of replies from control officials of forty-four states and the Federal Government. Canada did not report.

"No change" was reported from thirty-four states and the P. R. D., U. S. D. A. while two states reported having enacted laws and ten states reported changes or amendments since the August 1964 meeting.

Alaska and Delaware reported having no pesticide laws.

Arkansas - Economic poison definition expanded to include defoliants, desiccants, plant regulators and adjuvants (when sold separately). Sale is required in manufacturers' containers.

California - Gives director authority to require the complete formula when he deems it necessary when registering an economic poison.

Colorado - New act since August, 1964.

Kansas - Amended Act since August, 1964.

Nevada - Deleted the provision for protest registration.

New Jersey - Effective July 1, 1966, the State Seed Analyst and the State Chemist will be in the Department of Agriculture rather than the Agricultural Experiment Station.

Oklahoma - Raising registration fee from $5.00 to $10.00 per brand or product. Revising regulations to require U. S. D. A. numbers on labels; requiring signal word and the statement "Keep Out of Reach of Children" to be on all labels; and other revisions of regulations to conform with F. I. F. R. A. regulations.

Oregon - Change in tax requirement.

Vermont - Annual registration date changed from December 1, to November 30. Formerly it was July 1 to June 30. Registration fees are prorated for interim period of July 1, 1965, to November 30, 1965. "Registration under protest" eliminated from law.

In addition to the pesticide legislation report above, information was received from 36 states concerning commercial pesticide applicators. Eighteen states reported having both aerial and ground applicators under their law while four states regulate aircraft only. Fourteen states reported no law. Two states reported enacting pesticide applicator laws since August 1964 while four states reported changes or amendments in their existing applicators laws.

Arizona - Law under Board of Pest Control Operators.

California - Change in license renewal date. However, also under this article are requirements that recommendations for use be in writing if they vary from printed label. This applies to all economic poisons and not just to applicators.

Kansas - The spraying of livestock was eliminated.

Maine - A new law becomes effective September 1965.

Michigan - Amendment pending in present session of legislature.

Minnesota - Requires a license rather than a permit; must attend a training school; removed 15 mile exemption from licensing and imposed other exemptions, pin-pointed who is responsible.

Nevada - A person who solicits business for a custom pest control operator must be licensed. The director may investigate damage complaints if filed within 60 days of damage or before 50% of the crop is harvested. A license is automatically suspended if insurance for financial responsibility is cancelled.
New Hampshire - New law covering both aerial and ground applicators.

New Mexico - New law covering both aerial and ground applicators.

Oklahoma - Making provision for issuing a limited license under the law whereby the applicator would be limited to spraying, for example, herbicides. Creating (after a hearing) a part of a county as a regulated area for herbicide spraying by commercial applicators as compared to an entire county being regulated. Setting dates for hearings in counties no oftener than 120 days. Increasing out-of-state applicators permit fee to $25.00 per plane, increasing their bond to $15,000, and requiring the non-resident applicator to appoint an Oklahoma resident service agent.

Fourteen states reported having a structural pest and termite law and two states reported some changes or amendments while two states enacted new laws since our meeting in 1964. Twenty-eight states reported as having no law.

Arkansas - Old law was repealed and a new law was enacted requiring bonding (performance) and insurance (liability as proof of financial responsibility).

Kansas - Made changes to bring the law into the administrative authority of the Board of Agriculture and deleting any reference to the old Kansas Entomology Commission.

New Mexico - Under the Health Department.

Three states reported they regulate pesticide users other than commercial people.

- PROPOSED AND NEW LEGISLATION -

California - Pesticide and pesticide applicators laws are in the process of being changed.

Florida - Legislature in session - changes being proposed.

Georgia - Changes are being made in Structural Pest Control.

Indiana - Pesticide regulation based on distribution. Herbicide law regulates highly volatile herbicides and has served this function well.

Massachusetts - All persons or individuals are regulated including government employees who use pesticides.

Michigan - Has legislation pending on applicators law.

Missouri - Applicators law delayed until next session of legislature.

New York - An arborist law providing for registration is pending in legislature.

Oklahoma - A new ornamental spraying and pruning law was passed. An optional law to regulate dealers and users of phenoxy herbicides in a county was passed.

Wisconsin - The proposed legislation apparently dead.

U.S.D.A. - Reported no legislation as yet in Congress on any or all three of the laws.

This being a digest compiled by this investigator, it is recommended and suggested that persons interested in any particular law of these or other states, please write to those officials.

It is recommended by this investigator that it is highly important that the investigation on legislation be continued by our Association.
REPORT OF INVESTIGATOR ON PESTICIDE-FERTILIZER MIXTURES

J. Claggett Jones, Investigator

The following questionnaire was answered by all 50 States, and by Canada and Puerto Rico:

1. Does your state permit inclusion of pesticides in fertilizer? Yes  No

2. If permitted, are the following specified:
   (a) Fertilizer grades in which permitted? Yes  No
   (b) Percentages of pesticides permitted? Yes  No
   (c) Crops for which permitted? Yes  No

3. Is bulk distribution of fertilizer-herbicide mixtures permitted? Yes  No

4. Is bulk distribution of other fertilizer-pesticide mixtures permitted? Yes  No

5. Is your state trying to eliminate the practice of including:
   (a) Herbicides in fertilizer mixtures? Yes  No  Neutral
   (b) Other pesticides in fertilizer mixtures? Yes  No  Neutral

6. Is your state making efforts to apply pesticides in some manner other than in fertilizer mix-
   tures? Yes  No  Neutral

7. Does the fertilizer-pesticide mixture have to be registered under both laws? Yes  No

Fertilizer-Pesticide Mixtures - 1965 - Questionnaire Answers

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Notes:

(a) Alaska has no Fertilizer or Pesticide Regulations yet.
(b) Delaware has no Pesticide Law.
(c) Florida designates some pesticides for use only on specific crops.
(d) Georgia. The Commissioner is considering a proposal to prohibit bulk sales of the mixtures. May be eliminated in 1966.
(e) Georgia confines herbicides in fertilizers to home lawn and garden products.
(f) Georgia. Tightening regulations on crop mixtures have reduced output.
(g) Hawaii has no Fertilizer Law. Only the pesticide is subject to control.
(h) Indiana. Their Entomology Dept. discourages use of insecticide-fertilizer mixes for agricultural purposes because good placement for the crop is bad placement for the insecticide.
(i) Kentucky. This is governed by the rate of application of fertilizer, the pesticide used, and method of application. Label must include such specific directions.
(j) Kentucky. Their Agricultural Experiment Station and Extension Service do not recommend these mixtures.
(k) Louisiana. Not necessarily; use is often directed to insect, not crop.
(l) Louisiana. Not prohibited, but is not done.
(m) Louisiana. Some are prohibited, others not.
(n) Louisiana. Pesticides are applied in many ways. These mixtures are an extremely small part of total used.
(o) Maine discourages bulk distribution of any pesticide-fertilizer because of the difficulty of properly labeling as an economic poison.
(p) Maryland specifies crop in some cases.
(q) Maryland requires the bulk conveyance to be covered.
(r) Miss. Bulk distribution is permitted if properly labeled.
(s) Mont. Rate of application of pesticide is recommended.
(t) Mont. State requires fertilizer registration, but accepts USDA registration of pesticide in lieu of state registration, at present.
(u) N. J. Law does not permit prohibition of such mixtures, but they are not recommended for agricultural crops. These are limited recommendations for such mixtures in specialty fertilizers.
(v) Ohio has no Pesticide Law. Mixtures are registered as fertilizers only.
(w) Oklahoma does not specify grades, percentages, or crops if they meet labeling requirements for crops and residues.
(x) Oklahoma. On No. 6 the Entomology Division answers No, while the Fertilizer Section answers Yes.
(y) Oregon accepts pesticide percentages and crops as approved by USDA.
(z) South Carolina registers the Pesticide part without charge.
(A) Texas registers only under the Fertilizer Law.
(B) Vermont. Bulk distribution would be permitted under Fertilizer Law, but Pesticide Law prohibits.
(C) Virginia. On No. 5 and 6, the Pesticide Section says "Yes," while the Fertilizer Section is neutral.
(D) Puerto Rico advises on No. 3 and 4 that mixed fertilizers are not distributed in bulk.
(E) Canada requires a minimum percentage of pesticide.
(F) Canada requires registration only under Fertilizer Law.
SUMMARY

Applies to only 49 States, since Alaska filed a blank report, advising they have no pesticide or fertilizer manufacturers, and as yet have no Fertilizer or Pesticide Regulations.

1. All 49 States permit inclusion of pesticides in fertilizer.

2. (a) Only 2 States (N. C. and Va.) specify the fertilizer grades in which permitted. 47 do not.

   (b) 10 States specify the percentage of pesticides permitted. 38 do not. One (Conn.) did not indicate.

   (c) 13 States specify the crops for which permitted. 34 do not. One (Md.) specifies crops in some cases. One (Conn.) did not indicate.

3. 35 States permit bulk distribution of fertilizer-herbicide mixtures. 13 do not. One (Maine) discourages such, but does not state that it prohibits.

4. 41 States permit bulk distribution of other fertilizer-pesticide mixtures. 7 do not. One (Maine) discourages such, but does not state that it prohibits.

5. (a) 6 States are trying to eliminate herbicide-fertilizer mixtures. 16 are not. 27 are neutral.

   (b) 8 States are trying to eliminate other pesticide-fertilizer mixtures. 19 are not. 22 are neutral.

6. 14 States are making efforts to apply pesticides in some manner other than in fertilizer mixtures. 8 are not. 26 are neutral. One (Okla.) split its Yes and No between Sections.

7. 41 States require the mixture to be registered under both laws. 8 do not. (Del. and Ohio have no Pesticide Law. Hawaii has no Fertilizer Law. Mont. and Texas require Fertilizer registration only. South Carolina registers Pesticide at no charge, but registration is required.)
J. CLAGGETT JONES

J. Claggett Jones, State Chemist for the Virginia Department of Agriculture, died very suddenly of a heart attack on Thursday morning, June 10, 1965, in Richmond, Virginia. He was 58 years old.

Born in Roanoke, Virginia, Mr. Jones joined the Virginia Department of Agriculture in 1929 as a Chemist. He had received a Bachelor of Science Degree in Chemical Engineering from Virginia Polytechnic Institute the previous year. Claggett, as he was known by his friends, worked with the Virginia Department of Agriculture continuously from 1929 until his death, except for the period between 1942-46 when he served with the Army Chemical Corps. Following World War II, he remained in the Army Reserves, reaching the rank of Lt. Colonel. From 1929 until 1949, Claggett worked in various chemical laboratories. In 1949, he was promoted to Pesticide Chemist-Executive, in charge of the administration and enforcement of the Virginia Pesticide Law. In 1956, he was promoted to Assistant Director of the Division of Chemistry and Foods and was quite active in the Feed, Fertilizer, and Pesticides Control Officials' Associations. Following the retirement of Rodney C. Berry in 1963, he was elevated to the position of State Chemist.

In the position of State Chemist, Claggett served as top technical advisor to the Department's analytical laboratories operated under the Division of Technical Services. He was active in many professional organizations including the Association of Official Agricultural Chemists, Virginia Academy of Science, American Chemical Society, and the American Pharmaceutical Association.

Claggett's guidance and counsel will be greatly missed by his colleagues, as well as by his many friends throughout the State and Nation. He is survived by his mother, wife, two sons, a daughter and a grandson.
REPORT OF THE REGISTRATION INVESTIGATOR
Martin M. Poyner, Investigator

The Registration Investigator conducted a survey to obtain information regarding the registration requirements of the various states. Replies were received from 40 states and Canada. A summary in chart form of the pesticide registration requirements has been prepared from the information obtained in the survey.

(Editor's Note: The results of the survey have been combined with the Summary of State Pesticide Laws to make all of this information available in one chart. See page 42 through page 47 for chart.

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STATES RELATIONS COMMITTEE REPORT
A. E. Thomas, Chairman

The States Relations Committee meeting was well attended and most of the questions on the agenda were covered. The Committee feels that this is a worthwhile part of the program and recommends continuation of the States Relations sessions.

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WORKSHOP COMMITTEE REPORT
Errett Deck, Chairman

Approximately 60 pesticide control officials discussed nine topics between 4:10 and 5:00 pm, August 3. A recommendation was made from the floor that the Pesticide Fertilizer Mixtures Investigator study the problems presented in questions 1, 2, and 4 related to granular pesticide-dry blended fertilizer mixes, bulk pesticide-fertilizer mixes, and highly-toxic pesticide-fertilizer mixes and report to the 1966 meeting.

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REPORT OF CREDENTIALS COMMITTEE
J. G. Eikenberry, Chairman

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40 States and Canada are represented by Control Officials.
REPORT OF THE EXECUTIVE COMMITTEE AAPCO.

The Executive Committee met at the Clemson House, Clemson, S. C., at 9:00 pm on August 2, 1965, to review committee and investigator reports. President Clayton Osgood presided. Committee members present were: Osgood, Guice, Guntert, Deck, Randle, Senn, and Carr.

The following action was taken by the Executive Committee:

1. Accepts with appreciation the reports of the committees and investigators on TERMS, METHODS CLEARING HOUSE, COLLABORATIVE CHECK SAMPLES, COMPENDIUM, NOMENCLATURE, REGISTRATION and PESTICIDE-FERTILIZER MIXTURES.

2. Accepts with appreciation the reports of the committees and investigators on REGULATIONS, PROCEEDINGS PUBLICATION, SAMPLING PROCEDURES, CUSTOM APPLICATORS BILL and LEGISLATION and recommends adoption of recommendations made in these committee and investigator reports.

3. Accepts in principle the suggestions of the UNIFORM POLICY committee and refers them back to the UNIFORM POLICY committee to edit and forward to the Secretary for publication.

4. Accepts with appreciation the report of the CONSTITUTION and BY-LAWS committee and recommends its adoption with such amendments and editorial changes as may be deemed necessary by the Association membership.

5. Accepts with appreciation the report of the WORKSHOP and STATES RELATIONS committees.

6. Expresses appreciation to all committees, investigators and others who have contributed unselfishly toward the advancement of this Association and urges continuation of efforts in all present areas.

-----------------------------

REPORT OF NOMINATING COMMITTEE
Stacy B. Randle, Chairman

The Nominating Committee present the following nominations -

President - O. T. Guice
President-Elect - A. B. Heagy
Secretary - C. C. Carr
Treasurer - R. H. Guntert
Directors - Vernon Mayhood 1965-1967
A. E. Thomas 1965-1967

The hold over members of the Board of Directors are Errett Deck, Jr., 1966, and L. H. Senn, 1966.

-----------------------------
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PLEASE ADVISE YOUR SECRETARY OF ANY CHANGES IN THE ABOVE LIST IN ORDER THAT CORRECTION CAN BE MADE IN OUR NEXT PUBLICATION.
ASSOCIATION
OF
AMERICAN PESTICIDE CONTROL OFFICIALS
INCORPORATED
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OFFICERS, COMMITTEES AND INVESTIGATORS 1964-65
ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INC.

President
Vice-President
Secretary
Treasurer

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C. Colton Carr
Robert H. Gunter

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East Lansing, Michigan
Topeka, Kansas

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H. E. Halliday (1965)
L. H. Senn (1966)
Errett Deck, Jr. (1966)
Stacy B. Randle (Past President)
Justus C. Ward (Advisor)

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New Brunswick, New Jersey
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J. E. Schueler
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J. D. Patterson
Forrest Quackenbush
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W. J. Huffman
Delmar K. Myers

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Little Rock, Arkansas
Lexington, Kentucky
Harrisburg, Pennsylvania

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C. P. Osgood

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East Lansing, Michigan
New Brunswick, New Jersey
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L. M. Cox, Jr.
A. D. Cromartie
R. A. Moncrief

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Richmond, Virginia
Washington, D. C.
Atlanta, Georgia

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Errett Deck, Jr.

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Clemson, South Carolina
Olympia, Washington

MODEL CUSTOM APPLICATORS
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C. A. Bower
Vernon Mayhood

State College, Mississippi
Oklahoma City, Oklahoma
Sacramento, California

INVESTIGATORS
Legislation
Registration
Pesticide-Fertilizer Mixtures
Albert E. Thomas
Martin M. Poyner
J. Claggett Jones

Oklahoma City, Oklahoma
Denver, Colorado
Richmond, Virginia
PROGRAM EIGHTEENTH ANNUAL CONVENTION
Poland Spring Hotels, Poland Spring, Maine
August 11 - 12, 1964

Tuesday, August 11, 1964

Registration ............................................. 1:30-2:00 p.m.
General Session .......................................... 2:00 p.m.
Roll Call by States
Announcements & Appointment of Committees
Report of the Secretary
Report of the Treasurer
Welcome .................................................. C. P. Osgood, Director
"Report from the Pesticide Industry". .................... F. Dallas Sparre
Division of Inspection
maine Department of Agriculture
E. I. du Pont de Nemours & Co.

Committee and Investigator Reports
Toxicity and Antidotes .................................... J. S. Leary, Jr.
Regulations ................................................ Floyd Roberts
Terms ....................................................... H. E. Spires
Methods Clearing House ................................... R. L. Caswell
Collaborative Check Sample ................................ L. A. Delp
Compendium ................................................ R. Z. Rollins
Nomenclature .............................................. S. C. Billings
Constitution and By-Laws ................................. G. H. Laramie
Proceedings Publication ................................... Floyd Roberts
Sampling Procedure ....................................... M. E. Christensen
Custom Applicator's Bill ................................. O. T. Guice
Legislation ................................................. A. E. Thomas
Registration ............................................... O. T. Guice
Pesticide-Fertilizer Mixtures ............................. J. C. Jones
Uniform Policies ........................................... C. C. Carr
Adjourn General Session .................................. 4:00 p.m.
Workshop Session ......................................... 4:00-5:00 p.m.
(closed Meeting for Control Officials Only)
Executive Committee Meeting .............................. 5:00-6:00 p.m.
Industry Dinner .......................................... 6:00 p.m.
States Relations Meeting ................................. 8:15 p.m.

Wednesday, August 12, 1964

Special Committee Meetings .............................. 8:00-9:00 a.m.
Registration ................................................ 8:45 a.m.
General Session .......................................... 9:00 a.m.
Announcements
Address by the President .................................. S. B. Randle, State Chemist
"The Pesticide Situation in Canada" ........................ C. H. Jefferson, Chief
"What's New in Washington" ............................... E. P. Reagan, Assistant Administrator
Committee Reports (continued)
States Relations .......................................... M. H. Snyder
Workshop .................................................... Errett Deck
Credentials ................................................ J. R. Stevens
Necrology ................................................... H. L. Page
Executive .................................................... S. B. Randle
Auditing ..................................................... A. B. Heagy
Resolutions ............................................... D. K. Myers
Unfinished Business
Report of the Nominating Committee
Election of Officers
Recognition of Past President
Adjournment .............................................. 12:30 p.m.
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<thead>
<tr>
<th>Name</th>
<th>Department or Title</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bergman, Ragnar E.</td>
<td>Dept. of Agriculture</td>
<td>St. Paul, Minnesota</td>
</tr>
<tr>
<td>Borgeson, R. W.</td>
<td>State Chemist</td>
<td>Des Moines, Iowa</td>
</tr>
<tr>
<td>Carr, C. Colton</td>
<td>Chief Chemist</td>
<td>East Lansing, Michigan</td>
</tr>
<tr>
<td>Chapman, Charlie</td>
<td>Asst. Comm. of Agri.</td>
<td>Austin, Texas</td>
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<tr>
<td>Christensen, M. E.</td>
<td>State Chemist</td>
<td>Salt Lake City, Utah</td>
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<tr>
<td>Clark, Robert</td>
<td>Inspector</td>
<td>Augusta, Maine</td>
</tr>
<tr>
<td>Cochran, J. H.</td>
<td>State Entomologist</td>
<td>Clemson, South Carolina</td>
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<tr>
<td>Constable, E. W.</td>
<td>State Chemist</td>
<td>Raleigh, North Carolina</td>
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<tr>
<td>Davis, Henry A.</td>
<td>Assoc. Chemist</td>
<td>Durham, New Hampshire</td>
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<tr>
<td>DeSalvo, Henry</td>
<td>Head, Feed, Fert., Pest. Div.</td>
<td>Little Rock, Arkansas</td>
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<tr>
<td>Dixon, W. Ralph</td>
<td>Supervising Inspector</td>
<td>Winter Garden, Florida</td>
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<tr>
<td>Eikenberry, J. G.</td>
<td>Administrative Assistant</td>
<td>Lafayette, Indiana</td>
</tr>
<tr>
<td>Entwistle, Van P.</td>
<td>Chief, Field Crops &amp; Agri. Chem.</td>
<td>Sacramento, California</td>
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<tr>
<td>Epps, Ernest A., Jr.</td>
<td>Chief Chemist</td>
<td>Baton Rouge, Louisiana</td>
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<tr>
<td>Fisher, Harry J.</td>
<td>Chief Chemist</td>
<td>New Haven, Connecticut</td>
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<tr>
<td>Ginther, Burton E.</td>
<td>Dept. of Agriculture</td>
<td>Bozeman, Montana</td>
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<tr>
<td>Grom, W. B.</td>
<td>Chief, General Laboratory Div.</td>
<td>Madison, Wisconsin</td>
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<tr>
<td>Guice, O. T., Jr.</td>
<td>General Inspector</td>
<td>State College, Mississippi</td>
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<tr>
<td>Guntert, Robert H.</td>
<td>Director, Control Div.</td>
<td>Topeka, Kansas</td>
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<tr>
<td>Hart, Arthur T.</td>
<td>Pesticide Regulatory Supvr.</td>
<td>Richmond, Virginia</td>
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<tr>
<td>Heagy, Albert B.</td>
<td>State Chemist</td>
<td>College Park, Maryland</td>
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<td>Jefferson, C. H.</td>
<td>Dept. of Agriculture</td>
<td>Ottawa, Canada</td>
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<td>Koch, Paul B.</td>
<td>Chemist</td>
<td>Jefferson City, Missouri</td>
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<tr>
<td>Koehler, L. A.</td>
<td>Food Commissioner &amp; Chemist</td>
<td>Bismarck, North Dakota</td>
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<tr>
<td>Kuzmeski, John W.</td>
<td>Official Chemist</td>
<td>Amherst, Massachusetts</td>
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<tr>
<td>Laramie, George H.</td>
<td>Director, Div. Markets &amp; Stds.</td>
<td>Concord, New Hampshire</td>
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<td>Ludwig, R. W.</td>
<td>Chief, Div. Inspection</td>
<td>University Park, New Mexico</td>
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<td>Melfert, Wellie H.</td>
<td>Supervising Inspector</td>
<td>Ocala, Florida</td>
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<td>Miller, Harry A.</td>
<td>Dept. of Agriculture</td>
<td>Raleigh, North Carolina</td>
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<td>Mitchell, D. J.</td>
<td>State Chemist</td>
<td>Vermillion, South Dakota</td>
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<tr>
<td>Moncrief, R. A.</td>
<td>Chief, Pesticides Section</td>
<td>Atlanta, Georgia</td>
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<tr>
<td>Mowery, Glenn C.</td>
<td>Principal Chemist</td>
<td>Nashville, Tennessee</td>
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<tr>
<td>Osgood, C. P.</td>
<td>Director, Div. Inspection</td>
<td>Augusta, Maine</td>
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<tr>
<td>Peck, Brainerd T.</td>
<td>Chemist, Agr. Exp. Station</td>
<td>Hartford, Connecticut</td>
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<tr>
<td>Plummer, Bernie E.,</td>
<td>Chairman, Dept. Feed &amp; Fert.</td>
<td>Orono, Maine</td>
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<tr>
<td>Proundstone, Bruce</td>
<td>Chief, Div. Plant Industry</td>
<td>Lexington, Kentucky</td>
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<tr>
<td>Poyner, Martin M.</td>
<td>State Chemist</td>
<td>Denver, Colorado</td>
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<td>Quackenbush, Forrest</td>
<td>State Chemist</td>
<td>Lafayette, Indiana</td>
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<tr>
<td>Randle, Stacy B.</td>
<td>State Chemist</td>
<td>New Brunswick, New Jersey</td>
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<td>Roberts, Floyd</td>
<td>Director, Div. Regulatory Sers.</td>
<td>Mesa, Arizona</td>
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<td>Rowe, Maurice B.</td>
<td>Chief Chemist</td>
<td>Richmond, Virginia</td>
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<td>Schall, E. D.</td>
<td>Chief Chemist</td>
<td>Lafayette, Indiana</td>
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<tr>
<td>Scott, John W.</td>
<td>Assistant Commissioner</td>
<td>Montpelier, Vermont</td>
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<td>Snell, L. H.</td>
<td>Supvr., Dept. of Agriculture</td>
<td>Clemson, South Carolina</td>
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<tr>
<td>Snyder, Marvin H.</td>
<td>Asst. Dir., Entomology Div.</td>
<td>Charleston, West Virginia</td>
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<tr>
<td>Specht, Harlan</td>
<td>Laboratory Supervisor</td>
<td>Reno, Nevada</td>
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<tr>
<td>Stancil, Frank E.</td>
<td>Administrative Assistant</td>
<td>Atlanta, Georgia</td>
</tr>
<tr>
<td>Stevens, John</td>
<td>Chemist</td>
<td>Augusta, Maine</td>
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<tr>
<td>Thomas, Albert E.</td>
<td>Chief Pesticide Laboratory</td>
<td>Oklahoma City, Oklahoma</td>
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<tr>
<td>Thompson, W. S.</td>
<td>Assistant Commissioner</td>
<td>Reynoldsburg, Ohio</td>
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<tr>
<td>Van Cleave, M. R.</td>
<td>Supvr., Dept. of Agriculture</td>
<td>Des Moines, Iowa</td>
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<tr>
<td>Wetherbee, R. T.</td>
<td>Asst. Chemist</td>
<td>Burlington, Vermont</td>
</tr>
<tr>
<td>Winterle, E. R.</td>
<td>Chief, Pesticide Laboratory</td>
<td>Tallahassee, Florida</td>
</tr>
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</table>
FEDERAL REPRESENTATIVES

Alford, Harold G.
Colanaria, S. T.
Harris, Thomas H.
Leary, John S., Jr.
Ward, Justus C.
Kilpatrick, Glenn W.

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Boyd, Lee H.
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Craig, John T.
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Swisher, Ely M.
Warren, Donald E.
Watkins, W. F.

Asst. to Director, Pesticides Reg. Div., USDA, Washington, D. C.
Chief Staff Officer, Chemistry, Pesticides Reg. Div., USDA, Washington, D. C.
Director, Pesticides Reg. Div., USDA, Washington, D. C.
Food & Drug Administration, Washington, D. C.

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Philadelphia, Pennsylvania
Joplin, Missouri
Washington, D. C.

PRESS

Galant, Raymond

Food Chemical News

Washington, D. C.
THE CONSTITUTION OF THE ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INC.

Section 1. Name. The name of the association shall be the Association of American Pesticide Control Officials.

Section 2. Purpose. The purpose of the association shall be:

(a) to promote uniform and effective legislation, definitions, rulings, and enforcement of laws relating to the control of the sale and distribution of insecticides, fungicides, rodenticides, herbicides, and other pesticides;

(b) to encourage and sponsor the adoption, by all member agencies, of the most effective and adequate methods of analysis of pesticides;

(c) to develop high standards of pesticides inspection techniques and procedures;

(d) to promote adequate labeling and safe use of pesticides; and,

(e) to provide facilities and opportunities for free exchange of information, discussion and cooperative study of problems confronting members of the association.

Section 3. Membership. The membership of the association shall consist of the officials charged by law with the active execution of the laws regulating the sale of pesticides and such deputies as shall be duly designated by these officials, and research workers employed by state, territory, dominion or federal agencies who are engaged in the investigation of pesticides and their component parts.

Section 4. Officers. The officers of the association shall be a president, a vice-president, a secretary, a treasurer, and an executive committee.

Section 5. The executive committee. The executive committee shall consist of the president, the vice-president, the secretary, the treasurer, the retiring president, the four elected members, two members of whom shall be elected at each annual meeting of the association. The president of the association shall serve as chairman of the executive committee.

The executive committee shall have the control and management of the association during the interim between regular meetings, and shall take action on majority vote of the committee and report its official activities to the association.

The executive committee shall report on such matters as may be referred to it by the association, and review and present to the association with recommendations all the recommendations of the investigators and special committees and such resolutions and regulations as pertain to pesticides.

Section 6. Voting. Each state, territory, dominion and federal agency engaged in control of sale and distribution of pesticides is entitled to a single vote. Voting by proxy shall be permitted.

Section 7. Amendments. The constitution or by-laws may be amended at any regular meeting by two-thirds vote of the voting membership present. All proposed amendments to the constitution shall be submitted in writing to the secretary at least 30 days prior to the opening of the annual meeting, and the secretary shall distribute copies to the members at least 10 days prior to the meeting. All proposed amendments to the by-laws shall be submitted in writing prior to the opening of the annual meeting.

Section 8. Investigators and special committees. For the purpose of studying the subject of uniformity in legislation, definitions, and rulings, and the enforcement of laws concerning pesticides, the president may appoint investigators and committees. These investigators shall have the authority to appoint such assistants as may be necessary. Investigators shall be appointed for one year and may be reappointed. Special committees may be appointed by the president. No appointment shall be made for a period exceeding two years.

Section 9. Dues. Each state, territory, dominion, and federal agency engaged in the regulation or investigation of pesticides shall pay dues of $15.00 for each year of its membership, and this shall entitle the members to the services and publications of the association.
BY-LAWS

Section 1. Regular meetings of the association shall be held at least once each year, except in the case of an emergency which would prevent an adequate representation of the membership. Special meetings may be called by the executive committee.

Section 2. Election of officers. All officers shall be elected by ballot, and shall hold office until the adjournment of the annual meeting following their election, or until their successors are elected.

In the event of a vacancy occurring in any office, except that of president or vice-president, the president shall fill the vacancy by appointment and such appointment shall continue until the close of the next regular meeting of the association, at which meeting the unexpired term shall be filled by election in the usual way.

Section 3. Duties of officers. The president, vice-president, secretary, and treasurer shall perform the duties usual to such officers.

The secretary shall keep a record of all proceedings of the association and shall attend to all necessary correspondence. The treasurer shall receive all moneys due the association and shall keep an accurate account of all receipts and disbursements, and report with proper vouchers at each annual meeting.

Section 4. All regulations, definitions, and resolutions shall be considered and approved at two annual meetings before becoming official.

Resolutions, other than those of the resolutions committee shall be presented in writing to the executive committee, which shall provide a place for them in the program.

Section 5. The president shall have the power to appoint such permanent committees as he deems necessary, and to specify their duties.

The following shall be the order of business unless changed at the time by the vote of the association:

1. Reading of the minutes of the preceding meeting.
4. Announcements and appointment of committees.
5. President's address.
6. Roll call by states.
7. Special addresses.
8. Reports of investigators and special committees.
9. Reports of credentials committee.
10. Special topics or executive session.
11. Resolutions referring to pesticides.
15. Unfinished business.
1. Words in Singular Form. Words used in the singular form in the regulations in this part shall include the plural, and vice versa, as the case may require.

2. Terms Defined and Construed. All terms used in these regulations in this part shall have the meaning set forth for such terms in the Act. In addition, such terms shall be construed as follows:

   (a) Act. "Act" means the (Pesticide)(Insecticide, Fungicide and Rodenticide) Act of

   (b) (Secretary)(Commissioner). ("Secretary")("Commissioner") means the or any officer or employee to whom he has heretofore lawfully delegated or to whom he may hereafter lawfully delegate the authority to act in his stead.

   (c) (Pesticides)(Economic Poisons). ("Pesticides")("Economic Poisons") includes insecticides, fungicides, rodenticides, herbicides, nematocides, plant regulators, defoliants, desiccants, and products for the control of: mammals, including but not limited to dogs, cats, moles, bats, wild carnivores, armadillos, and deer; birds, including but not limited to starlings, English sparrows, crows, and blackbirds; fishes, including but not limited to the jawless fishes such as the sea lamprey, the cartilaginous fishes such as the sharks, and the bony fishes such as the carp; amphibians and reptiles, including but not limited to poisonous snakes; aquatic and terrestrial invertebrates, including but not limited to slugs, snails, and crayfish; roots or other plant parts growing where not wanted; viruses, other than those on or in living man or other animals. A product shall be deemed to be a (pesticide)(economic poison) regardless of whether intended for use as packaged or after dilution or mixture with other substances, such as carriers or baits. Products intended only for use after further processing or manufacturing, such as grinding to dust form or more extensive operations, shall not be deemed to be (pesticides)(economic poisons). Substances which have recognized commercial uses other than uses as (pesticides)(economic poisons) shall not be deemed to be (pesticides)(economic poisons) unless such substances are (1) specially prepared for use as (pesticides)(economic poisons), or (2) labeled, represented, or intended for use as (pesticides)(economic poisons), or (3) marketed in channels of trade where they will presumably be purchased as (pesticides)(economic poisons).

   (d) Fungicide. "Fungicide" includes but is not limited to:

   (1) Plant fungicides, seed fungicides, fungicidal wood preservatives, and mildew and mold preventatives.

   (2) Disinfectants, antiseptics and sterilizers, except those for use only on or in living man or other animals.

   (e) Active ingredient. An "Active ingredient" is an ingredient which:

   (1) Is capable in itself, and when used in the same manner and for the same purposes as directed for use of the product, of preventing, destroying, repelling, or mitigating insects, fungi, rodents, weeds, nematodes, or other pests, or altering through physiological action the behavior of ornamental or crop plants or the produce thereof, or causing leaves or foliage to drop from a plant, or artifically accelerating the drying of plant tissue.

   (2) Is present in the product in an amount sufficient to add materially to its effectiveness; and

   (3) Is not antagonistic to the activity of the principal active ingredient:

   Provided, however, That the (secretary)(commissioner) may require an ingredient to be designated as an active ingredient if, in his opinion, it sufficiently increases the effectiveness of the (pesticide)(economic poison) to warrant such action.

   (f) Rodent. "Rodent" means any animal of the order Rodentia, including, but not limited to, rats, mice, rabbits, gophers, prairie dogs, and squirrels.

   (g) Designated agent. "Designated agent" means any employee or agent of the state authorized by the (secretary)(commissioner) to make investigations in connection with the enforcement of the Act.

   (h) Nematocide. "Nematocide" includes only those products intended for preventing, destroying, repelling, or mitigating nematodes inhabiting soil, water, plants or plant parts. The term does not include products intended for use against nematodes in or on living man or other animals.

   (i) Plant regulator. "Plant regulator" includes those substances intended to alter the
behavior of ornamental or crop plants or the produce thereof through physiological rather than physical action. The term includes, but is not limited to, substances intended to accelerate or retard the rate of growth or maturation of ornamental or crop plants, enhance fruit set, prevent fruit drop, accelerate root formation and elongation, prolong or break dormancy of ornamental or crop plants or the produce thereof, but shall not include substances intended solely for use as plant nutrients or fertilizers.

(j) Herbicide. "Herbicide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any weed, including any alga or other aquatic weed.

3. Administration. The (secretary)(commissioner) is authorized to take such action as may be necessary in the administration and enforcement of the Act and the regulations in this part.

4. Language to be used. All statements, words, and other information required by the Act or the regulations in this part to appear on the label or labeling of any (pesticide)(economic poison) shall be in the English language:
Provided, That in the case of articles intended solely for distribution to points outside the continental United States the appropriate foreign language may be used in lieu of the English language.

5. Omission of Label or Labeling. The omission of a label or labeling from any (pesticide)(economic poison) shall not affect any provision under the Act or the regulations in this part with respect to any statement required to appear on such label or labeling.

6. Label. (a) Contents of label. The label of every (pesticide)(economic poison) must show, clearly and prominently, the name of the product; the name and address of the manufacturer, the registrant, or person for whom manufactured; the net contents; the ingredient statement which may be necessary to prevent injury to living man and other useful vertebrate animals, useful vegetation, and useful invertebrate animals. The label of any (pesticide)(economic poison) which is highly toxic to man must also contain the skull and crossbones, and the word "poison" in red on contrasting background and the antidote statement in immediate proximity thereto. The antidote statement shall include directions to call a physician immediately. The label of every (pesticide)(economic poison), if necessary to prevent injury to living man and other vertebrate animals, useful vegetation, and useful invertebrate animals, must contain an appropriate warning or caution statement as required in 9.

(b) Name and address of manufacturer. An unqualified name and address given on the label shall be considered as the name and address of the manufacturer. If the registrant's name appears on the label and the registrant is not the manufacturer, or if the name of the person for whom the (pesticide)(economic poison) was manufactured appears on the label, it must be qualified by appropriate wording such as "Packed for.....", "Distributed by.....", or "Sold by.....", to show that the name is not that of the manufacturer. When a (pesticide)(economic poison) is placed or in a place different from the manufacturer's principal office, the actual place of manufacture of each particular package need not be stated on the label except when, under the special circumstances existing, the failure to name it may be misleading to the public. The address of the manufacturer, registrant, or person for whom manufactured shall include the street address, if any, unless the street address is shown in a current city directory or telephone directory.

(c) Name, brand, or trade-mark of (pesticide)(economic poison). The name, brand, or trade-mark of the (pesticide)(economic poison) appearing on the label shall be that under which the (pesticide)(economic poison) is registered.

(d) Net content. (1) The net content shall be exclusive of wrappers or other material, and shall be deemed to be average content unless stated as a minimum quantity.
(2) Net content shall be stated in the terms of weight or measure in general use by consumers and users of the (pesticide)(economic poison). If there is no general use, the net contents statement shall be in terms of liquid measure if the product is a liquid and in terms of weight if it is a solid, semisolid, viscous, or a mixture of liquid and solid. Statements of liquid measure shall be in terms of the United States gallon, quart, pint, and fluid ounce, at 68°F. The statement of weight shall be in terms of avoirdupois pound and ounce. All statements of net contents shall be in terms of the largest unit present.
(3) If the contents are stated as a minimum quantity, variation below is not permissible and variation above shall not be unreasonably large.
(4) If the contents are not stated as a minimum quantity, variation shall be permitted only to the extent that it represents deviations unavoidable in good packing practice. The average quantity in the packages in a shipment shall not fall below the average
quantity stated, nor shall there be any unreasonable variation from the average in the contents of any package.

7. Ingredient statement. (a) Location of ingredient statement. The ingredient statement must appear on that part of the label displayed under customary conditions of purchase except in cases where the (secretary)(commissioner) determines that, due to the size or form of the container, a statement on that portion of the label is impractical, and permits such statement to appear on another side or panel of the label. When so permitted, the ingredient statement must be in larger type and more prominent than would otherwise be possible. The ingredient statement must run parallel with other printed matter on the panel of the label on which it appears and must be on a clear contrasting background not obscured or crowded.

(b) Names of ingredients. The well-known common name of the ingredient must be given or, if the ingredient has no common name, the correct chemical name. If there is no common name and the chemical composition is unknown or complex, the (secretary)(commissioner) may permit the use of a new or coined name which he finds to be appropriate for the information and protection of the user. If the use of a new or coined name is permitted, the (secretary)(commissioner) may prescribe the terms under which it may be used. A trade-mark or trade name may not be used as the name of an ingredient except when it has become a common name.

(c) Percentages of ingredients. Percentages of ingredients shall be determined by weight and the sum of the percentages of the ingredients shall be 100. Sliding scale forms of ingredient statements shall not be used.

(d) Designation of ingredients. (1) Active ingredients and inert ingredients shall be so designated, and the term "inert ingredient" shall appear in the same size type and be equally as prominent as the term "active ingredient".

(2) If the name but not the percentage of each active ingredient is given, the names of the active and inert ingredients shall, respectively, be shown in the descending order of the percentage of each present in each classification and the name of each ingredient shall be given equal prominence.

Active ingredient content. As long as a (pesticide)(economic poison) is subject to the Act the percentages of active ingredients declared in the ingredient statement shall be the percentages of such ingredients in the (pesticide)(economic poison).

8. (a) (Pesticides)(Economic Poisons) Highly Toxic to Man. The (secretary)(commissioner) hereby finds that (pesticides)(economic poisons) which fall within any of the following categories when tested on the laboratory animals, mice, rats and rabbits, are highly toxic to man or contain substances or quantities of substances highly toxic to man within the meaning of the Act:

(1) Oral toxicity. Those which produce death within 14 days in half or more than half the animals of any species at a dosage of 50 milligrams at a single dose, or less, per kilogram of body weight when administered orally to ten or more such animals of each species.

(2) Toxicity on inhalation. Those which produce death within 14 days in half or more than half of the animals of any species at a dosage of 200 parts or less by volume of the gas or vapor per million parts by volume of air when administered by continuous inhalation for one hour or less to ten or more animals of each species, provided such concentration is likely to be encountered by man when the (pesticide)(economic poison) is used in any reasonably foreseeable manner.

(3) Toxicity by skin absorption. Those which produce death within 14 days in half or more than half of the animals (rabbits only) tested at a dosage of 200 milligrams or less per kilogram of body weight when administered by continuous contact with the bare skin for twenty-four hours or less to ten or more animals.

(b) If the (secretary)(commissioner) finds, after opportunity for hearing, that available data on human experience with any (pesticide)(economic poison) indicate a toxicity greater than that indicated from the above described tests on animals, the human data shall take precedence and, if he finds that the protection of the public health so requires, the (secretary)(commissioner) shall declare such a (pesticide)(economic poison) to be highly toxic to man for the purposes of this Act and the regulations thereunder.

Provided, however, That the (secretary)(commissioner) may, upon application and after opportunity for hearing, exempt any (pesticide)(economic poison) which meets the standards in the above sub-paragraphs (a) and (b) of this Section, but which is not in fact highly toxic to man, from the requirements of the Act and regulations in this part with respect to (pesticides)(economic poisons) highly toxic to man.

9. Warning or Caution Statement. The warning or caution statement, when necessary to prevent
injury to living man and other vertebrate animals, useful vegetation, and useful invertebrate animals, must appear on the label in a place sufficiently prominent to warn the user, and must state clearly and in non-technical language the particular hazard involved in the use of the (pesticide)(economic poison), e.g., ingestion, skin absorption, inhalation, inflammability or explosion, and the precautions to be taken to avoid accident, injury or damage.

The word "poison" in red on a contrasting background in immediate proximity to the skull and crossbones and an antidote, including directions to call a physician immediately, shall appear on all (pesticides)(economic poisons) highly toxic to man.

10. Registration. (a) Eligibility. Any manufacturer, packer, seller, distributor or shipper of a (pesticide)(economic poison) is eligible as a registrant and may register such (pesticide)(economic poison).

(b) Effect of registration. If a (pesticide)(economic poison) is registered under the Act, no further registration under the Act is required.

Provided, That (1) the product is in the manufacturer's or registrant's original unbroken immediate container; and (2) the claims made for it and the directions for its use do not differ in substance from the representations made in connection with registration.

(c) Procedure for registration. Applications for registration should be addressed to Application forms will be furnished upon request. Applications should be submitted as far in advance as possible and at least thirty days before the time when it is desired that registration take effect.

(d) Effective date of registration. Registration of a (pesticide)(economic poison) shall become effective on the date the certificate of registration is issued.

(e) Responsibility of a registrant. The registrant is responsible for the accuracy and completeness of all information submitted in connection with his application for registration of a (pesticide)(economic poison).

(f) Changes in labeling or formulae. (1) Changes in substance in the labeling or changes in the formula of a registered (pesticide)(economic poison) must be submitted in advance to the registrant. The registrant must describe the exact changes desired and the proposed effective date, and, upon request, shall submit a description of tests which justify such changes. (2) After the effective date of a change in labeling or formula the product shall be marketed only under the new claims or formula, except that a reasonable time may be permitted by the (secretary)(commissioner) to dispose of properly labeled stocks of old products.

(g) Claims must conform to registration. Claims made for a (pesticide)(economic poison) must not differ in substance from representations made in connection with registration, including representations with respect to effectiveness, ingredients, directions for use, or pests against which the product is recommended.

11. Coloration and Discoloration. Unless exempted by Section 17 of these regulations, the white (pesticides)(economic poisons) hereinafter named shall be colored or discolored in accordance with this section. The hues, values, and chromas specified are those contained in the Munsell Color Book of Colors, Munsell Color Company, 10 East Franklin Street, Baltimore, Md.

(a) Coloring agent. The coloring agent must produce a uniformly colored product not subject to change in color beyond the minimum requirements specified in the regulations in this part during ordinary conditions of marketing or storage, and must not cause the product to be ineffective or result in its causing damage when used as directed.

(b) Arsenicals and barium fluorosilicate. Standard lead arsenate, basic lead arsenate, calcium arsenate, magnesium arsenate, zinc arsenate, zinc arsenite, and barium fluorosilicate shall be colored any hue, except the yellow-reds and yellows, having a value of not more than 8 and a chroma of not less than 4, or shall be discolored to a neutral lightness value not over 7.

(c) Sodium fluoride and sodium fluorosilicate. Sodium fluoride and sodium fluorosilicate shall be colored blue or green having a value of not more than 8 and a chroma of not less than 4, or shall be discolored to a neutral lightness value not over 7.

(d) Exceptions. Notwithstanding the provisions of paragraphs (b) and (c) of this section the (secretary)(commissioner), after opportunity for hearing, may permit other hues to be used for any particular purpose if the prescribed hues are not feasible for such purpose and if such action will not be injurious to the public.

12. Adulteration; Valuable Constituent. (a) A valuable constituent will be considered as wholly abstracted whenever the designation or representation of the product imports its presence therein and such constituent has been wholly omitted therefrom in the preparation of the product or has been wholly removed from the completed product.

(b) A valuable constituent will be considered as partly abstracted whenever the designation
or representation of the product imports its presence therein, and such constituent is not present in the usual or customary amount or in the amount indicated in the labeling.

13. Misbranding. (a) False or misleading statements. Among representations in the labeling of a pesticide (economic poison) which render it misbranded are the following:

(1) A false or misleading statement concerning composition of the product.
(2) A false or misleading statement concerning the effectiveness of the product as a pesticide (economic poison) (or device).
(3) A false or misleading statement about the value of the product for purposes other than as a pesticide (economic poison) (or device).
(4) A false or misleading comparison with other pesticides (economic poisons) (or devices).
(5) A false or misleading representation as to the safety of the pesticide (economic poison) or of its ingredients including a statement such as "nonpoisonous", "noninjurious," or "nonhazardous" unless the product is in fact safe under all conditions.
(6) Any statement directly or indirectly implying that the pesticide (economic poison) (or device) is recommended or endorsed by any agency of this state.
(7) The name of a pesticide (economic poison) which contains two or more ingredients if it suggests the name of one or more but not all such ingredients, even though the names of the other ingredients are stated elsewhere in the labeling:

Provided, however, That it is permissible, when the percentage of each active ingredient is given in the name, to omit reference in name of the product to the inert ingredients.

(8) Prominent reference in the labeling to one or more active ingredients without giving their percentages in immediate proximity thereto or without giving equal prominence to the other active ingredients or to the presence of inert ingredients.
(9) A true statement used in such a way as to give a false or misleading impression to the purchaser.

(b) Justification of false and misleading statements not permitted.

(1) The use of any false or misleading statement on any part of the labeling, given as the statement or opinion of any person or based upon such statement or opinion shall not be justified, nor may such statement be justified by the fact that the statement or opinion is actually that of such person.
(2) The use of a false or misleading statement in the labeling cannot be justified by an explanatory statement.

14. Enforcement. (a) Collection of samples. Samples of pesticides (economic poisons) (and devices) shall be collected by a designated agent. An official representative sample shall be one taken by the (secretary) (commissioner) or his duly authorized agent. An unbroken original package shall be taken as the official sample where the pesticide (economic poison) is packed in small bottles, or small packages. Where the pesticide (economic poison) is packed in large containers, the official sample shall be a portion taken from one original package in a lot.

(b) Examination of samples. Methods of examination of samples shall be those adopted and published by the Association of Official Agricultural Chemists, where applicable, and such other methods as may be necessary to determine whether the product complies with the Law.

(c) Notice of apparent violation. (1) If from an examination or analysis a pesticide (economic poison) (or device) appears to be in violation of the Act, a notice in writing shall be sent to the person against whom criminal proceedings are contemplated, giving him an opportunity to offer such written explanation as he may desire. The notice shall state the manner in which the sample fails to meet the requirements of the Act and the regulations.
(2) Any such person may, in addition to his reply to such notice, file within twenty days of receipt of the notice a written request for an opportunity to present his views orally in connection therewith.
(3) No notice or hearing shall be required prior to the seizure of any pesticide (economic poison) (or device).

15. Notice of Judgment. Publication of judgments of the courts in cases arising under the criminal or seizure provision of the Act shall be made in the form of notices, circulars, or bulletins as the (secretary) (commissioner) may direct.

16. Products for Experimental Use. (a) Articles for which no permit is required.

(1) A substance or mixture of substances being put through tests in which the purpose
is only to determine its value for economic poison purposes or to determine its toxicity or other properties, and where the user does not expect to receive any benefit in pest control from its use it is not considered a (pesticide) (economic poison) within the meaning of section 2(c) of the Act and 2(c). Therefore, no permit under the Act is required for its shipment.

(2) A (pesticide) (economic poison) shipped or delivered for experimental use by or under the supervision of any Federal or State agency authorized by Law to conduct research in the field of economic poisons shall not be subject to the provisions of the Act and the regulations in this part.

(b) Articles for which permit is required.

(1) A (pesticide) (economic poison) shipped or delivered for experimental use by other qualified persons but not under the supervision of a Federal or State agency authorized by Law to conduct research in the field of economic poisons, shall be exempt from the provisions of the Act and of the regulations in this part:

Provided, That a permit for such shipment or delivery is obtained prior thereto.

Permits will be of two types, specific and general. A specific permit will be issued to cover a particular shipment on a specified date to a named person. A general permit will be issued to cover more than one shipment over a period of time to different persons.

(2) If a (pesticide) (economic poison) is to be tested for a use which is likely to result in a residue on or in food or feed, a permit for shipment or delivery will be issued only when:

(i) The food or feed product will not be used for food or feed except for laboratory or experimental animals, or
(ii) Convincing evidence is submitted by the applicant that the proposed use will not result in an amount of residue which would be hazardous to man or other animals.

(3) A permit for shipment or delivery of any experimental (pesticide) (economic poison) for testing in any place likely to be frequented by people will be granted only if it is clearly shown in the application for such permit that the applicant's instructions for use reasonably assure the avoidance of injury to all persons concerned.

(4) Applications for permits covering shipments for experimental use shall be filed in duplicate and must be signed by the shipper or the person making the delivery and must contain the following:

(i) Name and address of the shipper and place or places from which the shipment will be made.

(ii) Proposed date of shipment or proposed shipping period not to exceed one year.

(iii) A statement of the composition of material to be covered by the permit which should apply to a single material or group of closely allied formulations of the material.

(iv) A statement of the approximate quantity to be shipped.

(v) Available data or information or reference to available data or information on the acute toxicity of the (pesticide) (economic poison).

(vi) A statement of the nature of the proposed experimental program, including the type of pests or organisms to be experimented with, the crops or animals for which the (pesticide) (economic poison) is to be used, the areas where it is proposed to conduct the program, and including the results of previous tests where necessary to justify the quantity requested.

(vii) When food or feed is likely to be contaminated, either a full statement of action which will be taken to prevent the food or feed from being consumed, except by laboratory or experimental animals, or convincing evidence that the proposed experiment will not result in injury to man or useful animals.

(viii) The percentage of the total quantity specified under sub-division (iv) of this subparagraph which will be supplied without charge to the user.

(ix) A statement that the (pesticide) (economic poison) is intended for experimental use only.

(x) Proposed labeling which must bear (a) the prominent statement "For Experimental Use Only" on the container label and any accompanying circular or other labeling, (b) a warning or caution statement which may be necessary and if complied with adequate for the protection of those who may handle or be exposed to the experimental formulations, (c) the name and address of the applicant for the permit, (d) the name or designation of the formulation, and (e) if the (pesticide) (economic poison) is to be sold, a statement of the names and percentages of the principal active ingredients in the product:

Provided That, if the shipper shall submit a copy of a valid experimental
permit issued under the provisions of the Federal Insecticide, Fungicide and Rodenticide Act and the accepted labeling related thereto, the (secretary)(commissioner) may exempt the shipper from the requirement of submitting as a part of the application, the data and information hereinafore specified in sub-paragraphs V to X inclusive.

(5) The (Secretary)(Commissioner) may limit the quantity of a (pesticide)(economic poison) covered by a permit to such less quantity than requested as he may determine if the available information on effectiveness, toxicity or other hazards is not sufficient to justify the scope of experimental use proposed in the application, or make such other limitations in the permit as he may determine to be necessary for the protection of the public.

(6) A (pesticide)(economic poison) intended for experimental use shall not be offered for general sale by a retailer or others, or advertised for general sale.

(c) Cancellation of permits. Any permit for shipment for experimental use may be cancelled at any time for any violation of the terms thereof.

17. Exemptions. (a) Any (pesticide)(economic poison) specified in 11 of these regulations which is intended solely for use by a textile manufacturer or commercial laundry, cleaner or dyer as a mothproofing agent, which would not be suitable for such use if colored and which will not come into the hands of the public except when incorporated into a fabric, shall be exempt from the requirements of section 3a (7) of the Act and 11, of these regulations.

(b) The (pesticide)(economic poison) sodium fluoride shall be exempt from the requirements of section 3a (4) of the Act and 11 (c) of these regulations when, (1) it is intended for use as a fungicide solely in the manufacture or processing of rubber, glue, or leather goods;

(2) Coloration of said (pesticide)(economic poison) in accordance with said requirements will be likely to impart objectionable color characteristics to the finished goods;

(3) Said (pesticide) (economic poison) will not be present in such finished goods in sufficient quantities to cause injury to any person; and

(4) Said (pesticide)(economic poison) will not come into the hands of the public except after incorporation into such finished goods.
1. Resolved that the Association opposes strenuously the practice of dispensing pesticides from bulk containers for retail distribution. (1955)

2. Resolved that no pesticide should be offered for sale or distributed after its registration has terminated. (1955)

3. Resolved that pesticides which are represented for seed treatment purposes should be colored with a dye that will distinctly color the seed on which it is applied. (1955)

4. Resolved that the Association of Pesticide Officials cooperated with related associations in a program to require the coloring of treated seeds which have a potential health hazard. (1955)

5. Resolved that pesticides offered for sale only to veterinarians for professional use should be subject to registration. (1955)

6. Resolved that materials used by pest control operators and not sold or distributed to the public are not subject to registration. (1955)

7. Resolved that directions for control should be shown on labels for all pests referred to on the label. (1955)

8. Resolved that it is the opinion of the Association of American Pesticide Control Officials that to the extent that regulatory control over sale and distribution of agricultural chemicals is necessary, in the interest of the uniformity of regulatory control, it should be imposed in accordance with the following principles:
   (1) Any regulatory control deemed necessary over agricultural chemicals intended to affect the physiological processes of plants such as gibberellins, plant regulators, desiccants and defoliants, other than plant foods, should be imposed by amendment to the Uniform State Insecticide, Fungicide, and Rodenticide Act and the counterpart state acts, rather than under the State Fertilizer Laws.
   (2) In the case of a product which consists of a combination of both plant foods and pesticides or other regulated chemicals or products claiming both plant food and other regulated chemical value, it should be subject to control under both the applicable mentioned laws. (1958)

9. Resolved that control measures should be adopted to eliminate the distribution of pesticidal vaporizers for home use. (1958)

10. Resolved that it shall be the policy of the Association of Pesticide Control Officials that each scented variety of a specific pesticide shall be separately and independently registered; and, furthermore, that separate and individual brand registrations be required for each variety or physical form of any pesticide which may be offered for sale in a variety of physical forms and differentiating labeling even though the composition may be the same. (1960)

11. Resolved that legally required label information must be printed in type of size and placement which will render it conspicuous and easily readable. (1961)

12. Resolved that the word 'safe' and similar declarations should not appear upon pesticide labels. (1961)

13. Resolved that products bearing the same brand name but different manufacturer designation should be separately registered. (1961)

14. Resolved that a new certificate and number be issued if a change is made during a registration period in the statement of ingredients even though the brand name may remain unaffected. (1961)

15. Resolved that the use and distribution of pesticides intended for experimental purposes only be regulated and controlled either by law, regulation or effective administrative policy. (1961)

16. Resolved that a separate registration be required for fertilizer-pesticide mixtures for each grade or guaranteed analysis of either the fertilizer mixture or the pesticide ingredient. (1961)
17. Resolved that the following forms of animal or plant life be declared as pests for the purpose of bringing under State Insecticide, Fungicide and Rodenticide Acts those products distributed for preventing, destroying, repelling, or mitigating such forms of life, as provided in the Act:
   Mammals, including but not limited to dogs, cats, moles, bats, wild carnivores, rabbits, armadillos, and deer;
   Birds, including but not limited to starlings, English sparrows, crows, and blackbirds;
   Fishes, including the jawless fishes such as the sea lamprey, the cartilaginous fishes such as the sharks, and the bony fishes such as the carp;
   Amphibians and reptiles, including but not limited to poisonous snakes;
   Aquatic and terrestrial invertebrates, including but not limited to slugs, snails, and crayfish;
   Roots or other plant parts growing where not wanted. (1961)

18. Resolved that pesticide-fertilizer mixtures when mixed upon request shall be subject to registration under applicable existing statutes. (1961)

19. Resolved that pesticide products dispensed by veterinarians are subject to registration unless specifically prescribed by the doctor and labeled in accordance with the well established practices of druggists. Products intended for use by veterinarians and animal hospitals must be registered if packaged and distributed in regularly labeled containers. (1961, Amended 1962)

20. Resolved that pesticide labels be required to show directions for decontaminating used containers of highly toxic pesticides. (1962)

21. Resolved that this Association oppose any requirement that a state registration number be required as a part of the labeling of any pesticide. (1964)

MEMBERS WHO HAVE OCCUPIED THE OFFICE OF PRESIDENT

J. L. St. John, Pullman, Washington ............................................................ 1947-48
H. H. Hoffman, St. Paul, Minnesota ........................................................... 1948-49
J. F. Fudge, College Station, Texas ............................................................ 1949-50
A. B. Lemmon, Sacramento, California ...................................................... 1950-51
E. W. Constable, Raleigh, North Carolina ................................................... 1951-52
R. C. Berry, Richmond, Virginia ................................................................. 1952-53
Floyd Roberts, Bismarck, North Dakota ...................................................... 1953-54
E. A. Epps, Jr., Baton Rouge, Louisiana ..................................................... 1954-55
C. A. Bower, Oklahoma City, Oklahoma ....................................................... 1955-56
F. H. Gates, Denver, Colorado ................................................................. 1957-58
W. C. Geagley, Lansing, Michigan ............................................................... 1958-59
J. D. Patterson, Salem, Oregon ................................................................. 1959-60
E. R. Winterle, Tallahassee, Florida .......................................................... 1960-61
R. H. Guntert, Topeka, Kansas ................................................................. 1961-62
M. E. Christensen, Salt Lake City, Utah ...................................................... 1962-63
S. B. Randle, New Brunswick, New Jersey ................................................... 1963-64

MEMBERS WHO HAVE OCCUPIED THE OFFICE OF SECRETARY-TREASURER

A. B. Heagy, College Park, Maryland .......................................................... 1947-60

MEMBERS WHO HAVE OCCUPIED THE OFFICE OF SECRETARY

P. E. Irwin, Richmond, Virginia ............................................................ 1960-64

MEMBERS WHO HAVE OCCUPIED THE OFFICE OF TREASURER

A. B. Heagy, College Park, Maryland .......................................................... 1960-63
Robert H. Guntert, Topeka, Kansas ........................................................... 1963-
PRESIDENT'S ADDRESS

Stacy B. Randle, President

This is the 18th anniversary of our association. Chronologically, it is a teenager, but it has matured far beyond its years. We can be proud of our accomplishments in a rapidly changing world of agricultural chemicals. The association cannot rest on its laurels or be lured into a passive position. It must be a dynamic organization and serve the purposes for which it exists. It must not be frustrated by emotionalism, hysteria or the synthetic concern inspired by a variety of ambitious politicians, public servants, and writers. To be strong the association must constantly evaluate its purpose, policy and program.

To begin this self-study I would suggest we start with our constitution. I would urge that the Constitution and Bylaws Committee be instructed to seek legal counsel in rewriting the constitution to comply with the District of Columbia Non-profit Corporation Act, where the association is incorporated. Doubtless you know the Association of American Feed Control Officials has just completed such a study and a proposed change will be presented to its membership this week.

The model pesticide bill and the model applicator's bill should be carefully reviewed and revised where necessary to provide adequate legislation to regulate these commodities and their uses. Naturally, it would follow that the regulations under these bills should be reviewed to bring them in line with the bills. Our association should be the leader in keeping these bills and regulations up-to-date.

This year the Committee on Sampling Procedures was reactivated. I would recommend the association develop and publish in the Official Publication a set of sampling procedures.

One of the greatest needs of the pesticide chemist is reliable analytical methods. While this association is not a methodology organization its members should actively participate in the method development program of the Association of Official Agricultural Chemists. A review of the A, O, A, C. Journal shows there are only 29 associate referees on pesticide methods. The distribution of these referees is as follows: Industry 14, U.S.D.A. 9, States 6. The associate referees represent only 5 individual states. This is a disgrace that we can get only 5 states to participate in this most important activity. There are 72 associate referees on pesticide residues. Their distribution is: Federal agencies 63, Industry 8, States 1. How can we ever expect to improve analytical methodology when so few states participate in method development? Is it surprising that we have so few good analytical methods? May I plead with you to discuss this matter with your chemists and urge them to become associate referees and also participate in A, O, A, C. collaborative studies on methods. It may be there are reliable analytical methods that have not been studied collaboratively and adopted by the A, O, A, C.; however, in court our regulatory work may be challenged unless the method has been adopted by the A, O, A, C.

Our Methods Clearing House Committee has assembled and distributed methods for a variety of chemicals. It has rendered valuable service to members of the association, but we should remember this committee alone cannot be responsible for methods for every pesticide. The committee would appreciate receiving new methods or suggestions for improvements in our present methods.

The Collaborative Check Sample Program is a definite asset to those who participate. It is regrettable that only approximately 50 percent of the states join in this program, which is basically a comparison study of the analytical technique of the individuals who participate as well as a test of new or unofficial methods. Here again we urge your state to join this program.

The Pesticide Compendium is being revised. It is hoped the new edition will be available by the end of 1964. This specialized source of technical information is valuable to all workers in the field of pesticide chemistry. The association owes a debt of gratitude to Robert Z. Rollins and the committee for their dedication to this task.

There has been considerable activity at the Federal level with regard to legislation and regulations of pesticides. There has been one amendment to the Federal Act already this year. There are rumors of additional legislation. The Pesticide Regulation Division has published revised regulations and additional regulations are under consideration. At the spring meeting of the Executive Committee, the Regulations Committee was asked to update the association regulations. Further, industry representatives were asked to assist the committee in an advisory capacity. Because of the importance of adequate, sound, and reasonable regulations the committee should thoroughly review our present regulations and recommend to the association any necessary changes. Naturally, much of this work must be done through correspondence. This should not seriously deter the function of the Committee. It is hoped that a progress report can be presented
at the Spring Executive Committee meeting in 1965 along with a formal proposal for consideration by the association at the next annual meeting.

The resolutions, policy and interpretations of our association should be reviewed. I would suggest reactivation of the Uniform Policy Committee for this purpose.

This association is not a methods development organization, as stated previously. It should have, however, a vital interest in the accuracy and reliability of analytical and sampling procedures. It should be concerned about the intra- and inter-laboratory variations and the development of analytical tolerances. To accomplish these needs I urge the appointment of a committee to study and investigate some of these problems. Perhaps the approach should be a committee on guarantees and tolerances. This program could be patterned after that developed by the Association of American Fertilizer Control Officials. It is likely such a study would be of interest to the pesticide industry and could be established as a joint venture. I would urge the Executive Committee to pursue the matter.

As a project for 1965, I suggest that the Executive Committee review the aims, functions and purposes of the association. To facilitate this study it may be advisable to assign each member of the Executive Committee a specific area for review.

Last year the association voted that the Executive Committee could utilize a certain percentage of association funds to pay expenses of the Executive Committee, if necessary, to attend the spring meeting in Washington. To have full attendance it was necessary to use association funds, but the amount spent was far less than the maximum permitted. We believe this is a desirable practice and hope it will be continued.

The Pestcontroller is a medium of communication among control officials. All control officials should contribute news items for publication. Unfortunately, this does not happen often unless items are solicited by the secretary. A majority of the items must be written by the secretary, if there is to be an issue. It should not be a burden for each of us to prepare at least two articles each year. It is my opinion there should be a committee to assist the secretary in gathering material for the Pestcontroller.

Our association does not have a procedure for communicating with the pesticide industry and the public. This is unfortunate. I am convinced there are times when the association could be of assistance and influence if we had a means of communication. Doubtless the trade journals would welcome articles from the association. Indubitably, we have many members who could prepare worthwhile news items. I hope we shall strive to find a way whereby there can be a systematic exchange of information and ideas among our association and the pesticide industries.

Early this year someone predicted we had reached the peak in the pesticide controversy and expressed a hope that we could now devote more time to the development of chemicals needed for increased agricultural production and for improved health of man. The events of the past few months have shown the fallacy of this forecast. The year 1964 has been copiously supplied with charges and countercharges, news releases, editorials, and congressional hearings that are unfavorable to pesticides. There has been state legislation that will restrict the use of pesticides. Under the guise of protecting the public health and safety, there has been legislation that may place the use of pesticides under agencies that may not be qualified to decide their most judicious use for adequate agricultural production. Further, there is impending Federal legislation that will require the registration and inspection of pesticide plants. It is likely there will be more restrictive pesticide legislation unless our educational program can convince the public that pesticides must be used for the purpose intended, and at the rates recommended because they are vital to the health and well being of man. We must replace ignorance, fear, superstition, and propaganda with truth, reason, and confidence.

Our food supply is the most plentiful the world has ever known. This abundance is due primarily to our technical know-how in this scientific age. This plenty is not limitless. Our population is expanding at a phenomenal rate. Each morning approximately 8,000 more people come to breakfast -- about 3,000,000 per year. The experts tell us our population will double by the year 2000 -- that's only 36 years away. The world population is increasing even faster than ours. If we are to feed ourselves, and share some with the world, we must be capable of producing more than at the present. It is apparent that pesticidal chemicals must be used to meet the demands.

It is generally recognized that the food supply of the United States is the safest and most wholesome in the world. The fact that relatively few foods are found to contain residues above the established tolerances is a tribute to the sensitivity of the American farmer to his responsibility in producing crops that are safe for the consumer. We can not live on our laurels. This is not a time to relax our alertness. In fact, we must maintain our vigilance and do our part to educate
those who may tend to be careless in the use of agricultural chemicals.

Although those of us associated with the agricultural enterprise are aware that our foods are wholesome and safe, there are those who do not share this confidence. In a talk commemorating the centennial of the land-grant college, Dr. C. C. King, former president of the Nutrition Foundation, stated that there is a growing number of persons -- many of them very active in social and political circles -- who are fearful that something is going wrong on a vast scale in agriculture, in food processing, in food distribution, in government agencies, and in the medical profession that endangers their health. He stated further that a surprising number of writers, lecturers, and faddists who gain financially and politically from getting attention by their untruthful propaganda take advantage of the situation and fan the fires of confusion to their own advantage. The only answer to the problem is a continued and stepped-up program of education. Dr. King concludes that educational work of this kind must be done with great simplicity, patience, and real sympathy for those who have a very limited science education. Let us all enter into this educational program whenever and wherever the opportunity is available.

Before closing I wish to express my sincere gratitude for the privilege of serving as your president. For their services to the association, I express my thanks to the members of the Executive Committee, the members of the other committees, and to all our investigators. Finally I wish to express special thanks to Secretary Paul E. Irwin and to Treasurer Robert H. Guntert for their efficient work and splendid cooperation.
THE PESTICIDE SITUATION IN CANADA

C. H. Jefferson
Canada Department of Agriculture

Pesticides have had and are having an increasingly significant impact on Canada. In recent years, particularly since 1962, they have become a topic of general discussion and of concern not only to those directly involved in their use and control, but also to the public at large.

As control officials you might find it of interest and possibly of some value to know in a general way just what the pesticide situation is with your Northern neighbour.

Canada is a fair sized country geographically, occupying most of the northern half of North America. It extends over 3.8 million square miles and is about 9% larger than the area of the U.S.A., but smaller than Europe. This area includes over 300,000 square miles of lakes which represent over one-half of the fresh water reserves of the world. About 45% of Canada is forested and of this only about one-half is of commercial quality. About one million square miles of the northern part of Canada is treeless lake studded barrens having no true summer and supporting little vegetative growth. It is an area of low precipitation that would be a desert but for the very low temperatures and low evaporation rate.

Only about 15% of this vast area is suitable for commercial crop growth. Less than 8% is occupied farm land, 175 million acres, of which about 100 million is under cultivation or is improved land. This land is divided into about 480,000 farms and worked by about 650,000. The farmed area has virtually remained static for over 30 years, yet production has increased by over 50%. Canadian agriculture has participated in the agricultural revolution to the fullest extent - along with U.S. agriculture. Pesticides, fertilizers and prepared feeds make up an increasing proportion of the input of farm production, and hence account for a proportionately larger part of total production. Canadian agricultural production is valued as follows:

<table>
<thead>
<tr>
<th></th>
<th>(Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All crops</td>
<td>1.7</td>
</tr>
<tr>
<td>Livestock and Livestock Products</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3.7</strong></td>
</tr>
</tbody>
</table>

Canada has a population of just under 20 million people which is increasingly concentrating in urban centres. Seventy per cent live within 100 miles of the U.S. - Canadian boundary. Over half live in southern Ontario and the St. Lawrence low lands of Quebec.

Politically organized as a Federal state, Canada contains 10 provinces which are sovereign in most matters of regional significance. Under the constitution they have prior authority in such matters as property and civil rights and share with the Federal Government matters pertaining to agriculture. The central government has authority in those areas relating to the whole country, and this includes prior authority in agricultural matters. As in this country, the federal authority has jurisdiction over external trade, inter-provincial trade, but not intra-provincial trade generally. In the area of agricultural commodities it does however.

The volume of business in pesticides has been growing at a steady rate of about 10% per year compounded. The value of pesticides sold last year was reported to be $36.5 million while a comparative figure for 1947, the first year regular statistics were collected, was $9.7. The former figure compares with that of $366 million for the United States as reported for 1963. I understand that one-fifth of all pesticides used in the U.S.A. are used in California - so Canada then uses about 1/10 as much as your country and one-half of the amount applied in California.

--

Dominion Bureau of Statistics Memorandum
Sale of Pest Control Products by Canadian Registrants,
Year ending September 30th, 1963.

21
The principal kinds and values of pesticides are as follows:

<table>
<thead>
<tr>
<th>Type of Pesticide</th>
<th>Value in Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Dusts and Sprays</td>
<td>13.5</td>
</tr>
<tr>
<td>Livestock treatments</td>
<td>2.5</td>
</tr>
<tr>
<td>Herbicides</td>
<td>12.7</td>
</tr>
<tr>
<td>Household &amp; Industrial Pesticides</td>
<td>6.3</td>
</tr>
<tr>
<td>Rodenticides</td>
<td>0.5</td>
</tr>
<tr>
<td>Not Specified, Pesticides</td>
<td>0.8</td>
</tr>
</tbody>
</table>

In the calendar year 1963, the total number of different pesticides sold (based on registered products) was 3,577. There were 534 company and individual registrants. Ninety-six of these were resident in the U.S.A. The major portion of pesticide active ingredients originate in the United States, while some come from abroad - European countries and Japan. However, Canada does supply a large part of its needs in -

1) 2,4-D
2) 2,4,5-T
3) Amine triazole
4) MCPA
5) Maleic hydrazide
6) Pentachlorophenol
7) Thiram
8) Diethyl toluamide
9) Dithiocarbamate fungicides,
10) the coccidiostat, zoleane.

The major agricultural pesticides and many for the home and commercial trade are formulated in Canada. This includes aerosols and pressure packed products.

Some indication of the proportion of crop acres treated with pesticides is given by the following results of surveys which are considered to be reasonably accurate:

<table>
<thead>
<tr>
<th>Proportion of Crops Treated</th>
<th>Proportion of Crops Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereal crops</td>
<td>Tobacco</td>
</tr>
<tr>
<td>Corn</td>
<td>40%</td>
</tr>
<tr>
<td>Potatoes</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>85%</td>
</tr>
</tbody>
</table>

All livestock receive some benefit of pesticide protection at some stage in their life. It is estimated that at least one quarter of all seed planted has been treated with a fungicide or insecticide. The crop area receiving herbicides exceeds 26,000,000 acres. Considering all crops, forests and other areas, on the order of 40,000,000 acres are subject to pesticide application. This area equals 40% of the improved and cultivated farm land, less than one-quarter of occupied farm land and only about 3% of the land surface of Canada, exclusive of the northern tundra.

Pesticides find wide scale use in forest management, the most spectacular being the treatment for spruce bud worm control of some 27 million acres of spruce and fir woodlands in New Brunswick and the Gaspé region of Quebec, during the past 12 years. The net area of forest treated approximate 12,000,000 acres.

The use of insecticides to create biting fly clear zones around military and lumbering operations in the far north and in the forests is also carried out routinely. These operations could scarcely be carried on without such pest control because of the otherwise unbearable hordes of biting flies during the summer.

Pesticides have been subject to specific regulation in Canada since 1927 under a Federal statute that is currently called The Pest Control Products Act (P.C.P. Act) administered by the Department of Agriculture. This is an Act under which pesticides offered for sale in Canada are regulated with respect to composition, labelling and packaging. Pesticides which include insecticides, acaricides, fungicides, herbicides, nematocides, insect and animal repellents and rodenticides, offered for general sale are required to be registered before sale. Registration is conditional on the product meeting the current minimum standards that are intended to assure reasonable biological effectiveness with no intolerable adverse effects. Labelling must be descriptive with respect to pertinent information on composition, hazards of misuse, and the first aid or corrective measures known to be useful in neutralizing or reducing the effect of inappropriate use or accident.

Pesticides used by government agencies, by professional pest control operators and by industry other than the agricultural industry, have only been regulated on a permissive basis. Similarly,
pesticides for the sole use of the importer have not been subject to compulsory registration and regulation. This law (P.C.P. Act) does not authorize the regulation of distribution, use, or of the user of pesticides. Such regulation does not clearly fall within the scope of the federal authority, but is rather one that is more appropriately within the authority of provincial legislatures. In recent years, due to the publicity given to the possible consequences of misguided pesticide use, several provinces have enacted laws regulating users, use and distributors of pesticides. The provinces of Ontario and Manitoba now have such laws in force, and several others, notably British Columbia and Alberta, have committees actively engaged in considering such legislation. The province of Prince Edward Island passed such an Act in March, however, it has not yet been proclaimed.

Thus far, it appears that there will not be duplication of regulation by the Federal and Provincial authorities, but rather complementary regulation; the federal P.C.P. Act regulating labelling - with provincial legislation regulating distributors and users as the local situation dictates.

As in your country, the health authorities exert a powerful and direct influence on pesticides. Canada has a Federal Food and Drugs Act administered by the Department of National Health & Welfare. Under this Act foods for human consumption are regulated with respect to adulteration arising from pesticide use. A schedule of tolerances (including the controversial automatic zero tolerance, in the absence of any other level) is in force. Canadian tolerances are generally the same as in the U.S.A.

Pesticide residues in animal feeds do not come under the Food and Drugs Act, but rather under the Feeds Act, which is also administered by the Plant Products Division of the Department of Agriculture. To the present, regulations have not been written specifying definitive tolerances for pesticides in feeds. Residue problem areas are being defined and no doubt we will be obliged to do a great deal of investigational work in this area. This comment applies generally to pesticides that are adulterants of animal feeds, rather than those medicating ingredients that are deliberately added to feeds. Maximum levels are already in effect for the latter group, which coupled with label feeding directions, are designed to avoid residues in animal products used for human consumption.

At the present time these medicants are considered to be drugs and are spared the severe public panning and emotional derision afforded to pesticides. Published tolerances as such are not used, but rather an appraisal is made of their potential harmfulness in terms of physiological pharmacological significance and acceptance or rejection is made on this basis. At the present time some 38 such medicants are acceptable for use in Canada. These are mentioned here because in the broad sense they are pesticides. When they are sold as such and are not incorporated in a feed they are subject to both the Food and Drugs Act (as drugs for animals), and to the P.C.P. Act (as pesticides). Following incorporation in a feed, however, they become subject to the Feeds Act and as long as they are registered under that Act they are exempt from the first two laws mentioned. This arrangement has worked well, liaison between the two departments and various units being such that divergent views seldom develop incompatible unilateral requirements.

Generally pesticide residues are not recognized to be a problem in relation to animal health with a few exceptions such as mercury, arsenic and thiram. They are, however, becoming a major problem as the source of residues in eggs and dairy products where the zero tolerance concept applies without exception.

The acceptance of pesticides from a regulatory as well as from an "official use" standpoint in Canada is generally based on fundamental information developed elsewhere. This information is made available initially by the commercial interests wishing to extend their sales for pesticides in Canada. The usefulness of the product must be confirmed by fully reported field experience either in Canada or in environments elsewhere that are known from past experience to be comparable to those experienced in Canada. The data required for toxicological and hazard evaluation largely come from studies conducted outside of Canada as well. This is particularly true of basic toxicity evaluation since facilities for this work in Canada are very limited. In the area of applied residue data an increasing amount of investigation is carried out in the regions where the pesticide is to find use. The Research Branch of the Department of Agriculture participates to an increasing extent in residue evaluation and in developing assay facilities to meet the growing need. That Branch does enter into cooperative projects with commercial interests, but is not in a position to accept grants, workers or other such aid that would affect its basic establishment. Branch laboratories are not permitted to become directly involved or to allow their studies to become dependent upon commercial support. The prime purpose of such investigation is to assure that residue data are available for use in relation to developing official recommendations for pesticide use.

The Research Branch of the Department of Agriculture spends about $6,000,000 annually on projects related to pests, pest control and pesticides.
The breakdown of these expenditures is as follows and as reported to the Special Committee on Food and Drugs on October 10, 1963:

<table>
<thead>
<tr>
<th>Item</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic background research, surveys and services</td>
<td>3,300,000</td>
</tr>
<tr>
<td>Chemical control</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Resistant crops (plant breeding)</td>
<td>800,000</td>
</tr>
<tr>
<td>Biological control</td>
<td>600,000</td>
</tr>
<tr>
<td>Cultural control</td>
<td>100,000</td>
</tr>
</tbody>
</table>

Recommendations pertaining to pesticide use in agricultural production fall in the provincial sphere and are made under provincial authority, however, the basic data on which they are based stem largely from Federal Research Branch findings. The residue data developed in this Research Branch program are also used for pesticide registration purposes to supplement that supplied by registrants. In fact, in some cases, it is the only specific residue data available.

The Food and Drug Directorate also develop residue data, but only in relation to commercially available food supplies. These data are useful in determining just what the level of adulteration (if any) is as a consequence of the commercial use of pesticides.

It will be no surprise to most of you to hear that the more sensitive assay methods now in use are detecting administratively significant residues in dairy products that were not anticipated years ago when the pesticides concerned were first registered. While the levels being found are not known to be harmful, they are highly significant because of the zero tolerance concept and the popular conception of pesticides being harmful at any level of ingestion. We, too, are having to re-assess registered uses, label cautions, and use practices particularly for the chlorinated hydrocarbon pesticides because of residues in apple pomace, beet pulp (other by-products of the food processing industry) and forage and pasture crops to mention the major feed items. The smallest of residues in dairy cattle feed seems capable of causing detectable residues in milk and butter. Tolerances will have to be established to accommodate such residues or the uses giving rise to them will have to be terminated.

We are most anxious to be able to make any indicated adjustment in labelling and use in as orderly a manner as possible with the least loss of inventory and waste of produce consistent with the known health hazard.

The Plant Products Division is at the present time using on a limited basis the analytical service of the Food and Drug Directorate to check specific feed ingredients suspected of containing residues. It is anticipated that the Division will have its own residue assay unit in operation this winter. The establishment provides for two chemists and two technicians for this work. It is expected that this unit will be able to work in close collaboration with the seven Food and Drug residue laboratories, the eight of the Research Branch and those of the provincial governments of which there are three at the present time. (It is also hoped that we will be able to maintain similarly close cooperation with industry laboratories). The principal objective of this collaboration will be to assure the optimum use of resources in developing appropriate extraction and assay methods, and agreement on assay results obtained.

In recent months the Canadian Wildlife Service, a branch of the federal department of Northern Affairs and National Resources, has actively entered the pesticide field. That Service has close ties with its counterpart in the U.S.A., the Fish and Wildlife Service of the U.S. Department of the Interior. Officers of the Canadian Wildlife Service are now being kept fully informed on new pesticides and serve as consultants (to the Plant Products Division) on wildlife aspects of pesticide use.

Another general area of activity involves various Committees! As with you, "committees" enter the pesticide picture in a very real sense and it would appear, on an increasing scale. There are a great many of them, but I will comment on a few to illustrate their scope and function.

The Special Committee on Food and Drug of the Parliament of Canada - This committee composed of 24 Members of the House of Commons was charged with investigating and reporting to Parliament on the hazards of food contamination from insecticides, pesticides and other noxious substances. Hearings were held last fall and winter and a report tabled on December 19, 1963. Its recommendations included:

1) Establishment of a permanent inter-departmental committee on pesticides,
2) Revision of the P.C. P. Act to better control imports and to improve pesticide precautionary labelling and packaging,
3) Educational program to assure a better public appreciation of pesticide hazards,
4) Co-ordination and extension of research on pesticides.

These recommendations have been passed to the appropriate departments for consideration
and action.

National Committee on Pesticide Use in Agriculture - This committee was formed in 1962
under the authority of and to report to the National Advisory Committee on Agricultural Services.
The parent committee formed in 1932, is composed principally of the Deputy Minister of Agriculture,
both Federal and Provincial and the Deans of Agricultural and Veterinary Colleges. This relatively
new committee on pesticide use has held two annual meetings, has a number of working parties in
operation and has given a marked stimulus to professional agriculturalists in pesticide matters. This
committee does not consider herbicides, except in a very general way, since they are the subject of
another and older committee referred to in the following paragraph.

National Weed Committee - This committee is also a product of the National Advisory Com-
mittee on Agricultural Services. It was formally constituted in 1939 and has done invaluable service
in stimulating and coordinating research on weed control in Canada. It has provided a forum for weed
workers, and its publications on research findings and weed control recommendations have served as
a principal source of such information for the industry, agricultural extension and pesticide regis-
tration officers. In recent years the major area of interest for this committee has been chemical
weed control, although more fundamental aspects of weeds also receive attention.

Committee on Common Names for Pest Control Chemicals of the Canadian Standards Asso-
ciation - This committee was organized in 1955. The problems in communication created by complex
systematic chemical names for pesticidal chemicals gave rise during the late 1940's to the coining of
common names for pesticides. Numerous professional associations and national groups throughout
the world addressed themselves to the problem. From these early uncoordinated efforts has
developed an integrated program based on the "Standards" Associations in each country and linked
through the International Standards Organization of the U.N. The Canadian committee participates,
and provides the basis for official recognition of common names and the confirming of their status
in Canada.

The last standard published on Common Names for Pest Control Chemicals, Z143-1964 which
appeared in April of this year, lists 216 common names. This list consolidates the previous two list-
ings and takes into consideration all names set out by the I.S.O., as approved common names to date,

Spray Calendar Committees - These committees variously named, are responsible in each
province where they function for the drafting of pesticide use recommendations published under pro-
vincial authority. They are made up generally of provincial extension specialists and scientists
from the regional Research Branch laboratories. These committees tend to operate on a crop basis,
for example, tree fruits, field crops, livestock, or vegetable. It is a part of their function to trans-
late research findings and regulatory limitations into recommendations for practical use. This is
becoming increasingly difficult in the present flux of concern about residues since generally specific
residue data for all production areas are lacking and extrapolations from other data provide the only
basis for estimating residue potential.

These are the major committees concerning themselves exclusively with pesticides.

What of the future? Present trends suggest that pesticides will continue to receive a good
deal of specific attention tending to limit use, the development of new uses and of new pesticidal
chemicals. Developers and regulators of pesticides will be obliged to look ever further for possible
implications of use. Hazard considerations may become a greater factor in the denial of access to
the market for any pesticide, particularly when alternate less hazardous, but likely more expensive,
methods are available. Greater government participation in the subsidization and application of
approved pesticides and pest control measures is likely.

The regulations of use, users (through licensing) and of distributors and distribution can be
expected to increase. Precautionary labelling will become more detailed and predominant.

There will be a withdrawal of some pesticides that have enjoyed wide use to date.

All in all, we expect a continuing growth in the regulatory work at all levels and an increasing
direct participation in regulation by agencies representing many divergent interests whose motivations
bear no direct concern for the economic and essential role pesticides play in our society. While agri-
cultural and industry interests are apprehensive about this development, it is with us, as an inevitable
and necessary function of progress and change in a democracy,
May we hope that the essential benefits of pesticide use may be kept and not sacrificed on the altar of fear and suspicion.

Of one thing we are sure, the Canadian pesticide picture will continue to be largely a reflection of that greater panorama mirrored from our neighbour to the south with which we share a common border. By the same token we share common success and common problems.
WHAT'S NEW IN WASHINGTON

Prepared by: Eugene P. Reagan, U. S. Department of Agriculture
Delivered by: Justus C. Ward, U. S. Department of Agriculture

When a person talks about "What's New in Washington" during these days between the national conventions of the Republicans and the Democrats, you might expect to hear almost anything. However, I'm going to avoid politics and talk about recent pest control developments -- a subject that gets its own share of the limelight fairly often.

The current concern over the safety of pesticide use has made the public aware of the importance of regulatory work. Some people have realized for the first time that behind the label of a pesticide, or the recommendation in a bulletin, stands a small army of highly trained scientists and administrators and a whole network of public agencies concerned with the public welfare.

This increased respect and concern for pesticide control has brought about a number of significant developments in the field since this Association met last year. All of them have an important bearing on the future of our regulatory work.

We appreciate the fine working relationships we have enjoyed with you in developing and administering uniform Federal and State regulations governing the sale and use of pesticides. We look forward to still better coordination in this field. We believe that, in other areas touching on pesticide use, more uniformity would be mutually beneficial.

Last month we presented to the National Plant Board -- at its request -- the principles we believe should be included in State laws governing pest control and quarantine procedures. Some State laws, for example, do not provide for Federal cooperation on plant pest control, and we feel that this omission should be corrected.

You are probably familiar with the ways in which Federal pesticide regulations have been tightened. I'll just mention them briefly.

Under a new law signed by the President in May, an applicant for registration is no longer allowed to sell his product by registering it "under protest" when the U. S. Department of Agriculture has denied its registration. The law sets up the mechanism for appeal from USDA decisions. It also authorizes the Department to require the registration number of a pesticide on the label, so that the buyer can tell whether he's getting a Federally regulated product.

Under our recently revised regulations, certain safety claims previously allowed on pesticide labels have been eliminated. The changes also require additional precautionary information on the label's front panel, and prominent display of information about the hazards of using a particular pesticide. This information must be printed in legible type and written so it's easy to understand. A foreign language version of the label may be used, in addition to one in English, in U.S. areas where such a language is spoken.

USDA may also require additional data from manufacturers on the toxicity of a pesticide to fish and wildlife as well as to laboratory animals. Safety requirements in the use of experimental compounds have also been strengthened.

A number of bills that affect pesticide registration and use have been introduced into Congress. One, H. R. 7353, requires that persistence levels of pesticides after use conform to certain standards. This bill would assign to the Public Health Service the responsibility for studying the persistence of chemicals. As you know, many factors are involved in determining the safety of pesticides, and persistence is only one of them. In some situations, in fact, persistence can be a highly desirable quality.

Several bills that call for amending existing legislation are intended to give fish and wildlife increased protection from pesticides. Of these, it appears that S. 1251 will probably pass as amended, Basically, this bill would permit the Department of the Interior to carry on more research on the effects of pesticides on fish and wildlife.

Three other bills have been introduced which would provide for advance consultation with the Fish and Wildlife Service as well as with State wildlife agencies before any Federal programs are undertaken involving use of pesticides or chemicals for mass biological control. Such advance consultation with the Fish and Wildlife Service, the Food and Drug Administration, the Public Health
Service and the Department of Defense is assured already in procedures required by the Federal Committee on Pest Control which must approve all Federal projects for mass biological controls.

Improved coordination is also the objective of recent actions in the executive branch of the Federal government. The Secretaries of Agriculture, Interior, and Health, Education, and Welfare have recently signed an interdepartmental agreement to provide for continuous coordination in carrying out their respective responsibilities relating to the safe use of pesticides. Under the arrangement, each Department undertakes to keep the other two agencies fully informed of all developments in the field of pest control that may come to its attention. This will include information on research findings, accident investigations, residue analyses, registration applications, and pesticide tolerances.

Along with the formal coordination outlined by this agreement, we will, of course, continue the long established, informal working arrangements between our scientists and those of other Departments. Such day-to-day consultations by scientists with mutual respect for each other's judgment are indispensable.

Some of the most baffling problems we still face in pesticide regulation are involved in the concepts of "zero tolerance" and "no residue" which affect dosages and limitations on the use of pesticides in the protection of food crops.

Standards set in the past to prevent any trace of a pesticide from remaining on food or feed may not be realistic today. Where some chemical residues were once measurable down to 1/10 part per million, chemists now talk routinely in terms of detecting parts per billion, and in some cases, parts per trillion. In view of increasingly sophisticated methods of detection, there is literally no such thing as "no residue."

The result is to expose pesticide users to the possibility of leaving detectable residues on foods, and thus subjecting those foods to seizure because of illegal contamination, regardless of how infinitesimal or how insignificant in terms of health the residue might be.

This was the situation on the eastern seaboard recently, when improved testing procedures revealed traces of heptachlor and dieldrin in milk from a few farms. Although the insecticides had apparently been misused in some cases, there were also indications that illegal residues might have resulted from wholly proper use of the chemicals on the dairy cows' feed. Information is lacking on the significance to public health of extremely low levels of such residues, now detectable at one-hundredth of a part per million.

As a consequence of the finding of these residues, we have canceled the registration of heptachlor for use on alfalfa, and have moved to cancel registration of dieldrin for use on alfalfa and clover. We will continue to change our registrations and recommendations whenever new information proves them to be questionable.

The whole broad question of "zero tolerance" and "no residue" registration, however, must be answered. Therefore, the Departments of Agriculture and Health, Education, and Welfare have jointly asked the National Academy of Sciences--National Research Council to study this question and recommend a solution. This study will help determine whether the problems can be solved by new definitions, or whether amendments to present legislation are required. We hope to have an evaluation by these scientists toward the end of the year.

As you know, the Department has another responsibility in pesticide safety in its own use of such chemicals. Along with cooperating States, we directly combat more than 50 of the most dangerous crop, livestock, and forest pests that threaten this country. Campaigns against these pests must all be approved by the Federal Committee on Pest Control. In addition, our recently established Pest Program Evaluation Group reviews all USDA control programs involving the use of pesticides on a continuing basis, to make sure that the safest and most effective materials and procedures are used and operations are planned to minimize any danger from chemicals to workers, people living in treated areas, crops, livestock, fish, wildlife, and other non-target organisms.

We have double-checked the adequacy of our field instructions for these programs, appointed pesticide safety officers throughout the country, and stepped up use of biological and other control methods as well as of alternate insecticides that have minimum toxicity to man and animals. Also, working in close cooperation with other Federal and State agencies, we are monitoring the effects of our control programs on the environment to the extent our resources allow. This activity will serve as a guide to future operations.
Pest control workers are now monitoring the effects of the use of malathion against the cereal leaf beetle and the grasshopper, of dieldrin against the Japanese beetle, of Sevin against the gypsy moth, and of the herbicide 2,4-D against witchweed.

We have also started a monitoring program of even greater impact -- a comprehensive program to determine the basic levels of pesticide residues in soil and water and on plants in the drainage area of the lower Mississippi River. Investigations of the fish kill there earlier this spring, which attracted the attention of the whole country, showed no evidence that incriminates the farm use of chemicals. Further studies are being made, however, to check in more detail on the extent to which farm usage might contribute to the presence of suspect chemicals in the Mississippi River. The pilot monitoring program will include biological measurement of the impact of pesticides on non-target organisms such as beneficial insects, mammals, and aquatic life. A part of the study will also seek to determine the side benefits received from the agricultural use of pesticides.

Such monitoring programs, helpful as they are, necessarily cover only limited areas of the country. The Federal Committee on Pest Control believes the Delta type of monitoring program should be broadened to a national scale. Before such a mammoth program could be undertaken, a review of what all State and Federal agencies are presently doing on monitoring pesticide use, and of what added work they could undertake, would have to be made. Such a national program is under study, and we hope and believe it will take shape in the future.

You will remember that surveys following the Mississippi River fish kills showed that operation practices common to many industrial plants manufacturing and formulating pesticides, and to companies cleaning reusable pesticide containers appear to be a significant factor in the contamination of the river with pesticides.

Since that time, identical bills have been introduced into the two houses of Congress aimed at preventing water pollution from such sources. These bills would further amend the Federal Insecticide, Fungicide, and Rodenticide Act by providing for factory inspection, civil penalties, injunctive authority, and waste disposal permits for plants producing or formulating economic poisons.

These are some of the recent developments in the field of pesticides. The Department's work involving these chemicals has been strengthened, but much remains to be done. Secretary Freeman believes that the many questions that face us can be answered only through a great expansion of pest-control research, coupled with a strengthening of pesticide regulation and intensified education of the public on the proper use of pesticides.

He has therefore called for a crash program of research, regulation, and education to be conducted by the Department of Agriculture in cooperation with the State agricultural experiment stations. On July 9, President Johnson asked Congress to appropriate $29 million to implement this program.

This supplemental request for funds includes $20,3 million for research, and $5.8 million for constructing new facilities necessary for the expanded program.

The proposed research is not an about-face but an intensification and broadening of work our scientists have been carrying on, to the limits of our resources, for some time. It is directed at all agricultural pests -- insects, nematodes, weeds, diseases, and animal parasites -- and will include provision for contract and grant research by universities, and new facilities at State experiment stations. It will emphasize research on control of pests through non-chemical means . . . by biological control through use of parasites, predators, and diseases against pests, for example . . . or by the sterilization method of insect control . . . or by development of vaccines against animal parasites . . . or by biological or physical attractants and growth regulators.

Basic research will be stepped up on the biology of pests, diseases, and parasites, and the further development of genetic resistance in plants to diseases and insects.

More than $7 million will go into research related to pesticides: on more specific, less persistent pesticides and improved methods of application . . . on the effects of such materials as pesticides and feed additives on livestock . . . on the fate of pesticides in soil, water, plants, and animals . . . and on the economic facts concerning the use of pesticides.

The proposal includes $420,000 for increased monitoring to evaluate pest control programs, with special reference to their impact on environment. It provides $180,000 to implement the additional activities relating to pesticide registration that the three-way interdepartmental agreement provides for.
Also included is $2,3 million for educating people to use pesticides with the utmost care. This means everyone, city dwellers as well as farmers. The proposed increase would include funds for hiring additional extension agents in the States.

The Department, taking advantage of increased public concern, has been reemphasizing the proper handling of pesticides in many ways, through publications, posters, speeches, press releases, radio, film strips, and television. The message all these media carry is a simple one: "Use Pesticides Safely -- Read the Label."

It is impossible to overemphasize the importance of public education in the whole field of pesticide use.

We must first be sure that pesticide users understand fully the proper handling of these useful chemicals. I believe that it is also imperative that we keep the public fully informed of what we in public service are doing in pest control, of why we are doing it, and of how other values beside agricultural ones are being protected.

We must be particularly alert to instances of water or air pollution -- or of unexplained mortality of fish or wildlife -- that might shed new light on the consequences of pesticide usage in agriculture. Evidence of the cause of such occurrences is often fleeting, and on-the-spot investigations must be prompt if they are to be most valuable.

If it is found that pesticides are responsible for damage to other values, or are a potential source of damage, we must work together to correct the trouble.

We must see to it that the public is given factual rather than scare-type information. As you well know, the person who reads sensational headlines may never see a correction that appears on the back page weeks later, after evidence has been collected and assessed scientifically.

A concerned, well-informed public is the greatest ally that we can have in our endeavor to continue to use pesticides carefully and sensibly so that we may continue to supply this country with an abundance of wholesome, nutritious food at reasonable cost. State and Federal agencies, working in close coordination with industry, must continue to see that all values important to the public receive full protection.
REPORT FROM THE PESTICIDE INDUSTRY

F. Dallas Sparre
E. I. du Pont de Nemours & Co., Wilmington, Del.

Dr. Randle, Members of the Association of American Pesticide Control Officials, and Guests:

This assignment to speak to you today was accepted with the same degree of desperation your Secretary Paul Irwin must have felt when he made the request. He may also have felt that an old-timer ought to have his name on one of the official pages of the Proceedings just once. He solved the problem of title by calling this paper a "Report from the Pesticide Industry" and listed Du Pont as my affiliation. We are perfectly willing to be held accountable for what we do and say, but we prefer to appear under the more motherly wing of a reputable trade association. Two offers of such sanctuary were forthcoming, but the program had already been printed.

To conserve time and relieve some of the boredom, I am not going to discuss in detail all of the things that have happened in the pesticide field in the past year or all the proposals for solving the real and fancied problems that face us. Each of you know what the trouble spots are in your own states and what has been done or is suggested to make them go away.

Since Justus Ward reported to us last year at Salt Lake City on "What's New in Washington," many things have happened which have had and will continue to have direct or indirect effects on the pesticide industry and its regulation. He predicted nothing in particular but pointed out the major probabilities of increased federal participation. On the other hand, while Elmer Christensen's presidential address included a number of pertinent comments and sound suggestions for the benefit of the Association and its member states, he expressed great concern that if the states did not improve their regulatory efforts, every routine service could become a national emergency and the Federal Government would see fit to fill the vacuum. Things seem to be heading that way although several states have been stirring the pot themselves.

There is no denying that adults and children have died as a direct result of overexposure to pesticides, just as they have died from overexposure to aspirin, sleeping pills, and wood alcohol. A book and a number of subsequent reports accurately report the fact that birds, animals, fish, cigarette smokers and non-cigarette smokers have been found dead and the fact that pesticide residues have been found in dead fish and wildlife as well as in water, mud and live humans.

Certain "percentages of harmful effect" have been calculated on small samples of human and non-human populations. From these few facts and figures, hundreds of assumptions - plausible and far-fetched - have been made and by extrapolation there are those who conclude the world is in peril from pesticides. Our knowledge is greater than we are given credit for, our combined judgments provide reasonable assurance of greater safety than many admit, we know the areas that need further study, and such studies are in progress or are planned. Other than misuse, abuse, or carelessness, the potentiality for mass harm is largely speculative and it is more persuasive to keep going with care than to back off completely from fear.

Industry representatives have been meeting among themselves and with regulatory people and have appeared before federal and state bodies - both legislative and appointed - for many months now on this subject of pesticide regulation,

There was considerable pressure from a number of sources, led in part at least by Senator Ribicoff, to do all sorts of strange things to FIFRA. A start was made by going after the regulations. The good Senator had had a vague connection with regulations under the Federal Hazardous Substances Labeling Act during their formative stages and one of the things he plugged for FIFRA was similar warnings on labels. Since these requirements under the pesticide act are at least equal to if not stronger than (because of the broader wording) those under the hazardous substances act, there should have been no question but that the messages on pesticide labels passed by USDA are adequate. However, as was the case with hazardous substances, the display of this information on labels for the most part left a lot to be desired. Regulations with strengthening revisions were proposed late in 1963 and after much give and take were published in final form in March, 1964.

Many items in the regulations were touched up, but the major ones were improvement in the display of the precautionary message, tightening of the requirements for obtaining and operating temporary permits, and some housekeeping in the list of things declared to be pests. An item which would have banned "safety" remarks was left open for further discussion as there was strong support for a simple method of telling the user positively that certain products do not present significant hazard. Some of the state administrators do not see the necessity for this extra sop to the consumer.
as it requires drawing an arbitrary line which is too easily moved under pressure and could readily lead to carelessness.

FIFRA itself was amended in May, 1964, with the signing of the bill to eliminate registration under protest and to authorize requiring federal registration numbers on pesticide labels. Protest registration had been demanded by industry originally in FIFRA and in state acts after learning the hard way in the early days that local pressures or arbitrary action on the part of unimaginative administrators could block the distribution of useful pesticides. However, with the tremendous improvement in uniformity of laws and regulations brought about almost entirely by the willingness of your association to work with industry, we found it no longer important to hang onto this ancient tool. Actually, sound administration had resulted in less than twenty protest registrations out of more than 55,000 granted, so the great to-do about the passage of this "great loophole closer" is out of all proportion to its practical benefit.

Additional legislation and regulation included establishment of some state Pesticide Control Boards, some state resolutions requesting the Federal Congress to spend some more money for research in pesticides, a number of state boards or committees to study the pesticide problem, an amendment to a state act defining an adjuvant as a pesticide, a growers' and salesmen's licensing law in one state, and regulations in one state bringing certain pesticides under greater use restrictions. Federally, a memorandum of agreement between the Secretaries of HEW, USDA, and Interior established an interagency review system relating to the safe use of pesticides. Exchange of research findings and interagency comment on registration and residue tolerances will be the main areas of contact. While it will undoubtedly be of value in getting answers to some questions before we need them, it will slow down registration. However, in spite of many foreseeable disadvantages, mandatory interagency consultation has considerable appeal to me at both Federal and State levels - it certainly has merit in keeping several different groups which decide to attack the same problem from going off in all directions each with his own incomplete solution.

Countless bills concerning pesticides have been introduced federally and in the states. Many of them are more concerned with the birds and the bees than with the food supply, valuable trees, and disease carriers. One, however, is of major concern to the industry - Senator Ribicoff's S2792, The Federal Pesticide Control Act of 1964. This proposal would require registration and inspection of all plants and other establishments manufacturing or otherwise manipulating pesticides, government specified quality controls within the establishments, and waste disposal permits from HEW for each establishment. The industry position has not completely gelled but there is strong sentiment against inspection solely for the prevention of adulteration, which is the Senator's announced purpose of the bill. The purpose of inspection in food, drug, and meat plants is to assure sanitary conditions - process control is only incidental. The manufacturers, users, and regulators of pesticides should not be worried over the cat falling into the fuming sulfuric acid or the rat droppings in the petroleum distillate. The finished product will still control pests as advertised with no additional harm to the public health.

Inspection only once every two years is unlikely to have much affect on quality control. Those who continue to operate sloppily will get away with it for sometime. A short shut-down for "improvements" and promises to "be good" does not hurt the pocketbook much and permanent resident inspectors would be prohibitive costwise. A simpler and more productive start could be made by giving USDA the money to hire more than eleven inspectors - an even hundred would be a nice start. Then let us file the locations of our establishments with USDA, and get busy taking more samples where it will do the most good - in the early stages of distribution. It will require only a few large seizures and destructions to have the desired beneficial effect of good products all around. Continued adequate sampling would keep things more honest than infrequent inspections. It requires only a look at the record of the states who have been fortunate enough to establish large-scale adequate sampling and stop-sale procedures for a number of years to recognize that this is probably the cheapest and most effective of enforcement programs against adulteration and misbranding. Make proper use of what we already have.

The suggestion for waste disposal permits for pesticides is hardly an answer to anything. Air and water pollution are overall environmental health problems of which pesticides are only a small part. Much greater health hazards arise from other pollutants - notably municipal sewage. This problem has the attention of a vast number now and much legislation is already on the books, which, if enforced, could clean up things immensely. Pesticide waste problems should be handled as part of the overall pollution problem.

The Mississippi River fish kill created a great stir for several months and won't be settled for more months, if at all. I refer you to the July 27, 1964, review of this in Chemical Week. It is a thorough resume and well worth reading. It includes an editorial comment which seems strangely
applicable to much of the other fuss about pesticides: "The final result to be learned from the report is that industry and government experts apparently know less than they thought they knew and no single theory accounts for all the observed data. It is obvious they need more information and understanding before they can act constructively and wisely. This may be the beginning of wisdom for all sides.

Pesticides are occasionally regulated by agencies outside your areas of operation and developments in these fields keep us on our toes. Weights and measures activities by the National Conference of Weights and Measures under the auspices of the National Bureau of Standards created some small disturbances when their 1963 model regulations turned out to be just enough different from longstanding acceptable pesticide practices to require label changes. However, an industry committee composed of representatives from practically all fields of packaged goods worked diligently with the Laws and Regulations Committee of the Conference and the Bureau of Standards and the final report of the 1964 meeting adopted the very things we and the states needed to solve our problems. This was a thoroughly enjoyable experience and an example of team work at its best.

A couple of premature enthusiasms affecting many pesticides also were thrown at us with less than satisfactory results from industry's point of view. The New York City Fire Department's new aerosol flammability markings will affect pesticides coming within certain new test specifications in addition to the 300°F. Tagliabue Open Cup flash point range. Elaborate and outlandish labeling changes are necessary (unless certain appeals are successful) and an attempt by the Food and Drug Administration to work with Fire Department officials resulted in the latter offering all their cooperation as long as FDA adopted the Fire Department's scheme.

A Happy Snake from the Michigan Pharmaceutical Association broke loose during National Poison Prevention Week. This is a wiggling four-fanged serpent balancing over a large POISON and "Keep out of the reach of children" on red on yellow paper. Label sheets are made available to pharmacists who are expected to tell mothers to take the little ones in hand and slap these labels on all sorts of things in the house, most of which neither USDA nor FDA consider to be poisons. Medications were not clearly indicated as needing the snake. The labels were later changed to say DANGER and dropped in the lap of the American Pharmaceutical Association who ignored industry pleading that adequate labeling was already required on all household products (except possibly drugs and cosmetics) and that the snake patch would hide important information already on the package. The association is going ahead with the plan but they have changed the signal word to WARNING and amended the suggested list of items needing the patches to include drugs. The place this patch is really needed is on the unmarked containers people pour things into.

These last two subjects plus a few state things coming at us as the result of unilateral actions with a "we'll lead-you follow" attitude represent the type of cooperation we can all do without. Perhaps a subtitle for this talk should have been "Less Cooperation and More Team Work," This obviously would not have been fair because we sincerely respect the way your association places emphasis on team work - we need more of it.

I offer in good faith the suggestion that industry try to do just a little better than the new labeling guide lines require. If we don't, things can get tougher later. We can name a hazardous ingredient if it is not "active," we can face the need for more thorough testing of mixtures, and we can stop griping at the official who must be guided by his own law and help him get it changed to permit uniformity.

Also, in the complex world of today the general public does need more and more guidance, but after all the work has been done in reviewing labels so that you and we are giving the user what he needs, it is time for the courts, the professional do-gooders, government groups, and industry to make the public realize they must accept some responsibility and use a little common sense. We need to make them understand they must become part of the team in a real team effort.

When I was first thrown into this regulatory work with Sanford Hill nineteen years ago, a resourceful group of dedicated, sensible, and vigorous people went at the task of straightening out the mess things were in then in spite of the passive resistance of die-hards who were not interested in change. I wish the inexperienced newcomers with the crazy new schemes from within and without our charmed circle would stop disturbing the order we have created. They might at least have the courtesy to wait a little while until I retire.
The activities of the office of Secretary during the past year varied only slightly from previous years. During the year 1963-64, your Secretary performed the following duties:

2. Assisted the President in selecting various committee members and investigators.
3. Prepared and distributed one issue of the "Pest Controller."
4. Helped arrange details for the "Spring Meeting" of our Executive Committee with the Pesticide Regulation Division.
5. Helped arrange program and other details for our 1964 Annual Meeting.
6. Handled considerable correspondence pertaining to the various activities of our Association.

Since my present position in the Virginia Department of Agriculture is divorced from the field of administration and enforcement of our Pesticide Law, I feel that it would be unwise for me to continue as secretary of this Association.

The four years that I have served in this capacity have been most rewarding to me. Not only in the knowledge that I have gained from this experience, but from the closer personal relationships that I have enjoyed, and cherish, with both individual control officials and representatives of the Pesticide Industry.

Therefore, it is with a degree of sadness that I tender my resignation as Secretary of this Association.

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REPORT OF THE COMMITTEE ON REGULATIONS
ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS

Floyd Roberts, Chairman

The committee on regulations has been in a rather inactive state during the past year due to the fact that regulations under the Federal Insecticide, Fungicide, and Rodenticide Act were undergoing revision. Substantial revision of some sections of the Federal regulations have now been made and it has been suggested and is here recommended that this committee consider modifying the Regulations Under the Model State Insecticide, Fungicide, and Rodenticide Act, in light of the latest changes in the Federal regulations.

The committee gratefully accepts the offer of the National Agricultural Chemicals Association, the Chemical Specialties Manufacturing Association, and also of the Pesticides Regulation Division of U.S. D.A. designating a member of its staff, to assist in the study to revise the regulations previously adopted by this Association.
METHODS CLEARING HOUSE REPORT

Robert L. Caswell, Chairman
Pesticides Regulation Division
Agricultural Research Service
USDA, Beltsville, Maryland

Our mailing list has grown to over 150 including state, federal, and industrial laboratories both foreign and domestic. The following methods were distributed recently:

376, 0 3-INDOLE BUTYRIC ACID IN DUSTS
494, 0 Rev. DIMETHYL DICHLOROVINYL PHOSPHATE (DDVP) IN BAITS
          (Infrared method)
566, 1 ORTHO-PHENYLPHENOL IN DISINFECTANTS
576, 0 BINAPACRYL IN 50% WETTABLE POWDER (Infrared method)
632, 0 OVEX IN WETTABLE POWDERS (Infrared method)
765, 1 Rev. DITHIOCARBAMATES BY CARBON DISULFIDE EVOLUTION METHOD
910, 0 DETECTION AND SEMIQUANTITATIVE ESTIMATION OF CHLORINATED ORGANIC PESTICIDES IN FORMULATIONS BY PAPER CHROMATOGRAPHY
911, 0 EXTRACTION, CLEAN UP, AND INFRARED DETERMINATION OF TRACE AMOUNTS OF CHLORINATED PESTICIDES IN ROTENONE DUSTS
920, 0 (Tent.) DETECTION OF CHLORINATED AND PHOSPHATE INSECTICIDES BY THIN LAYER CHROMATOGRAPHY

The last three methods were developed as screening methods in the Beltsville Laboratory of the Pesticides Regulation Division to detect contamination of pesticides with undeclared pesticide chemicals. Thin layer chromatography (Method 920 Tent.) is used routinely at present. We hope to develop gas chromatographic methods to supplement this procedure. During the first year of our general screening program we found that 14% of the pesticides examined were contaminated to some degree.

The new residue laboratory at Beltsville is now fully equipped and operating. The primary purpose of this laboratory is to verify that pesticide uses accepted on a no-residue basis do not leave residues. We will consider the need of distributing residue methods through our methods clearing house committee.

Several methods for formulations were studied by the Association of Official Agricultural Chemists (AOAC) and reported in the Journal of the AOAC this year.

We would appreciate receiving new methods for formulations or suggestions for improvements in our present methods. Gas chromatographic methods are being developed for some formulations. Particularly we would like to receive suggestions on improvements in our present program of distributing methods, and would like to hear of analytical problems for which methods are needed.

Dr. R. de B. Ashworth of England visited this country in July and discussed cooperation between the AOAC and the Collaborative Pesticides Analytical Committee, the corresponding organization in Europe. We hope to exchange useful methods through this program.

Please inform us of any change in your address so we may keep our mailing list up to date.
COMPENDIUM

R. Z. Rollins, Chairman

The work on the Pesticide Compendium is continuing. Most of the individual pages of the present text have been sent to the primary manufacturers of each compound for their suggestions, and many additions and corrections have been made. Also form pages have been sent to the primary manufacturer of new pesticides.

Many manufacturers have cooperated by sending letters regarding specific items, additional data on "old" items, and data on new pesticides.

Other pages have been prepared from data that have been collected from our files. The new edition will cover twice as many compounds as the present one does.

The problem of what to do about the constantly changing residue tolerances has been resolved by showing only the number of the pertinent regulation, for example, "FDA Regulation Section 120, xxx."

The problems concerning use precautions, application directions, application precautions, and equipment cleaning, and a few of the other items have not yet been resolved. The data on most pesticides on some of these items are very skimpy and the information on others, as provided by their manufacturers, requires several full pages of text. Some kind of compromise will have to be made in the edition that is now being prepared and these matters will probably receive more elaborate treatment in future revisions.

CREDENTIALS

J. R. Stevens, Chairman

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<td>No. of Control Officials from Canada</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No. of Control Officials from Puerto Rico</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>No. of Federal Representatives</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>No. of Pesticide Trade Associations</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>No. of Magazines or Press Represented,</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>No. of Industry Representatives</td>
<td>36</td>
<td>34</td>
</tr>
</tbody>
</table>
CONSTITUTION AND BY-LAWS

G. H. Laramie, Chairman

Section 7 of the Constitution of the Association of American Pesticide Control Officials, Inc., reads as follows:

"Amendments. The constitution or by-laws may be amended at any regular meeting by a two-thirds vote of the voting membership present. All proposed amendments to the constitution shall be submitted in writing to the secretary at least 30 days prior to the opening of the annual meeting, and the secretary shall distribute copies to the members at least 10 days prior to the meeting. All proposed amendments to the by-laws shall be submitted in writing prior to the opening of the annual meeting."

Mr. George H. Laramie, Chairman of our Committee on Constitution and By-Laws submits the following Proposed Amendments to be considered at our Annual Meeting in Poland Springs, Maine, August 11 and 12, 1964:

CONSTITUTION

Section 2. Object. Delete this Section and insert in its place the following:

Section 2. Purpose. The purpose of the Association shall be:

(a) to promote uniform and effective legislation, definitions, rulings, and enforcement of laws relating to the control of the sale and distribution of insecticides, fungicides, rodenticides, herbicides, and other pesticides;

(b) to encourage and sponsor the adoption, by all member agencies, of the most effective and adequate methods of analysis of pesticides;

(c) to develop high standards of pesticide inspection techniques and procedures;

(d) to promote adequate labeling and safe use of pesticides; and,

(e) to provide facilities and opportunities for free exchange of information, discussion and cooperative study of problems confronting members of the Association.

Section 5. The executive committee. Amend the first paragraph of said section by adding the following: "The President of the Association shall serve as the Chairman of the Executive Committee." The amended section shall then read:

Section 5. The executive committee. The executive committee shall consist of the president, the vice president, the secretary, the treasurer, the retiring president, the four elected members, two members of whom shall be elected at each annual meeting of the association. The president of the association shall serve as chairman of the executive committee.

The executive committee shall have the control and management of the association during the interim between regular meetings, and shall take action on majority vote of the committee and report its official activities to the association.

The executive committee shall report on such matters as may be referred to it by the association, and review and present to the association with recommendations all the recommendations of the investigators and special committees and such resolutions and regulations as pertain to pesticides.

BY-LAWS

Under the By-Laws add two new sections after Section 3, to read as follows:

Section 4. All regulations, definitions, and resolutions shall be considered and approved at two annual meetings before becoming official.
Resolutions, other than those of the resolutions committee shall be presented in writing to the executive committee, which shall provide a place for them in the program.

Section 5. The president shall have the power to appoint such permanent committees as he deems necessary, and to specify their duties.

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NOMINATING

President
Clayton P. Osgood, Maine

Vice-President
Q. T. Guice, Jr., Mississippi

Secretary
C. Colton Carr, Michigan

Treasurer
R. H. Guntert, Kansas

Executive Committee

H. E. Halliday (1965) Wisconsin
A. E. Thomas (1965) Oklahoma
Louie Senn (1966) South Carolina
Stacy B. Randle (Past President) New Jersey
Justus C. Ward (Advisor) Washington, D.C.

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AUDITING COMMITTEE

The Auditing Committee reviewed the records of Treasurer R. H. Guntert and found all entries of receipts and expenditures to be in order.

His report for the period ending July 20, 1964, has been presented. One check in the amount of $6,10 has not been returned.

The committee commends the Treasurer for a job well done and recommends:

That the Executive Committee authorize (1) R. H. Guntert, Treasurer, to be bonded in the amount of $15,000 by the Association and (2) R. H. Guntert, Treasurer, employ a Certified Public Accountant to audit his accounts beginning with the 1964-65 fiscal period.

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PESTICIDE-FERTILIZER MIXTURES

J. Claggett Jones, Investigator

A request for advice on any changes which have taken place in policy on Pesticide-Fertilizer Mixtures in the past year was sent to all State Control Officials as well as to Canada and Puerto Rico. Replies have been received from all except Illinois and Wyoming, with all reporting no changes in policy except those changes made to comply with U.S.D.A. changes, such as Heptachlor on alfalfa, etc.
COLLABORATIVE CHECK SAMPLE

Loren A. Delp, Chairman

This year's program has followed along the lines of the past three years. Nine pesticide materials, which had been selected by popular vote of the collaborators, were submitted over a nine month period.

Enrollment in the program consisted of 54 laboratories, of which 34 were control and 20 represented industry. This is a gain of five control and a loss of two industry laboratories over last year's enrollment.

The 34 control laboratories represent approximately 70 percent of those having pesticide laws. Of the control collaborators only 70 percent reported on each sample. The reports received from industry are considerably lower, about 25 percent of enrollment, however, several industry laboratories stated at the time of enrollment that they would analyze and report only on the materials with which they are directly concerned.

It is felt the value of the program could be enhanced by increasing the total number of participants and increasing the percent reply on each sample.

Mr. Christensen, in his 1963 President's Address, proposed that the names of the annual collaborative materials and methods be distributed at least six months ahead of sending out samples. This would allow laboratories time to secure reagents and equipment necessary to analyze the samples. This year time did not allow the actual methods to be sent out ahead of samples, but a list of the methods to be used on each material was sent with the first sample. To accomplish this excellent recommendation it will be necessary for the committee to formulate their plans shortly after the August meeting.

The committee wishes to express its appreciation to the following companies and individuals for their contributions in time and materials.

Union Carbide Corporation, 270 Park Avenue, New York, New York
American Cyanamid Company, P.O. Box 400, Princeton, New Jersey
Velsicol Chemical Corporation, 330 East Grand Avenue, Chicago 11, Illinois
Shell Chemical Company, 110 West 51st Street, New York, New York
Mr. Edwin T. Upton, Thompson-Hayward Chemical Company, P.O. Box 968, Kansas City 41, Missouri.

It is recommended that a study be made toward increasing the total number of collaborators and participation on each sample.

* * * * * * *

Since the present Chairman has held the post for two years, it is felt the program could be improved by passing it on for new ideas and refinement, he requests at this time to be relieved of these duties in 1965.

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PROCEEDINGS PUBLICATION

Floyd Roberts, Chairman

The annual publication of this Association has been subjected to considerable changes in contents and a few changes in titles during the past years. In 1958 its present title of "Proceedings" was given with contents confined rather strictly to matters pertaining to the annual meetings. Since that time other information has been returned to the publication at the suggestion of certain control officials and executive committees.
It is recommended that the publication be carried on in substantially its present form and that the title be changed to "Official Publication."

It is also recommended that the publication contain a notice of the availability of certain information upon request to the Secretary and list these, such as the Model Pesticide Act, Model Custom Applicators Act, Definition of Terms, Model Registration Form, Uniform Sampling Procedure, etc.

RESOLUTIONS

Delmar K. Myers, Chairman

WHEREAS, the continuing success of the Association of Pesticide Control Officials is due in large part to the efforts and diligence of the officers in carrying out the duties and responsibilities of their respective offices, now, therefore, be it resolved that we express our sincere appreciation to President Stacy B. Randle, Vice-President Clayton P. Osgood, Secretary Paul E. Irwin, and Treasurer Robert Guntert for their faithful service.

WHEREAS, many of the association's objectives are attained largely through the co-operation and untiring efforts of the various investigators, committee chairmen, and committee members, now, therefore, be it resolved that we express our appreciation and thanks to these workers for the services they have rendered.

WHEREAS, the progress of the association is attained only through the co-operation of the members of industry, the state and Federal agencies, now, therefore, be it resolved that we express our sincere appreciation to all industry members, as well as Federal and state officials for their co-operation and support.

Be it further resolved that the Secretary be instructed to express our appreciation to each speaker for his fine contribution to this 18th program.

Be it further resolved that the association acknowledge and express its appreciation for the hospitalities extended to it by the Chemical Specialities Manufacturers Association and the National Agricultural Chemicals Association and the staff of the Poland Spring Hotel during our convention.

Finally, be it resolved that a special vote of thanks be given to Clayton P. Osgood and his staff for all they have done to make this 18th Convention the pleasant sojourn it has been for each of us and our families.

* * * * * * *

Resolved, that this association oppose any requirement that a state registration number be required as a part of the labeling of any pesticide.
NOMENCLATURE

S. C. Billings, Chairman

Common nomenclature for pesticides is becoming more important because of the widespread needs for effective pest control in connection with the production of food and fibre. Common nomenclature of pesticides is essential for common and general understanding of these chemicals as well as their proper usage. There are presently several procedures that are recognized for establishing common names.

1. Procedures authorized by the American Standards Association through its Committee on Common Names of Pesticides (K62)

This procedure is in process of revision at the present time, but final publication of the revised procedure is expected within the next 90 days. Attached is a list of the names and affiliations of the present membership of this Committee (K62). Pesticide nomenclature approved by this Committee is recognized by the Pesticides Regulation Division for use in ingredient statements appearing on labeling to be registered under the regulations for the administration of the Federal Insecticide, Fungicide, and Rodenticide Act. This nomenclature is also recognized for use in the publications of the Department of Agriculture and in the publications of professional societies represented in the membership of the K62 Committee. It should also be observed that the American Standards Association, functioning through its Committee, is a member of the International Standards Organization operating through its technical Committee on the "Common Names of Pesticides" (T, C, 81). All names announced by the American Standards Association through its regularly established procedures, are sponsored to the International Committee for adoption, if the petitioning company so requests. Informational data is furnished in any case.

2. Terminology Committees of Professional Societies

So far as can be determined, only the Weed Society of America and the Entomological Society of America maintain active committees in the field of pesticide terminology. They function to establish nomenclature where commercial sponsorship through the procedures of the K62 Committee is not possible, either because of industrial opposition or because the chemicals involved are used only for research purposes and have no commercial significance. Common nomenclature for research chemicals may sometimes be justified for the convenience of the membership in avoiding repetitious long chemical nomenclature in publications. The following nomenclature is presently under consideration for possible adoption through the Insecticide Terminology Committee of the Entomological Society of America.

<table>
<thead>
<tr>
<th>Proposed Common Names</th>
<th>Trademark name or other nomenclature</th>
</tr>
</thead>
<tbody>
<tr>
<td>azinphosethyl</td>
<td>Ethyl Guthion (R)</td>
</tr>
<tr>
<td>azinphosmethyl</td>
<td>Guthion (R)</td>
</tr>
<tr>
<td>dicofol</td>
<td>Kelthane (R)</td>
</tr>
<tr>
<td>disulfoton</td>
<td>Di-Syston (R); thiodemeton</td>
</tr>
<tr>
<td>isobenzan</td>
<td>Telodrin (R); Shell SD-4402; Monsanto CP-14957</td>
</tr>
<tr>
<td>oxydemeton-methyl</td>
<td>Meta-Systox-R (R); Bayer 21097</td>
</tr>
<tr>
<td>thioquinox</td>
<td>Eradex (R)</td>
</tr>
<tr>
<td>famphur</td>
<td>CL 38, 023; famophos</td>
</tr>
<tr>
<td>paraoxyon</td>
<td>para-oxon, oxagen analog of parathion, E-600</td>
</tr>
<tr>
<td>hemel (experimental chemosterilant)</td>
<td>HMM, ENT-50852</td>
</tr>
<tr>
<td>hembpa (experimental chemosterilant)</td>
<td>HMPA, ENT-50882</td>
</tr>
</tbody>
</table>

This complete listing of proposed common names, including chemical nomenclature, will be published in the Bulletin of the Entomological Society of America. To the extent that these common names are finally adopted by the Committee, they will be republished at a later date as amendments to the Society's "Consolidated List of Approved Common Names of Insecticides and Certain Other Pesticides." A limited supply of this publication is available for distribution.

This publication is also available for purchase through the Executive Secretary of the Society, Mr. Robert Nelson at 4603 Calvert Road, College Park, Md. Common nomenclature for herbicides recognized by the Weed Society of America is discussed in the "Report of the Terminology Committee Weed Society of America" published in Weeds, Vol. 10, No. 3, July 1962. A revision is scheduled for publication in Oct, 1964. It is understood that reprints of this publication can be obtained from the Chairman of the Terminology Committee, Dr. Dayton Klingman, Crops Research Division, ARS, Plant Industry Station, Beltsville, Md.
Since publication of the last Report of the Terminology Committee of the Weed Society of America, the attached list of names have been approved. Some of these also have been approved or are under consideration by ASA K62 and ISO TC/81.

<table>
<thead>
<tr>
<th>Common name</th>
<th>Chemical name</th>
<th>Other designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>bromacil</td>
<td>5-bromo-3-sec-butyl-6-methyluracil</td>
<td></td>
</tr>
<tr>
<td>buturon</td>
<td>3-[p-chlorophenyl]-1-methyl-1-(1-methyl-2-propyl)urea</td>
<td>H-95-1</td>
</tr>
<tr>
<td>cacodylic acid</td>
<td>dimethylarsinic acid</td>
<td></td>
</tr>
<tr>
<td>chloroxuron</td>
<td>N'-[4-chlorophenoxyl]phenyl-N,N-dimethylurea</td>
<td>OMU</td>
</tr>
<tr>
<td>cycluron</td>
<td>3-cycloctyl-1,1-dimethylurea</td>
<td></td>
</tr>
<tr>
<td>desmetryne</td>
<td>2-isopropylamino-4-methylamino-6-methylthio-1,3,5-triazine</td>
<td>DATC, CPI5336</td>
</tr>
<tr>
<td>diquat</td>
<td>5,2,3-dichloroallyl N,N-dioisopropylthiocarbamate</td>
<td></td>
</tr>
<tr>
<td>dicamba</td>
<td>2-methoxy-3,6-dichlorobenzoic acid</td>
<td></td>
</tr>
<tr>
<td>dicryl</td>
<td>3',4'-dichloro-2-methylacrylanilide</td>
<td></td>
</tr>
<tr>
<td>ioxynil</td>
<td>3,5-diido-4-hydroxy benzonitrile</td>
<td></td>
</tr>
<tr>
<td>isocil</td>
<td>5-bromo-3-isopropyl-6-methyluracil</td>
<td></td>
</tr>
<tr>
<td>monolinuron</td>
<td>3-(4-chlorophenyl)-1-methoxy-1-methylurea</td>
<td></td>
</tr>
<tr>
<td>norea</td>
<td>3-(hexahydro-4,7-methaneindan-5-yl)-1,1-dimethylurea</td>
<td></td>
</tr>
<tr>
<td>picloram</td>
<td>4-amino-3,5,6-trichloropicolinic acid</td>
<td></td>
</tr>
<tr>
<td>propanil</td>
<td>3',4'-dichloropropionanilide</td>
<td></td>
</tr>
<tr>
<td>pyrazon</td>
<td>1-phenyl-4-amino-5-chloropyridazone-6</td>
<td></td>
</tr>
<tr>
<td>solan</td>
<td>3'-chboro-2-methyl-p-valerotoxidiane</td>
<td></td>
</tr>
<tr>
<td>sweep</td>
<td>methyl 3,4-dichlorocarbanilate</td>
<td></td>
</tr>
<tr>
<td>tricamba</td>
<td>2-methoxy-3,5,6-trichlorobenzoic acid</td>
<td></td>
</tr>
<tr>
<td>trimeturon</td>
<td>1-(p-chlorophenyl)-2,3,3-trimethylpsuedourea or N-(p-chlorophenyl)-O,N',N'-trimethylisourea</td>
<td>B-40557</td>
</tr>
</tbody>
</table>

Mention should also be made of the activities of the Trademark Bureau of the Pharmaceutical Manufacturers Association. It is understood that this Association publishes every three years a listing of the trademarks and coined nonproprietary names in use by its member firms for their products. A Cumulative Monthly Supplement keeps the listing up to date. While the interest of this Association is primarily concerned with prescription drugs for human and veterinary use, some member firms produce economic poisons (pesticides) for which nonproprietary names may be listed with the Bureau. Persons wishing to purchase the "Trademarks Listed with the Pharmaceutical Manufacturers Association" and its Cumulative Monthly Supplement, may address the Association at 1411 K Street, N. W., Washington 5, D. C., (1155 Fifteenth Street, N. W., Washington 5, D. C., after August 1, 1964).

3. International Problems:

Technical Committee No. 81 of the International Standards Organization is concerned with "Common Names for Pesticides." The British Standards Institution functions as the Secretariat to this International Committee. In order to facilitate an understanding of the program and scope of this Committee, your Chairman has secured a few copies of the "Report of the Fifth Meeting of ISO Technical Committee 81-Common names for Pesticides" held at British Standards House, 2, Park Street, London, W. I., London 24th September to Friday 27th September 1963. A copy of this document is appended to this report. Persons wishing other information as to the common names adopted by this International Committee may secure copies of this International nomenclature through the office of Mr. C. H. Hilton, Secretary to the K62 Committee of the American Standards Association at 10 East 40th Street, New York City.

Your Chairman was privileged to attend the Fifth meeting of this Committee in London and was greatly impressed with the thoroughness and integrity of this program. It is urgently necessary that persons involved with pesticides in this country understand the need for international cooperation.
However, it should be noted that many of the common names adopted by the International Committee apply to products that are marketed only in Western Europe or in other parts of the world outside of the United States. In general, the Committee gives priority to common nomenclature originating in the country where the pesticide was first developed. However, in some cases, conflicting trademark laws in the various member States have prevented the degree of uniformity that would be otherwise desirable.

It is hoped that more countries can be induced to join this International Organization so that its activities can be made worldwide and the terminology adopted can be truly international.

Recommendation -

The Committee has no particular recommendations to offer except to solicit any support that the Association membership can furnish either individually or collectively, in expediting the development and use of common nomenclature that can be recognized on a National and International basis.

*(Editor's note) Not included in this publication in the interest of space.

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MODEL CUSTOM APPLICATION ACT

O. T. Guice, Jr., Chairman

In a letter dated January 27, 1964 from Mr. Clyde A. Bower, State Entomologist of Oklahoma, to Dr. Stacy B. Randle, President of this Association, Mr. Bower suggested that since many of the same state agencies charged with the enforcement of the Economic Poisons Laws were also charged with the enforcement of the various states' Pesticide Applicator's Laws that some thought might be given to the appointment of a committee to study and update the Model Applicator's Act approved by the Council of State Governments and other organizations dated October 12, 1949. An exchange of correspondence between Mr. Bower and Dr. Randle revealed that Mr. Bower would likely not be in attendance of the annual meeting of this Association so on or about April 14, 1964, Dr. Randle appointed Mr. C. A. Bower of Oklahoma, Mr. Vernon Mayhood of California, and O. T. Guice, Jr., of Mississippi as a committee to update the Model Applicator's Act, with O. T. Guice serving as chairman of the committee.

In updating this Act, it would have been ideal for the three members to meet and discuss the Model Act and make the necessary revisions. Since a meeting of the committee was not possible, the updating was handled by sending copies of the October 12, 1949, Model Act to members for suggested changes. After incorporating changes, a final draft was made. A copy of the October 12, 1949, Model Act together with a copy showing the suggested changes is attached hereto. The completely underscored lines in the revised copy represent changes made from the October 12, 1949, Model Applicator's Act.*

Because of the limited time in which the committee had to study the updating of this Act, there are no doubt some changes which should still be made in the revision. With this in mind, it is the recommendation of the committee that the Association continue the study of the revision for another year with the idea that it can be prepared in final form for presentation to the 1965 Meeting for final adoption. After final adoption, it should then be referred to the Council of State Governments and other interested organizations for final adoption.

The chairman wishes to express his thanks to the members of this committee for their suggestions and wholehearted response in updating the Model Applicator's Act. Without their help, this would not have been possible.

*Revised copy of Model Applicators Act is on page 61.
REPORT OF COMMITTEE ON SAMPLING PESTICIDES

M. E. Christensen, Chairman

A survey was conducted by the committee to ascertain procedures used in various states for sampling pesticides. Replies were received from 38 governmental agencies. About half of those reporting have some type of formal policy or administrative guidelines for sampling pesticide products. Several states requested assistance in formulating a state policy on sampling such materials.

Several years ago, the Association recommended uniform sampling procedures which were relatively comprehensive and complete. Periodically, the procedure was published in the Association publication. A review of the procedures indicates that they are still applicable and basically sound. The committee, therefore, recommends that with a few additions, they be printed in the next issue of the publication and be considered to be the Official Association Sampling Procedure.

The Association investigator for 1963 raised several questions as a part of his report.

The committee, in considering the questions, suggests the following answers and comments:

1. Is mixing of pesticides for 50 pound bags or 55 gallon drums less uniform and accurate than from small package materials? Why not accept sampling on the same basis? If a 50 pound bag shows directions for use at the rate of 10 pounds per acre, this means 5 acre coverage. Is not uniform mixing mandatory?

   Answer: Yes, uniform mixing is mandatory and a drawn sample of any part of a large container should be representative of the entire container. (A current AOAC study on fertilizer-pesticide mixtures may necessitate a future change to this answer.)

2. On taking samples taken from large (over 10 pounds or over 5 gallons) containers, should a minimum sized sample for laboratory analysis be established?

   Answer: Yes; see sampling schedule.

3. To whose advantage is it to sample more than one container per lot or batch and the portions composited?

   Answer: Such a procedure should not be necessary, however, it may be advantageous to the control agency to (a) check their own accuracy of sampling and (b) to check on uniform batch mixing.

4. Is it a good practice for inspectors to mark inspected containers? Does this give the consumer confidence of compliance even though actual laboratory reports may be weeks in the future?

   Answer: Official inspection stickers on sampled containers have at least two advantages. (a) Identifies the opened container as having been officially sampled, thereby in practice excluding it from the section of the law which makes it illegal to sell pesticides except in original unopened containers, (b) Helps in preventing inspectors being blamed for leaking or broken containers which they have not sampled.

5. Should uniform types of sampling equipment be proposed?

   Answer: Yes. The committee recommends the problem be given further consideration.

6. Should separate equipment for herbicide sampling be proposed?

   Answer: Yes.

7. Should aerosols be treated as any liquid sample?

   Answer: No, the entire aerosol unit must be purchased regardless of package size.

8. Is present method of sampling and analysis of fertilizer-pesticide mixtures adequate?

   Answer: No official method is yet available.
9. Should not all pesticide inspectors check all weights during inspection and not leave it to other agencies? Is not short weight equivalent to misbranding?

Answer: Yes, where practicable.

10. Shall we propose a uniform policy of consumer goods sampling? In the absence of penalty features similar to our Fertilizer Acts, how do we handle adulteration at this point?

Answer: These products should be removed from sale.

11. In view of our own and the Industry's Safety programs, are we negligent in not supplying our inspection personnel with more adequate protection devices?

Answer: A regulatory agency should provide its inspectors with the best and adequate safety devices and instructions, and insist that they be used and followed.

ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INC.

UNIFORM SAMPLING PROCEDURE

This proposed Uniform Sampling Procedure contains suggestions with respect to sampling operations and gives schedules for sampling specific insecticides and fungicides, as follows:

I. Where to locate samples,
II. How to collect the actual sample,
III. Promotional literature and advertising,
IV. Types of products likely to deteriorate,
V. Types of products likely to be frauds,
VI. Schedule on quantity of insecticide and fungicide materials needed for testing,
VII. Schedule on quantity of herbicides needed for testing,
VIII. Schedule on quantity of disinfectants, sterilizers, sanitizers, etc., needed for testing,
IX. Schedule on quantities for rodenticides needed for testing,
X. Determination of net weights.

I. LOCATING SAMPLES

Efficient enforcement dictates that all possible sources of samples must be visited. Often inspectors or investigators will fall into a pattern of visiting a certain type of dealer only and thereby pass up possible violations which may be found in other types of dealers. Stocks of economic poisons will often be found in possession of the following types of dealers:

1. Barber and beauty supply houses,
2. Grocery supply houses and grocers,
3. Drug supply houses and drug stores,
4. Chicken hatcheries,
5. Exterminators,
6. Hardware stores,
7. Paint stores,
8. Feed and fertilizer dealers.

Inspectors should be on the alert for new products, watch for advertisements, and make inquiries when visiting dealers.

II. HOW TO SAMPLE

Investigators confronted with the problem of handling, breathing and exposure to poisons in general and organic phosphates in particular should observe the following basic rules.
Sample in well ventilated areas if possible. Use respirator and rubber gloves if indicated. Wash hands after exposure. Read caution so you will know what to do in case of accidental contamination. Do not carry samples of these products in containers that will break while traveling in cars. In case of a smashup, an unconscious investigator would have little chance in a pool of tetraethyl pyrophosphate.

An important point in all sampling procedures is to explain to a responsible person of the firm exactly why and how a sample will be taken. Arrangements should be made beforehand in order to prevent later misunderstandings especially for opening and closing large containers. Before drawing a sample, read and follow the cautionary statements on the label. Some poisons cause a personal hazard through inhalation or skin contact. Use rubber gloves when directed.

A. Method of Sampling pesticides:

1. Retail packages when sampled from original unopened shipping cases should be selected by taking one unit from each case. In cases where it is necessary to sample from an open container, the inspectors should ascertain from the dealer that the product has not been altered in any respect since delivery, and a written statement to that effect should be obtained from the dealer.

2. Supplies of dry materials in barrels, drums, bags or other containers should be sampled with a trier which is sufficiently long to reach diagonally through the container. At least two triersful should be taken and the trier should be inserted diagonally at representative points. Dry materials in drums may be sampled by using a trowel, first scraping to one side the top 2-3 inches of exposed material. This may be advisable in cases such as strong nicotine dusts. As a rule, high analysis paraffin and TEPP are supplied in 4-pound packages, one of which is usually drawn for the official sample. Sub-divisions taken from individual lots or batches may be composited or in certain cases when subdivisions from individual containers are desired, the subdivision may be individually submitted for examination.

Dry products may be packed in either glass jars or tin containers. If the product is likely to deteriorate, the container used should be airtight. The following schedule for sampling is suggested:

Three containers or less in batch or lot: Sample 1
Three to ten containers in batch or lot: Sample 2
More than ten containers in batch or lot: Sample 3

3. After use, the trier should be carefully cleaned and wiped in order that it will be free from contaminants and ready for future use. Remove corrosion and rust with fine grit sandpaper or emery cloth. Apply auto wax to trier and polish to make it work better.

4. Large supplies of fluid materials should be thoroughly mixed, stirred or agitated before sampling. Some solutions will deposit sediment on standing due to temperature or certain other conditions, whereas others are liquid formulation in which the suspended material will readily settle out. Reversing the container, if it has been standing on end, is quite helpful and should be done before rolling. Certain products such as Elgetol and Sinox require original packages to be submitted to the laboratory.

The sample may be drawn by means of glass, plastic or rubber tubing, or a stainless steel trier with plunger. The use of rubber tubing has limitations and should not be used for the sampling of creosote products or organic solvents such as chloroform or mineral oils. Samples should be placed in containers that will not contaminate the product.

Creosote products of the general nature of coal tar disinfectants, organic solvents such as chloroform, acetone or mineral oil should be placed in tin with screw top caps or glass bottles with cork or screw top caps, as the above products will dissolve rubber when the liquids come in contact with it. Samples of mercurial or copper liquids should be placed in glass containers with glass, cork, or screw top caps as there is a likelihood of tin containers contaminating the products.

46
B. Pesticides in possession of user. Normally do not sample a pesticide held more than three months in storage by the purchaser.

C. Pesticides in possession of dealer. These are subject to sampling irrespective of age. Inspector may use discretion depending on type and condition of material and container. Caked or damp material, date of manufacture, damaged or deteriorated container conditions should be indicated on the sample data sheet.

D. Sampling Liquid Pesticides from Metal Containers with Plastic Spouts.

1. Punch pinhole in drum at the vent position wearing rubber gloves and protecting self from possible spray due to pressure release. When pressure is equalized, enlarge hole to just admit sampling needle.

2. Draw off sample by applying vacuum to sample bottle.

3. Seal drum with metal screw fitted with lead washer. Screw down snugly but not so tight as to break and extrude the washer.

4. Check for leakage by turning drum on edge. A few screws of larger diameter may be carried in case of poor seal.

5. Wash needle and sampling tube with three or four rinses of acetone and dry with suction. Acetone is suitable for most materials except Naben and Glyodin Solutions which should be washed first with water.

E. Codes and Batch Numbers.

The shipping case and retail unit should be examined for code or batch numbers. If more than one code is found, each should be sampled -- within a reasonable total. The shipment should also be checked for different labels which may possibly be found in it.

III. PROMOTIONAL MATERIAL

The dealer should be questioned regarding any advertising being done in behalf of the product. Copies of this and any promotional literature should be submitted with the sample. Frequently, the claims found in advertising and in literature will differ from those submitted in connection with registration. The dealer should be asked to initial all promotional material submitted for identification purposes -- should this material be required at a later date.

IV. PRODUCTS WHICH DETERIORATE

Whenever lots of confiscable size of the following products are found which are six months of age or older, samples should be collected:

1. Nicotine dusts or other nicotine products in which the nicotine content may be reduced by volatilization.
2. Bleaching powder, chlorinated lime or hypochlorite solutions.
3. Lice or flea powders containing naphthalene or paradichlorobenzene.
4. Carbon disulphide, carbon tetrachloride, or tetrachloroethylene capsules for bot fly treatments in horses.
5. Formaldehyde dusts for seed treatments.

V. FRAUDULENT PRODUCTS

The following type of products may be considered possible frauds and should be sampled for label review:

1. Products for poultry drinking water to control external parasites.
2. Products represented as sterilizers.
3. Products represented as killing all germs.
4. Paradichlorobenzene or naphthalene products for use in a room to expel all insects or to disinfect toilets or similar equipment.
5. Cedar bark, leaves, or shavings represented for killing insects, repelling fleas, or having disinfectant properties.
### VI. SAMPLING SCHEDULE FOR INSECTICIDES AND FUNGICIDES FOR USE ON PLANTS

<table>
<thead>
<tr>
<th>Title</th>
<th>Including</th>
<th>Size of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenicals</td>
<td>All compounds</td>
<td>1 pound from bulk shipment or smallest retail package.</td>
</tr>
<tr>
<td>Copper Fungicides</td>
<td>Bordeaux mixture, insoluble coppers, ammoniacal copper solutions.</td>
<td>Powders: 2 pounds from bulk or 2 small retail units.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liquids: 1 pt, from bulk or smallest retail unit.</td>
</tr>
<tr>
<td>Sulphur Fungicides</td>
<td>Sulfur, Lime Sulfur, dry and liquid preparations, etc.</td>
<td>Dusts: 1 retail unit or 1 pound from bulk.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry Lime Sulfur: Same as dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pastes: 2 pounds from bulk container.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liquids: 1 qt, from bulk or 1 retail unit.</td>
</tr>
<tr>
<td>Organic Fungicides</td>
<td>Ferbam, Ziram, Nabam, Zineb, Dithane and other dithiocarbamates either straight or in mixtures.</td>
<td>Dusts: 4 pounds from bulk container or equivalent in retail units.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wettable Powders: 2 or more retail units to make 2 pounds or equiv. amount from bulk container.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liquids: 1 qt, from bulk or retail units to make 1 qt.</td>
</tr>
<tr>
<td>Arsenicals with Fungicides</td>
<td></td>
<td>1 pound from bulk or 1 small retail unit.</td>
</tr>
<tr>
<td>Organic Phosphates</td>
<td>Parathion, Tetraethyl Pyrophosphate, Thiotept, Tetraethyl Dithiopyrophosphate, etc.</td>
<td>Dusts: 1 pound from bulk or equivalent retail units.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wettable Powders: 1/2 or 1 retail unit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liquids: 1 pt, from bulk or 1 small retail unit.</td>
</tr>
<tr>
<td>Other Organics</td>
<td>D, D, T., BHC, Chlordane, Methoxychlor, Toxaphene, T, D, E., etc.</td>
<td>Dusts: 1 pound from bulk or equivalent retail units.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wettable Powders: 1/2 or 1 retail unit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liquids: 1 pt, from bulk or 1 small retail unit.</td>
</tr>
<tr>
<td>Plant Origin</td>
<td>Nicotine, Derris, Pyrethrum, Rotenone, Ryania, Sabadilla, Cube, etc.</td>
<td>Nicotine Sulphates: Take 4 fl. ozs. or 1 retail unit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sabadilla: For all preparations, take 5 pounds.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dusts: 1 pound from bulk or equivalent retail units.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wettable Powders: 1/2 or 1 retail unit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liquids: 1 pt, from bulk or 1 small retail unit.</td>
</tr>
<tr>
<td>Title</td>
<td>Including</td>
<td>Size of Sample</td>
</tr>
<tr>
<td>-------</td>
<td>-----------</td>
<td>---------------</td>
</tr>
<tr>
<td>Oils and Oil Emulsions</td>
<td>Take 1 qt. from bulk or 1 or more retail units for equivalent.</td>
<td></td>
</tr>
<tr>
<td>Seed Protectants and Soil Fumigants</td>
<td>Formaldehyde, Chloropicrin, Methyl Bromide, Ethylene Dibromide, Organic Mercurials, Thiram, Chlorinated Hydrocarbons, Copper Carbonate, etc.</td>
<td>Wetable Powders or Dusts: Take 1 pound from bulk or 2 small retail units equal to 8 ozs. or more. Envelopes: Usually 1/6 ozs. take 12. Liquid: Take 1 pt. from bulk or 1 small retail unit.</td>
</tr>
<tr>
<td>Miscellaneous Insecticides and Fungicides for</td>
<td>Dust guns which usually contain mixture of several insecticides, tree wound dressings or any product not classified above.</td>
<td>Usually 1 pt., 1 pound or 1 retail unit. Dust Guns: Take 3 units.</td>
</tr>
</tbody>
</table>

**FUNGICIDES FOR PLANT OR ANIMAL PRODUCTS**

| Wood Preservatives | Paint, varnishes, stains or dips for wood surfaces to prevent fungus growth in the wood. | Liquids: For creosote, take 1 pt. For other products, 1 retail unit. |
| Manufactured Plant Products | Products for treating canvas, fish nets, tents, sails, bags, ropes, pulp and paper products, product baskets, etc. | Liquids: Take smallest retail unit or 1 pt. from bulk. Aerosol: Take 2 12-oz. bombs, |
| Miscellaneous | Products not classified above for treating fruit wrap, or fruit, mold inhibitors for food and tobacco products, Antibiotics and others. | Submit copies of labeling and advertising literature to for sampling recommendations. |

**INSECTICIDES FOR INSECTS INFESTING LIVESTOCK AND OTHER ANIMALS**

<p>| Fly control on animals and their premises | Products for treating horn flies, stable flies, deer flies, horse flies and others. | Products containing: D, D, T, methoxychlor, or chlorodane take 1 retail pkg. In bulk, take 1 pt. in fluid or 1 pound of solid. Other Products: Take 1 gal. if ready for use or 4 pounds if solid. If a concentrate, take 1 qt. if fluid or 2 pounds if solid, |
| Control of cattle grubs, screwworm and bots | Products for treating internal parasitic flies on cattle, sheep, horses, and other animals. | Products for bots: Retail pkg. usually contains 12 ampules or less. Take 1 pkg. Grubs and Screwworm: Wetable Powders: Take 1 retail container or 2 pounds if bulk, |</p>
<table>
<thead>
<tr>
<th>Title</th>
<th>Including</th>
<th>Size of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control of lice, ticks, fleas, and poultry mites</td>
<td>Products for control of blue bugs, fleas, lice, ticks, mites, and mange. Poultry roost paints, etc.</td>
<td>Smears: Take 2 retail containers or 1 pt. if liquid. Sprays: Take 1 qt. from bulk container or 1 or more equivalent retail units.</td>
</tr>
<tr>
<td>Other Products for livestock and other animals</td>
<td>Any preparation not classified above</td>
<td>Usually 1 retail pkg. In bulk 1 pt. or 1 pound.</td>
</tr>
</tbody>
</table>

**OTHER INSECTS**

<table>
<thead>
<tr>
<th>Title</th>
<th></th>
<th>Size of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principally for fly control</td>
<td>Household fly sprays, products with word &quot;fly&quot; in brand name, exterior or interior paints for fly control. Does not include products for fly control on animals and their premises.</td>
<td>Sprays: Take 1 retail container or 1 pt. from bulk pkg. Paint: 1 qt.</td>
</tr>
<tr>
<td>Principally for moth control</td>
<td>Products for mothproofing clothing and house furnishings. Products with word &quot;moth&quot; in brand name, Dips, aerosols, etc.</td>
<td>Blocks: Take 6 retail units. Crystals: Take 1 pound from bulk or smallest retail container. Other solids: Take 1 pound from bulk or equivalent in retail units. Liquid: Take 1 pt. from bulk or equiv. retail unit.</td>
</tr>
<tr>
<td>Principally for roach control</td>
<td>Products for roach control, products with word &quot;roach&quot; in brand name, interior paints, etc.</td>
<td>Tablets: Take 1 retail pkg. Baits: Take sufficient retail pkgs. to make 1/2 pound. Other Solids: Take 1/2 pound from bulk container or equivalent amounts in retail units.</td>
</tr>
<tr>
<td>Principally for ant control</td>
<td>Products for control of all types of ants. Products with word &quot;ant&quot; in brand name.</td>
<td>Syrups: Take 2 retail units. Traps: Take 1 doz. Dusts: Take enough retail pkg. or bulk to make 1 pound.</td>
</tr>
<tr>
<td>Control of insects infesting stored food</td>
<td>Mill fumigants, seed and grain treatments, residual mill sprays, etc.</td>
<td>Liquids: Take retail pkgs. to make 1 qt. or same amount from bulk container. Solids: 1 pound Gas Cylinders: Submit copy of label and advertising for sampling recommendations. This does</td>
</tr>
</tbody>
</table>

50
<table>
<thead>
<tr>
<th>Title</th>
<th>Including</th>
<th>Size of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control of wood-destroying insects</td>
<td>Products for treatment of wood, and insects destroying wood. Soil poisons for wood-destroying insects.</td>
<td>Liquids: Take 1 pt. for the following products: Creosote, Pentachlorophenol 5% and over, Zinc naphthenate 3% metallic zinc or over, Ortho dichlorobenzene solution 25% or over. Other Fluids: Take 1 pt. if bulk or 1 retail unit. If content below the percentage given, 5 gal. are required. Solids: Arsenicals or other metallic products take 1/2 pound from bulk containers or 1 retail unit.</td>
</tr>
<tr>
<td>General or other</td>
<td>General insecticides for household or industrial use. Products where word &quot;insect&quot; occurs in brand name, Aerosols or products not classified elsewhere.</td>
<td>Liquids: Take 1 pt. from bulk or 1 equiv. retail unit. Solids: Take 1/2 pound from bulk or 1 or more retail units to make 1/2 pound. Aerosols: Take at least 4 household units of 1 pound size or 2 units if larger. Smoke Dispensers: Take 4 household units.</td>
</tr>
<tr>
<td>Devices</td>
<td>Specimens of labeling and advertising literature should be submitted to for determination as to sampling.</td>
<td></td>
</tr>
</tbody>
</table>

### VІІ.

#### SAMPLING SCHEDULE FOR HERBICIDES

<p>| 2, 4-D | All salts and esters of di- or tri-chloro-phenoxycetic acids. Caution: From time of sampling until shipment, do not allow samples in this group to come in contact with other products - including other samples in the group. Ship each sample separately. | Tablets: Usually 24 in pkg. Take 1 pkg. or equivalent. Powder: In 3 or 8 grams per pkg., take 12 pkgs. or equivalent. Dusts: Take 1 of smallest retail pkgs. but no pkg. over 1 pound. If bulk, take 1 pt. in glass container. |
| 2, 4, 5-T | Trichloroacetic acid, Pentachlorophenol and their salts. | Powders: Take 3-5 pounds. Solutions: Take at least 1 qt. but no more including bulk container. |
| P. C. P. | Metallic Salts | Powders: 1 or more retail pkgs. to make 1 pound. If bulk, 1 pound. |</p>
<table>
<thead>
<tr>
<th>Title</th>
<th>Including</th>
<th>Size of Sample</th>
</tr>
</thead>
</table>
| Oils  | Petroleum derivatives  
|       | Stoddard solvent with or without aromatics | 1 gal, required - retail or bulk pkg.s. |
| Fertilizers | Products for soil improvement or similar materials with herbicide claims and containing 2, 4-D, Potassium cyanate or P, M, A. | Retail pkg.s.: Take 1 if less than 12 pounds.  
|       | | Bulk: take 10 pounds. |
| Defoliants | Any product with herbicide claims. | 1 pt. or 1 pound, |
| Others | Any product not classified above | Usually 1 pt. or 1 pound. |

**VIII. SAMPLING SCHEDULE FOR GERMICIDES, DISINFECTANTS, ANTISEPTICS, STERILIZERS AND SANITIZERS**

Any of the following terms appearing on a label may serve to place a product in this section:
1. Antiseptic (when used in a sense that it prevents decay or putrefaction).
2. Bactericide, Bactericidal, Bacteriostat, Bacteriostatic.
3. Controls bacteria, germs, or infections.
4. Destroys bacteria (or germs).
5. Disinfectant, Disinfects, Disinfecting.
7. Inhibits bacteria (or germs).
8. Kills bacteria (or germs).
9. Prevents bacteria (or germs), slime, infection, putrefaction.
11. Reduces bacteria (or germs).
12. Treatment of bacteria (or germs).

<table>
<thead>
<tr>
<th>Coal Tar Disinfectants</th>
<th>Liquor Cresolis Saponatus, Cresol and Cresylic Acid disinfectants, Creosote emulsions, Phenols and derivatives</th>
<th>2 retail pkg.s, if pt, size or less. If bulk, then 1 pt. is sufficient.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine Oil, Pine Type or Pine Odor Disinfectants</td>
<td>Mixtures and derivatives including Terpineols</td>
<td>2 retail pkg.s, if pt, size or less. If bulk, then 1 pt. is sufficient.</td>
</tr>
<tr>
<td>Chlorine-type germicides</td>
<td>Sodium or Calcium Hypochlorite, Chloramine-T, and other Chloramides or Chlorimides</td>
<td>3 pt. bottles or 2 qts. or 1 gal. - according to size. Each unit to be taken from different containers. If shipment over 3 months old, triple size of sample if seizable quantity on hand.</td>
</tr>
<tr>
<td>Title</td>
<td>Including</td>
<td>Size of Sample</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Quaternaries or substituted phenolic disinfectants</td>
<td>Chloride or bromide salts of complex amines, Pyridinium or Imidacolinium. Salts and emulsions of the various synthetic phenols.</td>
<td>Ampules: 2 retail containers if 6 or less ampules per pkg. If more than 6, take 1 pkg. tablets, 2 smallest retail pkgs. If 50 tablets or over per pkg., take 1 pkg. Powders: 2 retail pkgs. if each 8 ozs. or less. If 1 pound pkg. this is bulk container and take 1/2 pound. Solutions: 2 pts. if in pts. and content is 25% or less. If content over 25%, take 1 pt. bottle. If in qt. take 1 bottle.</td>
</tr>
<tr>
<td>Detergent sanitizers</td>
<td>Washing compounds and cleaning agents other than pine oil and hypochlorites represented for both cleaning and preventing, destroying or mitigating bacteria.</td>
<td>Powders: 2 retail units 1 pound or less. If over, take 1 unit. If bulk pkg., take 1 pound. Liquids: In pts. or less, take 2; if larger containers, take 1, if not over 1 gal. If bulk, take 2 pts.</td>
</tr>
<tr>
<td>Air sanitizers</td>
<td>Glycols and other products represented as sanitizing the air, reducing bacteria in air, etc.</td>
<td>At least 2 retail containers and more if required to have a minimum sample of 1 pt.</td>
</tr>
<tr>
<td>All Others</td>
<td>Lye, toilet bowl cleaner, Formaldehyde preparations, mercurial compounds, poultry drinking water products, iodine preparations, etc.</td>
<td>Usually 2 retail pkgs. if 1 pt. or 1 pound or less, Pt. or pound if in bulk containers.</td>
</tr>
<tr>
<td>Devices</td>
<td>Ozonizers, ultraviolet lamps, sterilizers for home use and other except laboratory autoclaves</td>
<td>Report such products to with samples of labeling and advertising literature, especially if new manufacturer or new device in order that determination as to sampling can be made.</td>
</tr>
</tbody>
</table>

IX. SAMPLING SCHEDULE FOR RODENTICIDES

<table>
<thead>
<tr>
<th>Title</th>
<th>Size of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strychnine</td>
<td>All compounds</td>
</tr>
<tr>
<td>Red Squill</td>
<td>All preparations</td>
</tr>
<tr>
<td>Ants</td>
<td>All preparations</td>
</tr>
<tr>
<td>Thallium</td>
<td>All compounds</td>
</tr>
<tr>
<td>Warfarin</td>
<td>All preparations</td>
</tr>
<tr>
<td>Others</td>
<td>&quot;1080,&quot; Arsenic, Barium, Phosphorus, Zinc compounds and miscellaneous</td>
</tr>
<tr>
<td>Fumigants</td>
<td>Chloropicrin, Cyanide preparations, Methyl Bromide, Carbon Disulphide and other fumigants.</td>
</tr>
</tbody>
</table>
X. DETERMINATION OF NET WEIGHTS

Every product of each manufacturer should be periodically weighed. A minimum of 10 units should be weighed as a preliminary, and if it appears the product is full weight, no more need be weighed. If a weight shortage is indicated, more weighings should be made as indicated by the chart. The units submitted to the laboratory should be identified on the weigh sheet.

If it is not possible to make the weighings on a Gurley Balance, the scale and weights which will be used should be checked by using a standard weight which is within the weight range of the item to be weighed.

<table>
<thead>
<tr>
<th>UNIT IN SHIPMENT</th>
<th>MINIMUM UNITS TO BE WEIGHED</th>
<th>MINIMUM NO. OF TARE WEIGHTS TO BE MADE BY INSPECTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 50</td>
<td>all</td>
<td>2</td>
</tr>
<tr>
<td>51 to 200</td>
<td>50</td>
<td>3</td>
</tr>
<tr>
<td>201 to 400</td>
<td>75</td>
<td>4</td>
</tr>
<tr>
<td>401 to 800</td>
<td>100</td>
<td>5</td>
</tr>
<tr>
<td>801 to 1600</td>
<td>120</td>
<td>6</td>
</tr>
<tr>
<td>1601 or more</td>
<td>3 times the square root of total number of units</td>
<td>1/5 the square root</td>
</tr>
</tbody>
</table>

The units to be weighed should be selected so that they will represent as many cases, batches, code, or lot numbers as possible.

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SAMPLING SCHEDULE FOR DETERMINATION OF PESTICIDE RESIDUES

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Sample Size</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>When no quarantine action is taken before analysis or sample is for information purposes.</td>
<td>When quarantine action is taken before analysis, or for confirmation when produce is quarantined after information analysis.</td>
</tr>
<tr>
<td>Apples or pears</td>
<td>6 to 10 fruit at random</td>
<td>12 to 18 fruit at random from several containers.</td>
</tr>
<tr>
<td>Artichokes</td>
<td>2 to 4 heads at random</td>
<td>4 heads from several containers.</td>
</tr>
<tr>
<td>Beans (Lima or snap)</td>
<td>About 2 pounds at random</td>
<td>2 to 3 pounds from several containers.</td>
</tr>
<tr>
<td>Berries</td>
<td>Collect individual berries at random to represent a cross section of the lot such as top and bottom fruit in individual baskets and from several trays throughout the lot. Draw at least two baskets, as sold.</td>
<td>About a pound or more scattered fruit or whole baskets from several trays.</td>
</tr>
<tr>
<td>Broccoli</td>
<td>About 2 pounds or a bundle or so, if tied.</td>
<td>About 3 to 4 pounds or 2 bundles if tied from different containers.</td>
</tr>
<tr>
<td>Commodity</td>
<td>Sample Size</td>
<td>Sample Size</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Brussel sprouts</td>
<td>1 to 2 pounds at random</td>
<td>About 2 pounds at random from several containers.</td>
</tr>
<tr>
<td>Cabbage</td>
<td>2 heads from different containers</td>
<td>3 heads from different containers.</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>1 head</td>
<td>2 to 3 heads from different containers.</td>
</tr>
<tr>
<td>Celery</td>
<td>1 or 2 stalks - 3 stalks if hearts</td>
<td>3 stalks from different containers.</td>
</tr>
<tr>
<td>Corn, sweet</td>
<td>4 ears from different containers</td>
<td>4 ears from different containers.</td>
</tr>
<tr>
<td>Cucurbits</td>
<td>About 2 pounds at random</td>
<td>About 3 pounds at random from different containers.</td>
</tr>
<tr>
<td>Grapes</td>
<td>About 2 pounds broken clusters from scattered bunches</td>
<td>2 to 4 pounds in whole bunches or scattered clusters from several containers.</td>
</tr>
<tr>
<td>Greens</td>
<td>2 bundles from different containers</td>
<td>4 bundles from several containers.</td>
</tr>
<tr>
<td>Hay, fodder</td>
<td>About 2 pounds</td>
<td>About 2 pounds</td>
</tr>
<tr>
<td>Lettuce</td>
<td>2 or 3 heads from different containers</td>
<td>3 or 4 heads from several containers.</td>
</tr>
<tr>
<td>Peas</td>
<td>1 to 2 pounds at random</td>
<td>2 to 3 pounds from several containers.</td>
</tr>
<tr>
<td>Peppers</td>
<td>About 2 pounds at random</td>
<td>3 to 4 pounds at random from several containers.</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>6 to 10 fruit at random</td>
<td>12 to 18 fruit from several containers.</td>
</tr>
</tbody>
</table>
LEGISLATION

A. E. Thomas, Investigator

This report contains a digest of the changes in status of State, Federal, and Canadian pesticide laws and also, a digest of the changes in status of the pesticide applicators laws and the structural pest and termite control laws of interest to a number of states in our Association. It is a compilation of the replies from the control officials of forty-five states, Canada, and the Federal Government.

"No change" was reported from thirty-nine states and Canada while two states* and the P, R, D., U, S, D, A, reported revisions in their present law. One state** reported a "change" in its Hazardous Substance and Pesticides Law. Three states reported they had no pesticide law.

*California - Registration fees were increased to $10.00 per brand or product. Propose in 1965 to revise pesticide law and regulations.

**Massachusetts - Hazardous Substance and Pesticide Law amended to delete provision permitting products under similar conditions to be registered as the same product -- every pesticide shall be registered and renewed annually. The provisions for protest registrations have been deleted from the law and also, the authority of the commissioner to adopt rules and regulations on uniformity of regulations applicable to and in conformity with the several states and the Federal Government relating to such pesticides has been deleted.

*Michigan - Raised the registration fee to $10.00 per product for the first ten products and $4.00 per product in excess of ten. Also all Federally registered products shall be eligible for Michigan registration.

P, R, D., U, S, D, A. - Public Law 88-305 abolished the protest registration of Federal Economic Poisons Act and provided for public hearings or referred to an advisory committee. Also authorized the requirement of registration number on the label.

Colorado - Scheduling meetings in the fall to consider changes in their pesticide law.

Hawaii - Presently seeking legislation to adopt the uniform Model Pesticide Law.

Iowa - Pesticide law became effective January 1, 1964.

Missouri - Some changes are being planned but none put into action.

Ohio - Committee has been selected to investigate possibility of a pesticide law and to make recommendations for next legislative session, January-June, 1965. Also considering legislation to require coloration of treated seed.

Oklahoma - Proposes to increase registration fee to $10.00 per brand or products.

Oregon - Good possibility that pesticide law will be revised in 1965.

In addition to our pesticide legislation report, we requested information concerning pesticide applicators, both commercial and lay persons, using or dealers selling pesticides. This report includes the replies from the forty-five states reporting above.

Nineteen states reported they regulated both aerial and ground commercial applicators. Six states reported they regulated only aerial commercial applicators. Twenty states reported no commercial applicator's law.

California - Certain specifically designated pesticides in dust or liquid form are regulated by County Agricultural Commissioner and permit must be obtained by farmer or commercial applicator. Bidrin was added to this list last year. Revised regulations are expected in 1965 for pest control operators (applicants).

Colorado - Applicator advisory committee at the fall meeting will consider amendments it believes will strengthen their Applicator Act.

Hawaii - Regulates both aerial and ground, but only for spraying with phenoxy herbicides. This state also regulates persons or individuals other than commercial applicators who use hormone-type herbicides.

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Iowa - Has a new pesticide applicators law since our meeting in August, 1963.

Louisiana - Regulated both aerial and ground commercial applicators but for herbicide application only. They were expecting passage of a new general act (was passed) for commercial applicators by July 2, 1964. They also regulate to some extent individuals, besides commercial applicators, who use pesticides.

Mississippi - Regulates only aircraft and covers phenoxy herbicide sprayers only. A more comprehensive applicators law may be passed when legislature meets in January, 1966.

Missouri - Legislature may pass a pesticide applicators law the next session.

Ohio - Committee has been selected to investigate possibilities and to make recommendations for next legislative session, January-June, 1965.

Oklahoma - Propose to revise the law to give examination and issue permit for each specialized type of spraying.

Oregon - Possibility of pesticide applicators law being changed in 1965.

Texas - Regulates only commercial pesticide applicators spraying phenoxy herbicides.

Utah - Prohibits use of dieldrin and heptachlor on alfalfa in one county by commercial applicators.

Vermont - Propose to draft a pesticide applicators law to present before the Legislature, if there is a request for such legislation in the coming session.

Virginia - A pesticide applicators law failed to pass the 1964 General Assembly.

Washington - Regulates persons, other than the commercial applicators using pesticides.

Thirty states reported they did not have a structural pest and termite control law. Fourteen states reported having such a law.

California - Under Business and Professions Code.

Canada - Legislation to license or control pest control operators, and use of pesticides is enacted and enforced by provincial governments. Household pests are subject to the Pest Control Products Act administered by the Canada Department of Agriculture, Pesticide Unit, Plant Product Division.

Kansas - Suspension or revocation of license, refusal to issue or renew license and appeal to District Court, procedure, determination, appeal to Supreme Court were changes made in the Kansas law.

Ohio - Committee selected to investigate the possibilities and to make recommendations for next legislative session, January-June, 1965.

Oklahoma - Propose to revise the law to have $10.00 examination fee, $3.00 fee for each job reported, and a $15.00 fee for all substandard jobs inspected,

Virginia - Termite Control law failed to pass 1964 session of the General Assembly.

This being a digest compiled by this investigator, it is recommended and suggested that persons interested in any particular law of these or other states, please write to those officials.

It is recommended by this investigator that it is highly important that the investigation on legislation be continued by our Association.

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REGISTRATION
O. T. Guice, Jr., Investigator

In 1962 as Investigator of Registration, a survey was made to determine how many states had revised their Economic Poison Laws to include products such as nematocides, plant regulators, desiccants, defoliants, etc., as well as materials for repelling or controlling certain mammals, certain fishes and a number of other forms of animal life. This survey was repeated again this year. To obtain the information a questionnaire was sent to all 50 states, Puerto Rico and Canada. The response to this questionnaire was 100% and the Investigator would like to express his appreciation for the excellent cooperation. The questionnaire this year included several questions not included in the 1962 survey. Questions asked in the questionnaire are given below with a tabulation of the answers received.

QUESTIONS ASKED IN THE QUESTIONNAIRE
(Includes Puerto Rico - Canada as Indicated)

<table>
<thead>
<tr>
<th>Does your state have an economic poison law?</th>
<th>1962 Yes 45</th>
<th>No 6</th>
<th>1964 Yes 47</th>
<th>No 4</th>
<th>Canada Yes</th>
</tr>
</thead>
</table>

If so, is registration of the following required? Answer "Yes or No"

<table>
<thead>
<tr>
<th>Products for repelling or controlling the following:</th>
<th>1962</th>
<th>1964</th>
<th>Canada 1964</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammals, such as: dogs, cats, moles, bat, wild carnivores, deer, armadillos, etc.</td>
<td>33 Yes</td>
<td>12 No</td>
<td>36 Yes</td>
</tr>
<tr>
<td>Birds, such as: starlings, English sparrows, crows, blackbirds, etc.</td>
<td>33 Yes</td>
<td>12 No</td>
<td>37 Yes</td>
</tr>
<tr>
<td>Fishes, such as: jawless fishes, the cartilaginous fishes and bony fishes</td>
<td>22 Yes</td>
<td>22 No</td>
<td>31 Yes</td>
</tr>
<tr>
<td>Amphibians and reptiles, such as: snakes</td>
<td>31 Yes</td>
<td>14 No</td>
<td>36 Yes</td>
</tr>
<tr>
<td>Aquatic and terrestrial invertebrates such as: slugs, snails and crayfish</td>
<td>39 Yes</td>
<td>6 No</td>
<td>43 Yes</td>
</tr>
<tr>
<td>Roots or other plant parts growing where not wanted</td>
<td>36 Yes</td>
<td>8 No</td>
<td>44 Yes</td>
</tr>
<tr>
<td>Viruses, other than those on or in living man or other animals</td>
<td>40 Yes</td>
<td>5 No</td>
<td>43 Yes</td>
</tr>
<tr>
<td>In view of the recent hearings on aldrin, dieldrin and endrin is your state proposing cancellation of any of these products covering uses registered by USDA?</td>
<td>5 Yes</td>
<td>45 No</td>
<td></td>
</tr>
<tr>
<td>Do you use a uniform registration form or one substantially the same?</td>
<td>41 Yes</td>
<td>5 No</td>
<td></td>
</tr>
<tr>
<td>Do you require that Federal Registration No. on products be listed on the application forms?</td>
<td>32 Yes</td>
<td>15 No</td>
<td></td>
</tr>
<tr>
<td>Does your law provide for registration under protest?</td>
<td>20 Yes</td>
<td>27 No</td>
<td></td>
</tr>
</tbody>
</table>
REPORT OF THE EXECUTIVE COMMITTEE

The Executive Committee and 15 other members of the Association met in the offices of Mr. Justus C. Ward, Pesticide Regulation Division, ARS, USDA, in Washington, D.C., during the week of March 16, 1964. The Executive Committee wishes to express its sincere appreciation to Mr. Ward and his associates for this annual "round table" type discussion period and trusts that they will continue in the future. The Executive Committee strongly recommends to those in this Association who have never attended one of these "Spring Sessions," that they make every effort to do so next year.

The Executive Committee met at Poland Spring Hotel at 5:00 p.m. on August 11, 1964, to review committee and investigator reports.

TOXICITY AND ANTIDOTES

The Executive Committee accepts the report from this committee and recommends it continuation.

REGULATIONS

The Executive Committee recognizes the need for reevaluation of the Association's regulations in view of the basic changes taken place in the federal regulations and urges thorough study of this problem during the coming year.

TERMS

Although no report was received this year from this committee the Executive Committee recommends its continuation.

METHODS CLEARING HOUSE

The Executive Committee expresses its appreciation for the contribution made by this committee in the past year, and urges every member of our Association to support the work of this committee by using the methods provided and by offering constructive suggestions.

COLLABORATIVE CHECK SAMPLE

The Executive Committee expresses its sincere appreciation to Mr. Delp and his committee for the splendid program that they have conducted this past year, and recommends that more collaborators be urged to participate during the coming year.

COMPENDIUM

The Executive Committee recognizes the magnitude of the task of the revision of the compendium and expresses its deep appreciation to Bob Rollins and his committee for their work in this publication, and recommends that the Executive Committee arrange for the details for the publication.

CONSTITUTION AND BY-LAWS

The Executive Committee recommends the adoption of the amendments to the Constitution and by-laws as proposed by the Constitution and By-Laws Committee and further recommends the continuation of the committee for consideration of further revisions and updating.

NOMENCLATURE

The Executive Committee expresses sincere appreciation for the comprehensive report of Dr. Billings and urges all Association members to familiarize themselves with it when it is published and distributed.
LEGISLATION

The Executive Committee expresses its appreciation to this investigator for his thorough digest of legislative changes and recommends the continuation of this work.

REGISTRATION

The Executive Committee expresses its appreciation to this investigator for his thorough digest and recommends the continuation of this work.

PESTICIDE-FERTILIZER MIXTURES

The Committee thanks this Investigator for his report and recommends the continuation of this work.

UNIFORM POLICIES

The Executive Committee recommends that a uniform policy committee be appointed to consider the possibility of establishing analytical tolerances for pesticide chemicals in addition to the area of service already covered by this Investigator.

SAMPLING PROCEDURES

The Executive Committee recognizes the need for a uniform procedure for sampling pesticides and recommends that the report of the sampling procedure committee be published and carefully studied by all members of the Association during the coming year.

MODEL CUSTOM APPLICATORS

The Executive Committee expresses its appreciation to this Committee for their work and urges that they follow through next year on the revision of the applicator's bill and suggests that this committee communicate with the National Agricultural Chemicals Association and other related agencies who might be interested in this bill.

PROCEEDING PUBLICATION COMMITTEE

The Executive Committee approves in principal the recommendations of this committee and recommends its continuation.

1965 ANNUAL MEETING

The 1965 meeting of our Association will be held during the first week of August 1965 at the Clemson House, Clemson, South Carolina.

The Executive Committee expresses its appreciation to the Committees, Investigators, and others who have contributed unselfishly toward the advancement of this Association.
LYNTON YATES BALLENTINE

Lynton Yates Ballentine, Commissioner of Agriculture for North Carolina died Sunday night, July 19, 1964, at the Greenbrier Clinic, White Sulphur Springs, West Virginia. He had earlier suffered an attack on June 9, shortly after delivering an address at the annual convention of the National Plant Food Institute in the Greenbrier Hotel. He had been making good progress and was planning to return to North Carolina when he died very suddenly of a second attack. He is survived by his wife, two daughters, one son and one stepson and several grandsons.

Commissioner Ballentine was born at Varina, Wake County, North Carolina. He was graduated from Wake Forest College in 1921 with an A.B. Degree, having specialized in Political Economy, and was awarded the honorary degree of Doctor of Agriculture by North Carolina State College in 1953.

He was elected to the Board of County Commissioners for Wake County in 1926 and served in that capacity until 1934. He served as State Senator from North Carolina's Thirteenth Senatorial District from 1937 through 1943, and as a member of the State Board of Agriculture 1941-1944. He was elected Lt. Governor of North Carolina on November 7, 1944, and Chairman of the State Board of Education in 1945.

First elected Commissioner of Agriculture on November 2, 1948, he was re-elected November 4, 1952, November 6, 1956 and November 8, 1960. At the time of his death he was the Democratic candidate for election to a new term of office.

He was President of the National Association of State Departments of Agriculture in 1963 and Chairman of the Association's Executive Committee for 1964.

Commissioner Ballentine was a charter member and director of the Agricultural Foundation of North Carolina State of the University of North Carolina, at Raleigh. He was a member of the North Carolina Board of Farm Organizations and Agricultural Agencies, Chairman of the United States Department of Agriculture Marketing Advisory Committee, member of the Grange and the Farm Bureau.

In what turned out to be the last address he ever made, he paid tribute to the fertilizer industry for its technical progressiveness and its generally cooperative attitude toward fertilizer control officials, and discussed with them some of the new control problems posed by innovations.

Commissioner Ballentine was a dynamic agricultural leader at both State and National levels. His guidance and counsel will be greatly missed in all areas of agricultural and agribusiness programs.
HENRY ALBERT HALVORSON

Henry Albert Halvorson, past president of the Association of American Feed Control Officials (1924) and the Association of Official Agricultural Chemists (1951) passed away at Williston, North Dakota on June 24, 1964. Mr. Halvorson was born in Minneapolis, Minnesota on January 17, 1885. He is survived by his wife, Edna, a daughter, one grandchild, three sisters, as well as a host of friends.

Mr. Halvorson, or Hal, as his friends know him, graduated with honors in receiving his Bachelor of Science Degree in Chemistry in 1911 from the University of Minnesota. He was appointed in 1919 as Director and Chief Chemist for the then newly established Division of Feed Control in the Minnesota Department of Agriculture. He held the position of Director in the Minnesota Department of Agriculture until his retirement on December 31, 1954. In 1930 he was also given the assignment as Director of Fertilizer Control as well as being Director of Scientific Tests and manager of the State Experimental Flour Mill. He served the State of Minnesota most ably for over forty years.

Immediately after assuming his responsibilities in the Minnesota Department of Agriculture, Mr. Halvorson became active in the workings of the Association of American Feed Control Officials, the Association of Official Agricultural Chemists, and later in the Association of Fertilizer Control Officials. The history records of these associations show his many assignments as chairman, investigator, referee and board member, as well as the aforementioned presidential posts. He served as a member and chairman of the Committee A on Recommendations of Referees in the A.O.A.C. from 1937-1951. He was also a member of the American Chemical Society, the Association of Cereal Chemists, and the Association for the Advancement of Science. He served two terms as president of the North Central States Association of Dairy, Food, Drug and Feed Control Officials in 1927 and 1953.

He and his associates have published, individually or jointly, approximately 225 bulletins, addresses, technical articles, and scientific papers, many having been published in outstanding national publications.

Although he devoted much of his personal life to his professional responsibilities, Mr. Halvorson was a devoted family man, being very active as a Reader in his Church, Christian Science, with his natural hobby of scientific and religious reading, writing and studying.

His friends and associates will always remember his quiet, kind and polite gentlemanly demeanor and his seemingly dignified stature which accompanied his earnest desire to fully understand and aid in the desires of his fellowman.
LLOYD S. ENGBRETSON

Mr. Lloyd Engebretson, born February 26, 1897, was a native of South Dakota. He graduated from Selby High School and attended Aberdeen Business College.

He was in the grain buying business for 31 years.

He began as Feed & Seed Inspector of the Department of Agriculture, July 25, 1949, and became Director of Plant Industry May, 1961, in which capacity he acted until his death on July 27, 1964.

Services were held July 30, 1964, and Interment in Riverside Cemetery in Pierre, South Dakota.

He is survived by his wife, Grace, an adopted daughter, Ardyce Kaye, and a son, Danny Bill.
AN ACT RELATING TO CUSTOM APPLICATION OF PESTICIDES

Title. It should conform to state requirements. The following is a suggestion;

a more complete title should be used where necessary:

"An Act Relating to the application of insecticides, fungicides, herbi-
cides, defoliants, desiccants, plant growth regulators, nematocides and
similar materials by aircraft or ground equipment."

(Be it enacted, etc.)

1 Section 1.- Declaration of Purpose. The purpose of this act is to regulate, in
2 the Public interest, the custom application of insecticides, fungicides, herbicides,
3 defoliants, desiccants, plant growth regulators, nematocides and other materials as
4 may be so named by the Commissioner by regulation. New pesticides are continually
5 being discovered or synthesized which are valuable for the control of insects, fungi,
6 weeds, nematodes, and for use as defoliants, desiccants, plant regulators and similar
7 materials. However, such materials may seriously injure health, property, or wild-
8 life if not properly used. Insecticides may injure man or animals, either by direct
9 poisoning or by gradual accumulation of poisons in the tissues. Crops may also be
10 injured by improper use of insecticides or fungicides. The drifting or washing of
11 insecticides into streams or lakes can cause appreciable damage to aquatic life. A
12 herbicide applied by aircraft or ground equipment for the purpose of killing weeds
13 in a crop which is not itself injured by the herbicide may drift, sometimes for miles,
14 and injure other crops with which it comes in contact. Therefore, it is deemed neces-
15 sary to provide for regulation of the custom application of such pesticides.

1 Section 2.- Definitions. For the purpose of this Act -- (A) The term "pesticide"
2 means (1) any substance or mixture of substances intended for preventing, destroying,
3 repelling, or mitigating any insects, rodents, nematodes, fungi, weeds, and other foes
4 of plant or animal life or viruses except viruses on or in living man or other animals,
5 and (2) any substance or mixture of substances intended for use as a plant regulator,
6 defoliant or desiccant and (3) any other substances intended for such use as may be
7 named by the Commissioner by regulation after calling a public hearing for such purpose.
8 (B) The term "insecticide" means any substance of mixture of substances intended
for preventing destroying, repelling, or mitigating any insects which may be present
in any environment whatsoever.

(C) The term "fungicide" means any substance or mixture of substances intended
for preventing, destroying, repelling, or mitigating any fungi.

(D) The term "herbicide" means any substance or mixture of substances intended
for preventing, destroying, repelling or mitigating any weed.

(E) The term "defoliant" means any substance or mixture of substances intended
for causing the leaves or foliage to drop from a plant, with or without causing
abscission.

(F) The term "desiccant" means any substance or mixture of substances intended
for artificially accelerating the drying of plant tissue.

(G) The term "plant regulator" means any substance or mixture of substances,
intended through physiological action, for accelerating or retarding the rate of
growth or rate of maturation or for otherwise altering the behavior of plants, but
shall not include substances to the extent that they are intended as plant nutrients,
trace elements, nutritional chemicals, plant inoculants, and soil amendments.

(H) The term "nematicide" means any substance or mixture of substances intended
for preventing, destroying, repelling, or mitigating nematodes.

(I) The term "insect" means any of the numerous small invertebrate animals
generally having the body more or less obviously segmented, for the most part be-
longing to the class insects, comprising six-legged, usually winged forms, as, for
example, beetles, bugs, wasps and flies, and to other allied classes of arthropods
whose members are wingless and usually have more than six legs, as, for example, spiders,
mites, ticks, centipedes, and wood lice.

(J) The term "fungi" means all non-chlorophyll-bearing thallophytes (that is,
all non-chlorophyll-bearing plants of a lower order than mosses and liverworts) as,
for example, rusts, smuts, mildews, molds, yeasts, and bacteria, except those on or
in living man or other animals.
(K) The term "weed" means any plant or part thereof which grows where not wanted.

(L) The term "nematode" means invertebrate animals of the phylum nemathelminthes and class nematoda, that is, unsegmented round worms with elongated, fusiform, or sac-like bodies covered with cuticle, and inhabiting soil, water, plants, or plant parts; may also be called nemae oreelworms.

(M) The term "person" means any individual, firm, partnership, association, corporation, company, joint stock association, or body politic, or any organized group of persons whether incorporated or not; and includes any trustee, receiver, assignee, or other similar representative thereof.

(N) The term "Commissioner" means the [Secretary, Commissioner, or Director of Agriculture.]

(O) The term "custom application of pesticides" means any application of pesticides by aircraft or ground equipment for hire. /

(P) The term "aircraft" means any contrivance now known or hereafter invented, used or designed for navigation or, or flight in, the air.

(Q) The term "ground equipment" means any machine or device (other than aircraft), for use on land or water, designed for, or adaptable to, use in applying pesticides as sprays, dusts, aerosols, or fogs, or in other forms.

Section 2. Licenses. (A) No person shall engage in custom application of pesticides for hire or compensation within this state at any time without a license issued by the Commissioner. Application for a license shall be made in writing to the Commissioner on a designated form obtained from said Commissioner’s office. Each application for a license shall contain information regarding the applicant’s qualifications and proposed operations and other relevant matters as required pursuant to re-

1/ See Section 10 for exemptions.

2/ In states where only certain areas are liable to be affected by the application of insecticides, fungicides, or herbicides, the following could be inserted: "in counties or areas designated by the Commissioner."
(B) The Commissioner shall require the applicant to show upon written examination, that he possesses adequate knowledge concerning the proper use and application of pesticides and the dangers involved and precautions to be taken in connection with their application. If the person seeking a license operates as an individual, then such individual shall be required to take the examination. If the person or company seeking a license is a partnership, then either member of the partnership may take the examination provided said person will personally supervise the operations. If the company operates as a corporation, one or more responsible members, officers, or technicians of the corporation may take the examination; provided, however, that regardless of whether or not the applicant operates as an individual, partnership or corporation, the individual taking the examination must at all times direct and personally supervise the application of pesticides of said person for which a license is issued. If the extent of the applicant's operations warrant it, the Commissioner may require more than one officer, member, or technician to take the examination.

Should the party taking the examination to qualify the person for a license leave the employ of said person, this shall automatically cancel the license of said person until such time that another duly designated and qualified party takes the examination to again qualify said person for the license to be reissued. Examinations will be offered periodically as may be designated in regulations issued by the Commissioner but in no event shall any party failing to pass a previous examination be allowed to retake the examination within a period of less than ________ (specify number of days depending on situation within state concerned).

(C) If the Commissioner finds the applicant qualified and if the applicant files the bond, insurance or other satisfactory security required under paragraph (E) of this section, the Commissioner shall issue a license, which shall expire at the end of the calendar year of issue; provided such financial security required under paragraph (E) of this Section is not dated to expire at an earlier date in which case said
license shall be dated to expire upon expiration date of said financial security. The
license may restrict the applicant to the use of a certain type or types of equipment
or pesticides to certain areas if the Commissioner finds that the applicant is qualified
to use only such type or types. If a license is not issued as applied for, the Commis-
sioner shall inform the applicant in writing of the reasons therefor.

(D) The Commissioner may suspend, pending inquiry, for not longer than ten days,
and, after opportunity for a hearing, may revoke or modify the provisions of any
license issued under this section, if he finds that the licensee has failed to fulfill
any contract or is no longer qualified, has engaged in fraudulent business practices
in the custom application of pesticides, or has made any custom application in a faulty,
careless, unsafe, or negligent manner, or has violated any of the provisions of this
act or regulations made thereunder.

(E) The Commissioner shall require each person, firm, association or corporation
who is granted a license under this Act to furnish to, and file with, the Commissioner
a fidelity bond, insurance policy, or other security satisfactory to the Commissioner,
conditioned that the principal therein named shall pay for any and all damages suffered
by any person, firm, association or corporation, by reason of negligence of the prin-
cipal or his or its agents or employees in the conduct of the business authorized by
this Act, and shall honestly conduct said business and as otherwise conditioned by
said Commissioner; provided that in no case shall a bond or other security provided
for herein be less than ______ dollars (The amount of financial responsibility will
depend on the situation in the state concerned). Any person, firm, or corporation
having a right of action against such person, firm, association or corporation, or
any other person, may bring suit against them or either of them for damages caused
by their negligence in conduct of the business authorized hereunder, but in no event,
however, shall the surety be named in or made a party to such action. No action for
such damages may be brought or maintained, however, unless the person claiming the
damages shall have filed with the Commissioner a written statement claiming that he
has been damaged, on a form prescribed by the Commissioner within sixty (60) days
after the date that damages occurred, or prior to the time that twenty five (25)
per cent of a crop damaged shall have been harvested. Such statement shall contain,
but shall not be limited thereto, the name of the person responsible for the applica-
tion of said pesticide, the name of the owner or lessee of the land on which the crop
is grown and for which damages are claimed and the date on which it is alleged that
the damage occurred. The Commissioner is required to prepare a form to be furnished
to persons to be used in such cases and such form shall contain such other requirements
as the Commissioner may deem proper. The Commissioner shall, upon receipt of such
statement, notify the licensee and the owner or lessee of the land or other person
who may be charged with the responsibility, for the damages claimed, and furnish
copies of such statements as may be requested.

Where damage is alleged to have been done, the claimant shall permit the licensee
and his representatives, such as bondman or insurer to observe within reasonable
hours the crops alleged to have been damaged in order that such damage may be examined.
Failure of the claimant to permit such observation and examination of the damaged crop
shall automatically cause the claim against the licensee to become null and void.

Should the surety furnished become unsatisfactory, said applicant shall execute
a new bond or other satisfactory security and shall be fail to do so, it shall be
the duty of the Commissioner to cancel his license and give him notice of said fact
and it shall be unlawful thereafter for such person to engage in said business without
obtaining a new license.

(F) In all actions for damages to crops caused by application of pesticides as
provided herein the plaintiff and/or claimant shall allege and prove that the damage
complained of is the result of negligence on the part of the party or parties defen-
dant and/or their agents or employees, or persons with whom they have contracted to
apply such herbicides.

(G) The Commissioner may issue a license on a reciprocal basis with other states
without examination to a non-resident who is licensed in another state substantially
in accordance with the provisions of this Act; provided financial security as provided
in Section 3-paragraph (E) of this act is met.

(H) Any person aggrieved by any action of the Commissioner may obtain a review
thereof by filing in the ________________ court within 30 days of notice of the
action a written petition praying that the action of the Commissioner be set aside.
A copy of such petition shall forthwith be delivered to the Commissioner, and within
_______ days thereafter the Commissioner shall certify and file in the court
a transcript of any record pertaining thereto, including a transcript of evidence
received, whereupon the court shall have jurisdiction to affirm, set aside or modify
the action of the Commissioner, except that the findings of the Commissioner as to
the facts, if supported by substantial evidence, shall be conclusive.

Section 4. - Inspection. The Commissioner may provide for inspection of any
ground equipment or of any device or apparatus used for custom application of pesti-
cides by aircraft and may require proper repairs or other changes before its further
use for custom application.

Section 5. - Materials and Methods of Application. The Commissioner may, by re-

gulation after public hearing, prescribe materials or methods to be used and prohibit
the use of materials or methods in custom application of pesticides to the extent
necessary to protect health or property to protect health or to prevent injury,
by reason of the drifting, washing, or application of such materials, to desired
plants or animals (including pollinating insects and aquatic life) on property other
than that owned or leased by the person from whom the materials are applied. In
issuing such regulations, the Commissioner shall give consideration to pertinent
research findings and recommendations of other agencies of this state or of the
Federal Government.

Section 6. - Reports. The Commissioner may by regulation require any licensee
to maintain such records and furnish reports giving such information with respect
to particular applications of pesticides and such other relevant information as the
Commissioner may deem necessary.

Section 7. Regulations. The Commissioner may, after public hearing, make regulations for carrying out the provisions of this Act: Provided, That, the regulations shall not be inconsistent with regulations issued by this State or by the Federal Government respecting safety in air navigation or operation of aircraft. Before issuing regulations directly related to any matter within the jurisdiction of any other official of this state the Commissioner shall consult with that official with reference thereto.

Section 8. Information. The Commissioner may, in cooperation with the State Agricultural College, publish information regarding injury which may result from improper application or handling of pesticides and methods and precautions designed to prevent such injury.

Section 9. Penalties. Any person violating the provisions of this act or the regulations issued hereunder shall be guilty of a misdemeanor and, upon conviction, shall be fined not more than _________ dollars for the first offense, and not more than _________ dollars for each subsequent offense. (The amount of the fine per penalty will depend on the situation in the state concerned.)

Section 10. Exemptions. This act shall not apply to custom application of pesticides to prevent, destroy, repel, or mitigate insects or fungi within or under buildings or within vehicles, ships, aircraft, or other means of transporting persons or property by land, water, or air.

Section 11. Enforcement. For the purpose of carrying out the provisions of this act the Commissioner may enter upon any public or private premises at reasonable times in order to have access for the purpose of inspecting any aircraft or ground equipment subject to this Act.

Section 12. Delegation of Duties. The functions vested in the Commissioner by this Act may be delegated by him to such employees of the Department of Agriculture as the Commissioner may from time to time designate for such purposes.
Section 13. Cooperation. The Commissioner may cooperate with any other agency of this state or its subdivisions or with any agency of any other state or of the Federal Government for the purpose of carrying out the provisions of this Act and of securing uniformity of regulations.

Section 14. Separability. If any provisions of this Act is declared unconstitu-tional, or the applicability thereof to any person or circumstance is held invalid, by a court of competent jurisdiction, the constitutionality of the remainder of the act and the applicability thereof to other persons and circumstances shall not be affected thereby.

Section 15. Repeal. All Acts and parts of acts inconsistent with this act are hereby expressly repealed.

Section 16. Effective Date. This Act shall become effective _____________.

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<table>
<thead>
<tr>
<th>STATE</th>
<th>CLASS (Federal, Uniform or Special)</th>
<th>SCOPE</th>
<th>Registration Expires</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>Uniform</td>
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<tr>
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<td>Uniform</td>
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<td>$25 1st two</td>
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<tr>
<td>California</td>
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<td>H</td>
<td>Dec. 31</td>
<td>$10 per brand or product</td>
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<tr>
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<td>Uniform</td>
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<td>Dec. 31</td>
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<td>$10 per brand</td>
</tr>
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<td>Delaware</td>
<td>No Law</td>
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<tr>
<td>Florida</td>
<td>Uniform</td>
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<td>Dec. 31</td>
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<td>$5 per brand</td>
</tr>
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<td>$200 maximum</td>
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<td>Hawaii</td>
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<td>June 30</td>
<td>$10 per brand</td>
</tr>
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<td>Idaho</td>
<td>Uniform</td>
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<td>Dec. 31</td>
<td>$5 per brand</td>
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<td>Illinois</td>
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<tr>
<td>Indiana</td>
<td>Special&lt;sup&gt;2&lt;/sup&gt;</td>
<td>-----</td>
<td>No</td>
<td>None</td>
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<tr>
<td>Iowa</td>
<td>Uniform</td>
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<td>Oct. 31</td>
<td>$10 ea. 1st 10</td>
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<td>H - D</td>
<td>Dec. 31</td>
<td>$5 per brand</td>
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<tr>
<td>Louisiana</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$10 per brand</td>
</tr>
<tr>
<td>Maine</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$5 per brand</td>
</tr>
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<td>Maryland</td>
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<td>Massachusetts</td>
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<td>June 30</td>
<td>$7.50 ea. 1st 10</td>
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<td>$2 ea. addl.</td>
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<tr>
<td>Michigan</td>
<td>Uniform</td>
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<td>Oct. 31</td>
<td>$10 ea. 1st 10</td>
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<td></td>
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<td>$4 ea. addl.</td>
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<td>Minnesota</td>
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<td>June 30</td>
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<td>$2 ea. addl.</td>
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<tr>
<td>Mississippi</td>
<td>Uniform</td>
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<td>Dec. 31</td>
<td>$15 ea. 1st 10</td>
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<tr>
<td></td>
<td></td>
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<td>$5 ea. addl.</td>
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</tbody>
</table>

<sup>1</sup> Requires registration of household use pesticide by application equipment operators

<sup>2</sup> Requires registration of special use pesticides on specific crops and activities
<table>
<thead>
<tr>
<th>STATE</th>
<th>CLASS (Federal Uniform or Special)</th>
<th>SCOPE H - Includes Household D - Includes Devices</th>
<th>Registration Expires</th>
<th>Fee</th>
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<tbody>
<tr>
<td>Missouri</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$7.50 ea., 1st 10 $5 ea., addl.</td>
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<td>Montana</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>None</td>
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<td>Nebraska</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$5 per brand $125 maximum</td>
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<tr>
<td>New Hampshire</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$10 per brand $100 maximum</td>
</tr>
<tr>
<td>New Jersey</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$5 ea., 1st 10 $2 ea., addl.</td>
</tr>
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<td>New Mexico</td>
<td>Uniform</td>
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<td>Dec. 31</td>
<td>$10 per brand $50 maximum</td>
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<td>North Carolina</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 per brand $400 maximum</td>
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<tr>
<td>North Dakota</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$5 ea., 1st 5 $1 ea., addl.</td>
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<tr>
<td>Ohio</td>
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<td>$5 per brand $50 maximum</td>
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<td>Oklahoma</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$20 ea., 1st 3 $75 total 1st 4-25 $2 ea., addl. over 25</td>
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<td>Oregon</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$20 ea., 1st 3 $75 total 1st 4-25 $2 ea., addl. over 25</td>
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<td>Rhode Island</td>
<td>Uniform</td>
<td>H - D</td>
<td>May 31</td>
<td>$10 per brand $50 maximum</td>
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<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$20 ea., 1st 10 $10 ea., addl. $400 maximum</td>
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<tr>
<td>South Dakota</td>
<td>Uniform</td>
<td>H - D</td>
<td>June 30</td>
<td>$5 ea., 1st 5 $1 ea., addl.</td>
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<tr>
<td>Tennessee</td>
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<td>H - D</td>
<td>June 30</td>
<td>$10 ea., 1st 10 $5 ea., addl.</td>
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<td>Aug. 31</td>
<td>$20 per brand $50 maximum</td>
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<td>June 30</td>
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<td>Vermont</td>
<td>Uniform</td>
<td>H</td>
<td>June 30</td>
<td>$5 ea., 1st 10 $2.50 ea., 11-20 $1 ea., addl.</td>
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<tr>
<td>STATE</td>
<td>CLASS</td>
<td>SCOPE</td>
<td>Registration</td>
<td>Fee</td>
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<td>Uniform</td>
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<td>$10 ea., 1st 20</td>
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<td>Dec, 31</td>
<td>$10 per brand</td>
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<td>West Virginia</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec, 31</td>
<td>$10 ea., 1st 20</td>
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<td>Wisconsin</td>
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<td>Wyoming</td>
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<td>June 30</td>
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<td>Puerto Rico</td>
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<td></td>
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<td>$200 maximum</td>
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</table>

1Similar to Federal Law. No provisions for registration under protest.
2Does not include plant growth regulators.
3Covers herbicides only.
4Livestock Remedy Act regulates certain pesticides.
<table>
<thead>
<tr>
<th>Common Name and Use</th>
<th>Chemical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>amiben (Herbicide)</td>
<td>3-amino-2, 5-dichlorobenzoic acid</td>
</tr>
<tr>
<td>amitrole (Herbicide)</td>
<td>3-amino-2,5-triazole (or 3-amino-1,2,4-triazole)</td>
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<tr>
<td>atrazine (Herbicide)</td>
<td>2-chloro-4-ethylamino-6-isopropylamino-s-triazine</td>
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<tr>
<td>barban (Herbicide)</td>
<td>4-chloro-2-butylnyl m-chlorocarbanilate</td>
</tr>
<tr>
<td>binapacryl (Fungicide-Miticide)</td>
<td>2-sec-butyl-4, 6-dinitrophenyl 3-methyl-2-butoanoate</td>
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<tr>
<td>bromacil (Herbicide)</td>
<td>5-bromo-3-sec-butyl-6-methyluracil</td>
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<tr>
<td>carbaryl (Insecticide)</td>
<td>1-naphthyl methylcarbamate</td>
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<tr>
<td>carbofuran (Insecticide-Miticide)</td>
<td>$\text{S} _ \left( \text{g-chlorophenylthio}\right)$methyl $\left( \text{O, O-diethyl phosphorodithioate} \right)$</td>
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<tr>
<td>chlorazine (Herbicide)</td>
<td>2-chloro-4, 6-bis (diethylamino)-s-triazine</td>
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<td>chlorbemide (Miticide)</td>
<td>p-chlorobenzyl p-chlorophenyl sulfide</td>
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<td>dalapon (Herbicide)</td>
<td>2, 2-dichloropropanionic acid</td>
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<tr>
<td>dicamba (Herbicide)</td>
<td>3, 6-dichloro-o-anisic acid also known as 2-methoxy-3, 6-dichlorobenzoic acid</td>
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<td>dicapthon (Insecticide)</td>
<td>O-2-chloro-4-nitrophenyl O, O-dimethyl phosphorothioate</td>
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<td>dichlofenil (Herbicide)</td>
<td>2, 2-dichlorobenzonitrile</td>
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<td>dicyclic (Herbicide)</td>
<td>3′,4′-dichloro-2-methylacrylanilide</td>
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<td>dimethoate (Insecticide)</td>
<td>O, O-dimethyl S-(N-methylcarbamoylmethyl) phosphorodithioate</td>
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<tr>
<td>dimethrin (Insecticide)</td>
<td>2, 4-dimethylbenzyl 2, 2-dimethyl-3-(2-methylpropenyl) cyclopropanecarboxylate</td>
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<td>dioctahthion (Insecticide-Miticide)</td>
<td>2, $\text{S, S-diethyl phosphorodithioate}$</td>
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<td>diphaconone (Rodenticide)</td>
<td>2-diphenylacetyl-1, 3-indandione</td>
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<td>diphenamid (Herbicide)</td>
<td>N,N-dimethy1-2, 2-diphenylacetamide</td>
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<td>diquat (Herbicide)</td>
<td>6, 7-dihydropyrimido (12-a : 2′, 1′-c) pyrazidinium salt</td>
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<td>diuron (Herbicide)</td>
<td>3-(3, 4-dichlorophenyl)-1, 1-dimethyleurea</td>
</tr>
<tr>
<td>dodine (Fungicide)</td>
<td>n-dodecylguanidine acetate</td>
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<tr>
<td>endosulfan (Insecticide)</td>
<td>6, 7, 8, 9, 10, 10-hexachloro-1, 5, 5a, 6, 9, 9a-hexahydro-6, 9-methano-2, 4, 3-benzodioxathiepin 3-oxide</td>
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<tr>
<td>endothenall (Herbicide)</td>
<td>7-oxabicyclo-(2, 2, 1) heptane-2, 3-dicarboxylic acid</td>
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<tr>
<td>endothion (Insecticide)</td>
<td>$\text{S, S-} \left( \text{5-methoxy-4-oxo-4H-pyran-2-yl}\right)$methyl $\left( \text{O, O-diethyl phosphorothioate} \right)$</td>
</tr>
</tbody>
</table>

76
<table>
<thead>
<tr>
<th>Common Name and Use</th>
<th>Chemical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>erbion (Herbicide)</td>
<td>2-[(2, 4, 5-trichlorophenoxy)ethyl 2, 2-dichloropropionate</td>
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<tr>
<td>ethion (Miticide-Insecticide)</td>
<td>O, O', O, O'-tetraethyl S, S'-methylene bisphosphorodithioate</td>
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<tr>
<td>fenuron (Herbicide)</td>
<td>3-phenyl-1, 1-dimethylurea</td>
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<tr>
<td>folpet (Fungicide)</td>
<td>N-(trichloromethylthio) phthalimide</td>
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<tr>
<td>isocil (Herbicide)</td>
<td>5-bromo-3-isopropyl-6-methyluracil</td>
</tr>
<tr>
<td>linuron (Herbicide)</td>
<td>3-(3, 4-dichlorophenyl)-1-methoxy-1-methylurea</td>
</tr>
<tr>
<td>monuron (Herbicide)</td>
<td>3-(p-chlorophenyl)-1, 1-dimethylurea</td>
</tr>
<tr>
<td>naled (Insecticide)</td>
<td>1, 2-dibromo-2, 2-dichloroethyl dimethyl phosphate</td>
</tr>
<tr>
<td>neburon (Herbicide)</td>
<td>1-n-butyl-3-(3, 4-dichlorophenyl)-1-methylurea</td>
</tr>
<tr>
<td>norbormide (Rodenticide)</td>
<td>5-(a-Hydroxy-a-2-pyridylbenzyl)-7-(a-2-pyridylbenzylidene)-5-norbornene-2, 3-dicarboximide</td>
</tr>
<tr>
<td>norea (Herbicide)</td>
<td>3-hexahydro-4, 7-methanoindan-5-yl]-1, 1-dimethylurea also known as 3-[5-(3a, 4, 5, 6, 7, 7a-hexahydro-4, 7-methanoindan] -1, 1-dimethylurea</td>
</tr>
<tr>
<td>ovex (Miticide)</td>
<td>p-chlorophenyl p-chlorobenzenesulfonate</td>
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<tr>
<td>paraquat (Herbicide)</td>
<td>1, 1'-dimethyl-4, 4'bypyridinium salt</td>
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<tr>
<td>phorate (Insecticide)</td>
<td>O, O-diethyl S-(ethylthio) methyl phosphorodithioate</td>
</tr>
<tr>
<td>phosphamidon (Insecticide)</td>
<td>2-chloro-2-diethylcarbamoyl-1-methylvinyl dimethyl phosphate</td>
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<tr>
<td>ronnel (Insecticide)</td>
<td>O, O-diethyl O-(2, 4, 5-trichlorophenyl) phosphorothioate</td>
</tr>
<tr>
<td>silvex (Herbicide)</td>
<td>2-(2, 4, 5-trichlorophenoxy) propionic acid</td>
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<tr>
<td>simazine (Herbicide)</td>
<td>2-chloro-4, 6-bis(ethylamino)-a-triazine</td>
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<td>solan (Herbicide)</td>
<td>3'-chloro-2-methyl-p-valeroluidide</td>
</tr>
<tr>
<td>swep (Herbicide)</td>
<td>methyl 3, 4-dichlorocarbanilate</td>
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<tr>
<td>tetradifen (Miticide)</td>
<td>4-chlorophenyl 2, 4, 5-trichlorophenyl sulfone</td>
</tr>
<tr>
<td>tricamba (Herbicide)</td>
<td>3, 5, 6-trichloro-o-anisic acid also known as 2-methoxy-3, 5, 6-trichlorobenzoic acid</td>
</tr>
<tr>
<td>trietazine (Herbicide)</td>
<td>2-chloro-4-diethylamino-6-ethylamino-s-triazine</td>
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<tr>
<td>trifluralin (Herbicide)</td>
<td>a, a', a'-trifluoro-2, 6-dinitro-N, N-dipropyl-p-toluidine</td>
</tr>
<tr>
<td>zoalene (Anti-coccidial drug)</td>
<td>3, 5-dinitro-o-toluamide</td>
</tr>
</tbody>
</table>
LIST OF PESTICIDE CONTROL OFFICIALS

ALABAMA

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PROCEEDINGS
OF THE
SEVENTEENTH ANNUAL CONVENTION
ASSOCIATION OF AMERICAN
PESTICIDE CONTROL OFFICIALS
INCORPORATED

HOTEL UTAH
SALT LAKE CITY, UTAH
AUGUST 13 & 14, 1963
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1964 ANNUAL MEETING  
POLAND SPRINGS HOTEL  
POLAND SPRINGS, MAINE  
AUGUST 11 & 12, 1964
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C. Colton Carr

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Richmond, Virginia
East Lansing, Michigan
Hotel Utah, Salt Lake City, Utah
August 13 - 14, 1963

Tuesday, August 13, 1963

Workshop Session .................................... 3:30 p.m.
Registration .......................................... 5:45 p.m.
Industry Dinner ....................................... 6:00 p.m.
States Relations Meeting ............................. 8:00 p.m.

Wednesday, August 14, 1963

Registration ........................................... 9:00 a.m.
General Session
Roll Call by States
Announcements & Appointment of Committees
Report of the Secretary
Report of the Treasurer
Address by the President ................................ M. E. Christensen, State Chemist
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Salt Lake City, Utah

Representing the Western Agricultural Chemicals Association
"The Use of Pesticides in the Northwest" ............. R. E. Jones, President
Nor Kem Corporation
"Development of Pesticides" .......................... Leon C. Glover
Senior Entomologist
Shell Chemical Co.
"The Latest from Washington" ........................ Justus C. Ward, Director
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Panel Presentation
"Improving Pesticide Communications" ............... Parke C. Brinkley, President
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Harry E. Spires, Chief
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Committee and Investigator Reports
States Relations ....................................... R. H. Guntert
Toxicity and Antidotes ................................ J. S. Leary, Jr.
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Report of the Credentials Committee
Report of the Executive Committee
Report of the Auditing Committee
Report of the Resolutions Committee
Unfinished Business
Report of the Nominating Committee
Election of Officers
Recognition of Past President
Adjournment
<table>
<thead>
<tr>
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<th>State</th>
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<tbody>
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- Director, Pesticides Regulation Div., ARS, USDA, Washington, D.C.
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### INDUSTRY REPRESENTATIVES

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- Chemical Specialties Mfgs. Assn.
- O. M. Scott & Sons Co.
- Western Agricultural Chems. Assn.
- American Cyanamid Co.
- Food & Drug Research Labs.
- The Upjohn Company
- O. M. Scott & Sons Co.
- Hercules Powder 'Co.
- Humble Oil & Refining Co.
- Wasatch Chemical Co.
- E. I. du Pont de Nemours & Co.
- Shell Chemical Co.
- Geigy Agricultural Chemicals
- United Co-Operatives, Inc.
- National Cottonseed Prods. Assn.
- Union Carbide Consumer Prods.
- Archer Daniels Midland Co.
- Norkem Corp.
- Velsicol Chemical Co.
- International Min. & Chem. Corp.
- Reliance Chemical Corp.
- United Co-Operatives of Ontario
- E. I. du Pont de Nemours & Co.
- Miller Chemical & Fertilizer Corp.
- Chemical Specialties Mfgs. Assn.
- Olin Mathieson Chemical Corp.
- Walnut Grove Products Co.
- E. I. du Pont de Nemours & Co.
- Elanco Products Co.
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- E. I. du Pont de Nemours & Co.
- W. R. Grace & Co.

### PRESS

- Capener, Ted
- Farm Director, KSL Radio
- Salt Lake City, Utah
THE CONSTITUTION OF THE ASSOCIATION OF
AMERICAN PESTICIDE CONTROL OFFICIALS, INC.

Section 1. Name. The name of the association shall be the Association of American
Pesticide Control Officials.

Section 2. Object. The object of the association shall be to promote uniform and effective
legislation, definitions, rulings, and enforcement of laws relating to the control of sale and distri-
bution of insecticides, fungicides, and other pesticides.

Section 3. Membership. The membership of the association shall consist of the officials
charged by law with the active execution of the laws regulating the sale of pesticides and such
deputies as shall be duly designated by these officials, and research workers employed by state,
territory, dominion or federal agencies who are engaged in the investigation of pesticides and their
component parts.

Section 4. Officers. The officers of the association shall be a president, a vice-president,
a secretary, a treasurer, and an executive committee.

Section 5. The executive committee. The executive committee shall consist of the presi-
dent, the vice-president, the secretary, the treasurer, the retiring president, the four elected
members, two members of whom shall be elected at each annual meeting of the association.
The executive committee shall have the control and management of the association during
the interim between regular meetings, and shall take action on majority vote of the committee and
report its official activities to the association.
The executive committee shall report on such matters as may be referred to it by the asso-
ciation, and review and present to the association with recommendations all the recommendations
of the investigators and special committees and such resolutions and regulations as pertain to pesti-
cides.

Section 6. Voting. Each state, territory, dominion and federal agency engaged in con-
trôle of sale and distribution of pesticides is entitled to a single vote. Voting by proxy shall be per-
mitted.

Section 7. Amendments. The constitution or by-laws may be amended at any regular
meeting by a two-thirds vote of the voting membership present. All proposed amendments to the
constitution shall be submitted in writing to the secretary at least 30 days prior to the opening of
the annual meeting, and the secretary shall distribute copies to the members at least 10 days prior
to the meeting. All proposed amendments to the by-laws shall be submitted in writing prior to the
opening of the annual meeting.

Section 8. Investigators and special committees. For the purpose of studying the subject
of uniformity in legislation, definitions, and rulings, and the enforcement of laws concerning pesti-
cides, the president may appoint investigators and committees. These investigators shall have the
authority to appoint such assistants as may be necessary. Investigators shall be appointed for one
year and may be reappointed. Special committees may be appointed by the president. No appoint-
ment shall be made for a period exceeding two years.

Section 9. Dues. Each state, territory, dominion, and federal agency engaged in the
regulation or investigation of pesticides shall pay dues of $15.00 for each year of its membership,
and this shall entitle the members to the services and publications of the association.

BY-LAWS

Section 1. Regular meetings of the association shall be held at least once each year, ex-
cept in the case of an emergency which would prevent an adequate representation of the member-
ship. Special meetings may be called by the executive committee.

Section 2. Election of officers. All officers shall be elected by ballot, and shall hold
office until the adjournment of the annual meeting following their election, or until their successors
are elected.
In the event of a vacancy occurring in any office, except that of president or vice-president,
the president shall fill the vacancy by appointment and such appointment shall continue until the
close of the next regular meeting of the association, at which meeting the unexpired term shall be
filled by election in the usual way.
Section 3. Duties of officers. The president, vice-president, secretary, and treasurer shall perform the duties usual to such officers.

The secretary shall keep a record of all proceedings of the association and shall attend to all necessary correspondence. The treasurer shall receive all moneys due the association and shall keep an accurate account of all receipts and disbursements, and report with proper vouchers at each annual meeting.

Resolutions, other than those of the resolution committee shall be presented in writing to the executive committee, which shall provide a place for them in the program.

The following shall be the order of business unless changed at the time by the vote of the association:

1. Reading of the minutes of the preceding meeting.
4. Announcements and appointment of committees.
5. President's address.
6. Roll call by states.
7. Special addresses.
8. Reports of investigators and special committees.
9. Reports of credentials committee.
10. Special topics or executive session.
11. Resolutions referring to pesticides.
15. Unfinished business.

SEE PAGE 50 FOR COMMON NAMES OF CERTAIN PESTICIDES.
OFFICIAL REGULATIONS UNDER THE
MODEL STATE INSECTICIDE, FUNGICIDE
AND RODENTICIDE ACT

Adopted August 14, 1963

1. Words in Singular Form. Words used in the singular form in the regulations in this part shall include the plural, and vice versa, as the case may require.

2. Terms Defined and Construed. All terms used in these regulations in this part shall have the meaning set forth for such terms in the Act. In addition, such terms shall be construed as follows:
   (a) "Act" means the (Pesticide)(Insecticide, Fungicide and Rodenticide) Act of 1963.
   (b) "Secretary" means the (Secretary)(Commissioner) or any officer or employee to whom he has heretofore lawfully delegated or to whom he may hereafter lawfully delegate the authority to act in his stead.
   (c) "Economic Poisons" includes insecticides, fungicides, rodenticides, herbicides, nematocides, plant regulators, defoliants, desiccants, and products for the control of: mammals, including but not limited to dogs, cats, moles, bats, wild carnivores, armadillos, and deer; birds, including but not limited to starlings, English sparrows, crows, and blackbirds; fishes, including but not limited to pygmy sunfishes; aquatic and terrestrial invertebrates, including but not limited to slugs, snails, and crayfish; roots or other plant parts growing where not wanted; viruses, other than those on or in living man or other animals. A product shall be deemed to be a (pesticide)(economic poison) regardless of whether intended for use as packaged or after dilution or mixture with other substances, such as carriers or baits. Products intended only for use after further processing or manufacturing, such as grinding to dust form or more extensive operations, shall not be deemed to be (pesticides)(economic poisons). Substances which have recognized commercial uses other than uses as (pesticides)(economic poisons) shall not be deemed to be (pesticides)(economic poisons) unless such substances are (1) specially prepared for use as (pesticides)(economic poisons), or (2) labeled, represented, or intended for use as (pesticides)(economic poisons), or (3) marketed in channels of trade where they will presumably be purchased as (pesticides)(economic poisons).
   (d) "Fungicide" includes but is not limited to:
      (1) Plant fungicides, seed fungicides, fungicidal wood preservatives, and mildew and mold preventatives.
      (2) Disinfectants, antiseptics and sterilizers, except those for use only on or in living man or other animals.
   (e) "Active ingredient" is an ingredient which:
      (1) Is capable in itself, and when used in the same manner and for the same purposes as directed for use of the product, of preventing, destroying, repelling, or mitigating insects, fungi, rodents, weeds, nematodes, or other pests, or causing leaves or foliage to drop from a plant, or artificially accelerating the drying of plant tissue.
      (2) Is present in the product in an amount sufficient to add materially to its effectiveness; and
      (3) Is not antagonistic to the activity of the principal active ingredient:
         Provided, however, That the (secretary)(commissioner) may require an ingredient to be designated as an active ingredient if, in his opinion, it sufficiently increases the effectiveness of the (pesticide)(economic poison) to warrant such action.
   (f) "Rodent" means any animal of the order Rodentia, including, but not limited to, rats, mice, rabbits, gophers, prairie dogs, and squirrels.
   (g) "Designated agent" means any employee or agent of the state authorized by the (secretary)(commissioner) to make investigations in connection with the enforcement of the Act.
   (h) "Nematocide" includes only those products intended for preventing, destroying, repelling, or mitigating nematodes inhabiting soil, water, plants or plant parts. The term does not include products intended for use against nematodes in or on living man or other animals.
   (i) "Plant regulator" includes those substances intended to alter the
behavior of ornamental or crop plants or the produce thereof through physiological rather than physical action. The term includes, but is not limited to, substances intended to accelerate or retard the rate of growth or maturation of ornamental or crop plants, enhance fruit set, prevent fruit drop, accelerate root formation and elongation, prolong or break dormancy of ornamental or crop plants or the produce thereof, but shall not include substances intended solely for use as plant nutrients or fertilizers.

(j) Herbicide. "Herbicide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any weed, including any alga or other aquatic weed.

3. Administration. The (secretary)(commissioner) is authorized to take such action as may be necessary in the administration and enforcement of the Act and the regulations in this part.

4. Language to be used. All statements, words, and other information required by the Act or the regulations in this part to appear on the label or labeling of any (pesticide)(economic poison) shall be in the English language:

Provided. That in the case of articles intended solely for distribution to points outside the continental United States the appropriate foreign language may be used in lieu of the English language.

5. Omission of Label or Labeling. The omission of a label or labeling from any (pesticide)(economic poison) shall not affect any provision under the Act or the regulations in this part with respect to any statement required to appear on such label or labeling.

6. Label. (a) Contents of label. The label of every (pesticide)(economic poison) must show, clearly and prominently, the name of the product; the name and address of the manufacturer, the registrant, or person for whom manufactured; the net contents; the ingredient statement; and a warning or caution statement which may be necessary to prevent injury to living man and other useful vertebrate animals, useful vegetation, and useful invertebrate animals. The label of any (pesticide)(economic poison) which is highly toxic to man must also contain the skull and crossbones, and the word "poison" in red on contrasting background and the antidote statement in immediate proximity thereto. The antidote statement shall include directions to call a physician immediately. The label of every (pesticide)(economic poison), if necessary to prevent injury to living man and other vertebrate animals, useful vegetation, and useful invertebrate animals, must contain an appropriate warning or caution statement as required in 9.

(b) Name and address of manufacturer. An unqualified name and address given on the label shall be considered as the name and address of the manufacturer. If the registrant's name appears on the label and the registrant is not the manufacturer, or if the name of the person for whom the (pesticide)(economic poison) was manufactured appears on the label, it must be qualified by appropriate wording such as "Packed for . . . . . . , " "Distributed by . . . . . . , " or "Sold by. . . . . , " to show that the name is not that of the manufacturer. When a person manufacturers a (pesticide)(economic poison) in two or more places or in a place different from the manufacturer's principal office, the actual place of manufacture of each particular package need not be stated on the label except when, under the special circumstances existing, the failure to name it may be misleading to the public. The address of the manufacturer, registrant, or person for whom manufactured shall include the street address, if any, unless the street address is shown in a current city directory or telephone directory.

(c) Name, brand, or trade-mark of (pesticide)(economic poison). The name, brand, or trade-mark of the (pesticide)(economic poison) appearing on the label shall be that under which the (pesticide)(economic poison) is registered.

(d) Net content. (1) The net content shall be exclusive of wrappers or other material, and shall be deemed to be average content unless stated as a minimum quantity.

(2) Net content shall be stated in the terms of weight or measure in general use by consumers and users of the (pesticide)(economic poison). If there is no general use, the net contents statement shall be in terms of liquid measure if the product is a liquid, and in terms of weight if it is a solid, semisolid, viscous, or a mixture of liquid and solid. Statements of liquid measure shall be in terms of the United States gallon, quart, pint, and fluid ounce, at 68°F. The statement of weight shall be in terms of avoirdupois pound and ounce. All statements of net contents shall be in terms of the largest unit present.

(3) If the contents are stated as a minimum quantity, variation below is not permissible and variation above shall not be unreasonably large.

(4) If the contents are not stated as a minimum quantity, variation shall be permitted only to the extent that it represents deviations unavoidable in good packing practice. The average quantity in the packages in a shipment shall not fall below the average
quantity stated, nor shall there be any unreasonable variation from the average in the contents of any package.

7. Ingredient statement. (a) Location of ingredient statement. The ingredient statement must appear on that part of the label displayed under customary conditions of purchase except in cases where the (secretary)(commissioner) determines that, due to the size or form of the container, a statement on that portion of the label is impractical, and permits such statement to appear on another side or panel of the label. When so permitted, the ingredient statement must be in larger type and more prominent than would otherwise be possible. The ingredient statement must run parallel with other printed matter on the panel of the label on which it appears and must be on a clear contrasting background not obscured or crowded.

(b) Names of ingredients. The well-known common name of the ingredient must be given or, if the ingredient has no common name, the correct chemical name. If there is no common name and the chemical composition is unknown or complex, the (secretary)(commissioner) may permit the use of a new or coined name which he finds to be appropriate for the information and protection of the user. If the use of a new or coined name is permitted, the (secretary)(commissioner) may prescribe the terms under which it may be used. A trade-mark or trade name may not be used as the name of an ingredient except when it has become a common name.

(c) Percentages of ingredients. Percentages of ingredients shall be determined by weight and the sum of the percentages of the ingredients shall be 100. Sliding scale forms of ingredient statements shall not be used.

(d) Designation of ingredients. (1) Active ingredients and inert ingredients shall be so designated, and the term "inert ingredient" shall appear in the same size type and be equally as prominent as the term "active ingredient".

(2) If the name but not the percentage of each active ingredient is given, the names of the active and inert ingredients shall, respectively, be shown in the descending order of the percentage of each present in each classification and the name of each ingredient shall be given equal prominence.

(e) Active Ingredient content. As long as a (pesticide)(economic poison) is subject to the Act the percentages of active ingredients declared in the ingredient statement shall be the percentages of such ingredients in the (pesticide)(economic poison).

8. (a) (Pesticides)(Economic Poisons) Highly Toxic to Man. The (secretary)(commissioner) hereby finds that (pesticides)(economic poisons) which fall within any of the following categories when tested on the laboratory animals, mice, rats and rabbits, are highly toxic to man or contain substances or quantities of substances highly toxic to man within the meaning of the Act:

(1) Oral toxicity. Those which produce death within 14 days in half or more than half the animals of any species at a dosage of 50 milligrams at a single doses, or less, per kilogram of body weight when administered orally to ten or more such animals of each species.

(2) Toxicity on inhalation. Those which produce death within 14 days in half or more than half of the animals of any species at a dosage of 200 parts or less by volume of the gas or vapor per million parts by volume of air when administered by continuous inhalation for one hour or less to ten or more animals of each species, provided such concentration is likely to be encountered by man when the (pesticide)(economic poison) is used in any reasonably foreseeable manner.

(3) Toxicity by skin absorption. Those which produce death within 14 days in half or more than half of the animals (rabbits only) tested at a dosage of 200 milligrams or less per kilogram of body weight when administered by continuous contact with the bare skin for twenty-four hours or less to ten or more animals.

(b) If the (secretary)(commissioner) finds, after opportunity for hearing, that available data on human experience with any (pesticide)(economic poison) indicate a toxicity greater than that indicated from the above described tests on animals, the human data shall take precedence and, if he finds that the protection of the public health so requires, the (secretary)(commissioner) shall declare such a (pesticide)(economic poison) to be highly toxic to man for the purposes of this Act and the regulations thereunder.

Provided, however, That the (secretary)(commissioner) may, upon application and after opportunity for hearing, exempt any (pesticide)(economic poison) which meets the standards in the above sub-paragraphs (a) and (b) of this Section, but which is not in fact highly toxic to man, from the requirements of the Act and regulations in this part with respect to (pesticides)(economic poisons) highly toxic to man.

9. Warning or Caution Statement. The warning or caution statement, when necessary to prevent
injury to living man and other vertebrate animals, useful vegetation, and useful invertebrate
animals, must appear on the label in a place sufficiently prominent to warn the user, and must
state clearly and in non-technical language the particular hazard involved in the use of the (pesti
cide)(economic poison), e.g., ingestion, skin absorption, inhalation, inflammability or explosion,
and the precautions to be taken to avoid accident, injury or damage.

The word "poison" in red on a contrasting background in immediate proximity to the skull
and crossbones and an antidote, including directions to call a physician immediately, shall ap­
pear on all (pesticides)(economic poisons) highly toxic to man.

10. Registration. (a) Eligibility. Any manufacturer, packer, seller, distributor or shipper of
a (pesticide)(economic poison) is eligible as a registrant and may register such (pepsi
cide)(economic poison).

(b) Effect of registration. If a (pesticide)(economic poison) is registered under the Act
no further registration under the Act is required:
Provided, That (1) the product is in the manufacturer's or registrant's original unbroken
immediate container; and (2) the claims made for it and the directions for its use do not
differ in substance from the representations made in connection with registration.

(c) Procedure for registration. Applications for registration should be addressed to
the

(d) Effective date of registration. Registration of a (pesticide)(economic poison)shall be­
come effective on the date the certificate of registration is issued.

(e) Responsibility of a registrant. The registrant is responsible for the accuracy and
completeness of all information submitted in connection with his application for regis­
tration of a (pesticide)(economic poison).

(f) Changes in labeling or formulae. (1) Changes in substance in the labeling or changes
in the formula of a registered (pesticide)(economic poison) must be submitted in advance

(g) Claims must conform to registration. Claims made for a (pesticide)(economic poison)
must not differ in substance from representations made in connection with registration,
including representations with respect to effectiveness, ingredients, directions for use,
or pests against which the product is recommended.

11. Coloration and Discoloration. Unless exempted by Section 17 of these regulations, the white
(pesticides)(economic poisons) hereinafter named shall be colored or discolored in accordance
with this section. The hues, values, and chromas specified are those contained in the Munsell
Book of Color, Munsell Color Company, 10 East Franklin Street, Baltimore, Md.

(a) Coloring agent. The coloring agent must produce a uniformly colored product not sub­
ject to change in color beyond the minimum requirements specified in the regulations
in this part during ordinary conditions of marketing or storage, and must not cause the
product to be ineffective or result in its causing damage when used as directed.

(b) Arsenicals and barium fluosilicate. Standard lead arsenate, basic lead arsenate, cal­
cium arsenate, magnesium arsenate, zinc arsenate, zinc arsenite, and barium fluosi­
cate shall be colored any hue, except the yellow-reds and yellows, having a value of
not more than 8 and a chroma of not less than 4, or shall be discolored to a neutral
lightness value not over 7.

(c) Sodium fluoride and sodium fluosilicate. Sodium fluoride and sodium fluosilicate shall
be colored blue or green having a value of not more than 8 and a chroma of not less than
4, or shall be discolored to a neutral lightness value not over 7.

(d) Exceptions. Notwithstanding the provisions of paragraphs (b) and (c) of this section
the (secretary)(commissioner), after opportunity for hearing, may permit other hues
to be used for any particular purpose if the prescribed hues are not feasible for such
purpose and if such action will not be injurious to the public.

12. Adulteration; Valuable Constituent. (a) A valuable constituent will be considered as wholly ab­
stracted whenever the designation or representation of the product imports its presence
therein and such constituent has been wholly omitted therefrom in the preparation of
the product or has been wholly removed from the completed product.

(b) A valuable constituent will be considered as partly abstracted whenever the designation
or representation of the product imports its presence therein, and such constituent is not present in the usual or customary amount or in the amount indicated in the labeling.

13. Misbranding. (a) False or misleading statements. Among representations in the labeling of a pesticide(economic poison) which render it misbranded are the following:

(1) A false or misleading statement concerning composition of the product.
(2) A false or misleading statement concerning the effectiveness of the product as a pesticide(economic poison)(or device).
(3) A false or misleading statement about the value of the product for purposes other than as a pesticide(economic poison)(or device).
(4) A false or misleading comparison with other pesticides(economic poisons) (or devices).
(5) A false or misleading representation as to the safety of the pesticide(economic poison)or of its ingredients including a statement such as "nonpoisonous", "non-injurious", "or "nonhazardous" unless the product is in fact safe under all conditions.
(6) Any statement directly or indirectly implying that the pesticide(economic poison) (or device) is recommended or endorsed by any agency of this state.
(7) The name of a pesticide(economic poison) which contains two or more ingredients if it suggests the name of one or more but not all such ingredients, even though the names of the other ingredients are stated elsewhere in the labeling:

Provided, however, That it is permissible, when the percentage of each active ingredient is given in the name, to omit reference in name of the product to the inert ingredients.
(8) Prominent reference in the labeling to one or more active ingredients without giving their percentages in immediate proximity thereto or without giving equal prominence to the other active ingredients or to the presence of inert ingredients.
(9) A true statement used in such a way as to give a false or misleading impression to the purchaser.

(b) Justification of false and misleading statements not permitted.
(1) The use of any false or misleading statement on any part of the labeling, given as the statement or opinion of any person or based upon such statement or opinion shall not be justified, nor may such statement be justified by the fact that the statement or opinion is actually that of such person.
(2) The use of a false or misleading statement in the labeling cannot be justified by an explanatory statement.

14. Enforcement. (a) Collection of samples. Samples of pesticides(economic poisons)(and devices) shall be collected by a designated agent. An official representative sample shall be one taken by the secretary(commissioner) or his duly authorized agent. An unbroken original package shall be taken as the official sample where the pesticide(economic poison) is packed in small bottles, or small packages. Where the pesticide(economic poison) is packed in large containers, the official sample shall be a portion taken from one original package in a lot.

(b) Examination of samples. Methods of examination of samples shall be those adopted and published by the Association of Official Agricultural Chemists, where applicable, and such other methods as may be necessary to determine whether the product complies with the Law.

(c) Notice of apparent violation. (1) If from an examination or analysis a pesticide economic poison)(or device) appears to be in violation of the Act, a notice in writing shall be sent to the person against whom criminal proceedings are contemplated, giving him an opportunity to offer such written explanation as he may desire. The notice shall state the manner in which the sample fails to meet the requirements of the Act and the regulations.
(2) Any such person may, in addition to his reply to such notice, file within twenty days of receipt of the notice a written request for an opportunity to present his views orally in connection therewith.
(3) No notice or hearing shall be required prior to the seizure of any pesticide(economic poison)(or device).

15. Notice of Judgment. Publication of judgments of the courts in cases arising under the criminal or seizure provision of the Act shall be made in the form of notices, circulars, or bulletins as the secretary(commissioner) may direct.

16. Products for Experimental Use. (a) Articles for which no permit is required.

(1) A substance or mixture of substances being put through tests in which the purpose
is only to determine its value for economic poison purposes or to determine its toxicity or other properties, and where the user does not expect to receive any benefit in pest control from its use is not considered a (pesticide)(economic poison) within the meaning of section 1 of the Act and 2(c). Therefore, no permit under the Act is required for its shipment.

(2) A (pesticide)(economic poison) shipped or delivered for experimental use by or under the supervision of any Federal or State agency authorized by Law to conduct research in the field of economic poisons shall not be subject to the provisions of the Act and the regulations in this part.

(b) Articles for which permit is required.

(1) A (pesticide)(economic poison) shipped or delivered for experimental use by other qualified persons but not under the supervision of a Federal or State agency authorized by Law to conduct research in the field of economic poisons, shall be exempt from the provisions of the Act and of the regulations in this part:

Provided, That a permit for such shipment or delivery is obtained prior thereto. Permits will be of two types, specific and general. A specific permit will be issued to cover a particular shipment on a specified date to a named person. A general permit will be issued to cover more than one shipment over a period of time to different persons.

(2) If a (pesticide)(economic poison) is to be tested for a use which is likely to result in a residue on or in food or feed, a permit for shipment or delivery will be issued only when:

(i) The food or feed product will not be used for food or feed except for laboratory or experimental animals, or

(ii) Convincing evidence is submitted by the applicant that the proposed use will not result in an amount of residue which would be hazardous to man or other animals.

(3) A permit for shipment or delivery of any experimental (pesticide)(economic poison) for testing in any place likely to be frequented by people will be granted only if it is clearly shown in the application for such permit that the applicant's instructions for use reasonably assure the avoidance of injury to all persons concerned.

(4) All applications for permits covering shipments for experimental use shall be filed in duplicate and must be signed by the shipper or the person making the delivery and must contain the following:

(i) Name and address of the shipper and place or places from which the shipment will be made.

(ii) Proposed date of shipment or proposed shipping period not to exceed one year.

(iii) A statement of the composition of material to be covered by the permit which should apply to a single material or group of closely allied formulations of the material.

(iv) A statement of the approximate quantity to be shipped.

(v) Available data or information or reference to available data or information on the acute toxicity of the (pesticide) (economic poison).

(vi) A statement of the nature of the proposed experimental program, including the type of pests or organisms to be experimented with, the crops or animals for which the (pesticide)(economic poison) is to be used, the areas where it is proposed to conduct the program, and including the results of previous tests where necessary to justify the quantity requested.

(vii) When food or feed is likely to be contaminated, either a full statement of action which will be taken to prevent the food or feed from being consumed, except by laboratory or experimental animals, or convincing evidence that the proposed experiment will not result in injury to man or useful animals.

(viii) The percentage of the total quantity specified under sub-division (iv) of this subparagraph which will be supplied without charge to the user.

(ix) A statement that the (pesticide)(economic poison) is intended for experimental use only.

(x) Proposed labeling which must bear (a) the prominent statement "For Experimental Use Only" on the container label and any accompanying circular or other labeling, (b) a warning or caution statement which may be necessary and if complied with adequate for the protection of those who may handle or be exposed to the experimental formulations, (c) the name and address of the applicant for the permit, (d) the name or designation of the formulation, and (e) if the (pesticide) (economic poison) is to be sold, a statement of the names and percentages of the principal active ingredients in the product:

Provided That, if the shipper shall submit a copy of a valid experimental
permit issued under the provisions of the Federal Insecticide, Fungicide and Rodenticide Act and the accepted labeling related thereto, the (secretary)(commissioner) may exempt the shipper from the requirement of submitting as a part of the application, the data and information hereinabove specified in sub-paragraphs V to X inclusive.

(5) The (Secretary)(Commissioner) may limit the quantity of a (pesticide)(economic poison) covered by a permit to such less quantity than requested as he may determine if the available information on effectiveness, toxicity or other hazards is not sufficient to justify the scope of experimental use proposed in the application, or make such other limitations in the permit as he may determine to be necessary for the protection of the public.

(6) A (pesticide)(economic poison) intended for experimental use shall not be offered for general sale by a retailer or others, or advertised for general sale.

(c) Cancellation of permits. Any permit for shipment for experimental use may be cancelled at any time for any violation of the terms thereof.

17. Exemptions. (a) Any (pesticide)(economic poison) specified in 11 of these regulations which is intended solely for use by a textile manufacturer or commercial laundry, cleaner or dyer as a mothproofing agent, which would not be suitable for such use if colored and which will not come into the hands of the public except when incorporated into a fabric, shall be exempt from the requirements of section 3a (7) of the Act and 11, of these regulations.

(b) The (pesticide)(economic poison) sodium fluoride shall be exempt from the requirements of section 3a (4) of the Act and 11 (c) of these regulations when, (1) it is intended for use as a fungicide solely in the manufacture or processing of rubber, glue, or leather goods;

(2) Coloration of said (pesticide)(economic poison) in accordance with said requirements will be likely to impart objectionable color characteristics to the finished goods;

(3) Said (pesticide) (economic poison) will not be present in such finished goods in sufficient quantities to cause injury to any person; and

(4) Said (pesticide)(economic poison) will not come into the hands of the public except after incorporation into such finished goods.
RESOLUTIONS, POLICY AND INTERPRETATIONS
OF THE ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS

1. Resolved that the Association opposes strenuously the practice of dispensing pesticides from bulk containers for retail distribution. (1955)

2. Resolved that no pesticide should be offered for sale or distributed after its registration has terminated. (1955)

3. Resolved that pesticides which are represented for seed treatment purposes should be colored with a dye that will distinctly color the seed on which it is applied. (1955)

4. Resolved that the Association of Pesticide Officials cooperate with related associations in a program to require the coloring of treated seeds which have a potential health hazard. (1955)

5. Resolved that pesticides offered for sale only to veterinarians for professional use should be subject to registration. (1955)

6. Resolved that materials used by pest control operators and not sold or distributed to the public are not subject to registration. (1955)

7. Resolved that directions for control should be shown on labels for all pests referred to on the label. (1955)

8. Resolved that it is the opinion of the Association of American Pesticide Control Officials that to the extent that regulatory control over sale and distribution of agricultural chemicals is necessary, in the interest of the uniformity of regulatory control, it should be imposed in accordance with the following principles:
   (1) Any regulatory control deemed necessary over agricultural chemicals intended to affect the physiological processes of plants such as gibberellins, plant regulators, desiccants and defoliants, other than plant foods, should be imposed by amendment to the Uniform State Insecticide, Fungicide, and Rodenticide Act and the counterpart state acts, rather than under the State Fertilizer Laws.
   (2) In the case of a product which consists of a combination of both plant foods and pesticides or other regulated chemicals or products claiming both plant food and other regulated chemical value, it should be subject to control under both the applicable aforementioned laws. (1958)

9. Resolved that control measures should be adopted to eliminate the distribution of pesticidal vaporizers for home use. (1958)

10. Resolved that it shall be the policy of the Association of Pesticide Control Officials that each scented variety of a specific pesticide shall be separately and independently registered; and, furthermore, that separate and individual brand registrations be required for each variety or physical form of any pesticide which may be offered for sale in a variety of physical forms and differentiating labeling even though the composition may be the same. (1960)

11. Resolved that legally required label information must be printed in type of size and placement which will render it conspicuous and easily readable. (1961)

12. Resolved that the word 'safe' and similar declarations should not appear upon pesticide labels. (1961)

13. Resolved that products bearing the same brand name but different manufacturer designation should be separately registered. (1961)

14. Resolved that a new certificate and number be issued if a change is made during a registration period in the statement of ingredients even though the brand name may remain unaffected. (1961)

15. Resolved that the use and distribution of pesticides intended for experimental purposes only be regulated and controlled either by law, regulation or effective administrative policy. (1961)

16. Resolved that a separate registration be required for fertilizer-pesticide mixtures for each grade or guaranteed analysis of either the fertilizer mixture or the pesticide ingredient. (1961)
17. Resolved that the following forms of animal or plant life be declared as pests for the purpose of bringing under State Insecticide, Fungicide and Rodenticide Acts those products distributed for preventing, destroying, repelling, or mitigating such forms of life, as provided in the Act:
Mammals, including but not limited to dogs, cats, moles, bats, wild carnivores, rabbits, armadillos, and deer;
Birds, including but not limited to starlings, English sparrows, crows, and blackbirds;
Fishes, including the jawless fishes such as the sea lamprey, the cartilaginous fishes such as the sharks, and the bony fishes such as the carp;
Amphibians and reptiles, including but not limited to poisonous snakes;
Aquatic and terrestrial invertebrates, including but not limited to slugs, snails, and crayfish;
Roots or other plant parts growing where not wanted. (1961)

18. Resolved that pesticide-fertilizer mixtures when mixed upon request shall be subject to registration under applicable existing statutes. (1961)

19. Resolved that pesticide products dispensed by veterinarians are subject to registration unless specifically prescribed by the doctor and labeled in accordance with the well established practices of druggists. Products intended for use by veterinarians and animal hospitals must be registered if packaged and distributed in regularly labeled containers. (1961, Amended 1962)

20. Resolved that pesticide labels be required to show directions for decontaminating used containers of highly toxic pesticides. (1962)

MEMBERS WHO HAVE OCCUPIED THE OFFICE OF PRESIDENT

J. L. St. John, Pullman, Washington .......................................... 1947-48
H. H. Hoffman, St. Paul, Minnesota ........................................... 1948-49
J. F. Fudge, College Station, Texas ........................................... 1949-50
A. B. Lemmon, Sacramento, California ...................................... 1950-51
E. W. Constable, Raleigh, North Carolina .................................... 1951-52
R. C. Berry, Richmond, Virginia ............................................ 1952-53
Floyd Roberts, Bismarck, North Dakota .................................... 1953-54
E. A. Epps, Jr., Baton Rouge, Louisiana ..................................... 1954-55
C. A. Bower, Oklahoma City, Oklahoma ...................................... 1955-56
F. H. Gates, Denver, Colorado .................................................. 1957-58
W. C. Geagley, Lansing, Michigan ............................................ 1958-59
J. D. Patterson, Salem, Oregon ............................................... 1959-60
E. R. Winterle, Tallahassee, Florida ........................................ 1960-61
R. H. Guntert, Topeka, Kansas ................................................ 1961-62
M. E. Christensen, Salt Lake City, Utah .................................... 1962-63

MEMBERS WHO HAVE OCCUPIED THE OFFICE OF SECRETARY-TREASURER

A. B. Heagy, College Park, Maryland ........................................ 1947-60

MEMBERS WHO HAVE OCCUPIED THE OFFICE OF SECRETARY

P. E. Irwin, Richmond, Virginia ............................................... 1960-

MEMBERS WHO HAVE OCCUPIED THE OFFICE OF TREASURER

A. B. Heagy, College Park, Maryland ........................................ 1960-63
PRESIDENT'S ADDRESS

In accordance with the tradition of this Association, I recognize the honor of this opportunity to report, evaluate and make recommendations which are intended to improve the status and service of our organization.

It is remarkable when one contemplates the number of states which, in a comparatively short time, have adopted Pesticide legislation similar to the Federal Act. Within half a dozen years after the passage of the Federal law, 30 states already had laws patterned after it and another 6 with laws similar in some respects. After a decade, only 7 states were without pesticide laws. When one considers the diverse and varied interests of this country and Canada, the independent attitude of each state, the local governmental patterns and complexities, it is remarkable that such a coverage could be attained on a purely voluntary basis. This accomplishment is, to a great extent, a result of the subtle contribution to the welfare of the public by the Association of which we are a part.

As I have reviewed the activities of our organization over the past seventeen years, I have been impressed with a few projects and programs which have emerged as our characteristics and traditions. Primarily, they constitute our source of influence and stability. I would like to refer to some of them and comment on their contribution to the Association.

The Annual Publication

Over the years this publication has changed its complexion several times. Experience has pretty well determined what it should be like today. It should be observed that it has borne more than one name. At one time it was called "Publication" and more recently "Proceedings". I personally feel the name should be reconsidered. The regulatory official has need of more than a report of annual meeting proceedings as his guide for uniformity. Such a publication should provide comprehensive coverage of the affairs and policies of the Association including definitions, standards, model laws, inspection methods and standards, and a sprinkling of historical data. It should be made available immediately after each annual meeting and printed in form and format in keeping with the dignity and importance of the Association.

It is intended that the committee, appointed to assist the secretary in its preparation, will consider policy as to content, arrangement, editing and, in addition, actually assist in compiling information and otherwise facilitating wherever possible with the publishing of the manual.

The annual publication is the display panel of our label; let's mind its content.

Association Constitution

The Constitution of the Association is basically sound but a few minor changes would clarify some questions occasionally raised and emphasize certain phases of our activity which have been taken for granted, but not expressly referred to. With this thought in mind, I have recommended among others, an addition to Section 2 as follows:

Section 2. Purpose. The purpose of the Association shall be

(a) to promote uniform and effective legislation, definitions, rulings and enforcement of laws relating to the control of sale and distribution of insecticides, fungicides, and other pesticides;

(b) to encourage and sponsor the adoption, by all member agencies of the most effective and adequate methods of analysis of pesticides;

(c) to develop high standards of pesticide inspection techniques and procedures;

(d) to promote adequate labeling and safe use of pesticides; and

(e) to provide facilities and opportunities for free exchange of information, discussion and cooperative study of problems confronting members of the Association.

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Compendium

The choice to divorce the compendium from the annual publication was a wise one. This is a specialized source of technical information which both the regulatory official and industry have found valuable. It should be kept up to date, technically accurate and published on the basis of need. Related technical information, including a possible table of reference to the methods of analysis, should be considered for inclusion.

Methods of Analysis

The core of our enforcement programs is the method of analysis. This is an extremely important and specialized phase of our activity. Methods of analysis of pesticides are in a constant state of flux, which will necessitate provision for deliberate and free exchange of ideas and experience on this phase of our work. These discussions are of primary value to laboratory personnel, whereas the administrator is frequently the only state representative present at these meetings. I would recommend, therefore, that increased attention be given to recording, summarizing, screening and reporting pertinent conclusions reached in discussion sessions involving methods to the specific personnel who can best use them, either in the annual publication or a separate bulletin. We will always want to rely on the AOAC for our authoritative source of methods. However, a large number of materials we must analyze are not listed in the book of methods. Until this source reference catches up with our needs we should consider a more efficient system of procuring and distributing methods to regulatory laboratories on products not covered by the AOAC. The USDA Pesticide Regulatory Division has been most generous in attempting to fill the gap and I wish to express the appreciation of the Association for their help. I can only suggest that as an Association project, we assemble the methods as they are made available, bind, index, and distribute them in a more permanent form.

Uniform Policies of Administration

We have made remarkable progress in adopting a uniform law regulating the field of pesticides. We are now formalizing related regulations to implement our respective laws. This is a marked step forward and should contribute to the smooth and efficient application of the law throughout the United States and Canada. Two additional areas of activity in the interest of uniformity need to be improved. These consist of:

(a) Administrative interpretations and decisions, and

(b) Inspection procedures.

I would recommend that these areas of activity should become the responsibility of a special committee. This will permit greater exchange of opinion and experience before reaching proposal stage to the Association.

Use of Association Funds

A review of the Treasurer's report indicates this Association has accumulated a modest cash reserve. It would be purposeless to indefinitely carry a savings account and likewise unwise to over-extend ourselves financially and attempt to operate on a narrow margin of financial reserve. However, I believe we have reached the point where we could consider use of Association funds for purposes intended to achieve our objectives. It is therefore proposed that a committee be appointed to consider the advisability and possible programs or projects which we might encourage or support with such funds.

Collaborative Check Sample

More than any other Association activity, this program serves to upgrade the analytical phase of pesticide regulatory service. It should be continued substantially in its present form and supported by every laboratory through collaborative effort.

A review of collaborative activity during 1962 indicates that an average of 21 regulatory agencies participated on each sample. A total of 31 responded with analysis of one or more samples during the year. This means that about half the laboratories are not collaborating. In this business we cannot afford to be half good. The project deserves total cooperative effort. I would propose that a list of the names of the annual collaborative materials and methods be distributed at least six months ahead of sending out samples. This will permit some laboratories to obtain standards, equipment and reagents which will be needed when the sample arrives.
Conspicuous Labeling

The model bill declares that the label must bear information adequate for protection and includes a requirement that essential information appear prominently and conspicuously upon the label. This word "adequate" places a tremendous responsibility on members of this Association. When is information adequate for protection under all situations? Another point is also impressive. The law charges us with the "prevention of injury" and "Protection of the public" when using pesticides. Maybe the label is not sufficiently informative or adequate to accomplish these objectives in the case of some products. Other measures, including restricted distribution, supplementary information, special label flagging, or evidence of training to use the product safely, may need to be considered.

There could be a wide difference of opinion between officials and other interested parties as to what constitutes prominent and conspicuous printing. One authority lists "easily seen, noticeable and standing out" as equivalent terms. There are many labels which fail to meet this standard. The law states that instructions and warnings must be "likely to be read and understood". A manufacturer may think the brand name or trademark is most important and deserves preferential flagging and emphasis. This is secondary, however, to safe use information. A side panel "caution" statement may be too little and too late.

We should unite in an Association effort to challenge labels on which such blocks of information as the active ingredients and warning statements are on rear panels, bottom sections, in obscure print or at right angles to other display panel information. I would recommend that a committee be appointed to study labels with the idea of suggesting improvements in format and standards of uniformity.

Nomenclature

We have very wisely demonstrated our desire to support the international movement to standardize and systematize names, units and terms related to pesticides. It is imperative that we lend all the support and encouragement possible to this program before we become hopelessly involved in an entangled mass of unrealistic terminology.

Public Education

The primary objective of the Association is to foster and encourage uniformity between government agencies in regulating sale and distribution of pesticides. Inherent in the purposes of the Association and implied in the Model Bill are two additional objectives. One of them is intended to provide an environment conducive to fair and honest pursuit of trade within the industry, and, the second, to insure that the public is protected from both economic and physical injury. I wish to consider in greater detail the latter.

Obviously the manufacturer is primarily responsible for educating the public in the safe use of his product. But, by legislative action we have been assigned to a crucial position on the safety team and are in league with him. At all costs the public must be protected and next to that the pest must be destroyed. The label is the key to our success but in some cases even the best label may not be the complete answer.

Whether we realize it or not we should be in the communication business. We must make certain before approving a product for distribution that the users' welfare is reasonably well assured. He must be informed by someone. I believe our share of that responsibility is not only permissible but to a substantial degree, obligatory. Related to this problem is a recent statement by Surgeon General Luther S. Terry, when he said that the question of more information and more education of the public is far more important than additional regulations or laws. We should give greater consideration to this phase of our responsibility.

There is nothing wrong with DDT, Mercury or Parathion, just the way they are misused. They are like volunteer wheat in a beet field, or water in a flood. Controlled, they are a blessing and indispensable. The most serious problem with pesticides is lack of knowledge by those who use them. Whose job is it to inform? The readily apparent answer is: All of those who know the answers.

Obviously, we would be limited in such a program but there are several possibilities of supporting other agencies and associations in sponsoring preventive and educational programs which would engender safe use and an intelligent attitude toward a potentially dangerous type of commodity. Some reputable groups are already engaged in such projects. A limited amount of printed
educational information has been made available to the public. Some states, having recognized the need for enlightening the consumer, have initiated worthwhile publicity campaigns related to safe and intelligent use of pesticides. It has become apparent that this Association could, as an unbiased service agency representing the public, render additional assistance in this area. I would recommend that a committee be appointed to investigate the possibility of rendering a public service through modest, supportive programs of warning, reporting, improved labeling and education in general. When an unreasonable or strongly biased or unjustified claim is made for or against a product or class of products, including the general area of pesticides, this Association could and probably should take a stand in the interest of fairness to industry and the public and assist in clearing the atmosphere of confusion. Informing the users of pesticides could be our best regulatory service. Prevention is always more desirable than corrective measures. In my opinion, we need a coordinated program to tell people about pesticides, their potential value, hazards, care in handling and corrective procedures as a result of misuse. In the interest of saving ourselves, crops and health and still use pesticides adequately and safely, we should make a contribution in the field of public education regarding pesticides.

Pesticides are having their day in court—examination and cross examination is going on in every town and state. Regulatory officials are taking no side except to endorse truth and good judgement. We will not condone exaggeration or misrepresentation from any source.

**Upgrading Regulatory Service**

We are here today because we want to more adequately and effectively administer the laws for which we are responsible. In other words, we want to upgrade our regulatory services or make them better. But when is a State Regulatory Pesticide Service better, or what is the difference between a good service and one that is half good? Permit me to list a few general and obvious standards.

1. A comprehensive, reasonable regulatory code such as the model bill and related legislation.
2. Prompt, positive, judicious communications.
4. Adequate inspection coverage.
5. Accurate, comprehensive analytical analysis.
6. Conformity to uniform policies proposed by this Association.
7. Participation in Association projects, workshops and programs; and several more.

At a time when the use of pesticides is being challenged and public sentiment changes almost daily, when we must resort to new and modified methods of analysis, when new formulations are flooding the market daily, some undetected and bootlegged, the state official who fails to do his best to become thoroughly informed, who habitually makes no effort to attend meetings, workshops and special training or, through no fault of his, is restrained from so doing and fails to share experiences and planning represents a carry-over from an obsolete system. He or his agency is disloyal to his or its contemporaries, non-cooperative and a deterrent to progress in preserving public welfare.

Has anyone attempted to describe or define an ideal state regulatory service? This is our greatest concern, but no one has specifically precipitated the colloidal mass of nebulous thinking on this vital subject. If this Association were to do nothing more than ask each state official ten well considered questions regarding his administrative program, we would automatically set, and in some cases, raise the standards of administration in every state in America. I challenge this Association to do something more tangible immediately to lift each one of us by our own boot straps to a higher level of performance.

But let us not stop at ten questions. I propose we seriously consider a comprehensive, cooperative plan of self rating, or association-sponsored accreditation plan. Any kind of a rating program would be better than nothing. Such a system need not embarrass any member of this Association, but could be used to a good advantage by each regulatory official to improve his own situation. Some might resent an evaluation by an independent reviewing committee. This can be avoided if desired. Evaluations could be done on a self rating basis or a review of anonymous
reports by a competent committee.

The results of such a program could be of infinite value. Control Officials would be the first to take advantage of recommended, needed improvements. Administrative boards could never live with a substandard rating. Legislatures could be brow beaten into supportive submission. Within a few years the best would become better and the poorest redeemed from a hopeless rut of incompetence.

Is this needed?

The saddest commentary on our American system of government is the recognized need for, and existence of, active involvement in regulation of commerce within the boundaries of every state, by Federal agencies. But it was a natural consequence. Too many states, through petty local politics, arbitrary, financial retrenchment measures, slapping the lid on local technical advancement, yielded to centralized government, this constitutional right and obligation of local regulatory service in the area of public health and welfare.

Why do you suppose a federal inspector is today collecting food, feed and pesticide samples in Middletown, Trenton, Spanish River or Hopeville. Because too many states were unprepared to do their own constitutional housekeeping. Social and technical advances moved too fast for many local political systems and their leaders were content to let a larger player steal the ball while they were mumbling signal systems.

As good as Federal regulation is --- and believe me, it is good --- it is unfortunate when it is forced to assume responsibility which could and should be borne by a State, and can never adequately serve the ultimate ideals of true American democracy under such conditions.

It is easy for anyone to point out weakness, but let me emphasize that I have with confidence offered an idea which has been proven in industry, education, medicine and other scientific services. It could improve our service to the extent that increased expansion into the vacuum of local and state inactivity and incompetence, by Federal agencies, would be unnecessary. The thought may have the status only of a faint hope in many of your minds but I assure you, it is our sole ultimate assurance of internal national peace and patriotic pride.

Suppose we do nothing about improving the service of state agencies---then what? In proportion to our inability to meet the technical needs of regulatory service, the vacuum will be filled by Federal control which will eventually relegate the service of the state to the status of figurehead and mockery, and the influence of the state will rapidly drift into a concentrated reservoir of centralized power. This possibility is already alarmingly apparent. No one denies the authority of the Federal government to become involved with local commerce, but I join an increasing daily number of citizens in questioning the wisdom of such a trend.

The future must be characterized by stronger and better regulatory service in the field of consumer products affecting the health and welfare of the people. The place to correct shoddy and careless merchandising is close to home. The place to make exaggerated, unjustified tales about pesticides meaningless and ridiculous is in your town and mine through the bilateral influence of industry and local regulatory agencies.

I want a strong Federal government, capable of answering all questions, willing and able to train, assist and collaborate on difficult problems. In a national crisis, we need a powerful and ready federal reserve of knowledge, force and authority---but let's not make every routine service a national emergency.

Each annual meeting serves as an ideal time to evaluate the degree of uniformity attained in the administration of pesticide regulation. Our motto should be: Unify and Cooperate. A heterogeneity of numerous individualistic regulatory patterns is bound to provide fertile field for insistence on national control to make unencumbered commerce possible and protect our national human resource.

At the spring meeting held at the invitation of Pesticide Regulation Division, a Control Official asked the question:

"What will be the role of the State Regulatory Official 5 or 10 years from now?"

The answer will depend on many factors, some of which will be complex and colored by politics.
It is easier to answer the question "What should his role be?" To a great extent the answer depends on personal initiative and local state administrative support. The die is being cast today for our role 10 years from now, and if states are short sighted and unrealistic, no change of pattern will be possible at a later date.

The state officer could be the key to safe and sound, democratic, efficient and capable regulation of pesticides in the era ahead. The public welfare could thus be best preserved.

The torch of regulatory service can yet be grasped by you and me as state officials, but it will eventually rest only in the hands of the competent and energetic. The public will make the ultimate decision.

You may not have noticed that I have scarcely mentioned the word "control" in my comments. I commend the thought to you for serious mulling. Our assignments are more than control. Perhaps a change in designation of our Association might convey a more realistic impression to industry and the public of the true scope of our service potential.

On behalf of the Association, I respectfully pay tribute to the dignity, efficiency and competency of the Pesticide Regulation Branch, USDA. They have been solicitous to me personally and have won the appreciation of every State Pesticide Official. The generosity of their advice and cooperative spirit has been reflected in the stability and strength of this Association. My thanks also to every member who has assisted in carrying on the work of the Association. A special tribute is due Al Heagy, our Treasurer for 16 years. His courage, vision and persistence have contributed immeasurably to the dignity of this Association. It has been a privilege to serve with you.

M. Elmer Christensen
State Chemist, Dept. of Agriculture
Utah
THE PROBLEMS OF PESTICIDES AND THEIR USES
IN THE NORTHWESTERN UNITED STATES

R. E. Jones

In order to understand the problems concerning pesticides and their uses in the Pacific Northwest, we should first examine the environmental conditions under which they are used. It is understood that many of those in attendance here have never been in the West before and may not be acquainted with the area and its conditions. It is with this thought in mind that I would like to present a brief thumbnail sketch of the Pacific Northwest in relation to agriculture.

There is one word that can describe not only the conditions of climate and terrain, but also the crops and their cultivation in our area, and this is DIVERSITY. In relation to conditions of weather, etc. in other parts of the United States, we can offer a diversified pattern that is quite different from that found in other localities.

First of all, the terrain, consisting of lowlands along the coastal areas, gradually rises through a series of mountain ranges until we reach the state of Montana where the cultivated valleys may be upwards of 3,000 feet. Within this area, we find the valleys given over to cultivated crops, and many of the hills used for limited grazing. Only 15% of our land area is presently used for cropping, which shows that our cultivated areas are not contiguous.

This variation in elevation means that our weather is then affected by it. Along the coastal areas we have heavy rainfall; yet, east of the Cascade Ranges, many arid desert areas exist. The extremes vary from over 100 inches in many areas down to 2 inches in some parts of eastern Oregon. Perhaps 12 inches to 15 inches might be the over-all average.

This then means that irrigation plays a great part in our agriculture. 70% of our farms are irrigated, either with sprinklers or by rills. Because of the fact that irrigation water is always present at some place on a field, it is often difficult to do an adequate spraying job with ground rigs. Thus, aerial application of materials on all crops is commonplace.

Our soils tend to be alkaline. In some areas, 85% of the samples show a pH of over 7.

The diversity of crops in the Pacific Northwest is astounding. There are over 50 major crops grown, including livestock. A partial list of these crops and the ranking of one of the Northwestern states nationally in its production is as follows:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Ranking</th>
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<tbody>
<tr>
<td>Potatoes</td>
<td>1</td>
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<tr>
<td>Mint Oil</td>
<td>1</td>
</tr>
<tr>
<td>Apples</td>
<td>1</td>
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<tr>
<td>Green Beans</td>
<td>1</td>
</tr>
<tr>
<td>Dry Peas</td>
<td>1</td>
</tr>
<tr>
<td>Hops</td>
<td>1</td>
</tr>
<tr>
<td>Broccoli</td>
<td>2</td>
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<tr>
<td>Walnuts</td>
<td>2</td>
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<tr>
<td>Pears</td>
<td>2</td>
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<tr>
<td>Strawberries</td>
<td>2</td>
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<tr>
<td>Winter Wheat</td>
<td>3</td>
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<tr>
<td>Asparagus</td>
<td>3</td>
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<tr>
<td>Cranberries</td>
<td>4</td>
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<td>Grapes</td>
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<tr>
<td>Barley</td>
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<td>Carrots</td>
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<td>Cattle</td>
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<td>Hay</td>
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<tr>
<td>Dairy</td>
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<td>Sugar Beets</td>
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The abundance of these crops is due in no small part to atmospheric conditions. Basically, we have 1 to 2 hours more sunshine each day during the summer months, up to 20% less humidity, and only about one-fourth the summer rainfall found in other eastern areas of the United States.

So, we are diversified in every sense of the word: in terrain, weather, crops, soils, etc.

This diversification alone means that we have problems which follow the same pattern. Unanswered at this time are such cultural and disease problems as:

The control of mites, not only in fruit, but in field crops as well.
The presence of verticillium wilt in mint, which is rapidly decimating our fields.
The lack of control on pear psylla by presently available insecticides.
And the invasions made by rusts in our vast acreages of wheatland.
And I might add one more and say that the problem of control of aquatic weeds in our irrigation systems is reaching gigantic proportions. For the uninitiated, this latter
problem means that aquatic weeds restrict the flow of water through our canals and ditches and seriously hamper the delivery of water to thirsty fields.

Chemicals for the purpose of aquatic weed control have to fit a very exacting pattern. We are dealing with emerged and submerged weeds and they must work on both types. They must be effective over several miles of canal, they must not harm crops on which the water may be released, and, if possible, they should keep the dead plants from drifting down to headgates and laterals to clog outlets. To develop a chemical of this nature is a tremendous undertaking, yet a very serious problem exists and must be answered promptly.

Getting to the problems at hand as far as pesticides are concerned, they again vary greatly in scope and involvement. At the moment we have reached a plateau of understanding, at least, in the matter of bee poisoning. But more work is still to be done, and groups of people are hard at work hoping to solve this knotty problem.

Basically, in Washington, the killing of bees has come from their foraging habits and the use of chemicals toxic to them. For instance, many beekeepers use the Yakima Valley as a place for late summer forage for their bees. At the same time, we have a thriving corn industry which wishes to protect its crops with the most efficient insecticide, which in this case happens to be Sevin. At the time the corn is sprayed or dusted for insect control, bees have run out of available blossoming crops and enter the corn fields to collect pollen. The resultant effect is disastrous for the bees, and many colonies have been decimated. Today, restrictions have been set up by the state department of agriculture which have at least eased the situation. Restricted areas have been arranged where no such insecticides can be applied, and thus bees will be allowed to forage unmolested. Other areas, designated as corn growing areas, are free to use insecticides, and beekeeping is thus naturally restricted. There are also zones where insecticides can be used up to certain dates, thus helping to protect late foraging bees. I would like to add that cooperation between the farmer and the beekeeper is the real key to helping solve the problem.

A second difficulty is in the volatility and air movement of 2, 4-D. The high volatile ester formulations are especially hazardous to such crops as grapes, vegetables, etc. This problem is general throughout the Northwest and is made acute by the fact that nearly all such materials are applied by air in total volumes of as little as one gallon of mixture per acre. This means that the solution has very small particle size and thus can be carried about by wind conditions normally not considered dangerous. Presently, special equipment has been designed and is in use by the various states to collect air samples at different locations at different times to determine what types of 2, 4-D can be found in the air and might do damage. The ultimate outcome could be that all high volatile formulations could be banned. In addition, droplet size could be limited by forcing applicators to use a higher total gallonage and a certain size orifice in their spray booms to give this gallonage. Also, in some places, the use of oils as carriers for the 2, 4-D is being discouraged to thus reduce drift. Today, however, this drift and volatility problem is one of the major ones of our area. Presently being developed are very efficient and effective forms of 2, 4-D and 2, 4, 5-T which may greatly ease the present situation. They have very little volatility and yet are as effective as ester formulations. We are hopeful!

This past year in several areas, we ran into the problem of a residue of Aldrin on potatoes. Aldrin has been used for years as a soil insecticide for the control of wireworms and flea beetles. Its label reads that it is to be a broadcast application thoroughly disced into the soil. However, many formulators started to add the chemical to their fertilizers and to use these fertilizers for side dressing. They put in the amount of Aldrin normally applied to an acre, yet they applied it in small bands alongside the growing crop. The potatoes picked up enough to show a residue. It was also found that some farmers were putting on a full dosage of Aldrin every year, whereas one treatment should normally last three years. Thus, a high concentration was built up in the soil area. Lastly, under our conditions of irrigation and alkalinity of soil, we may have a condition that does not normally dissipate the chemical as in other areas. In any event, steps have been taken to alleviate the problem, and new studies are being made as to the proper use of Aldrin in row crop work.

Heptachlor, another chlorinated hydrocarbon, has also come in for some vocal and legal discussion. Hop growers in the several states applied this chemical to the soils of their hopyards to help control root weevils a few years ago. Within one or two years after the application, the growers reported great injury to the hopvines and attendant lack of production. Surveys were made and within a matter of weeks great legal suits were started for damages. For this reason, I hesitate to comment on the problem except to say that it does exist and thousands of acres are involved. It has been reported that a breakdown product, Heptachlor Epoxide, was the damaging agent.
In view of the vast forested areas in existence in the Northwest, the problem of insect control and the matter of residues becomes of great concern. This same problem exists in the control programs for grasshoppers on the millions of acres of range land. Basically, it can be said that chlorinated hydrocarbons have been highly successful in past programs, but today the rising indignation over the effect of these on wildlife has given rise to an attempt to find new control compounds. The reported injury to wildlife is from birds and fish effected by the concentrating of the chemicals in their bodies or in the types of foods they eat. DDT has proven a very highly effective control for forest insects, and it is relatively inexpensive. But, because of criticism, control officials are now trying out programs using phosphates and carbamates. Both Malathion and Sevin are presently under test by government personnel. These compounds hold less chance of danger to wildlife, although they do give a lesser percent of control.

Probably our most serious problem, as I see it, is the matter of protection for people involved in the application of poisonous pesticides. For some reason applicators, both ground and air, refuse to wear protective clothing or equipment. Each year, hundreds are made ill from contact with these compounds, yet the protection is easily available to each and every one of them. This past year, the Washington State Department of Agriculture, cooperating with members of industry, has made a safety drive to educate people in the proper use of chemicals and the proper protection during their application. Thousands of brochures containing this information were mailed out to chemical users, and we hope with beneficial results to all concerned. We think this educational program needs to be continued on even a vaster scale, and we in the industry intend to foster it.

There are many, many problems that time here will not permit discussion. However, I hope that in this limited time, you have been able to get a clearer picture of the Northwest and its growing field of agriculture along with a few views on pesticides and their usage. DIVERSITY is our salvation and also our problem.
DEVELOPMENT OF PESTICIDES

The details of the development of agricultural pesticides have been described many times. It is a fascinating subject, and constantly changing, so the subject can be developed in many ways.

One often hears the statement, "before or after DDT", with little reference to what happened before DDT. Possibly a brief evaluation of this early period would be of interest. From this standpoint, let’s look at the changes in emphasis on the development of pesticides from the viewpoint of industry vs. tax supported and private research institutions. Prior to 1945 approximately 30 pesticides were developed by industry and 74 from tax supported institutions such as experiment stations, USDA laboratories and laboratories maintained by endowment. Since 1945 this latter group produced approximately 16, while industry developed over 180. At the present time, the trend is reversing in favor of the tax supported institutions and others in this group.

Let us further consider this pre-1945 period. Pesticide chemicals in use included arsenicals, fluorine compounds, lime sulfur, coppers and botanicals, among others. The performance and recommendations for use of these materials had to be developed. Research to obtain this information was developed in the experiment stations and by other groups. Basic research studies were conducted to determine how pesticides killed and how they could best be applied. The early work of William Moore was a classic work during this period. Fundamental studies were carried out on the wetting and spreading of pesticides. As early as 1926 an administrative group was organized to utilize manpower and equipment available in university research groups to test and develop chemicals from industry as pesticides. This organization is still carrying on the same functions from expanded facilities. Through this and other research facilities, thousands of chemicals were screened as possible pesticides.

We hear a great deal about biological control in present day discussions. This is, of course, not a new approach as some of the greatest accomplishments in this field date back to the early part of this century. Funds for this type of approach have not been readily available in most areas. This matter of emphasis on financial support of biological control has not been one of California’s major problems.

Let us look further at this matter of increase in number and use of pesticides before discussing further the development of pesticides.

We can attribute the increase in use of pesticides in great part to their efficiency and the resultant economy. Good examples are 2,4-D, DDT and DD Soil Fumigant. Coupled with these are many factors such as substantial technical information covering each product, performance data from many areas due to expanded operations of basic manufacturers and wide dispersion of information to company representatives operating in the field giving them greater confidence to assist in selling the products.

In developing pesticides for use in California, and including the southwest, several major differences stand out. Possibly the greatest of these is the preponderence of desert areas where irrigation is necessary to produce crops. Another is the size of ranches. Some of these may have as many as 40,000 acres under cultivation. Rice production presents another type of situation that can lead to special problems in product development. Desert climate is relatively unique and extreme temperature changes, temperature inversions and continuous sunny days require special studies to obtain information necessary for the best use recommendations. Generally speaking, higher doses of pesticides are required in the area under discussion than are required in other areas.

Where intensified agriculture is interspersed with an expanding population, we have the additional challenge of controlling mosquitoes, hippelates eye gnat, ground squirrels and other public health pests to reduce the possibility of disease spread and annoyance. This same population or some segment of it demands fishing and hunting. Protection of these resources require further special knowledge and care in operations with pesticides.

Finally, consideration must be given to water contamination, not only from any possible hazard to wildlife, but from the standpoint of underground contamination. In desert areas converted to agriculture, it is necessary to replenish the underground water table. This is carried out over somewhat limited areas with water that moves through areas of possible contamination. This same area requires special practices such as leaching to make some areas useful for crop
production and to keep the land in condition for maximum production.

The continued use of new pesticides, in greater numbers and amounts, requires a strong set of operational rules governing the selection and development of these pesticides. These must be flexible because of changes. A few desirable characteristics in future pesticides are: (1) high potency, this may include chemicals that are quite specific or those giving control over a broad spectrum of pests; (2) low mammalian toxicity and hazard, of these two, hazard is usually the more important. Pesticides are poisons and every single one should be so considered and handled accordingly if we are to eliminate careless and thoughtless handling that can lead to trouble; (3) long residual effect for certain uses or short residual for others. Residual effect may be apparent where the original population is nearly eliminated. If the chemical is to last over a long period, it should be in sufficient amount to kill the pest, not in sublethal amounts; (4) Finally, the chemicals should have the greatest degree of safety for beneficial animals and pollinators. Present day work emphasizes the value of several insects as pollinators in addition to honeybees.

In order to encompass all of these factors, it is necessary to have (1) complete technical knowledge of the chemical, including stability in air, water and soil; (2) Performance and persistence in use under variable conditions of climate; (3) Effect and persistence as related to beneficial animals; (4) Effect on fish and game primarily from direct use, but also including drift and other contamination sources.

A few statistics concerning agricultural pesticide use may be enlightening. The State of California, Department of Public Health, Bureau of Occupational Health, reports that "in 1961 there were 911 occupational disease chemicals". This number is even lower for 1962. This was 7% less than in 1960. The decrease occurred in the agricultural industry.

Agricultural aircraft employees accounted for 55 cases of occupational illness. This was a decrease of 45 percent over 1960. This can be attributed, in part at least, to an aggressive safety program conducted by this industry.

Organic phosphate pesticides accounted for nearly 30 percent of the reported cases of injury. In 38 percent of the cases, the chemical was not specified. Chlorinated hydrocarbons, herbicides and fertilizers accounted for 8, 7 and 5 percent of the total.

Of particular interest is the fact that organic phosphate pesticides represented nearly three-quarters of the 268 reports of systemic poisonings. Certain agricultural chemicals reported less frequently, that may be quite hazardous, are lead and arsenic compounds, phenolic compounds and organo-mercury compounds.

Finally, keep in mind that the combined research expenditures of pesticides by industry is about $30,000,000 annually. Of the 200 or more chemicals developed since the war, probably no more than 50 basic chemicals are sold in volume for agricultural pest control use. It is easy to see that the cost of each successful chemical costs the industry well over the 1.5 million dollars generally attributed to developing a chemical pesticide.

With the dollar volume of the sale of agricultural chemicals approximating $300,000,000 annually, one can see where industry is spending about 10 percent of their gross income on research. If industry is to continue to invest in research, this profit incentive will have to persist as a justification.
To attempt a formal paper on this subject even a few days before the 17th annual meeting of the Association of American Pesticide Control Officials seems likely to be unrewarding. This is true primarily because I feel obligated to bring to you such information as is available on the truly current situation. That situation is developing so rapidly that anything definite enough to be helpful may be out of date before the day is over.

Since the last meeting of the Association in Washington, much has been happening, and since your meeting last year a great deal has crystallized—with some of the moves forecasting rather broad and dramatic changes in pesticide management.

All of you are familiar with the book "Silent Spring" and with the President's Life Sciences Panel report "The Use of Pesticides," but some may not know how important they have become in Washington. It is a rare discussion which does not make reference to one or more of the recommendations in the Panel report. The strong emphasis of the fact that we don't know everything about the pesticides we use and therefore we must rapidly expand research in the field underlies the general thinking. With that concept, no one takes serious exception. One other trend in Washington thinking, however, is that since we don't know everything about pesticides, we have risked too much in accepting many of them. This idea is the really basic one in the whole new appraisal philosophy which concerns the regulatory official. It has long been necessary to judge just how much scientific data is enough to justify taking a legal action. When registration is at stake, it is usually an agreement between the scientist, the attorney, and the administrative official that the material submitted is adequate to prove that the product and its labeling meet the minimum requirements of the law which justifies the action. To my knowledge no scientist has ever admitted that he had received all the information he would like—but many conscientious scientists have made decisions as to the acceptability of a proposed use of a pesticide on the basis of extensive and reassuring research results. It would appear to me, however, that the present Washington attitude might well result in new and much more strict standards for the regulatory agency to apply before a new product could be registered.

Certain questions have been raised as to the need for medical domination in the judging of pesticides particularly those used in the human environment or on foods. Should this point be pushed, it is possible that new orientation in pesticide law administration would follow. This might take the trend toward employing medical officers to serve in present enforcement agencies, or it might suggest a move of function into agencies with extensive medical competence already established. It could on the other hand, merely require formal liaison between the existing pesticide law enforcement personnel and medical officers in other Government departments. So, it is presently impossible to look into the future and anticipate what is going to happen to the Federal Government's function in the enforcement of the Federal Insecticide, Fungicide and Rodenticide Act and related laws.

One definite recommendation of basic interest to state officials is that involving possible transfer of Federal funds to individual states to strengthen state monitoring of pesticide levels in foods produced and consumed within the states. Such a program would seem to require a strong Federal-State liaison in food surveillance and should forecast the setting up of a Food and Drug Grant-in-Aid operation.

Of much more fundamental significance, however, relating to the adequacy of our present methods of pesticide clearance is the challenge to the safety of existing tolerances and the need for their prompt reappraisal.

Another suggestion was the one requiring an increasing recognition of fish and wildlife, and the importance of checking new pesticide uses with the Fish and Wildlife Service. This proposal did not surprise us, since it had arisen in legislation sponsored by Dingell and others. It has received sympathetic attention by the USDA.

Another really basic idea proposed in the Panel Report is of concern to all regulatory officials. It can be summarized briefly by stating it wishes to tie registerability to comparative toxicity. It would give to the registering agency authority to do two things:

1. Refuse registration if a safer chemical were available to do the job for which the new chemical was proposed,
2. Cancel registration of an established pesticide when a competitive chemical which was safer came on the market. Perhaps this idea was recognized as somewhat revolutionary, however, since it did not get into the recommendations section of the Report.
One other very critical, but less emphasized statement does appear in that particular of the document. It is that "Elimination of the use of persistent toxic pesticides should be the goal." This idea has appeared in legislation which would give the Surgeon General of the Public Health Service authority to establish standards of persistence for all pesticides.

No attempt has been made to give you a complete analysis of the President's report, nor of its many ramifications, but enough has been presented to permit the conclusion that it forecasts dramatic changes. The Report has been used as a guide, for example, by Senator Ribicoff in much of his questioning of witnesses before the Subcommittee on Reorganization and International Organizations of the Senate Committee on Government Operations, which is studying the whole problem of environmental contamination. The same thing was true in the Water Pollution hearings by the Natural Resources and Power Subcommittee of the House Committee on Government Operations.

Activation of the many recommendations in the report was directed by the President and the responsible cabinet officers have taken that order most seriously. Departmental and interdepartmental conferences have become commonplace, and very definite planning is underway on many phases of pesticide management.

One of the most direct of the developments is a strong letter sent to the Director of the Bureau of the Budget by the Acting Secretary of Agriculture urging that the Council of State Governments reopen consideration of uniform economic poison laws and of pesticide use laws.

Another proposal in the President's report was that approval of pesticides proposed for use in the human environment be a function of the Public Health Service. Such a transfer of responsibility would require legislation or a Presidential Reorganization order, and neither of these moves has appeared as yet.

Questions were raised as to zero tolerances and no-residue registration, and a recommendation that a National Research Council Committee be set up to go into those involved points was made. No Committee has been formed as yet, but one will likely be established in the near future.

Strong opinions were voiced that safety evaluations lacked sufficient data to make tolerances and precautionary labeling thoroughly sound. More tests to determine possible effects of residues on reproduction or on possible carcinogenicity were proposed. The Food and Drug Administration is adopting some of these ideas and has started requiring added pharmacological studies.

The question of emphasis on the warning statements on labels was raised. The Pesticides Regulation Division is revising its regulations to bring out this factor, and we understand legislation is being drafted to bring precautionary labeling on pesticides more closely in line with that required under the Hazardous Substances Labeling Act.

In addition, a great deal of emphasis has been given to increased recognition of pesticide-wildlife problems insofar as both labeling and field use are concerned. Legislation in this area is also pending.

Then the small details of registration under protest, registration numbers on labels, claims for safety on labels, proper disclosure of regulatory actions and decisions, have all been the subjects of discussion and legislation.

All in all, it is surprising that we have been able to keep our routine work in fair shape during the past few months. These have been trying times and they are certainly not over. All this interest in improved controls over pesticides will most definitely increase the importance of the Pesticide Control officials in this country and the world. It is likely that we will get more authority and some increased budgets to support it.

The importance of the Association and its aims to make pesticide controls both effective and realistic should not be underestimated. It is going to be through continued and increased cooperation that we can make the coming changes of the greatest possible benefit to the public. We must not give way to a fear of pesticides, but we must always respect them and use them properly. The regulatory officials will remain a vital part of the team set up to be sure that pesticides can be used effectively and safely. Final decisions on registering and marketing must rest with them, even though competent scientific advice will become more and more essential as we move into the use of increasingly stringent standards to justify the clearances of pesticides needed to protect health and safeguard property.
Improving Pesticide Communications

H. E. Spires

Several months ago our supervising inspector in Los Angeles received a telephone call from a local housewife. She was much concerned about hazards of pesticides and their possible effect on public health. She wanted to know why the Department of Agriculture did not do something about controlling these materials. Our inspector proceeded to tell her of our existing laws and regulations as well as the control work that is being done on a daily basis. She then stated "do you mean that something is already being done" and then hung up the phone.

There is no question but that the public is concerned over its own well-being, and rightly so. People are constantly reminded by magazine and newspaper articles that feature all incidents relating to the use of pesticides, many of which cases, after investigations, are proven to be unrelated to pesticides.

It is readily admitted that there is nothing spectacular about the day-to-day enforcement of regulatory programs. Generally it is considered as a routine operation performed by well-trained personnel doing a job that they are being paid to do.

All of us are talking pesticides every working day, but we are talking to people who are quite familiar with the work we do. Our contacts are primarily limited to farmers, applicators, chemical manufacturers, and other well-informed groups. What we are not doing is reaching those individuals who are either ignorant of our work, or are grossly misinformed. These are the people who are the most concerned over the use and control of pesticides.

Our job is to improve our communications with the public, the housewife, and the businessman; telling them what we do, how we do it, and proving to them that our work is providing assurance that our food supply is safe. They are the people who create public opinion, who demand and support controls and who influence our law-makers. They also are the people who spray their lawns, their shrubs, and their homes and must also be made aware of the necessity of exercising caution and following directions.

We are quite active in this area, but not to the extent that we should be. We accept all requests to speak before womens' groups, service clubs, T-V, and radio. We have also prepared a series of colored slides which show our program from the farm to the retail grocery store. These slides include the sampling at wholesale and retail level, the chemical laboratory, as well as the steps taken by industry to wash and trim fruits and vegetables prior to retail sale.

To improve our communications we must have the desire to tell our side of the story, and to solicit the opportunity as actively as possible. We are doing a job that is for the benefit of all the people, and they have the right to know what we are doing for their protection.
In my opinion the need for better communications in the field of pesticides is urgent and important, and it is a pleasure to spend a few minutes on this topic at this time. Recently the entire industry has developed an attitude of defense that exhibits itself in the thinking of a large number of its leaders and in the constant flow of literature that permeates the scientific and trade journals related to pesticides.

A new approach is needed that will put pesticides in proper perspective in the mind of the American public. Pesticides are as essential to our daily living as sleeping pills and automobiles. Deaths from sleeping pills each year exceed by far the total number killed by pesticides. Is this fact pointed out and emphasized by the manufacturers and handlers of sleeping pills? Certainly not. The number of deaths from the use of automobiles exceeds that from all other accident causes combined. Do the automobile manufacturers and distributors dwell on this fact in their sales promotion programs? They take the positive approach, pointing out the pleasures and advantages of car ownership, not the hazards involved from its use. It seems to me that the pesticide industry would do well to follow the example of the sleeping pill, automobile and most other industries, and point out the necessity and benefits to humanity from the use of its products rather than dwelling incessantly on the hazards involved.

How might this be done? First by making friends with those who control mass media, the papers, magazines, T.V. and radio stations. Let's have our public relation men visit these firms and get personally acquainted with the managers. Let's explain to the managers that pesticides are vital to our very existence and that we are attempting to impress the public with this fact and acquaint them with the contribution pesticides make to our daily living. Let's find out what each mass media agency would use, in what form and how much, and then let's make sure that they get it. It is much easier for an editor to toss a story by an unknown Dr. John Doe in the waste basket than it is one sent in by Bill Friend, a personal acquaintance. Why not use a little imagination in preparation of the stories, pointing out the value of pesticides to mankind. Where would we be without pesticides in our present civilization? What kind of a life would a farmer or housewife have without modern pest control? What would the price of food be if all pesticides should disappear? How many persons could the American continent support without the aid of pesticides, etc. etc. The list of topics is long, fascinating, and vital to every American, and if prepared with a bit of imagination and color the stories would be acceptable to most mass media folks. A drab, lifeless, methodical scientific presentation may appeal to a few persons but not to the general public. To reach the ordinary citizen's imagination, life and originality must characterize the story.

Successful control programs are going on all the time. Who knows about these programs? The people who do the work and very few others. We now take the absence of house flies, mosquitoes and many other common pests for granted. Why shouldn't the public know that this did not just happen but is the result of considerable intelligent planning and diligent hard work. Why not point out the economic side of pest control to the public, not just in our own journals. We spend too much time talking to ourselves and not enough to the public that really should have the story.

And, finally, let's stop advertising Rachel Carson's book. She could not have employed a more effective sales agency than entomologists and others in the pesticide industry who have sold thousands of copies by ranting about her book.

LABELS: Labels are an important part of communications in the pesticide industry. I have written labels for a pesticide formulator for some 18 years. There are some things in this field that need correction. What I say may sound sharply critical but it is with the hope and intent that improvement may result from this discussion.

Time involved in getting label approval from Washington seems to be much longer than it should be. It is customary to have a 3 to 6 week interval lapse between the time the label is first submitted to Washington and the sender receives back the first correction. Another similar delay is experienced after resubmitting the corrected copy. Such delays are very frustrating to a manufacturer who is trying to meet a packaging deadline with a newly registered product.
have to read a label why can't they all read it the same day it arrives or the following day, and have it returned immediately. Continuous operation 3 to 6 weeks behind schedule to me is absurd. If more people are required by the registration section, let's see that they get them to eliminate this present embarrassing delay in registration. Registration time could also be reduced by supplying formulators and manufacturers with exactly the same information, in condensed form, that is used by the people in Washington to review a label.

DEALERS: Our communications with dealers could be greatly improved to the advantage of consumers and the industry as well. Pesticide dealers are in general, intelligent, busy, honest, people in most instances. Pesticides represent a small part of their total business and many of them have a new batch of inexperienced, green salesmen each spring. As a rule most sales people do not have the background, interest, or the time to become experts in the field of pesticides, but these salesmen have the last say with the customer before he buys and uses a product. To better guide his help and his customers a dealer needs all information boiled down in ready reference chart form giving what pests are controlled by each product, what dosages are required for control, interval between last application, and time of harvest, on what crops the material may be used, and what precautions are required in the use of each product. True, all of this is printed on the label of the container, but the dealer doesn't have time to run out to the warehouse and read the fine print for each customer or each phone call. He needs this information in simple table form for quick and accurate reference. Not only could the dealer use such boiled down comprehensive information but all of us connected with the pesticide industry might find it a handy reference as well.

REPORT OF THE SECRETARY

Paul E. Irwin, Secretary

The activities of the office of Secretary during the past year varied only slightly from the previous year. During the year 1962-63, your Secretary performed the following duties:

1. Prepared and distributed the proceedings of our 1962 Annual Meeting.
2. Prepared and distributed three issues of the "Pest Controller".
3. Helped arrange program and other details for our 1963 Annual Meeting.
4. Handled considerable correspondence pertaining to activities of our Association.

Three issues of the Pest Controller have been published since our 1962 meeting---in December (1962), March and June. Your Secretary plans to continue this practice in the future on the same quarterly basis and trusts that the membership will supply items of interest for use in this publication.

A brief summary of the "Spring" meeting of the Executive Committee and the Pesticides Regulation Division of USDA was included in the June 1963 issue of the Pest Controller. All Pesticide Control Officials are invited to participate in these "Spring" meetings and your Secretary strongly urges those Control Officials who have never attended one of these sessions to do so in May 1964.
REGULATIONS

Floyd Roberts, Chairman

The Committee on regulations has had under study during the past year changes in the original tentative regulations adopted in 1962, in accordance with suggestions advanced by the National Agricultural Chemicals Association, which were circulated to interested members at the last meeting. Agreement to most suggestions has been reached by the committee members.

It is recommended that the following changes be made in the Tentative Regulations Under the Model State Insecticide, Fungicide and Rodenticide Act:

Change Section 2 (c) to read "(Pesticides)(Economic Poisons). ("Pesticides")("Economic Poisons") includes insecticides, fungicides, rodenticides, herbicides, nematocides, plant regulators, defoliants, desiccants, and products for the control of: mammals, including but not limited to dogs, cats, moles, bats, wild carnivores, armadillos, and deer; birds, including but not limited to starlings, English sparrows, crows, and blackbirds; fishes, including but not limited to the jawless fishes such as the sea lamprey, the cartilaginous fishes such as the sharks, and the bony fishes such as the carp; amphibians and reptiles, including but not limited to poisonous snakes; aquatic and terrestrial invertebrates, including but not limited to slugs, snails, and crayfish; roots and other plant parts growing where not wanted; viruses, other than those on or in living man or other animals. A product shall be deemed to be a (pesticide)(economic poison) regardless of whether intended for use as packaged or after dilution or mixture with other substances, such as carriers or baits. Products intended only for use after further processing or manufacturing, such as grinding to dust form or more extensive operations, shall not be deemed to be (pesticides)(economic poisons). Substances which have recognized commercial uses other than uses as (pesticides) (economic poisons) shall not be deemed to be (pesticides)(economic poisons) unless such substances are (1) specially prepared for use as (pesticides)(economic poisons), or (2) labeled, represented, or intended for use as (pesticides)(economic poisons), or (3) marketed in channels of trade where they will presumably be purchased as (pesticides)(economic poisons).

Change Section 3 to read: "3. Administration. The (secretary)(commissioner) is authorized to take such action as may be necessary in the administration and enforcement of the Act and the regulations in this part."

Change Section 6 (a) to read "6. Label. (a) Contents of label. The label of every (pesticide)(economic poison) must show, clearly and prominently, the name of the product; the name and address of the manufacturer, the registrant, or person for whom manufactured; the net contents; the ingredient statement; and a warning or caution statement which may be necessary to prevent injury to living man and other useful vertebrate animals, useful vegetation, and useful invertebrate animals. The label of any (pesticide)(economic poison) which is highly toxic to man must also contain the skull and crossbones, and the word "poison" in red on a contrasting background and the antidote statement in immediate proximity thereto. The antidote statement shall include directions to call a physician immediately. The label of every (pesticide)(economic poison), if necessary to prevent injury to living man and other vertebrate animals, useful vegetation, and useful invertebrate animals, must contain an appropriate warning or caution statement as required in 9."

In Section 8 add "(a)" immediately following the numeral "8" and redesignate sub paragraphs (a), (b), and (c) of this Section as "(1)", "(2)" and "(3)", respectively. Redesignate subparagraph (d) as "(b)" and change the last paragraph of the Section to read "Provided, however, that the (secretary)(commissioner) may, upon application and after opportunity for hearing, exempt any (pesticide)(economic poison) which meets the standards in the above sub-paragraphs (a) and (b) of this Section, but which is not in fact highly toxic to man, from the requirements of the Act and regulations in this part with respect to (pesticides)(economic poisons) highly toxic to man."

Change the first paragraph in Section 11 to read "11. Coloration and Discoloration. Unless exempted by Section 17 of these regulations, the white (pesticides)(economic poisons) hereinafter named shall be colored or discolored in accordance with this section. The hues, values and chromas specified are those contained in the Munsell Book of Color, Munsell Color Company, 10 East Franklin Street, Baltimore, Md."

Change Section 14 (c) (2) to read "(2) Any such person may, in addition to his reply to such notice, file within twenty days of receipt of the notice a written request for an opportunity to present his views orally in connection therewith."
At the end of sub-section 4 in Section 16 (b) add a paragraph as follows: "Provided that, if the shipper shall submit a copy of a valid experimental permit issued under the provisions of the Federal Insecticide, Fungicide and Rodenticide Act and the accepted labeling related thereto, the (secretary)(commissioner) may exempt the shipper from the requirements of submitting as a part of the application, the data and information hereinabove specified in sub-paragraphs V to X inclusive."

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METHODS CLEARING HOUSE

R. L. Caswell, Chairman

We now have a mailing list of over 137 laboratories, including state, federal, and industrial laboratories both domestic and foreign. The following methods will be distributed in August:

115.0 Arsenic in organic compounds
333.0 Sodium salt of Dalapon
334.0 Maleic Hydrazine (Ultraviolet method)
341.0 3, 4', 5-Tribromosalicylanilide and 4', 5-Dibromosalicylanilide (Ultraviolet method)
365.0 Rev. Monuron or Diuron (Alkaline Hydrolysis Method)
496.0 Co-Ral (Infrared method)
626.2 Gamma Isomer of Benzene Hexachloride in Lindane Dusts (Infrared method)
627.0 Rev. Separation and Determination of Pesticides by Partition Chromatography on Silicic Acid using Nitromethane-Hexane System
631.0 2, 6-Dichloro-4-Nitroaniline (Dichloran) (Infrared Method)
744.3 Methyl Parathion (Infrared Method)
805.3 DDT and Gamma-Benzene Hexachloride in Dusts (Infrared Method)

We still require many new methods for the analysis of the great variety of pesticide formulations being used. Instrumental techniques are rapidly improving and are providing methods that are increasingly specific. Residue analysis is becoming still more important even for the analysis of formulations, because formulations have been found to be contaminated with undeclared pesticide chemicals.

The Pesticides Regulation Division has established a residue laboratory at Beltsville for the primary purpose of verifying that uses accepted on a no-residue basis do not leave residues of the pesticide. It may become desirable to distribute certain residue methods to laboratories desiring them.

Many additional methods are awaiting preparation for distribution. Method 494.0 for DDVP requires slight revision. Two different sodium biphenyl methods for total chlorine have been adopted by the AOAC; for simplification these should be written as one method that is applicable to all samples. The oxygen combustion flask is practical for the determination of chlorine in many samples, and methods will probably be distributed. We would appreciate receiving new methods or suggestions for improvements in our present methods. Many of the methods have been collaboratively studied by the AOAC and adopted. After the methods are published in "Official Methods of Analysis of the AOAC", we no longer distribute them.

There is a typographical error in Method 744.2 Rev. (Oct. 1960), colorimetric method for parathion and methyl parathion, in the line above Note 1 on page 2, the second equal sign should be a minus sign.

The members of the Methods Clearing House Committee wish to thank all those who have assisted us by submitting methods or suggestions for improvement of our program.

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I have been adding new pages to my working copy of the Pesticide Compendium every time I encountered a reference to a new compound that was not in the current edition. Some of the pages contain bits of information and some are still mostly blank. By the end of the year I should have a skeleton of pages covering most of the pesticides of current interest. At that time I will ask the primary manufacturer or distributor in the United States of each material to check the accumulated data and to supply any additional information that he might have. I will then check the final data against various sources and send a clean copy to the Secretary and the Treasurer for publication.

I think it is agreed that we should continue to use essentially the same sub-headings, for example, "common name", "toxicity", etc. It would be helpful to include the structural formulas but I don't know how this can conveniently be done.

The detailed pesticide residue tolerances will not be included, but it might be helpful to provide some general statement, such as, "Tolerances of 0.1 and 0.25 ppm established for certain fruits and vegetables."

There will be only one compound per page and the pages will be arranged alphabetically according to the common name. If no common name is available, then the compound will be filed according to the brand name in common use. If neither is available, then it will be filed by chemical name. I will explore the possibility of showing, by an asterisk or otherwise, the name that is acceptable as an ingredient in labeling pesticide formulations. Of course we'll try to get all possible cross-references in the index.

I would certainly welcome any suggestions and assistance but I am at a loss to suggest any particular form that this might take. This is one of those chores that are difficult to share by mail. Perhaps those who would like to help, could send me:

1. A note correcting any error that has been observed in the present text of the Compendium.
2. Lists of additional pesticides that should be included.
3. Any bits of information that are convenient to assemble and to mail to me about any pesticide.
4. The name and address of the primary manufacturer or firm who might be most likely to have information about certain new pesticides.

Some of this is likely to duplicate information that I already have but, in a project of this kind, it is better to have a dozen duplications than one omission.
CONSTITUTION & BY-LAWS

G. H. Laramie, Chairman

Progress Report

The first of the year our President Elmer Christensen appointed a new committee known as the "Constitution and By-Laws Committee" consisting of Henry DeSalvo, Ernest W. Constable, and George H. Laramie, Chairman.

Several suggested changes in the Constitution and By-Laws have been submitted to this committee for consideration. The committee is working on these suggested changes but no recommendations are being made at this meeting as the committee needs more time for study. However, within the next few months the committee will try to formulate the following changes in the Constitution and By-Laws into proper form and submit them to the Secretary for dissemination to the members of the Association for review.

Suggested Changes to the Constitution and By-Laws

Section 2. Purpose. The purpose of the Association shall be

(a) to promote uniform and effective legislation, definitions, ruling and enforcement of laws relating to the control of sale and distribution of insecticides, fungicides, and other pesticides;
(b) to encourage and sponsor the adoption, by all member agencies of the most effective and adequate methods of analysis of pesticides;
(c) to develop high standards of pesticide inspection techniques and procedures;
(d) to promote adequate labeling and safe use of pesticides; and
(e) to provide facilities and opportunities for free exchange of information, discussion and cooperative study of problems confronting members of the Association.

Section 5. The Executive Committee. The President of the Association serve as Chairman of the Executive Committee. Etc. (the rest of the wording as now appears in Section 5.)

The following will be worked into the proper place in the Constitution and By-Laws.

(1) All regulations, definition, and resolutions shall be considered and approved at two annual meetings before becoming official.

(2) Listing in the By-Laws certain permanent committees of the Association and specifying their duties.

NOMINATING

E. A. Epps, Jr., Chairman

President
Vice-President
Secretary
Treasurer

O. T. Guice, Jr. (1964)
Henry DeSalvo (1964)
H. E. Halliday (1965)
A. E. Thomas (1965)

Mississippi
Arkansas
Wisconsin
Oklahoma

S. B. Randle, New Jersey
C. P. Osgood, Maine
P. E. Irwin, Virginia
R. H. Guntert, Kansas

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COLLABORATIVE CHECK SAMPLE

Loren A. Delp, Chairman

The recommendations of the 1962 Collaborative Check Sample Committee Report were:

1. That the general conduct of the program be continued in 1963 essentially as during the past year.
2. That the Dixon Test be continued as a criterion for rejecting questionable results from the average.
3. That the Collaborators be given a voice in the selection of materials.

These recommendations were carried out as closely as availability of materials and methods would allow.

The basic program was to send nine pesticide materials, spaced over a period of nine months, to each collaborator.

A list containing twenty compounds was submitted to each collaborator for selection of the nine materials to be sent.

One of the selected materials, 2,4-D, 2, 4, 5-T had to be dropped from the list due to the unreliability of the method. Since this mixture received more votes than any on the list, it is hoped that the method can be improved enough to include it in the near future.

The Dixon Test was again used as a standard for rejecting extreme values from the average.

The enrollment total this year was 51 laboratories, 29 representing control and 22 representing industry.

It might be well to again emphasize that the Collaborative Check Sample Program is basically a comparison study of the analytical technique of the various individuals and to fulfill this aim it is necessary for the collaborators to follow the submitted procedure as closely as possible.

Acknowledgment

The Chairman wishes to express sincere appreciation to the following companies and individuals:

Thompson-Hayward Chemical Company, 5200 Speaker Road, Kansas City, Kansas for supplying all sample materials, packaging, and mailing of samples without cost.

Edwin T. Upton, Chief Chemist, Thompson-Hayward Chemical Company, for supervision of securing and mailing of samples.

Shell Chemical Company, 110 West 51st St., New York, New York, for furnishing primary standards free of charge.

John E. Schueler, Maryland Inspection Service, for preparation and mailing of methods and letters of transmittal.
NOMENCLATURE

Stacy B. Randle, Chairman

There has not been a meeting of the Committee during 1963. A meeting is planned for Salt Lake City.

The chief purpose of this Committee is a liaison of our Association with Committee K62 of the American Standards Association and other groups which are interested in developing common names for pesticides. An excellent summary of the purpose and progress in developing common names for pesticides was presented at the 1962 meeting by Mr. Sam C. Billings of the Pesticide Regulation Division, U. S. D. A.

The American Standards Association Committee K62 is working with international groups in an effort to develop nomenclature that will be used internationally. It is apparent, therefore, that our Association cannot undertake the responsibility for developing common names on an international basis. However, we can encourage and assist the appropriate organizations in developing common names. Our Committee is represented on Committee K62.

A list of approved common names for pest control chemicals appears on pages 41 and 42 of the 1962 Proceedings of the Sixteenth Annual Convention of our Association. The last issue of the Pest Controller (Vol. 17, #2) carries three additional common names.

It is recommended that the Committee be continued.

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RESOLUTIONS
D. J. Mitchell, Chairman

WHEREAS, the continued success of this Association during the year and the success of this 17th Annual Convention is due to the efforts of the officers, committees and investigators in carrying out their duties and responsibilities, be it therefore resolved that we express our sincere appreciation to these members for their services.

WHEREAS, the progress of this Association is attained only through the cooperation and support of the several trade Associations, be it therefore resolved that we express sincere appreciation for their contributions.

WHEREAS, special speakers have contributed much interest and information, be it therefore resolved that the Secretary be instructed to express our sincere appreciation in writing to each speaker that addressed us.

Be it further resolved that this Association acknowledges and expresses appreciation for the hospitality extended to us by the several trade associations, by the members and wives of the Utah Department of Agriculture and the Hotel Utah during our stay in Salt Lake City.

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AUDITING
D. K. Myers, Chairman

The Auditing Committee reviewed the records of Treasurer A. B. Heagy and found all entries of receipts and expenditures to be in order.

His report for the period ending July 15, 1963 has been distributed. The records since July 15 are also in order.

The Committee is satisfied with the financial status of the Association.

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SAMPLING PROCEDURES

R. A. Moncrief, Investigator

Fifty three inquiries mailed, including USDA, Canada, Puerto Rico.

Thirty two returns -  
One State: No Act
One State: Herbicides Only
Three States: With Act and no sampling program

A tabulation of questions and answers is impracticable due to great variance of answers. The complete file will be turned over to the Secretary.

No State requires Lot or Batch Numbers. I believe that this should be made mandatory by law change or regulation. Of the reporting states, 50% sample more than one bag of a lot or batch number varying from 2 bags to 10% of on hand and in one case the square root of number on hand. Two use AOAC Fertilizer procedure for calculation. The above for packages over 10 pounds.

Less than 10 pounds, one is generally purchased, or if too small, enough to make 1/2 to 1 pound, and this is considered to be representative.

Sample size for laboratory analysis varies most widely from 1/4 pound to 1 1/4 pound, or 4 oz. jar to 1 pint jar according to method of collection. Average is 8 oz. dry or 1/2 pint liquid.

For liquid products over 1 gallon, 8 states sample more than one container from the lot, one samples more than one if more than 10 are encountered.

Only USDA and New Mexico roll or stir all inspected drums.

For liquid one gallon or less, all generally accept one package or enough to make 1/2 pint as representative.

Fifteen states report that sampled containers are marked by inspectors, one sometimes, others No.

Sampling of herbicides appears to be no different from other pesticides. Only 10 states and Canada report use of separate equipment or replaceable siphon tubes. All others depend upon inspectors to clean equipment.

Aerosols - All reporting consider one aerosol container, or enough to make one pound an adequate sample and to represent entire lot.

Fertilizer-Pesticide Mixtures - Four reporting states in addition to the 5 previously mentioned do not sample. Others sample according to fertilizer rules, but treat as a pesticide.

Weights - field: Thirteen states make no check on weights, two leave it to Weights and Measures agency.

Weights - Laboratory small package - Only eleven states report weighing original packages in laboratory.

Deceptive packaging - Twenty-one states report this to be a part of inspection procedure.

Location of sampling - USDA, Canada and all states reporting sample at dealers. Nine do not sample at formulator and all report some sampling at consumer, if requested. Three states concentrate sampling at consumer.

Sampling equipment - There is no consistancy or uniformity of equipment. Reported for dry products are: open end pipes, fertilizer probes, feed probes, seed triers, trowels, spoons, cups and scoops. For liquids are: glass tubing, plastic tubing, stainless steel tubing, gravy basters, pipettes, hypodermic syringes, and faucets.

Only 14 reporting States, USDA and Canada report any protective equipment. Some limit this to plastic gloves, or rubber gloves, others supply dust masks, respirators, coveralls, lab coats and Virginia only includes Atropine as First Aid.
Questions for which answers were needed:

1. Is mixing of pesticides for 50 pound bags or 55 gallon drums less uniform and accurate than from small package materials? Why not accept sampling on the same basis? If a 50 pound bag shows directions for use at the rate of 10 pounds per acre this means 5 acre coverage. Is not uniform mixing mandatory?

2. On taking samples - taken from large (over 10 pound or over 5 gallon) containers, should a minimum sized sample for laboratory analysis be established?

3. To whose advantage is it to sample more than one container per lot or batch and the portions composited?

4. Is it a good practice for inspectors to mark inspected containers? Does this give the consumer confidence of compliance even though actual laboratory report may be weeks in the future?

5. Should uniform types of sampling equipment be proposed?

6. Should separate equipment for herbicide sampling be proposed?

7. Should aerosols be treated as any liquid sample?

8. Is present method of sampling and analysis of Fertilizer-Pesticide Mixtures adequate?

9. Should not all pesticide inspectors check all weights during inspection and not leave it to other agencies? Is not short weight equivalent to misbranding?

10. Shall we propose a uniform policy of consumer goods sampling? In the absence of penalty features similar to our Fertilizer Acts, how do we handle adulteration at this point?

11. In view of our own and the Industry's Safety programs, are we negligent in not supplying our inspection personnel with more adequate protection devices?

Recommendation by the Investigator:

As this file is being turned over to the Secretary, I recommend:

1. A reactivation of the Uniform Sampling Committee. This is to be our function rather than AOAC.

2. A laboratory study of individual bag samples from single batches to prove or disprove uniformity of mixing.

3. A resolution offered to industry to code or batch number all products, and to the Legislative Committee to draw an amendment to the Uniform Act requiring this.

4. A study of sample containers for inspector's samples. Postal regulations may catch up with us shipping toxic materials in glass.

5. What disposition of laboratory samples should be made? Are we being negligent in our practice of disposal. Most States report burning at City Dumps. Is a high concentration of persistent products (often with herbicides) proper in a landfill project that may later be a home site or playground? Will sewage disposal lead to or assist in promoting stream contamination?
LEGISLATION

A. E. Thomas, Investigator

This report contains a digest of the changes in status of State, Federal, and Canadian pesticide laws. It is a compilation of the replies from the control officials of 47 states, Canada, and the Federal Government.

"No change" was reported from 37 states as well as from the P. R. D., U. S. Department of Agriculture and Canada. Two states reported changes in rules and regulations but no change in their laws. Four states reported new laws while five states reported revisions in their present laws. Three states reported they had no pesticide law.

California - Effective July 1, 1963, the registration fee was changed to $100.00 for the first 10 products and $10.00 for each additional product over 10. If the total retail value is less than $500.00 per year, the annual fee is $25.00 which permits registration of two products. For each additional product over two the fee is $10.00.

Colorado - Amended their law by adding a condition of sale from unbroken packages, etc. Also added a paragraph which concerns conditions of advertisement of economic poisons.

Connecticut - Follows model law. Administration transferred to State Department of Agriculture, but sampling and analysis remain with the Agricultural Experiment Station. Registration fee $10.00 per brand with no maximum. Law to go into effect January 1, 1964, but because legislature failed to provide any funds for administration it is at present uncertain what will happen. A new law since October, 1962.

Idaho - A new pesticide labeling law requiring the registration of all economic poisons. A new law since October, 1962.

Iowa - A new law since October, 1962 provides for registration of all pesticide products and adopts Federal labeling regulations, and requires all custom applicators to obtain a permit from the Iowa Department of Agriculture.

Kansas - Amended law since October, 1962, in the 1963 session of legislature to include plant regulators, nematocides, and desiccants. Also revised to require all fumigants to be labeled to show the percentage of each active ingredient, rather than permitting the label to state active ingredients 100% and the chemicals listed in descending order.

Nevada - Amended law since October, 1962, stating the Director of Agriculture has the authority to establish the registration fee each year not to exceed $10.00 per product for the first 10 and $3.00 per product thereafter.

New York - Amended law since October, 1962, prohibiting use of 2, 4-D, 2,4,5-T and MCP within 2 miles of commercial grape vineyards, providing ten growers petition the Commissioner of Agriculture so requesting such prohibition and can prove that damage has resulted.

Oklahoma - Amended rules and regulations of the Pesticide Law since October, 1962, declaring certain forms of plant and animal life and viruses to be pests similar with the Federal Act.

Texas - Has a new law since October, 1962, that is essentially modeled after the uniform law and is more consistent with the laws of the other states and the Federal Government.

Virginia - Amended rules and regulations of the Pesticide Law since October, 1962. Added Regulation 8, Cumulative Supplement to rules, regulations and standards relating to the manufacture, sale, and transportation and distribution of economic poisons, declaring certain forms of plant and animal life and viruses to be pests.

This being a digest compiled by this Investigator, it is recommended and suggested that persons interested in any particular laws of these or other states, please write those officials.

It is recommended by this Investigator that this investigation on legislation be continued.

In addition to our investigation on legislation pertaining to the various pesticide laws, we
investigated the number of states who may have pesticide applicator's laws, laws regulating dealers selling pesticides, and those states who regulate structural pest and termite control operators or PCO's. This report includes the replies from the same 47 states who answered our questionnaire on legislation.

Twenty states reported they had a Pesticide Applicator's Law. An additional four states regulated herbicide applicators only.

Four states and the Province of Manitoba, Canada reported they regulated pesticide dealers while three states reported they regulated only those dealers selling herbicides. The remainder of the states reported that dealers were not regulated.

Fourteen states reported they regulated structural pest and termite operators. One state reported that this industry was regulated under their Applicator's Law.

If it holds enough interest to the AAPCO, Inc., to continue the investigation of this portion of our report, it is recommended by this Investigator that it be continued. At this time, it may not be of enough interest that others be assigned to assist the investigator; but in the future it may be important enough to report it annually.

REGISTRATION

O. T. Guice, Jr., Investigator

A complete and thorough survey was made in 1962 by the Investigator on Registration concerning products covered by the various state laws. All states replied to the questionnaire and the report is given in the proceedings of the 1962 meeting. Since a complete survey was made in 1962, the Investigator on Registration did not send out a questionnaire in 1963 and no special problems relating to registration were called to the Investigator's attention.

PESTICIDE-FERTILIZER MIXTURES

J. Claggett Jones, Investigator

A question has been raised as to the uniformity of State regulations governing the labeling of Pesticide-Fertilizer Mixtures. A suggestion has also been offered as to the possible need of a committee to study this problem to develop a uniform labeling regulation.

Your investigator sent out a questionnaire in reference to the above and has received replies from practically all of the States, and from Canada. The majority of States require labeling pertaining to the pesticide content to comply with their pesticide law, and require labeling pertaining to the fertilizer content to comply with their fertilizer law. Many of the replies indicate that no problems exist which are not met by their Law and Regulations and that the suggested uniform labeling regulation is not required.

Since the two pertinent Laws and Regulations thereunder can adequately cover these mixtures, your Investigator believes that at this time there is no need for the suggested committee, nor for the suggested uniform labeling regulations.
UNIFORM POLICIES

C. Colton Carr, Investigator

One survey was conducted during the past year concerning a preference for Resolution 12 in its present form, or a preference for the statement of policy recently adopted by the State of Virginia regarding the use of "safe", "non-toxic", "non-poisonous", etc. on pesticide labels.

Replies were received from 41 state and Federal officials as shown on the attached tabulation. The following is a summary of the survey.

1. Do you favor Resolution 12 in its present form?  
   Yes 6  No 23

2. Do you prefer the Virginia statement of policy regarding the use of "Safe", "Non-Toxic", "Non-Poisonous", etc.?  
   Yes 36  No 4

3. Do you favor another wording?  
   Yes 1  No 7

Additional comments favoring the Virginia statement included:

Two states checked yes for questions 1 and 2; one stated he favored both questions because the Virginia statement is a step in the right direction toward Resolution 12, the other preferred a statement stronger than Virginia's but not as rigid as Resolution 12.

One state marked yes on questions 1 and 3, the other wording suggested in question 3 being "to reword resolution 12 to conform to the Virginia statement."

One official pointed out that such a statement of policy should include all pesticide labeling rather than limit it to certain household products.

Another suggested that this should be a regulatory principle rather than a resolution because a regulatory principle adopted by the Association carries more weight and is more helpful in a controversy than a mere resolution.

USDA Pesticide Regulation Division favors the Virginia wording which lines up with the USDA policy regarding safety claims for pesticide chemicals.

Three of the four officials who indicated objection to adoption of the Virginia proposal also submitted additional comments:

One was opposed because he believes all pesticides are safe if used as directed; otherwise they are incompletely labeled.

The other two were in agreement that the words "safe", "non-toxic" and "non-poisonous" have no place on the label of an economic poison regardless of what qualifying terms may be added, because these products are potentially hazardous when NOT used as directed, and in many cases, even when used as directed. Such terms can lead the purchaser toward a false sense of security.

In considering this question, attention should also be directed to the statement on page 2 of the June issue of the Pest Controller pertaining to discussion of this matter at the spring meeting of the Pesticide Regulation Division with the executive committee and other members of AAPCO held in May, 1963:

"Safety Claims' on certain pesticide labels was discussed and by a unanimous vote of the group present, it was recommended that Pesticide Control Officials 'tighten up' on some of the unwarranted claims for safety which currently appear on some pesticide labeling."
REPORT OF THE EXECUTIVE COMMITTEE

The Executive Committee and other members of the Association met in the offices of Mr. Justus C. Ward, Pesticide Regulation Division, ARS, USDA, in Washington, D. C. during the week of May 8, 1963. A report of these sessions was issued in the June 1963 Pest Controller.

The Executive Committee met at the Hotel Utah at 8:00 a.m. and again at lunch on Tuesday, August 13, 1963 to review committee and investigator reports.

TOXICITY AND ANTIDOTES

Although there was no report from this Committee, the Executive Committee recommends the continuation of the Committee.

REGULATIONS

The Executive Committee expresses its appreciation to the members of the Regulations Committee for their labors over the past two years in preparing these regulations. The Executive Committee recommends the adoption of the proposed changes to the regulations that we adopted by the Association as "tentative" last year, and further recommends that these regulations, including the changes, be adopted as "Official".

TERMS

Although no additional reports were presented by the Terms Committee this year, due to several past unresolved items, and foreseeable future need of such a Committee, the Executive Committee recommends the continuation of the Terms Committee.

METHODS CLEARING HOUSE

The Executive Committee thanks the Methods Clearing House Committee for its work during the past year and recommends that this Committee also serve as a source of information to control officials in the procuring of analytical reference standards.

COLLABORATIVE CHECK SAMPLE

The Executive Committee expresses its appreciation to Mr. Loren A. Delp and his Collaborative Check Sample Committee. It is recommended that the same general type of program be continued. A complete report by this Committee will be given during the Pesticide session of the AOAC, to be held this fall at the Shoreham Hotel in Washington, D. C.

COMPENDIUM

The Executive Committee endorses the report of the Compendium Committee and compliments the Committee for the proposed treatment of the revised compendium. The Executive Committee strongly urges each member of our Association to support Mr. Rollins and his Committee in this project.

CONSTITUTION & BY-LAWS

The Executive Committee recommends that this Committee study the suggested changes and/or additions to our Constitution and By-Laws as presented by Mr. Christensen in his presidential address, and if deemed advisable, to send any proposed changes to our Secretary before May 1, 1964 in order that the Executive Committee may study these proposals at their May 1964 meeting.

NOMENCLATURE

The Executive Committee recommends that the Nomenclature Committee be continued.

LEGISLATION

The Executive Committee expresses its appreciation to this Investigator for his thorough digest of legislative changes and recommends the continuation of this work.
REGISTRATION

The Executive Committee recommends the continuation of a Registration Investigator.

PESTICIDE-FERTILIZER MIXTURES

The Committee thanks this Investigator for his report and recommends the continuation of this work.

UNIFORM POLICIES

The Committee thanks this Investigator for the survey of States regarding the use of certain "Safety Phrases" on pesticide labels. The Executive Committee recommends that Resolution 12, Page 9, 1962 Proceedings be adhered to in view of possible changes in U.S. D.A. regulations.

SAMPLING PROCEDURES

The Executive Committee expresses appreciation to the Investigator for the thorough study of sampling problems and concurs in the re-activation of the Sampling Committee.

Further, the Executive Committee will study the recommendations in the presidential address and appoint appropriate committees or refer items to the proper existing committees.

1964 ANNUAL MEETING


The Executive Committee expresses its appreciation to the Committees, Investigators, and others who have contributed unselfishly toward the advancement of this Association.
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<th>STATE</th>
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<td>Florida</td>
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<td>H-D</td>
<td>Dec. 31</td>
<td>$10 ea. 1st 10</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>$2.50 ea. addl.</td>
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<td>$5 per brand</td>
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<td></td>
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<td>Hawaii</td>
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<td>June 30</td>
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<td>Idaho</td>
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<td>Dec. 31</td>
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<td>Indiana</td>
<td>Special 4</td>
<td>-----</td>
<td>No</td>
<td>None</td>
</tr>
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<td>Iowa</td>
<td>Uniform 5</td>
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<td>Kansas</td>
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<td>$5 ea. addl.</td>
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<td></td>
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<td>$50 maximum</td>
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<td>Louisiana</td>
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<td>Dec. 31</td>
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<td>Maine</td>
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<td>H</td>
<td>Dec. 31</td>
<td>$5 per brand</td>
</tr>
<tr>
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<td>Uniform</td>
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<td>Dec. 31</td>
<td>$7.50 ea. 1st 10</td>
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<tr>
<td></td>
<td></td>
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<td>Oct. 31</td>
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</tr>
<tr>
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<td>$2 ea. addl.</td>
</tr>
<tr>
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<td>$15 ea. 1st 10</td>
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<td></td>
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<td>$5 ea. addl.</td>
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<td>STATE</td>
<td>CLASS (Federal, Uniform or Special)</td>
<td>SCOPE H - Includes Household Devices D - Includes Devices</td>
<td>Registration Expires</td>
<td>Fee</td>
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<td>Dec. 31</td>
<td>$7.50 ea. 1st 10 $5 ea. addl.</td>
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<td>Montana</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>None</td>
</tr>
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<td>Nebraska</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$5 per brand $125 maximum</td>
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<tr>
<td>Nevada</td>
<td>Federal</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 ea. 1st 10 $3 ea. addl.</td>
</tr>
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<td>New Hampshire</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$10 per brand $100 maximum</td>
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<tr>
<td>New Jersey</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$5 ea. 1st 10 $2 ea. addl.</td>
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<td>New Mexico</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 per brand</td>
</tr>
<tr>
<td>North Carolina</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 per brand</td>
</tr>
<tr>
<td>North Dakota</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$5 ea. 1st 5 $1 ea. addl.</td>
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<tr>
<td>Ohio</td>
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<td>Oklahoma</td>
<td>Uniform</td>
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<td>Dec. 31</td>
<td>$5 per brand</td>
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<tr>
<td>Oregon</td>
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<td>H</td>
<td>Dec. 31</td>
<td>$20 ea. 1st 3 $75 total 1st 4-25 $2 ea. addl. over 25</td>
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<tr>
<td>Pennsylvania</td>
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<td>$7.50 ea. 1st 10 $2 ea. addl.</td>
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<td>Rhode Island</td>
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<td>May 31</td>
<td>$10 per brand $50 maximum</td>
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<tr>
<td>South Carolina</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$20 ea. 1st 10 $10 ea. addl. $400 maximum</td>
</tr>
<tr>
<td>South Dakota</td>
<td>Uniform</td>
<td>H - D</td>
<td>June 30</td>
<td>$5 ea. 1st 5 $1 ea. addl.</td>
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<tr>
<td>Tennessee</td>
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<td>H - D</td>
<td>June 30</td>
<td>$10 ea. 1st 10 $5 ea. addl.</td>
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<td>Texas</td>
<td>Uniform</td>
<td>H - D</td>
<td>Aug. 31</td>
<td>$20 per brand</td>
</tr>
<tr>
<td>Utah</td>
<td>Uniform</td>
<td>H - D</td>
<td>June 30</td>
<td>$5 per brand $50 maximum</td>
</tr>
<tr>
<td>Vermont</td>
<td>Uniform</td>
<td>H</td>
<td>June 30</td>
<td>$5 ea. 1st 10 $2.50 ea. 11-20 $1 ea. addl.</td>
</tr>
<tr>
<td>STATE</td>
<td>CLASS (Federal, Uniform or Special)</td>
<td>SCOPE</td>
<td>Registration Expires</td>
<td>Fee</td>
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<tr>
<td>------------</td>
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<tr>
<td>Virginia</td>
<td>Uniform</td>
<td>H-D</td>
<td>Dec. 31</td>
<td>$10 ea 1st 20 $5 ea. addl.</td>
</tr>
<tr>
<td>Washington</td>
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<td>H-D</td>
<td>Dec. 31</td>
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<tr>
<td>West Virginia</td>
<td>Uniform</td>
<td>H-D</td>
<td>Dec. 31</td>
<td>$10 ea. 1st 20 $5 ea. addl.</td>
</tr>
<tr>
<td>Wisconsin</td>
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<td>H</td>
<td>Dec. 31</td>
<td>$10 per brand $100 maximum</td>
</tr>
<tr>
<td>Wyoming</td>
<td>Federal</td>
<td>H</td>
<td>June 30</td>
<td>$2 per brand $25 maximum</td>
</tr>
<tr>
<td>Canada</td>
<td>Federal</td>
<td>H-D</td>
<td>Dec. 31</td>
<td>$20 per brand - Initial Reg'n. $5 per brand - annual renewal</td>
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<tr>
<td>Federal</td>
<td>Federal</td>
<td>H-D</td>
<td>5 yr.</td>
<td>None</td>
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<tr>
<td>Puerto Rico</td>
<td>Federal</td>
<td>H-D</td>
<td>Dec. 31</td>
<td>$5 per brand $200 maximum</td>
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</table>

1 Similar to Federal Law. No provisions for registration under protest.
2 Does not include plant growth regulators.
3 If total retail sales value of products registered does not exceed $500 per annum, fees are: $25 for 1st two and $10 for each additional.
5 Covers herbicides only.
7 Livestock Remedy Act regulates certain pesticides.

PLEASE ADVISE YOUR SECRETARY OF ANY CHANGES IN THE ABOVE SUMMARY IN ORDER THAT CORRECTION CAN BE MADE IN OUR NEXT PUBLICATION.
### Common Name and Use

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common Name and Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>amiben</strong> (Herbicide)</td>
<td>3-amino-2,5-dichlorobenzoic acid</td>
</tr>
<tr>
<td><strong>amitrole</strong> (Herbicide)</td>
<td>3-amino-1,2,4-triazole</td>
</tr>
<tr>
<td><strong>atrazine</strong> (Herbicide)</td>
<td>2-chloro-4-ethylamine-6-isopropylamino-s-triazine</td>
</tr>
<tr>
<td><strong>barban</strong> (Herbicide)</td>
<td>4-chloro-2-butyl-6 chlorocarbanilate</td>
</tr>
<tr>
<td><strong>binapacryl</strong> (Fungicide-Miticide)</td>
<td>2-sec-butyl-4,6-dinitrophenyl 3-methyl-2-butoenoate</td>
</tr>
<tr>
<td><strong>bromacil</strong> (Herbicide)</td>
<td>5-bromo-3-sec-butyl-6-methyluracil</td>
</tr>
<tr>
<td><strong>carbaryl</strong> (Insecticide)</td>
<td>1-naphthyl methylcarbamate</td>
</tr>
<tr>
<td><strong>carbophenothion</strong> (Insecticide-Miticide)</td>
<td>S-[ (p-chlorophenylthio)methyl ] O, O-diethyl phosphorodithioate</td>
</tr>
<tr>
<td><strong>chlorazine</strong> (Herbicide)</td>
<td>2-chloro-4,6-bis (diethylamino) - s-triazine</td>
</tr>
<tr>
<td><strong>chlorbenside</strong> (Miticide)</td>
<td>p-chlorobenzyl p-chlorophenyl sulfide</td>
</tr>
<tr>
<td><strong>dalapon</strong> (Herbicide)</td>
<td>2, 2-dichloropropionic acid</td>
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<tr>
<td><strong>dicapthon</strong> (Insecticide)</td>
<td>O-2-chloro-4-nitrophenyl O, O-dimethyl phosphorothioate</td>
</tr>
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<td><strong>dichlobenil</strong> (Herbicide)</td>
<td>2, 6-dichlorobenzonitrile</td>
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<tr>
<td><strong>dicryl</strong> (Herbicide)</td>
<td>3',4'-dichloro-2-methylacylalanilide</td>
</tr>
<tr>
<td><strong>dimethoate</strong> (Insecticide)</td>
<td>O, O-dimethyl S-(N-methylcarbamoylmethyl) phosphorodithioate</td>
</tr>
<tr>
<td><strong>dimethrin</strong> (Insecticide)</td>
<td>2, 4-dimethylbenzyl 2, 2-dimethyl -3-(2-methylpropenyl) cyclopropanecarboxylate</td>
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<td><strong>dioxathion</strong> (Insecticide-Miticide)</td>
<td>2, 3-p-dioxanethiole S, S-bis(O, O-diethyl phosphorodithioate</td>
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<td><strong>diphascinone</strong> (Rodenticide)</td>
<td>2-diphenylacetetyl-1, 3-indandione</td>
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<td><strong>diphenamid</strong> (Herbicide)</td>
<td>N, N-dimethyl-2, 2-diphenylacetamide</td>
</tr>
<tr>
<td><strong>diquat</strong> (Herbicide)</td>
<td>6, 7-dihydrodipyrido (1, 2-a : 2', 1'-c) pyrazidinium salt</td>
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<tr>
<td><strong>diuron</strong> (Herbicide)</td>
<td>3-(3, 4-dichlorophenyl)-1, 1-dimethylurea</td>
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<tr>
<td><strong>dodine</strong> (Fungicide)</td>
<td>n-dodecylguanidine acetate</td>
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<tr>
<td><strong>endosulfan</strong> (Insecticide)</td>
<td>6, 7, 8, 9, 10, 10-hexachloro-1, 5, 5a, 6, 9, 9a-hexahydro-6, 9-methano-2, 4, 3-benzodioxathiepin 3-oxide</td>
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<tr>
<td><strong>endothall</strong> (Herbicide)</td>
<td>7-oxabicyclo(2.2.1) heptane-2, 3-dicarboxylic acid</td>
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<tr>
<td><strong>endothion</strong> (Insecticide)</td>
<td>S, [ (5-methoxy-4-oxo-4H-pyran-2-yl) methyl ] O, O-dimethyl phosphorothioate</td>
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<tr>
<td><strong>erbon</strong> (Herbicide)</td>
<td>2-(2, 4, 5-trichlorophenoxy) ethyl 2, 2-dichloropropionate</td>
</tr>
<tr>
<td><strong>Common Name and Use</strong></td>
<td><strong>Chemical Name</strong></td>
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<tr>
<td>------------------------</td>
<td>------------------</td>
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<tr>
<td>ethion (Miticide-Insecticide)</td>
<td>O, O', O'-tetraethyl S, S'-methylene bisphosphorodithioate</td>
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<td>fenuron (Herbicide)</td>
<td>3-phenyl-1,1-dimethyurea</td>
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<td>folpet (Fungicide)</td>
<td>N-(trichloromethylthio) phthalimide</td>
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<td>isocil (Herbicide)</td>
<td>5-bromo-3-isopropyl-6-methyluracil</td>
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<td>linuron (Herbicide)</td>
<td>3-(3, 4-dichlorophenyl)-1-methoxy-1-methyurea</td>
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<tr>
<td>monuron (Herbicide)</td>
<td>3-(p-chlorophenyl)-1,1-dimethyurea</td>
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<tr>
<td>naled (Insecticide)</td>
<td>1, 2-dibromo-2, 2-dichloroethyl dimethyl phosphate</td>
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<tr>
<td>neburon (Herbicide)</td>
<td>1-n-butyl-3-(3, 4-dichlorophenyl)-1-methyurea</td>
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<tr>
<td>ovex (Miticide)</td>
<td>p-chlorophenyl p-chlorobenzenesulfonate</td>
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<tr>
<td>paraquat (Herbicide)</td>
<td>1, 1'-dimethyl-4, 4'-bipyridinium salt</td>
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<tr>
<td>phorate (Insecticide)</td>
<td>O, O-diethyl S-(ethylthio) methyl phosphorodithioate</td>
</tr>
<tr>
<td>phosphamidon (Insecticide)</td>
<td>2-chloro-2-diethylcarbamoyl-1-methylvinyl dimethyl phosphorate</td>
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<tr>
<td>ronnel (Insecticide)</td>
<td>O, O-dimethyl O-(2, 4, 5-trichlorophenyl) phosphorothioate</td>
</tr>
<tr>
<td>silvex (Herbicide)</td>
<td>2-(2, 4, 5-trichlorophenoxy) propionic acid</td>
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<tr>
<td>simazine (Herbicide)</td>
<td>2-chloro-4, 6-bis(ethylamino)-a-triazine</td>
</tr>
<tr>
<td>solan (Herbicide)</td>
<td>3'-chloro-2-methyl-p-valerotoluidide</td>
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<tr>
<td>swep (Herbicide)</td>
<td>methyl 3, 4-dichlorocarbanilate</td>
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<td>tetradifon (Miticide)</td>
<td>4-chlorophenyl 2, 4, 5-trichlorophenyl sulfone</td>
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<td>trietazine (Herbicide)</td>
<td>2-chloro-4-diethylamino-6-ethylamino-s-triazine</td>
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<tr>
<td>trifluralin (Herbicide)</td>
<td>trifluoro-2, 6-dinitro-N, N-dipropyl-p-toluidine</td>
</tr>
<tr>
<td>zoalene (Anti-coccidial drug)</td>
<td>3, 5-dinitro-o-toluamide</td>
</tr>
</tbody>
</table>
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**PESTICIDE REGULATION DIVISION**  
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Area Code 202  
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**R. O. White**  
Asso. Director  
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**Association of Official Agricultural Chemists**  
Dr. William Horwitz  
Box 540, Benjamin Franklin Station  
Washington 4, D. C.
PROCEEDINGS
OF THE
SIXTEENTH ANNUAL CONVENTION
ASSOCIATION OF AMERICAN
PESTICIDE CONTROL OFFICIALS
INCORPORATED

SHERATON-GIBSON HOTEL
CINCINNATI, OHIO
OCTOBER 9 & 10, 1962
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1963 ANNUAL MEETING
HOTEL UTAH
SALT LAKE CITY, UTAH
AUGUST 13 & 14, 1963
**OFFICERS, COMMITTEES AND INVESTIGATORS 1962-63**  
**ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INC.**

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>President</strong></td>
<td>M. E. Christensen</td>
<td>Salt Lake City, Utah</td>
</tr>
<tr>
<td><strong>Vice-President</strong></td>
<td>S. B. Randle</td>
<td>New Brunswick, N. J.</td>
</tr>
<tr>
<td><strong>Secretary</strong></td>
<td>P. E. Irwin</td>
<td>Richmond, Virginia</td>
</tr>
<tr>
<td><strong>Treasurer</strong></td>
<td>A. B. Heagy</td>
<td>College Park, Maryland</td>
</tr>
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**EXECUTIVE COMMITTEE**

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>O. T. Guice, Jr. (1963)</td>
<td>State College, Mississippi</td>
</tr>
<tr>
<td>Henry DeSalvo (1964)</td>
<td>Little Rock, Arkansas</td>
</tr>
<tr>
<td>C. P. Osgood (1964)</td>
<td>Augusta, Maine</td>
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**COMMITTEES**

**STATES RELATIONS**

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>R. H. Guntert, Chairman</td>
<td>Topeka, Kansas</td>
</tr>
<tr>
<td>J. R. Anderson</td>
<td>Jefferson City, Missouri</td>
</tr>
<tr>
<td>H. E. Halliday</td>
<td>Madison, Wisconsin</td>
</tr>
<tr>
<td>J. W. Scott</td>
<td>Montpelier, Vermont</td>
</tr>
<tr>
<td>M. H. Snyder</td>
<td>Charleston, West Virginia</td>
</tr>
<tr>
<td>A. E. Thomas</td>
<td>Oklahoma City, Oklahoma</td>
</tr>
</tbody>
</table>

**TOXICITY & ANTIDOTES**

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>J. S. Leary, Jr., Chairman</td>
<td>Washington, D. C.</td>
</tr>
<tr>
<td>J. H. Cochran</td>
<td>Clemson, South Carolina</td>
</tr>
<tr>
<td>A. B. Heagy</td>
<td>College Park, Maryland</td>
</tr>
<tr>
<td>C. H. Hines</td>
<td>San Francisco, California</td>
</tr>
<tr>
<td>J. B. Kotheimer</td>
<td>Washington, D. C.</td>
</tr>
<tr>
<td>J. C. Krantz, Jr.</td>
<td>Baltimore, Maryland</td>
</tr>
<tr>
<td>F. W. Oberst</td>
<td>Army Chemical Center, Md.</td>
</tr>
</tbody>
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**REGULATIONS**

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Floyd Roberts, Chairman</td>
<td>Mesa, Arizona</td>
</tr>
<tr>
<td>Kenneth Helrich</td>
<td>New Brunswick, New Jersey</td>
</tr>
<tr>
<td>Paul Irwin</td>
<td>Richmond, Virginia</td>
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**TERMS**

<table>
<thead>
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<th>Name</th>
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<tbody>
<tr>
<td>H. E. Spires, Chairman</td>
<td>Sacramento, California</td>
</tr>
<tr>
<td>Harlan Specht</td>
<td>Reno, Nevada</td>
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<tr>
<td>R. O. White</td>
<td>Washington, D. C.</td>
</tr>
</tbody>
</table>

**METHODS CLEARING HOUSE**

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>R. L. Caswell, Chairman</td>
<td>Beltsville, Maryland</td>
</tr>
<tr>
<td>L. M. Cox, Jr.</td>
<td>Richmond, Virginia</td>
</tr>
<tr>
<td>Ulric Green</td>
<td>Calgary, Canada</td>
</tr>
<tr>
<td>Norman Knight</td>
<td>Beltsville, Maryland</td>
</tr>
</tbody>
</table>

**COLLABORATIVE CHECK SAMPLE**

<table>
<thead>
<tr>
<th>Name</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>L. A. Delp, Chairman</td>
<td>Topeka, Kansas</td>
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<tr>
<td>R. L. Caswell</td>
<td>Beltsville, Maryland</td>
</tr>
<tr>
<td>G. T. McGrew</td>
<td>Baltimore, Maryland</td>
</tr>
<tr>
<td>Marvin Schreiber</td>
<td>Toppeka, Kansas</td>
</tr>
<tr>
<td>J. E. Schueler</td>
<td>College Park, Maryland</td>
</tr>
<tr>
<td>E. T. Upton</td>
<td>Kansas City, Kansas</td>
</tr>
</tbody>
</table>
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C. A. Bower
Errett Deck
H. C. Hammond
R. W. Ludwick
V. E. Stewart
J. C. Ward

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Legislation
Registration
Pesticide-Fertilizer Mixtures
Uniform Policies

A. E. Thomas
O. T. Guice, Jr.
J. Claggett Jones
C. Colton Carr

Oklahoma City, Oklahoma
State College, Mississippi
Richmond, Virginia
East Lansing, Michigan

SEE PAGE 43 FOR NAMES AND ADDRESSES OF CONTROL OFFICIALS.
PROGRAM SIXTEENTH ANNUAL CONVENTION

Sheraton-Gibbon Hotel, Cincinnati, Ohio
October 9 - 10, 1962

Tuesday, Oct. 9, 1962

Registration............................................. 5:45 p.m.
Industry Dinner.......................................... 6:00 p.m.
States Relations Meeting............................... 8:00 p.m.

Wednesday, Oct. 10, 1962

Registration............................................... 9:00 a.m.
Roll Call by States
Announcements & Appointment of Committees
Report of the Secretary
Report of the Treasurer........................................... R. H. Guntert, Director
Address by the President........................................... Control Division, Kansas
"From Where I Stand"................................. Parke C. Brinkley, President
"Insect Attractants and Chemosterilants"............... Stanley A. Hall, Chief
"Recent Extension of FIFRA"........................... Dr. Donald A. Spencer, Chief
Staff Officer, Animal Biology,
Committee and Investigator Reports:
States Relations........................................... H. E. Halliday
Toxicity and Antidotes..................................... J. S. Leary, Jr.
Regulations....................................................... Floyd Roberts
Terms............................................................... W. E. Ozard
Methods Clearing House..................................... R. L. Caswell
Collaborative Check Sample................................... J. E. Schueler
Editorial......................................................... E. R. Winterle
Nomenclature.................................................. S. B. Randle
Legislation.................................................... A. E. Thomas
Registration.................................................... O. T. Guice, Jr.
Uniform Policies............................................... M. E. Christensen
Pesticide-Fertilizer Mixtures............................ J. C. Jones
Report of the Credentials Committee
Report of the Executive Committee
Report of the Auditing Committee
Report of the Resolutions Committee
Unfinished Business
Report of the Nominating Committee
Election of Officers
Recognition of Past President
Workshop Session............................................. W. J. Huffman
Adjournment

4
<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
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<td>State Entomologist</td>
<td>Jefferson City, Missouri</td>
</tr>
<tr>
<td>Berry, Rodney C.</td>
<td>State Chemist</td>
<td>Richmond, Virginia</td>
</tr>
<tr>
<td>Borgeson, R. W.</td>
<td>State Chemist</td>
<td>Des Moines, Iowa</td>
</tr>
<tr>
<td>Bower, Clyde A.</td>
<td>State Entomologist</td>
<td>Oklahoma City, Oklahoma</td>
</tr>
<tr>
<td>Carr, C. Colton</td>
<td>Chief Chemist</td>
<td>East Lansing, Michigan</td>
</tr>
<tr>
<td>Caudill, Paul R.</td>
<td>Chemist</td>
<td>Lexington, Kentucky</td>
</tr>
<tr>
<td>Cochran, J. H.</td>
<td>State Entomologist</td>
<td>Clemson, South Carolina</td>
</tr>
<tr>
<td>Constable, E. W.</td>
<td>State Chemist</td>
<td>Raleigh, North Carolina</td>
</tr>
<tr>
<td>Christensen, M. E.</td>
<td>State Chemist</td>
<td>Salt Lake City, Utah</td>
</tr>
<tr>
<td>Davis, Henry A.</td>
<td>Associate Chemist</td>
<td>Durham, New Hampshire</td>
</tr>
<tr>
<td>Davis, Maurice M.</td>
<td>Inspector</td>
<td>Lexington, Kentucky</td>
</tr>
<tr>
<td>Ellis, John</td>
<td>State Chemist</td>
<td>Lexington, Kentucky</td>
</tr>
<tr>
<td>Etheredge, M. P.</td>
<td>Chief Chemist</td>
<td>State College, Mississippi</td>
</tr>
<tr>
<td>Fisher, Harry J.</td>
<td>Superintendent</td>
<td>New Haven, Connecticut</td>
</tr>
<tr>
<td>Griem, W. B.</td>
<td>General Inspector</td>
<td>Madison, Wisconsin</td>
</tr>
<tr>
<td>Guice, O. T., Jr.</td>
<td>Director, Control Div.</td>
<td>State College, Mississippi</td>
</tr>
<tr>
<td>Guntert, Robert H.</td>
<td>Head, Economic Poisons Sec.</td>
<td>Topeka, Kansas</td>
</tr>
<tr>
<td>Halliday, H. E.</td>
<td>State Chemist</td>
<td>Madison, Wisconsin</td>
</tr>
<tr>
<td>Heagy, Albert B.</td>
<td>Supervisor</td>
<td>College Park, Maryland</td>
</tr>
<tr>
<td>Hennesy, John A.</td>
<td>Registration Inspector</td>
<td>Denver, Colorado</td>
</tr>
<tr>
<td>Huffman, W. J.</td>
<td>Pesticide Chemist Executive</td>
<td>Lexington, Kentucky</td>
</tr>
<tr>
<td>Irwin, Paul E.</td>
<td>Assistant Director</td>
<td>Richmond, Virginia</td>
</tr>
<tr>
<td>Jones, J. Claggett</td>
<td>Chief Chemist</td>
<td>Richmond, Virginia</td>
</tr>
<tr>
<td>Kochler, L. A.</td>
<td>Control Supervisor</td>
<td>Bismarck, North Dakota</td>
</tr>
<tr>
<td>Laramie, George H.</td>
<td>Chief of Division</td>
<td>Concord, New Hampshire</td>
</tr>
<tr>
<td>Ludwig, R. W.</td>
<td>State Chemist</td>
<td>University Park, N. M.</td>
</tr>
<tr>
<td>Mack, G. L.</td>
<td>Supt. of Laboratory</td>
<td>Geneva, New York</td>
</tr>
<tr>
<td>Marshall, C. V.</td>
<td>Supervisor</td>
<td>Ottawa, Canada</td>
</tr>
<tr>
<td>McLeod, W. S.</td>
<td>State Chemist</td>
<td>Ottawa, Canada</td>
</tr>
<tr>
<td>Mitchell, D. J.</td>
<td>Administrative Assistant</td>
<td>Vermillion, South Dakota</td>
</tr>
<tr>
<td>Moncrief, R. A.</td>
<td>Principal Chemist</td>
<td>Atlanta, Georgia</td>
</tr>
<tr>
<td>Myers, Delmar K.</td>
<td>Chief, Inspection Div.</td>
<td>Harrisburg, Pennsylvania</td>
</tr>
<tr>
<td>Osgood, C. P.</td>
<td>Assistant Director</td>
<td>Augusta, Maine</td>
</tr>
<tr>
<td>Ozard, Wm. E.</td>
<td>Chief Chemist</td>
<td>Albany, New York</td>
</tr>
<tr>
<td>Patterson, J. D.</td>
<td>Chief, Div. Plant Industry</td>
<td>Salem, Oregon</td>
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<tr>
<td>Porter, Harold L.</td>
<td>Head, Dept. Feed &amp; Fert.</td>
<td>Reynoldsburg, Ohio</td>
</tr>
<tr>
<td>Poundstone, Bruce</td>
<td>Chief, Div. Plant Industry</td>
<td>Lexington, Kentucky</td>
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<td>Poyner, Martin M.</td>
<td>Director, Agronomy Ser. Div.</td>
<td>Denver, Colorado</td>
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<tr>
<td>Radke, H. H.</td>
<td>State Chemist &amp; Seed Comm.</td>
<td>Lafayette, Indiana</td>
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<td>Roberts, Floyd</td>
<td>State Chemist</td>
<td>New Brunswick, N. J.</td>
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<td>Schall, E. D.</td>
<td>Professor</td>
<td>Mesa, Arizona</td>
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<td>Senn, L. H.</td>
<td>Asst. State Entomologist</td>
<td>Lafayette, Indiana</td>
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<td>Snyder, Marvin H.</td>
<td>Chief Chemist</td>
<td>Clemson, South Carolina</td>
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<tr>
<td>Southall, B. W.</td>
<td>Feed Inspection Supervisor</td>
<td>Sacramento, California</td>
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<tr>
<td>Thomas, Albert E.</td>
<td>Assistant Entomologist</td>
<td>Richmond, Virginia</td>
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<td>Van Cleave, M. R.</td>
<td>Administrative Assistant</td>
<td>Oklahoma City, Oklahoma</td>
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<td>Wals, Henry R.</td>
<td>Chemist</td>
<td>Des Moines, Iowa</td>
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<tr>
<td>Winterle, E. R.</td>
<td>Chief, Pesticide Lab.</td>
<td>College Park, Maryland</td>
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REPRESENTATIVES (Continued)

FEDERAL REPRESENTATIVES

Billings, S. C.
Hall, Stanley A.
Harris, T. H.
Holmen, C. E.
McFarland, Bill V.
Schafer, Mary L.
Spencer, Donald A.
White, R. O.

Chief Staff Officer, Entomology, Pesticide Regulation Div., USDA
Chief, Pesticide Chemicals Research Branch, USDA
Chief Staff Officer, Chemistry, Pesticide Regulation Div., USDA
Inspector, Pesticide Regulation Div., USDA
Federal-States Relations, Food & Drug Administration, HEW
Chemist, Public Health Ser., Robt. A. Taft Center, Cincinnati, Ohio
Chief Staff Officer, Animal Biology Pesticides Reg. Div., USDA
Associate Director, Pesticide Regulation Div., USDA

INDUSTRY REPRESENTATIVES

Ackerly, R. L.
Bangs, Richard T.
Brinkley, Parke C.
D'Angio, Claude J.
Doellinger, Harold C.
Donahue, J. F.
Fiero, George W.
Galant, Raymond
Garlock, Edward A.
Gilbert, E. E.
Goodyear, J. M.
Hamman, Robert E.
Haynes, Harry L.
Hill, Sanford J.
Hitchner, L. S.
Hopkins, A. R.
King, S. M.
Kittelton, James D.
Krist, Charles J.
Kuzel, Norbert R.
Leary, James B.
Marcus, C. P.
Mays, J. R., Jr.
McAlister, L. C., Jr.
McNally, Richard D.
Mulliken, Alfred A.
Patterson, W. T.
Philpitt, Richard F.
Pierce, J. G.
Reuting, R. D.
Richardson, W. G.
Rosen, D. E.
Russo, Anthony N.
Sell, James P.
Sparre, F. Dallas
Watkins, William F.

Chemical Specialties Mfgrs. Assn.
O. M. Scott & Sons Co.
National Agricultural Chem. Assn.
Chemical Specialties Mfgrs. Assn.
O. M. Scott & Sons Co.
Chamagro Corp.
Humble Oil & Refining Co.
Food Chemical News
Hazelton Laboratories
E. I. du Pont de Nemours & Co.
Eli Lilly & Co.
Geigy Chemical Corp.
Union Carbide Consumer Prods. Co.
E. I. du Pont de Nemours & Co.
National Agricultural Chem. Assn.
Tobacco States Chemical Co., Inc.
International Mineral & Chem. Corp.
Manufacturing Chemists Assn.
E. I. du Pont de Nemours & Co.
Eli Lilly & Co.
Eli Lilly & Co.
Shell Chemical Co.
Barrow-Agee Laboratories, Inc.
United Co-Operatives, Inc.
Agricultural Chemicals Magazine
Chemical Specialties Mfgers. Assn.
Eli Lilly & Co.
Olin Mathieson Chemical Corp.
Walnut Grove Products Co., Inc.
Shell Chemical Co.
Elanco Products Co.
E. I. du Pont de Nemours & Co.
United Co-Operatives, Inc.
American Cyanamid Co.
E. I. du Pont de Nemours & Co.
Olin Mathieson Chemical Corp.

Washington, D. C.
Marysville, Ohio
Washington, D. C.
New York, New York
Marysville, Ohio
Kansas City, Missouri
Houston, Texas
Washington, D. C.
Falls Church, Virginia
Wilmington, Delaware
Indianapolis, Indiana
Ardsley, New York
New York, New York
Wilmington, Delaware
Washington, D. C.
Lexington, Kentucky
Skokie, Illinois
Washington, D. C.
Wilmington, Delaware
Indianapolis, Indiana
Indianapolis, Indiana
Columbus, Ohio
Memphis, Tennessee
Alliance, Ohio
Caldwell, New Jersey
New York, New York
Indianapolis, Indiana
New York, New York
Atlantic, Iowa
Columbus, Ohio
Indianapolis, Indiana
Wilmington, Delaware
Alliance, Ohio
Princeton, N. J.
Wilmington, Delaware
Washington, D. C.

SEE PAGE 38 FOR SUMMARY OF PESTICIDE LAWS.
THE CONSTITUTION OF THE ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INC.

Section 1. Name. The name of the association shall be the Association of American Pesticide Control Officials.

Section 2. Object. The object of the association shall be to promote uniform and effective legislation, definitions, rulings, and enforcement of laws relating to the control of sale and distribution of insecticides, fungicides, and other pesticides.

Section 3. Membership. The membership of the association shall consist of the officials charged by law with the active execution of the laws regulating the sale of pesticides and such deputies as shall be duly designated by these officials, and research workers employed by state, territory, dominion or federal agencies who are engaged in the investigation of pesticides and their component parts.

Section 4. Officers. The officers of the association shall be a president, a vice-president, a secretary, a treasurer, and an executive committee.

Section 5. The executive committee. The executive committee shall consist of the president, the vice-president, the secretary, the treasurer, the retiring president, the four elected members, two members of whom shall be elected at each annual meeting of the association.

The executive committee shall have the control and management of the association during the interim between regular meetings, and shall take action on majority vote of the committee and report its official activities to the association.

The executive committee shall report on such matters as may be referred to it by the association, and review and present to the association with recommendations all the recommendations of the investigators and special committees and such resolutions and regulations as pertain to pesticides.

Section 6. Voting. Each state, territory, dominion and federal agency engaged in control of sale and distribution of pesticides is entitled to a single vote. Voting by proxy shall be permitted.

Section 7. Amendments. The constitution or by-laws may be amended at any regular meeting by a two-thirds vote of the voting membership present. All proposed amendments to the constitution shall be submitted in writing to the secretary at least 30 days prior to the opening of the annual meeting, and the secretary shall distribute copies to the members at least 10 days prior to the meeting. All proposed amendments to the by-laws shall be submitted in writing prior to the opening of the annual meeting.

Section 8. Investigators and special committees. For the purpose of studying the subject of uniformity in legislation, definitions, and rulings, and the enforcement of laws concerning pesticides, the president may appoint investigators and committees. These investigators shall have the authority to appoint such assistants as may be necessary. Investigators shall be appointed for one year and may be reappointed. Special committees may be appointed by the president. No appointment shall be made for a period exceeding two years.

Section 9. Dues. Each state, territory, dominion, and federal agency engaged in the regulation or investigation of pesticides shall pay dues of $15.00 for each year of its membership, and this shall entitle the members to the services and publications of the association.

BY-LAWS

Section 1. Regular meetings of the association shall be held at least once each year, except in the case of an emergency which would prevent an adequate representation of the membership. Special meetings may be called by the executive committee.

Section 2. Election of officers. All officers shall be elected by ballot, and shall hold office until the adjournment of the annual meeting following their election, or until their successors are elected.

In the event of a vacancy occurring in any office, except that of president or vice-president, the president shall fill the vacancy by appointment and such appointment shall continue until the close of the next regular meeting of the association, at which meeting the unexpired term shall be filled by election in the usual way.
Section 3. Duties of officers. The president, vice-president, secretary, and treasurer shall perform the duties usual to such officers.

The secretary shall keep a record of all proceedings of the association and shall attend to all necessary correspondence. The treasurer shall receive all moneys due the association and shall keep an accurate account of all receipts and disbursements, and report with proper vouchers at each annual meeting.

Resolutions, other than those of the resolution committee shall be presented in writing to the executive committee, which shall provide a place for them in the program.

The following shall be the order of business unless changed at the time by the vote of the association:

1. Reading of the minutes of the preceding meeting.
4. Announcements and appointment of committees.
5. President's address.
6. Roll call by states.
7. Special addresses.
8. Reports of investigators and special committees.
9. Reports of credentials committee.
10. Special topics or executive session.
11. Resolutions referring to pesticides.
15. Unfinished business.

SEE PAGE 41 FOR COMMON NAMES OF CERTAIN PESTICIDES.
RESOLUTIONS, POLICY AND INTERPRETATIONS  
OF THE ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS

1. Resolved that the Association opposes strenuously the practice of dispensing pesticides from bulk containers for retail distribution. (1955)

2. Resolved that no pesticide should be offered for sale or distributed after its registration has terminated. (1955)

3. Resolved that pesticides which are represented for seed treatment purposes should be colored with a dye that will distinctly color the seed on which it is applied. (1955)

4. Resolved that the Association of Pesticide Officials cooperate with related associations in a program to require the coloring of treated seeds which have a potential health hazard. (1955)

5. Resolved that pesticides offered for sale only to veterinarians for professional use should be subject to registration. (1955)

6. Resolved that materials used by pest control operators and not sold or distributed to the public are not subject to registration. (1955)

7. Resolved that directions for control should be shown on labels for all pests referred to on the label. (1955)

8. Resolved that it is the opinion of the Association of American Pesticide Control Officials that to the extent that regulatory control over sale and distribution of agricultural chemicals is necessary, in the interest of the uniformity of regulatory control, it should be imposed in accordance with the following principles:
   
   (1) Any regulatory control deemed necessary over agricultural chemicals intended to affect the physiological processes of plants such as gibberellins, plant regulators, desiccants and defoliants, other than plant foods, should be imposed by amendment to the Uniform State Insecticide, Fungicide, and Rodenticide Act and the counterpart state acts, rather than under the State Fertilizer Laws.
   
   (2) In the case of a product which consists of a combination of both plant foods and pesticides or other regulated chemicals or products claiming both plant food and other regulated chemical value, it should be subject to control under both the applicable aforementioned laws. (1958)

9. Resolved that control measures should be adopted to eliminate the distribution of pesticidal vaporizers for home use. (1958)

10. Resolved that it shall be the policy of the Association of Pesticide Control Officials that each scented variety of a specific pesticide shall be separately and independently registered; and, furthermore, that separate and individual brand registrations be required for each variety or physical form of any pesticide which may be offered for sale in a variety of physical forms and differentiating labeling even though the composition may be the same. (1960)

11. Resolved that legally required label information must be printed in type of size and placement which will render it conspicuous and easily readable. (1961)

12. Resolved that the word 'safe' and similar declarations should not appear upon pesticide labels. (1961)

13. Resolved that products bearing the same brand name but different manufacturer designation should be separately registered. (1961)

14. Resolved that a new certificate and number be issued if a change is made during a registration period in the statement of ingredients even though the brand name may remain unaffected. (1961)

15. Resolved that the use and distribution of pesticides intended for experimental purposes only be regulated and controlled either by law, regulation or effective administrative policy. (1961)

16. Resolved that a separate registration be required for fertilizer-pesticide mixtures for each grade or guaranteed analysis of either the fertilizer mixture or the pesticide ingredient. (1961)
17. Resolved that the following forms of animal or plant life be declared as pests for the purpose of bringing under State Insecticide, Fungicide and Rodenticide Acts those products distributed for preventing, destroying, repelling, or mitigating such forms of life, as provided in the Act:

- Mammals, including but not limited to dogs, cats, moles, bats, wild carnivores, rabbits, armadillos, and deer;
- Birds, including but not limited to starlings, English sparrows, crows, and blackbirds;
- Fishes, including the jawless fishes such as the sea lamprey, the cartilaginous fishes such as the sharks, and the bony fishes such as the carp;
- Amphibians and reptiles, including but not limited to poisonous snakes;
- Aquatic and terrestrial invertebrates, including but not limited to slugs, snails, and crayfish;
- Roots or other plant parts growing where not wanted. (1961)

18. Resolved that pesticide-fertilizer mixtures when mixed upon request shall be subject to registration under applicable existing statutes. (1961)

19. Resolved that pesticide products dispensed by veterinarians are subject to registration unless specifically prescribed by the doctor and labeled in accordance with the well established practices of druggists. Products intended for use by veterinarians and animal hospitals must be registered if packaged and distributed in regularly labeled containers. (1961, Amended 1962)

20. Resolved that pesticide labels be required to show directions for decontaminating used containers of highly toxic pesticides. (1962)

**MEMBERS WHO HAVE OCCUPIED THE OFFICE OF PRESIDENT**

- J. L. St. John, Pullman, Washington .............................................. 1947-48
- H. H. Hoffman, St. Paul, Minnesota .................................................. 1948-49
- J. F. Fudge, College Station, Texas .................................................. 1949-50
- A. B. Lemmon, Sacramento, California .............................................. 1950-51
- E. W. Constable, Raleigh, North Carolina .......................................... 1951-52
- R. C. Berry, Richmond, Virginia ...................................................... 1952-53
- Floyd Roberts, Bismarck, North Dakota .............................................. 1953-54
- E. A. Epps, Jr., Baton Rouge, Louisiana ............................................ 1954-55
- C. A. Bower, Oklahoma City, Oklahoma .............................................. 1955-56
- F. H. Gates, Denver, Colorado ............................................................ 1957-58
- W. C. Geagley, Lansing, Michigan ...................................................... 1958-59
- J. D. Patterson, Salem, Oregon ............................................................ 1959-60
- E. R. Winterle, Tallahassee, Florida ................................................... 1960-61
- R. H. Guntert, Topeka, Kansas ............................................................ 1961-62
- M. E. Christensen, Salt Lake City, Utah .............................................. 1962-63

**MEMBERS WHO HAVE OCCUPIED THE OFFICE OF SECRETARY-TREASURER**

- A. B. Heagy, College Park, Maryland ................................................... 1947-60

**MEMBERS WHO HAVE OCCUPIED THE OFFICE OF SECRETARY**

- P. E. Irwin, Richmond, Virginia ........................................................... 1960-

**MEMBERS WHO HAVE OCCUPIED THE OFFICE OF TREASURER**

- A. B. Heagy, College Park, Maryland ................................................... 1960-
PRESIDENT'S ADDRESS

Members of the Association, Industry Associates and Guests:

I wish to personally welcome each of you to the Sixteenth Annual Meeting of the Association of American Pesticide Control Officials. A special welcome is extended to those who may be attending this meeting for the first time. You are invited to make yourself known to us and to take part in the discussions.

It has been traditional with this Association that the President address this group of both Control Officials and Industry Representatives, and it is my pleasure and honor to do so this morning.

In my preparation for this talk this morning, I thought that it might be fitting to go back through the past publications of this Association and review briefly the remarks that have been made by our past presidents. I was more or less curious to see what the topics of discussion were during those years. If you have never done so, I would urge that all of you take a little time to read some of these speeches. You will find that many of the topics of discussion are still problem areas, even in our present times, and many of the topics have come up from time to time in our State Relations Meetings and Workshop sessions.

In the formative years of this Association, much was said with respect to our proposed Uniform State Economic Poisons Law. Practically all states have now enacted some sort of pesticide legislation and the majority of these states now have laws which are more or less modeled after this Uniform State Bill.

It was interesting to note the remarks made by Past President Allen Lemmon, in 1951 when he addressed this group, in which he stated, "Uniform laws will not achieve uniformity unless we have uniform interpretations. This can be obtained only by getting together and discussing our problems or exchanging viewpoints frequently." Actually this is one of the primary purposes of this Association and is the reason why we are gathered here this morning.

It is doubted if we shall ever be able to have absolute uniformity in all of our state pesticide laws and perhaps this is not absolutely essential or desirable. Although, we need to work together because the action of one control official, at times, can affect us all. The cooperation of both control officials and industry is essential to achieve such a goal, and from time to time, we must be willing to sacrifice a favorite concept in order to permit the development of practical uniform regulatory policies.

Surely, the drafted tentative regulations which the Committee on Regulations will present to this Association for adoption under the Model State Uniform Law will be a valuable guide line towards this purpose. Much effort has gone into this report and the Committee is to be congratulated for a job well done.

Again, we need to be reminded of what our concepts are in the field of what should constitute good labeling practices. During this past year, there has been much discussion among control officials with reference to label statements such as, "SAFE," "NON-HAZARDOUS," "NON-TOXIC," "NON-POISONOUS," and of course, there are others. All of us have had labels submitted for registration with these prominent type label statements, and if we were to check our registration files, we all would probably find where acceptance of these types of label statements have been made. I, for one, would be the first to admit that this would be true in my case.

You will recall that Past President Winterle, only last year, warned this Association that we were heading down the road of trouble in accepting such label statements. This, I believe, we will agree. In 1961, this Association adopted a resolution which reads, "The word 'SAFE' and similar declarations should not appear upon pesticide labels." With this resolution, if we are all to be uniform in our interpretations and thinking, it would seem that this kind of labeling practice would be quickly eliminated. We definitely will need the cooperation of each manufacturer in this effort, and the industry representatives present this morning can give valuable assistance in achieving this goal.

There is another matter which I feel is worthy of our consideration at this time and that is the efforts which are being made by the National Agricultural Chemical Association so far as the Pesticide Safety Education Program is concerned. There is no doubt other groups present here also share in this interest in this educational pursuit.
At the present time, there has been a great deal of discussion and publications being written dealing with the hazards and toxicities of pesticide materials. These modern pesticide chemicals have played a tremendous role in our plentiful food supplies, although, there are those who do not, or will not, give proper recognition of the values in the proper use of these pesticide chemicals but only wish to emphasize the ill effect of such products and expound upon the incidents of misuse.

At one time or another, we have all been confronted by those who advocate this latter type of program, and in our discussions with them, we need to keep our perspective and weigh both the values and dangers of pesticide uses and applications.

The program of pesticide safety education, in my opinion, cannot be overemphasized in acquainting the user of these materials to become conscious of the importance of reading the labels and observing directions for use. For the most part, we as control officials, are not actively engaged in these educational pursuits, but all of us can do our part in bringing these important facts to the attention of our landgrant universities, state extension workers, and to the manufacturers.

The manufacturers themselves have a very important role in this program in giving out the necessary information in the safe and proper usage and the hazards that can be involved.

This is a program that cannot be undertaken and then soon forgotten. It must be a continual program, to familiarize the users of these materials that the hazards are primarily in the application and handling or in misuse, and that the labeling must be carefully and fully observed.

In closing, I would like to express my sincere appreciation to both Paul Irwin, our Secretary, and to Al Heagy, our Treasurer, for their splendid help throughout this past year, and to all committees for their dedicated endeavors. Surely, the work of these committees is the real backbone of this Association. I should also like to express appreciation to each individual Association member for their support to this Association, and of course, we are always pleased to have our friends from industry meet with us. Much progress is made when control officials and industry can discuss mutual problems with the understanding that cooperation is a two-way proposition. Their support and cooperation is always welcome. And lastly, I wish to express to Justus Ward and his staff, the Association's appreciation in making possible their facilities to the Executive Committee and other control officials of the education workshop this past spring. It is a privilege which can only be appreciated to those who have attended. This is a meeting of federal and state government and it is a wonderful example of cooperating together to the benefit of both. Those who have not availed themselves of such a meeting should make every effort to do so.

Serving as your President of this Association has been truly an enjoyable and rewarding experience, and it is one that should be recommended to all.

Thank you very much.

R. H. Guntert, Director
Control Division
Kansas

SEE PAGE 43 FOR NAMES AND ADDRESSES OF CONTROL OFFICIALS.
INSECT ATTRACTANTS AND CHEMOSTERILANTS

S. A. Hall

The Entomology Research Division of USDA has been doing some trail blazing in the realm of compounds which are specific attractants for certain insect species and in another series of compounds which sexually sterilize many species of insects. Our synthesis program at Beltsville, Maryland, divides itself into 2 major efforts, (1) attractants, and (2) chemosterilants.

When I first came with the Bureau of Entomology and Plant Quarantine, having transferred from the Bureau of Agricultural and Industrial Chemistry, I soon got into the synthesis of candidate insect repellents which were applied to the arms of persons employed as test subjects at our laboratory in Orlando, Florida. The subject would thrust his arm into a cage containing about 3000 unfed mosquitoes. This was a good test as bioassays go and it was standardized to give reproducible ratings of candidate compounds. At that time a more effective and safe repellent was very much needed by our Armed Forces, especially in the South Pacific areas where malaria-carrying Anophe­line mosquitoes and other disease carrying arthropods were a major threat to the health of our troops. While DDT was of course doing an unprecedented job in malaria eradication, yet there was a real need for an effective personal-use repellent. So a synthesis program was started at Beltsville, Maryland, which was coordinated with 3 other synthesis groups at the University of Maryland, Ohio State University, and Harvard University. It was a most unusual chance to explore a whole gamut of organic compounds and make correlations of molecular structures and repellent activity. Some very good correlations were made in addition to discovering a highly effective repellent, now widely marketed. I mention this because it was my introduction to the synthesis-screening approach and I became an ardent proponent of this way of getting a useful compound. Since we have only a small group of synthesis chemists at Beltsville we have to choose only 1 or at most 2 major lines of endeavor. We shifted from repellents to insect attractants. While the test procedures that have been developed for attractants are generally less satisfactory than for repellents, nevertheless this is perhaps a more exciting field for the synthesis chemist than repellents. The chemist can almost always be sure that when he comes up with a compound which shows some definite attractancy to a particular species of insect (usually the males) that he is on the beam and can proceed to plan his synthesis strategy and zero-in to hit the target of high biological activity. This is another way of saying that when you get somewhat close to an attractant molecule the test results always give you a hint of this fact. This principle does not necessarily hold true in finding new repellents or new insecticides. But with attractants, thus far in our experience, it seems to be true. Let me illustrate.

We were looking desperately for a Mediterranean fruit fly attractant in 1956 when medfly was infesting Florida. It was a crash program. (Slide 1 Shows the Mediterranean fruit fly, Ceratitis capitata, a beautiful insect -- destructive as it can be.) In seeking an attractant we first tried as many different types of compounds such as aldehydes, acids, hydrocarbons, ketones, amines, amides, esters, etc. Compounds of molecular weights ranging from about 60 to perhaps 300 -- as many compounds of different types as could be screened in our Fruit Fly Laboratory in Honolulu, Hawaii (Slide 2) in order to get a lead. Test results were rapidly reported by the entomologists in Hawaii to guide the chemists in Beltsville. We rocked along for quite a few months without anything much except rather weak activity in certain aromatic hydrocarbons which we were exploring. Our first find was a substituted naphthalene that was only on the borderline of significant attractiveness to the medfly. Then one day we got a real lead with an ester of 6-methyl-3-cyclohexene-1-carboxylic acid (Slide 3). The first ester we tried was the ethyl ester. Now when a chemist gets an ester as a lead there are certain obvious things that must be done at once, to fill in the homologous series -- which we did. It first looked like the propyl and then the isopropyl ester (Slide 4). You notice that olfactometer readings do not correlate with field tests which are the real practical measure of an attractant’s potential usefulness. Before field tests were all in we persuaded a chemical company to get into fast production of the isopropyl ester for use in the Medfly eradication program then in progress. Later the field tests in Hawaii clearly showed that the sec-butyl ester was the best and a shift was made to produce this attractant which we named siglure after the initials of the chemist, L. I. C. Gerler, who had synthesized this series of esters. Siglure was used most successfully in the many thousands of traps in Florida and bordering states of Georgia and Alabama. Without an attractant to guide the spray operations and tell us where the focus of the infestation was and whether or not it was still smoldering, I doubt if eradication could have been achieved. But with thousands of traps distributed widely, picking up only medfly and no other insects, it was possible to map out the limits of the infestation. The insecticide (malathion) was most effectively applied with a minimum of residues at the lowest cost. It was a real efficient operation and eradication was successful.

We got reports that certain commercial lots of siglure did not pull in medfly the way our original laboratory batch did. This puzzled us until we found that it was a case of cis-trans isomerism.
The trans is the highly active attractant, the cis is not.

Later we improved upon siglure. This we called mediure (Slide 7) and then finally we were able to make the tertiary-butyl ester of this which we called trimedlure. Trimedlure is the most powerful attractant we have for Medfly. It is also a very good lure for the Natal fruit fly in South Africa. You will notice that hydrogen chloride is added to the double bond. There are theoretically 8 possible isomers. While we do not yet know which isomer we have in trimedlure, a reproducible product can be made at reasonable cost which meets our specifications. Trimedlure caught some medflies again in Florida early in this year. Traps are always maintained for this purpose. Trimedlure picked up the medfly two generations ahead compared with the 1956 infestation when a medfly larva was found by a man eating a grapefruit at breakfast one morning in April of that year. It is estimated that about nine million dollars were saved if you compare the costs of eradication in 1962 with 1956-57 campaign when medfly was fairly well established. Today twenty thousand traps with trimedlure are being maintained in Florida especially around the area where the infestation was found. This is cheap insurance against such a damaging pest. Two medflies were caught on August 24 and 26 at West Palm Beach, and a single medfly at Ft. Lauderdale on Nov. 2.

Here is the melon fly, Dacus cucurbitae (Slide 8) -- another beautiful and extremely destructive tropical fruit fly which we are keeping out of this country (or at least detecting and eradicating before it can become established) using traps in strategic places, mostly in California. The attractant we use is a ketone (Slide 9). Our first good lead here was 4-phenyl-2-butane. We made many analogs and found that the 2-butane side-chain was most important for this insect. We made all kinds of alterations on the molecule and would get compounds of varying odors (usually not unpleasant) but as soon as we got away from the 2-butane side-chain the melon fly showed not the slightest interest in it. Anisyl acetone was what we had 6 years ago when a single melon fly was detected out in California (Slide 10). More than a thousand traps were set up and baited with anisyl acetone, distributed widely around the area of the suspected infestation. There were no other melon flies caught. We kept on synthesizing substituted phenyl butanones and finally came up with a real good one which as you can see replaces the methoxy group in the para position with an acetoxy. We worked all around this structure before we hit this one. We call it cue-lure. The now obsolete anisyl acetone (which incidentally, I am told, found a place in the perfume trade) would attract males only after they were 10 days old, that is, from time of pupation. Cue-lure attracts immature males just as they pupate. Cue-lure also attracts Dacus tryoni, the Queensland fruit fly in Australia. It does not, however, attract Dacus oleae, the olive fruit fly, which is an extremely serious pest in Greece and in the Mediterranean countries. We are screening some compounds for this pest.

A most powerful attractant and the first one found (many years ago) for a tropical fruit fly is (Slide 11) methyl eugenol (or 4-allyl veratrole) for Dacus dorsalis, the oriental fruit fly, which rates as certainly one of the most destructive tropical fruit flies known. It was introduced into Hawaii sometime during World War II. We have synthesized many analogs of methyl eugenol. Many of the dimethoxy or dialkoxy benzenes attract this insect. None, however, surpasses the extreme attractiveness of methyl eugenol (Slide 12).

This is the Mexican fruit fly (Slide 13). We have screened about 4000 compounds on this insect and have no significant leads. But we keep trying.

We are also trying to find attractants by the volume screening approach for other insects (Slide 14). Butyl sorbate we found rather quickly after screening only about 100 compounds. This is an attractant for the European chafer.

Sex Attractants

Let me shift to sex attractants. Our first interest in this field of research was with the gypsy moth, Porthetria dispar, accidentally introduced into Massachusetts from France in 1869. Gypsy moth is one of the most serious pests in New England and eastern New York state, which, if left uncontrolled, would threaten hardwood forests from northern Maine to the Ozarks. The female gypsy moth does not fly and the male finds the female and flies to her as soon as he picks up the scent of her sex attractant which she secretes when a virgin in an extremely minute amount. As early as 1893 experiments were undertaken in which traps containing unfertilized females were used to attract the males. For many years a benzene extract was made of the last two abdominal segments of the virgin female moths (Slide 15, Slide 16). This was a tedious, expensive operation but a practical necessity to survey for this insect (Slide 17). This gypsy moth trap has been simplified since this picture was taken. The first chemical investigation of the gypsy moth sex attractant was started at Harvard University Medical School in 1925. But very little was learned then about its
chemical nature. Starting in the early 1940's Acree and Haller tackled this problem and made considerable progress considering that bioassays on the fractions could be run only once a year out in the field for a period of perhaps three weeks in late July or early August when the moths were flying. It was very slow going. It became difficult to get budgetary support for the project which actually was discontinued for a time. Acree contributed some good basic chemical information and isolation techniques. The problem was then taken up by Jacobson and Beroza who succeeded in 1961 in isolating from 500,000 female moths 20 mg. of the pure sex attractant. They were able to work out the chemical structure using up only 10 mg. of their hard-won material.

The synthesis (Slides 18, 19, 20) of the dl-form identical in all respects to the natural attractant save optical activity was accomplished in 9 steps in 0.23% over-all yield using n-heptaldehyde as starting material. The dl-form was successfully resolved by treating its acid succinate with 1-brucine and separating the brucine salts by fractional crystallization from acetone (Slide 21). Note the asymmetric carbon atom.

A homolog of the natural attractant (Slide 22) was prepared in high yield from ricinoleyl alcohol; castor oil is a rich source of ricinoleic acid, the starting material. This higher homolog of the natural attractant has been called gyplure and is readily available at nominal cost. The biological activity of a sex attractant is fantastic (Slide 23). It exerts its effect at concentrations so low that one begins to count the molecules. We have calculated for survey purposes 1 lb. of gyplure (at a cost of $10) will service 50,000 traps a year (using 25 micrograms per trap) for 300 years.

We would like to use gyplure for actual control and possible eradication of the gypsy moth and experiments are being designed with this goal in mind.

We are investigating the sex attractants of other Lepidoptera -- the pink bollworm, tobacco hornworm, Southern armyworm, European corn borer. This will keep our chemists busy for many years. The work of isolation, characterization and synthesis is not easy. It calls for micro-techniques and just about every tool and skill that the organic chemist can command. We suspect that sex attractants in the order Lepidoptera will be long-chain unsaturated alcohols, or alcohol esters. We have developed some specialized know-how in isolating this type of compound and in synthesizing it. So the task should become somewhat easier, as we tackle other insect species.

We have a very powerful sex attractant for the American cockroach which has been isolated in pure form in minute quantity from many thousands of virgin females. The identity and the synthesis of this sex attractant is a top priority project at our Beltsville laboratories and we hope to have something definite to say on this within the next few months.

Chemosterilants

As I mentioned at the outset we have two main lines of synthesis at Beltsville -- insect attractants and chemosterilants. Our interest in chemosterilants came about -- I think quite logically -- as a consequence of the highly successful eradication of the screw-worm, a serious pest of livestock. Screw-worm flies sexually sterilized by gamma irradiation in the pupal stage from a Cobalt 60 source are systematically released by airplanes over the entire infested area. The sterilized males seek out and mate with native females which lay their eggs normally; but the eggs never hatch. As sterile-fly releases continue, the ratio of sterile males to native males climbs rapidly to the point where sterile matings are a mathematical certainty. In effect, the sex drive and the enormous reproductive capacity of an insect is turned against itself -- and the insect is eradicated.

The screw-worm was eradicated from Florida and is now being eradicated from Texas and the Southwest by this revolutionary means. No species can acquire immunity to sterile matings. Only the target species is hit. But it's an expensive operation to build a factory to mass-produce sterile insects. It calls for the installation of specialized equipment, air planes to distribute the packaged insects, etc. It's a major operation. And you cannot economically apply this technique to any other insect pest you may have in mind.

A chemosterilant may do a job that would not be feasible or too costly by the irradiation and release method. For one thing, some insect species, such as the boll weevil, or gypsy moth, for example, simply cannot take 5000 or more roentgens of irradiation and come out feeling fit and eager to mate.

Dr. E. F. Knipling published about 3 years ago in Science the theoretical basis together
with some of the possibilities which can be opened up to control or eradicate insects, rodents, or other undesirable animal populations which reproduce sexually. Table 1 (Slide 24) compares the population trend of an insect species subjected to (1) no treatment (a five-fold increase in each generation is postulated), (2) subjecting each generation to 90% kill by insecticide, and (3) alternately inducing in each generation 90% sexual sterility. You can readily see how rapidly the sterility method takes hold to reduce the population. In the F3 generation it is theoretically a thousand times more effective than the insecticide treatment. Table 2 (Slide 25) compares chemical sterilization with the release of gamma-sterilized males which has already proven highly practical in the case of the screw-worm. The chemosterilant is assumed 90% effective and the release of gamma-sterilized males is assumed to dominate the natural male population at a ratio of 9 to 1. Knipling points out here if the initial rate of release of sterile insects were to remain constant the final result is the same because the ratio of sterile to fertile insects increases as the population declines.

The term chemosterilant is a new word. It is a chemical which causes sexual sterility, that is, failure to reproduce, in insects or other organisms. We have very much to learn about their mode of action. We have screened about 2000 compounds as candidate chemosterilants, mainly against house flies, screw-worm flies and Mexican fruit flies. Both theoretical reasons and experimental data indicate a close relationship between chemosterilants and the anti-tumor compounds active in cancer chemotherapy. The alkylating agents (Slide 26) are looked upon as replacing an active hydrogen in a physiologically important moiety -- possibly an enzyme required for the in vivo synthesis of nucleic acids. At Beltsville, we are undertaking a basic study on this. It seems highly probable that any information gained here as to the mode of action of chemosterilants will also throw light on the mode of action of cancer drugs. Incidentally, we are having screened for anti-tumor activity those compounds which we synthesize for chemosterilant tests.

Antimetabolites (Slide 27) are another class of compounds which effect mainly female insects. Aminopterin or its homolog methotrexate were about the first compounds tried in this program (Slide 28). Under the catch-all "miscellaneous" are compounds such as coleheine which affects cell division, certain of the antibiotics which have shown some activity, thiourea which is not too effective because of its toxicity. Nothing compares with the aziridine or ethylenimine derivatives such as (Slide 29) apholate or (Slide 30) TEPA which we used to call aphoxide. Aziridines are extraordinarily effective chemosterilants. The aziridines can be effective when given in the food of insects -- say at 0.1% or even less -- in some cases they can be applied topically or as contact treatments. The range of insect species responding to chemosterilants is wide but there are considerable differences in toxicity responses. This is to be expected. Where the dose to sterilize borders closely upon the toxic dose, there seems to be no way to measure actual chemosterilant activity. There is specificity. The choice of chemosterilant for the screw-worm is different than for the house fly.

Let me close by emphasizing that chemosterilants are strictly in the research stage. There are no recommendations for general use, and it is entirely conceivable that there never will be a chemosterilant made available for use by the public. It is a powerful weapon that may have to be used only by trained personnel. However, it is clear even now that a chemosterilant could be used with complete safety to sterilized reared insects for release among natural populations. Insects are definitely less damaged by chemosterilants than by gamma rays. We are looking into the possibilities of using a suitable chemosterilant with a bait or attractant. Experiments are now in progress on 3 islands out on the Atlantic missile range in the Caribbean to see if house flies can be eradicated with chemosterilants. We have a lot to learn about toxicity and about developing safe, fool-proof procedures for their use. At Beltsville we are studying the rates of decomposition of our most promising chemosterilants. They decompose rapidly at low-pH (high activity). We may be able to take advantage of their inherent instability to eliminate residues as we learn how to use these extraordinary compounds.

A short film entitled "Chemosterilants -- A New Approach to Insect Control" will follow. Your Chairman may wish to hold up questions -- at least on this topic -- until after the film which runs only about 5 minutes.
FROM WHERE I STAND

Parke C. Brinkley

I am delighted to be here with you today. I feel very much at home among you. This is quite natural because for so long I sat on your side of the table.

As Paul Irwin told you, I am a farmer by trade and I really still think and react as a farmer.

Since being in this position with Industry I have done quite a bit of thinking about viewpoints, and I have been unable to find any real difference between the basic thinking of the manufacturers and formulators of pesticides, the control officials who regulate the Industry, or the farmers who use these products in the production of food and fiber. We are all interested in having an effective product that is safe to produce and apply, that will result in food or feed that is entirely acceptable to the market. We are all interested in this being achieved in such a way that there is confidence in and between manufacturers, control officials, farmers, processors, distributors, and consumers.

The State Control Officials as a whole have been doing a grand job in regulating the distribution and use of pesticides over the years. It is true, of course, that some states do not have as strong a program as others, but everybody is working to improve their own situation and progress is being made on every front. We would like to help in strengthening these programs in any way and any where we can. We are very firm in our belief that a strong regulatory program, wisely administered, is of great good to all concerned, and we would like to see it in every state.

A few years ago Rodney Berry and I went before the Governor of Virginia and his Budget Advisory Commission to make our biennial budgetary presentation. Rather than to carry figures, we carried a drawing of a long pipeline with which we tried to convey to these gentlemen the production and distribution of America's food. At one end of the pipeline we had automobiles, trucks, tractors, fertilizers, pesticides, gasoline, bags, baskets and other production supplies pouring in. The next section symbolized the Virginia farm. The next section showed the processing plants where these foods were packed, processed and packaged. Another section symbolized the grocery stores with the end products flowing out into the Virginia homes.

We said that 85% of the work of the State Department of Agriculture in Virginia involved keeping this pipeline open, keeping these materials flowing. We said that maintaining the quality and wholesomeness of these products and thereby maintaining the confidence of the various people who bought and used these products was our real job. We said that it took a lot of education, service and enforcement to keep the farmer satisfied that he was getting what he ordered from the supplier; to keep the processor's confidence in the farmer's raw product; and to keep the consumer satisfied that the product she was getting was what she wanted to take home and serve to her family.

We said that confidence was the keystone of our work. Last night Clyde Bower said that the laboratory people in the Oklahoma Department told him that 95% of the requests they got in was, "Is my product all right to ship?" They want to be confident. This is good. On the other hand, Dick White and Hubert Halliday said last night that amino triazole is a good product but their farmers wouldn't be caught dead with it on their farms. Somebody has lost confidence here and that is real bad.

Last night Wally Greim and Rodney Berry both made the point that we have two different laws. One regulating the distribution and use of pesticides; the other regulating the processing and distribution of food. Both of them made the point that these should be kept entirely separate and that pesticides should not be made to pay for the enforcement of food laws.

The use of chlorinated hydrocarbons and organic phosphates is a new and developing concept of food production and disease suppression. Surely these are very toxic materials and must be treated as such. Surely their misuse causes a few deaths each year. There were 89 last year allegedly from the misuse of pesticides, which is down from an average of 152 during the year 1950 to 1955 period. I am not belittling these deaths. Eighty-nine is 89 too many, and we must work even harder to stop them. But as surely as the misuse causes some trouble, the proper use saves the lives of millions each year, partly through disease suppression and partly through contributing to the nutritional level of our people. As much as we would like to get away from any bad effects from the misuse of pesticides, we cannot afford to burn the barn down to get rid of the rats, or to throw the baby out with the bath water.
There has been much writing lately about pesticides by people who are already well known in their own fields. Because these people are competent in their own fields many people listen to them even though they may not be competent in the fields in which they happen to be writing. Some of these people I refer to would have the public believe that state and federal scientists and administrators are either ignorant or incompetent, or both, and I know there is not a word of truth in it.

Let me remind you that there is a very thorough research and testing back of every product registered, every label approved, and every tolerance established. Let me also remind you that there is a strong and competent sampling and enforcement program at both the state and federal level.

We must not allow the emotionalism of some to cause those in responsible positions to panic.

Legislation based on emotionalism could hamstring the Industry or make control officials look awkward. I know so well from experience that the members of the Congress and the members of the Legislature want neither of these conditions to develop.

As Clyde Bower said last night, "Let us not regulate for regulation's sake."

I think that this coming year is the worst year you could pick to amend your laws, because whenever control officials offer amendments to a law it announces an open season for any and all to come in and offer all sorts of other amendments.

We have a good model bill developed over the years by you and enacted into law in its general form by most of the states. This has been judged by The Council of State Governments to be adequate for the protection of all of the people.

You are now developing model regulations to accompany this model bill. Thank you for letting us have the opportunity of reviewing them. We have some ideas that we think will improve them and our Committee will pursue them with your Committee.

Under this bill and these regulations there is no danger to anyone when the label directions are followed.

There is a need for a strong "Read and Follow the Label" safety program. We hope that all of you will work on this and put it into effect in your states, and we will help you in any way we can.

These are trying times for the agricultural chemicals industry and for those who regulate it. Let us all draw comfort from eminent scientists who have publicly spoken in their own fields.

Dr. George C. Decker, of The Illinois Experiment Station, said:

"I know of no other group of chemical or mechanical tools, used by so many different people under so many diverse conditions that come even close to the safety record established in the field of pesticide usage."

The Journal of the American Medical Association, Vol. 178, No. 7, dated November 18, 1961, said:

"The Council on Foods and Nutrition recognizes the contributions that chemical substances in food production, processing, and preservation have made to the quality and quantity of the American food supply. While many chemical additives are essential to efficient agricultural production, others are vital to the manufacture of food products. There is no reason to believe that the present use of chemicals in foods is endangering the health of people. Responsible manufacturers have made careful safety tests before the introduction of new chemicals, and the Food and Drug Administration is diligently and effectively protecting consumers from presence of hazardous chemicals under existing federal laws."

Dr. Robert White-Stevens, of the American Cyanamid Company, recently said:

"The one point emphasized by Dr. Emil Mrak, Chairman of the California Special Committee on Public Policy Regarding Agricultural Chemicals, was that throughout the hearings, among urban consumer groups, there was a consistent sense of
ignorance and suspicion concerning agricultural chemicals and a consequent distrust of the farmer, the extension man, the college and industrial research worker and of the Federal and State control administrators. This, of course, is revealed repeatedly in the various books, pamphlets, magazine and newspaper articles published on the subject for public consumption. This is the real problem confronting us, and one to which all of us concerned with agriculture should address ourselves with tenacity and vigor. For in a democracy it is essential to let the people know the facts and, having done so, we can rely upon their collective judgment."

Dr. William Darby, Chairman of the Department of Biochemistry, Vanderbilt University School of Medicine, and past Chairman of the Food Protection Committee, National Academy of Sciences - National Research Council, also recently said:

"Despite all of the implications of harm from residues on foods, Miss Carson has not produced one single example of injury resulting to man from these residues."

Thank you very much for letting me come here and visit with you. I have thoroughly enjoyed it and I look forward with a great deal of pleasure to working with you.

REPORT OF THE SECRETARY

Paul E. Irwin, Secretary

The activities of the office of Secretary during the past year varied only slightly from the previous year. During the year 1961-62, your Secretary performed the following duties:

1. Prepared and distributed the proceedings of our 1961 Annual Meeting.
2. Prepared and distributed four issues of the "Pest Controller".
3. Arranged program and other details for our 1962 Annual Meeting.
4. Handled considerable correspondence pertaining to activities of our Association.

Four issues of the Pest Controller have been published since our 1961 meeting -- in December (1961), March, June and September. Your Secretary plans to continue this practice in the future on the same quarterly basis and trusts that the membership will supply items of interest for use in this publication.

A brief summary of the "Spring" meeting of the Executive Committee and the Pesticide Regulation Division of USDA was included in the June 1962 issue of the Pest Controller. All Pesticide Control Officials are invited to participate in these "Spring" meetings and your Secretary strongly urges those Control Officials who have never attended one of these sessions to do so in May 1963.

Your Secretary recommends to the incoming President that a Program Committee be appointed to handle arrangements for future annual meetings.

Your Secretary represents our Association on the American Standards Association Sectional Committee K62, Common Names for Pest Control Chemicals. A meeting of this K62 Committee was held in Washington, D. C. on March 8, 1962. Dr. S. B. Randle, Chairman of our Nomenclature Committee, and your Secretary represented our Association at that meeting.
REGULATIONS

Floyd Roberts, Chairman

The committee on regulations has this year drafted proposed uniform regulations applicable to the Model Uniform State Insecticide, Fungicide and Rodenticide Act. After a study of existing laws and regulations of the various states and the applicable Federal Law it has been deemed most satisfactory to pattern the proposed regulations from the Regulations in the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act. For the most part the proposed regulations are exact copies of the Federal regulations.

It is recommended that the attached proposed regulations be adopted as tentative.

PROPOSED REGULATIONS FOR ADOPTION
UNDER THE MODEL STATE INSECTICIDE
FUNGICIDE AND RODENTICIDE ACT

1. Words in Singular Form. Words used in the singular form in the regulations in this part shall include the plural, and vice versa, as the case may require.

2. Terms Defined and Construed. All terms used in these regulations in this part shall have the meaning set forth for such terms in the Act. In addition, such terms shall be construed as follows:
   (a) Act. "Act" means the (pesticide)(insecticide, fungicide and rodenticide) Act of
   (b) (Secretary) (Commissioner). ("Secretary")("Commissioner") means the
   or any officer or employee to whom he has heretofore lawfully delegated or to whom he may hereafter lawfully delegate the authority to act in his stead.
   (c) (Pesticides) (Economic Poisons). ("Pesticides")("Economic Poisons") includes insecticides, fungicides, rodenticides, herbicides, nematicides, plant regulators, defoliants, and desiccants. A product shall be deemed to be a (pesticide)(economic poison) regardless of whether intended for use as packaged or after dilution or mixture with other substances, such as carriers or baits. Products intended only for use after further processing or manufacturing, such as grinding to dust form or more extensive operations, shall not be deemed to be (pesticides)(economic poisons). Substances which have recognized commercial uses other than uses as (pesticides)(economic poisons) shall not be deemed to be (pesticides)(economic poisons) unless such substances are (1) specially prepared for use as (pesticides)(economic poisons), or (2) labeled, represented, or intended for use as (pesticides)(economic poisons), or (3) marketed in channels of trade where they will presumably be purchased as (pesticides)(economic poisons).
   (d) Fungicide. "Fungicide" includes but is not limited to:
      (1) Plant fungicides, seed fungicides, fungicidal wood preservatives, and mildew and mold preventatives.
      (2) Disinfectants, antiseptics and sterilizers, except those for use only on or in living man or other animals.
   (e) Active ingredient. An "active ingredient" is an ingredient which:
      (1) Is capable in itself, and when used in the same manner and for the same purposes as directed for use of the product, of preventing, destroying, repelling, or mitigating insects, fungi, rodents, weeds, nematodes, or other pests, or altering through physiological action the behavior of ornamental or crop plants or the produce thereof, or causing leaves or foliage to drop from a plant, or artificially accelerating the drying of plant tissue.
      (2) Is present in the product in an amount sufficient to add materially to its effectiveness; and
      (3) Is not antagonistic to the activity of the principal active ingredient:
      Provided, however, That the (secretary)(commissioner) may require an ingredient to be designated as an active ingredient if, in his opinion, it sufficiently increases the effectiveness of the (pesticide)(economic poison) to warrant such action.
   (f) Rodent. "Rodent" means any animal of the order Rodentia, including, but not limited to, rats, mice, rabbits, gophers, prairie dogs, and squirrels.
   (g) Designated agent. "Designated agent" means any employee or agent of the state Authorized by the (secretary)(commissioner) to make investigations in connection with enforcement of the Act.
   (h) Nematocide. "Nematocide" includes only those products intended for preventing, destroying, repelling, or mitigating nematodes inhabiting soil, water, plants or plant
parts. The term does not include products intended for use against nematodes in or on living man or other animals.

(i) Plant regulator. "Plant regulator" includes those substances intended to alter the behavior of ornamental or crop plants or the produce thereof through physiological rather than physical action. The term includes, but is not limited to, substances intended to accelerate or retard the rate of growth or maturation or ornamental or crop plants, enhance fruit set, prevent fruit drop, accelerate root formation and elongation, prolong or break dormancy or ornamental or crop plants or the produce thereof, but shall not include substances intended solely for use as plant nutrients or fertilizers.

(j) Herbicide. "Herbicide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any weed, including any alga or other aquatic weed.

3. Administration. The (secretary)(commissioner) is authorized to take such action as, in his discretion, may be necessary in the administration and enforcement of the Act and the regulations in this part.

4. Language to be used. All statements, words, and other information required by the Act or the regulations in this part to appear on the label or labeling of any (pesticide)(economic poison) shall be in the English language:

Provided, That in the case of articles intended solely for distribution to points outside the continental United States the appropriate foreign language may be used in lieu of the English language.

5. Omission of Label or Labeling. The omission of a label or labeling from any (pesticide) (economic poison) shall not affect any provision under the Act or the regulations in this part with respect to any statement required to appear on such label or labeling.

6. Label. (a) Contents of label. The label of every (pesticide)(economic poison) must show, clearly and prominently, the name of the product; the name and address of the manufacturer, the registrant, or person for whom manufactured; the net contents, the ingredient statement; and a warning or caution statement which may be necessary to prevent injury to living man and other vertebrate animals, useful vegetation, and useful invertebrate animals. The label of any (pesticide)(economic poison) which is highly toxic to man must also contain the skull and crossbones, and the word "poison" in red on a contrasting background and the antidote statement in immediate proximity thereto. The antidote statement shall include directions to call a physician immediately. The label of every (pesticide)(economic poison), if necessary to prevent injury to living man and other vertebrate animals, useful vegetation, and useful invertebrate animals, must contain an appropriate warning or caution statement as required in 9.

(b) Name and address of manufacturer. An unqualified name and address given on the label shall be considered as the name and address of the manufacturer. If the registrant's name appears on the label and the registrant is not the manufacturer, or if the name of the person for whom the (pesticide)(economic poison) was manufactured appears on the label, it must be qualified by appropriate wording such as "Packed for....", "Distributed by....", or "Sold by....", to show that the name is not that of the manufacturer. When a person manufactures a (pesticide)(economic poison) in two or more places or in a place different from the manufacturer's principal office, the actual place of manufacture of each particular package need not be stated on the label except when, under the special circumstances existing, the failure to name it may be misleading to the public. The address of the manufacturer, registrant, or person for whom manufactured shall include the street address, if any, unless the street address is shown in a current city directory or telephone directory.

(c) Name, brand, or trade-mark of (pesticide)(economic poison). The name, brand, or trade-mark of the (pesticide)(economic poison), appearing on the label shall be that under which the (pesticide)(economic poison) is registered.

(d) Net content. (1) The net content shall be exclusive of wrappers or other material, and shall be deemed to be average content unless stated as a minimum quantity.

(2) Net content shall be stated in the terms of weight or measure in general use by consumers and users of the (pesticide)(economic poison). If there is no general use, the net content statement shall be in terms of liquid measure if the product is a liquid, and in terms of weight if it is a solid, semisolid, viscous, or a mixture of liquid and solid. Statements of liquid measure shall be in terms of the United States gallon, quart, pint, and fluid ounce, at 68°F. The statement of weight shall be in terms of avoirdupois pound and ounce. All statements of net contents shall be in terms of the largest unit present.
(3) If the contents are stated as a minimum quantity, variation below is not permissible and variation above shall not be unreasonably large.

(4) If the contents are not stated as a minimum quantity, variation shall be permitted only to the extent that it represents deviations unavoidable in good packing practice. The average quantity in the packages in a shipment shall not fall below the average quantity stated, nor shall there be any unreasonable variation from the average in the contents of any package.

7. Ingredient statement. (a) Location of ingredient statement. The ingredient statement must appear on that part of the label displayed under customary conditions of purchase except in cases where the (secretary)(commissioner) determines that, due to the size or form of the container, a statement on that portion of the label is impractical, and permits such statement to appear on another side or panel of the label. When so permitted, the ingredient statement must be in larger type and more prominent than would otherwise be possible. The ingredient statement must run parallel with other printed matter on the panel of the label on which it appears and must be on a clear contrasting background not obscured or crowded.

(b) Names of ingredients. The well-known common name of the ingredient must be given or, if the ingredient has no common name, the correct chemical name. If there is no common name and the chemical composition is unknown or complex, the (secretary)(commissioner) may permit the use of a new or coined name which he finds to be appropriate for the information and protection of the user. If the use of a new or coined name is permitted, the (secretary)(commissioner) may prescribe the terms under which it may be used. A trade-mark or trade name may not be used as the name of an ingredient except when it has become a common name.

(c) Percentages of ingredients. Percentages of ingredients shall be determined by weight and the sum of the percentages of the ingredients shall be 100. Sliding scale forms of ingredient statements shall not be used.

(d) Designation of ingredients. (1) Active ingredients and inert ingredients shall be so designated, and the term "inert ingredient" shall appear in the same size type and be equally as prominent as the term "active ingredient".

(2) If the name but not the percentage of each active ingredient is given, the names of the active and inert ingredients shall, respectively, be shown in the descending order of the percentage of each present in each classification and the name of each ingredient shall be given equal prominence.

(e) Active Ingredient content. As long as a (pesticide)(economic poison) is subject to the Act the percentages of active ingredients declared in the ingredient statement shall be the percentages of such ingredients in the (pesticide)(economic poison).

8. (Pesticides)(Economic Poisons) Highly Toxic to Man. The (secretary)(commissioner) hereby finds that (pesticides)(economic poisons) which fall within any of the following categories when tested on the laboratory animals, mice, rats and rabbits, are highly toxic to man or contain substances or quantities of substances highly toxic to man within the meaning of the Act:

(a) Oral toxicity. Those which produce death within 14 days in half or more than half the animals of any species at a dosage of 50 milligrams at a single dose, or less, per kilogram of body weight when administered orally to ten or more such animals of each species.

(b) Toxicity on inhalation. Those which produce death within 14 days in half or more than half of the animals of any species at a dosage of 200 parts or less by volume of the gas or vapor per million parts by volume of air when administered by continuous inhalation for one hour or less to ten or more animals of each species, provided such concentration is likely to be encountered by man when the (pesticide)(economic poison) is used in any reasonably foreseeable manner.

(c) Toxicity by skin absorption. Those which produce death within 14 days in half or more than half of the animals (rabbits only) tested at a dosage of 200 milligrams or less per kilogram of body weight when administered by continuous contact with the bare skin for twenty-four hours or less to ten or more animals.

(d) If the (secretary)(commissioner) finds, after opportunity for hearing, that available data on human experience with any (pesticide)(economic poison) indicate a toxicity greater than that indicated from the above described tests on animals, the human data shall take precedence and, if he finds that the protection of the public health so requires, the (secretary)(commissioner) shall declare such a (pesticide)(economic poison) to be highly toxic to man for the purposes of this Act and the regulations thereunder.

Provided, however, That the (secretary)(commissioner) may, upon application and after opportunity for hearing, exempt any (pesticide)(economic poison) which meets the above
standard but which is not in fact highly toxic to man, from the requirements of the Act
and regulations in this part with respect to (pesticides)(economic poisons) highly toxic to
man.

9. Warning or Caution Statement. The warning or caution statement, when necessary to prevent
injury to living man and other vertebrate animals, useful vegetation, and useful invertebrate
animals, must appear on the label in a place sufficiently prominent to warn the user, and
must state clearly and in non-technical language the particular hazard involved in the use of
the (pesticide)(economic poison), e.g., ingestion, skin absorption, inhalation, inflammability
or explosion, and the precautions to be taken to avoid accident, injury, or damage.

The word "poison" in red on a contrasting background in immediate proximity to the skull
and crossbones and an antidote, including directions to call a physician immediately, shall
appear on all (pesticides)(economic poisons) highly toxic to man.

10. Registration. (a) Eligibility. Any manufacturer, packer, seller, distributor or shipper of
a (pesticide)(economic poison) is eligible as a registrant and may register such (pesticide)
(economic poison).
(b) Effect of registration. If a (pesticide)(economic poison) is registered under the Act
no further registration under the Act is required:
Provided, That (1) the product is in the manufacturer’s or registrant’s original unbroken
immediate container; and (2) the claims made for it and the directions for its use do not
differ in substance from the representations made in connection with registration.
(c) Procedure for registration. Applications for registration should be addressed to
. Application forms will be furnished upon request. Appli-
cations should be submitted as far in advance as possible and at least thirty days before
the time when it is desired that registration take effect.
(d) Effective date of registration. Registration of a (pesticide)(economic poison) shall
become effective on the date the certificate of registration is issued.
(e) Responsibility of a registrant. The registrant is responsible for the accuracy and
completeness of all information submitted in connection with his application for registra-
tion of a (pesticide)(economic poison).
(f) Changes in labeling or formulae. (1) Changes in substance in the labeling or changes
in the formula of a registered (pesticide)(economic poison) must be submitted in advance
the . The registrant must describe the exact changes desired
and the proposed effective date and, upon request, shall submit a description of tests
which justify such changes. (2) After the effective date of a change in labeling or formula
the product shall be marketed only under the new claims or formula, except that a reason-
able time may be permitted by the (secretary)(commissioner) to dispose of properly label-
ed stocks of old products.
(g) Claims must conform to registration. Claims made for a (pesticide) (economic poison)
must not differ in substance from representations made in connection with registration,
including representations with respect to effectiveness, ingredients, directions for use,
or pests against which the product is recommended.

11. Coloration and Discoloration. The white (pesticides) (economic poisons) hereinafter named
shall be colored or discolored in accordance with this section. The hues, values and chromas
specified are those contained in the Munsell Book of Color, Munsell Color Company, 10 East
Franklin Street, Baltimore, Md.
(a) Coloring agent. The coloring agent must produce a uniformly colored product not sub-
ject to change in color beyond the minimum requirements specified in the regulations in
this part during ordinary conditions of marketing or storage, and must not cause the prod-
uct to be ineffective or result in its causing damage when used as directed.
(b) Arsenicals and barium fluosilicate. Standard lead arsenate, basic lead arsenate,
calcium arsenate, magnesium arsenate, zinc arsenate, zinc arsenite, and barium fluo-
silicate shall be colored any hue, except the yellow-reds and yellows, having a value of
not more than 8 and a chroma of not less than 4, or shall be discolored to a neutral light-
ness value not over 7.
(c) Sodium fluoride and sodium fluosilicate. Sodium fluoride and sodium fluosilicate shall
be colored blue or green having a value of not more than 8 and a chroma of not less than 4,
or shall be discolored to a neutral lightness value not over 7.
(d) Exceptions. Notwithstanding the provisions of paragraphs (b) and (c) of this section
the (secretary)(commissioner), after opportunity for hearing, may permit other hues to
be used for any particular purpose if the prescribed hues are not feasible for such pur-
pose and if such action will not be injurious to the public.
12. Adulteration; Valuable Constituent. (a) A valuable constituent will be considered as wholly abstracted whenever the designation or representation of the product imports its presence therein and such constituent has been wholly omitted therefrom in the preparation of the product or has been wholly removed from the completed product.

(b) A valuable constituent will be considered as partly abstracted whenever the designation or representation of the product imports its presence therein, and such constituent is not present in the usual or customary amount or in the amount indicated in the labeling.

13. Misbranding. (a) False or misleading statements. Among representations in the labeling of a (pesticide) (economic poison) which render it misbranded are the following:

1. A false or misleading statement concerning composition of the product.
2. A false or misleading statement concerning the effectiveness of the product as a (pesticide)(economic poison) (or device).
3. A false or misleading statement about the value of the product for purposes other than as a (pesticide)(economic poison) (or device).
4. A false or misleading comparison with other (pesticides)(economic poisons) (or devices).
5. A false or misleading representation as to the safety of the (pesticide)(economic poison) or of its ingredients including a statement such as "nonpoisonous," "noninjurious," or "nonhazardous" unless the product is in fact safe under all conditions.
6. Any statement directly or indirectly implying that the (pesticide)(economic poison) (or device) is recommended or endorsed by any agency of this state.
7. The name of a (pesticide)(economic poison) which contains two or more ingredients if it suggests the name of one or more but not all such ingredients, even though the names of the other ingredients are stated elsewhere in the labeling.

Provided, however, That it is permissible, when the percentage of each active ingredient is given in the name, to omit reference in name of the product to the inert ingredients.
8. Prominent reference in the labeling to one or more active ingredients without giving their percentages in immediate proximity thereto or without giving equal prominence to the other active ingredients or to the presence of inert ingredients.
9. A true statement used in such a way as to give a false or misleading impression to the purchaser.

(b) Justification of false and misleading statements not permitted.

1. The use of any false or misleading statement on any part of the labeling, given as the statement or opinion of any person or based upon such statement or opinion shall not be justified, nor may such statement be justified by the fact that the statement or opinion is actually that of such person.
2. The use of a false or misleading statement in the labeling cannot be justified by an explanatory statement.

14. Enforcement. (a) Collection of samples. Samples of (pesticides)(economic poisons)(and devices) shall be collected by a designated agent. An official representative sample shall be one taken by the (secretary)(commissioner) or his duly authorized agent. An unbroken original package shall be taken as the official sample where the (pesticide)(economic poison) is packed in small bottles, or small packages. Where the (pesticide)(economic poison) is packed in large containers, the official sample shall be a portion taken from one original package in a lot.

(b) Examination of samples. Methods of examination of samples shall be those adopted and published by the Association of Official Agricultural Chemists, where applicable, and such other methods as may be necessary to determine whether the product complies with the Law.

(c) Notice of apparent violation. (1) If from an examination or analysis a (pesticide) (economic poison) (or device) appears to be in violation of the Act, a notice in writing shall be sent to the person against whom criminal proceedings are contemplated, giving him an opportunity to offer such written explanation as he may desire. The notice shall state the manner in which the sample fails to meet the requirements of the Act and the regulations.

(2) Any such person may, in addition to his reply to such notice, file within 20 days of its receipt a written request for an opportunity to present his views orally in connection therewith.

(3) No notice or hearing shall be required prior to the seizure of any (pesticide) (economic poison) (or device).

15. Notice of judgment. Publication of judgments of the courts in cases arising under the criminal or seizure provision of the Act shall be made in the form of notices, circulars, or bulletins as the (secretary)(commissioner) may direct.
16. Products for Experimental Use. (a) Articles for which no permit is required.

(1) A substance or mixture of substances being put through tests in which the purpose is only to determine its value for economic poison purposes or to determine its toxicity or other properties, and where the user does not expect to receive any benefit in pest control from its use is not considered a pesticide(economic poison) within the meaning of section of the Act and 2(c). Therefore, no permit under the Act is required for its shipment.

(2) A pesticide(economic poison) shipped or delivered for experimental use by or under the supervision of any Federal or State agency authorized by Law to conduct research in the field of economic poisons shall not be subject to the provisions of the Act and the regulations in this part.

(b) Articles for which permit is required.

(1) A pesticide(economic poison) shipped or delivered for experimental use by other qualified persons but not under the supervision of a Federal or State agency authorized by Law to conduct research in the field of economic poisons, shall be exempt from the provisions of the Act and of the regulations in this part: Provided, That a permit for such shipment or delivery is obtained prior thereto. Permits will be of two types, specific and general. A specific permit will be issued to cover a particular shipment on a specified date to a named person. A general permit will be issued to cover more than one shipment over a period of time to different persons.

(2) If a pesticide(economic poison) is to be tested for a use which is likely to result in a residue on or in food or feed, a permit for shipment or delivery will be issued only when:

(i) The food or feed product will not be used for food or feed except for laboratory or experimental animals, or

(ii) Convincing evidence is submitted by the applicant that the proposed use will not result in an amount of residue which would be hazardous to man or other animals.

(3) A permit for shipment or delivery of any experimental pesticide(economic poison) for testing in any place likely to be frequented by people will be granted only if it is clearly shown in the application for such permit that the applicant's instructions for use reasonably assure the avoidance of injury to all persons concerned.

(4) All applications for permits covering shipments for experimental use shall be filed in duplicate and must be signed by the shipper or the person making the delivery and must contain the following:

(i) Name and address of the shipper and place or places from which the shipment will be made.

(ii) Proposed date of shipment or proposed shipping period not to exceed one year.

(iii) A statement of the composition of material to be covered by the permit which should apply to a single material or group of closely allied formulations of the material.

(iv) A statement of the approximate quantity to be shipped.

(v) Available data or information or reference to available data or information on the acute toxicity of the pesticide(economic poison).

(vi) A statement of the nature of the proposed experimental program, including the type of pests or organisms to be experimented with, the crops or animals for which the pesticide(economic poison) is to be used, the areas where it is proposed to conduct the program, and including the results of previous tests where necessary to justify the quantity requested.

(vii) When food or feed is likely to be contaminated, either a full statement of action which will be taken to prevent the food or feed from being consumed, except by laboratory or experimental animals, or convincing evidence that the proposed experiment will not result in injury to man or useful animals.

(viii) The percentage of the total quantity specified under sub-division (iv) of this subparagraph which will be supplied without charge to the user.

(ix) A statement that the pesticide(economic poison) is intended for experimental use only.

(x) Proposed labeling which must bear (a) the prominent statement "For Experimental Use Only" on the container label and any accompanying circular or other labeling, (b) a warning or caution statement which may be necessary and if complied with adequate for the protection of those who may handle or be exposed to the experimental formulations, (c) the name and address of the applicant for the permit, (d) the name or designation of the formulation, and (e) if the pesticide(economic poison) is to be sold, a statement of the names and percentages of the...
principal active ingredients in the product.

(5) The (Secretary)(Commissioner) may limit the quantity of a (pesticide)(economic poison) covered by a permit to such less quantity than requested as he may determine if the available information on effectiveness, toxicity or other hazards is not sufficient to justify the scope of experimental use proposed in the application, or make such other limitations in the permit as he may determine to be necessary for the protection of the public.

(6) A (pesticide)(economic poison) intended for experimental use shall not be offered for general sale by a retailer or others, or advertised for general sale.

(c) Cancellation of permits. Any permit for shipment for experimental use may be cancelled at any time for any violation of the terms thereof.

17. Exemptions. (a) Any (pesticide)(economic poison) specified in 11 of these regulations which is intended solely for use by a textile manufacturer or commercial laundry, cleaner or dyer as a mothproofing agent, which would not be suitable for such use if colored and which will not come into the hands of the public except when incorporated into a fabric, shall be exempt from the requirements of section 3a (7) of the Act and 11, of these regulations.

(b) The (pesticide)(economic poison) sodium fluoride shall be exempt from the requirements of section 3a (4) of the Act and 11 (c) of these regulations when, (1) it is intended for use as a fungicide solely in the manufacture or processing of rubber, glue, or leather goods;

(2) Coloration of said (pesticide)(economic poison) in accordance with said requirements will be likely to impart objectionable color characteristics to the finished goods;

(3) said (pesticide)(economic poison) will not be present in such finished goods in sufficient quantities to cause injury to any person; and

(4) said (pesticide)(economic poison) will not come into the hands of the public except after incorporation into such finished goods.

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NOMINATING

E. R. Winterle, Chairman

President
Vice-President
Secretary
Treasurer

O. T. Guice, Jr.
J. C. Ward
C. P. Osgood
Henry DeSalvo

Executive Committee

Mississippi
Federal
Maine
Arkansas

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CREDENTIALS

Marvin Snyder, Chairman

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The Terms Committee has continued to investigate definitions for "Fumigants" and "Fumigation." The Entomological Society of America, through the Insecticide Terminology Committee, is also working on appropriate definitions, and have published a proposal in the June, 1962, issue of the Bulletin of the Society. This proposal was published to invite comments and suggestions. Your committee recommends close cooperation with the Entomological Society's Committee to arrive at acceptable and uniform definitions. Their proposal follows and was signed by Howard Baker, J. V. Osmun, Henry Hurtig, J. E. Bussart, J. E. Brogdon, and S. C. Billings, Chairman.

PROPOSED POLICY OF THE ENTOMOLOGICAL SOCIETY OF AMERICA WITH RESPECT TO THE DEFINITION OF THE WORDS "FUMIGATION" AND "FUMIGANT"

Fumigation may be regarded as the employment of a toxic chemical in a volatile form. The chemicals to be considered as fumigants must possess sufficient vapor pressure at application temperatures to exert biological activity mainly through gaseous or vapor phase. Under some conditions, certain fogs, aerosols, fumes and smokes may, for practical purposes, be regarded as fumigants. A definite dosage or series of dosages per unit volume of space or on some other definite basis, should always be specified. It is frequently intended that the gas, volatile substance, fume, smoke or fog, as specified above, should penetrate into all cracks and apertures of the space and which might harbor insects in some stage of development. When conventional fumigation is specified without qualification, it would ordinarily be construed to apply to the use of such gaseous substances as hydrogen cyanide, carbon disulphide, ethylene dibromide, methyl bromide and chloropicrin in a tight container. These gases are toxic and may be harmful to warm-blooded animals as well as insect pests. They are often the subject for special municipal or other local safety regulations. Regulated fumigation operations of a commercial or industrial nature would usually be described as "industrial space fumigation." Such treatments would include homes, apartment buildings, stores, empty grain bins and empty rooms of various kinds not being used primarily for the storage of commodities. Various commodities may also be fumigated but these should be described separately, particularly if food and feed items are involved. It is especially necessary in all cases where food or feed items are being treated to comply fully with the residue tolerance regulations prescribed under the Food, Drug and Cosmetic Act, as amended.

In addition to "commodity fumigation" and "industrial space fumigation," there are a number of other fumigation practices for insect pest control. Among these may be mentioned soil fumigation, household fumigation and packaging fumigation. It may be noted that lindane vaporizers and poultry house roost treatments for poultry lice are specialized forms of fumigation. Some incidental fumigation effects have been reported from the use of various insecticides in premises, on growing crops, on livestock and on poultry. None of these incidental or special forms of fumigation, except as particularly described, would be considered as coming within the primary definition.

The following substances have been used to varying degrees as fumigation ingredients in some of the more important types of fumigation named above.

INDUSTRIAL SPACE FUMIGANTS:
- hydrogen cyanide (usually derived from calcium cyanide or pressurized cylinders of HCN)
- methyl bromide
- chloropicrin

This type of fumigation is primarily the treatment of such structures as private residences, warehouses, stores, restaurants, empty grain bins and empty boxcars. These fumigants are usually applied in gaseous form and are often designed to clear out an infestation in the structure prior to reoccupancy of a dwelling or the refilling of a bin or boxcar with some commodity. Dosages are expressed as pounds of the fumigant per 1000 cubic feet of tightly enclosed space.

GRAIN AND BULK COMMODITY FUMIGANTS:
- hydrogen cyanide
- carbon disulphide
- carbon tetrachloride
- chloroform
- ethylene dibromide
ethylenedichloride
phosphine (derived from aluminum phosphide)
sulphurdioxide (derived from burning sulphur)
methylbromide

With the exception of phosphine, which is applied to the grain or seed mass in tableted form, HCN and methylbromide which are applied in gaseous form and calciumcyanide, which is usually applied as a granular product, these formulations are liquids and are applied to grain, the seeds or other commodities in various liquid formulations in terms of pounds or units of volume per weight or volume of grain or other commodity (gallons, pounds or tablets per 1000 bushels or tons).

PACKAGING FUMIGANTS:
ethylethylformate
methylformate

These chemicals are usually applied in terms of unit volumes per unit weight of commodity during the packaging process (milliliters per pound of commodity).

SOIL FUMIGANTS:
chloropicrin
ethylenedibromide
methylbromide

These chemicals are applied to the soil at dosages calculated in terms of pounds or ounces of the chemical per unit area of soil surface.

HOUSEHOLD FUMIGANTS:
carbon tetrachloride
ethylenedichloride
naphthalene
p-dichlorobenzene

These products are applied in dosages expressed as ounces or pounds of the chemical per unit volume of tightly confined storage space. They are ordinarily used only as small scale fumigants for trunks, cupboard and storage closets by householders.

There may also be other forms of qualified fumigation treatments with any of the foregoing or with other chemicals. These should be carefully described in each case in order to avoid confusing them with previously recorded procedures. This statement is issued for the benefit of persons publishing data on fumigants of various types in the Society's publications.

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EDITORIAL

E. R. Winterle, Editor

The latest printing of the Pesticide Chemicals Official Compendium is ready for distribution. This new edition has been enlarged by the addition of approximately 23 new chemicals. In presenting this new edition we have attempted to correct any errors which were present in the previous one and bring the older material up-to-date.

In spite of this most recent issue we are still quite a bit behind in listing the newer chemicals in the handbook. Cooperation of the Association membership is earnestly requested by bringing unlisted pesticidal chemicals to the attention of this Committee so that this situation can be corrected to a great extent by our next publication date.

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TOXICITY AND ANTIDOTES

John S. Leary, Jr., Chairman

The Toxicity and Antidotes Committee of the Association of American Pesticide Control Officials, Inc. has had no official business for the period since our last meeting. However, we intend to be active in the near future since we have several new chemicals to be added to Interpretation 18, Revision 2, which should be reviewed by the full Committee.

The Committee wishes to report that reprints of Interpretation 18, Revision 2, should be available shortly in a form more serviceable for reference work.

The Committee regrets to report that Dr. A. Haldane Gee of Foster D. Snell, Inc., died late this summer. Dr. Gee was a very active Committee member through the years and his passing is a loss to all of those who have worked with him in this Committee.

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METHODS CLEARING HOUSE

R. L. Caswell, Chairman

The third edition of the Index of Analytical Methods Employed in the Analysis of Official Samples was completed this year. The index lists Methods Clearing House methods, AOAC methods, and a few references to other published methods. Ordinarily we do not distribute methods appearing in "Official Methods of Analysis of the AOAC".

The index and the following methods were distributed to 125 State, Federal and industrial laboratories and to 16 laboratories in foreign countries. Many methods were also given to persons requesting information on analytical methods for specific pesticides:

243.1 Tin in Organotin Compounds (iodimetric method)
494.0 Dimethyl Dichlorovinyl Phosphate (DDVF) in Baits (Infrared method).
807.2 Rev. Analysis of Aerosol Insecticides
809.51 Heptachlor in Dusts and Granules (Infrared method).
814.0 Atrazine, Simazine, and Propazine (Total chlorine method).
824.31 Rev. Pival or PMP in Water-Soluble Formulations
824.4 PMP or Calcium-PMP in Bait Materials.

The development of infrared and other instrumental methods is continuing, and we hope to have several additional methods in the near future. We need more specific methods for the detection of contamination or adulteration of pesticide formulations with undeclared pesticides. We would appreciate receiving new methods that may prove to be useful as well as corrections or additions to present methods. One correction: In method 365.0 for monuron (CMU) the factor should be 0.01987, not 0.001987.

We need additional volunteers to serve as AOAC Associate Referees and collaborators. Those willing to help are invited to submit their names to the Chairman of the Methods Clearing House Committee. Eight methods were tested this year in the collaborative check sample program. The data obtained may be useful to the AOAC Associate Referees in helping to establish the validity methods being studied.

The members of the Methods Clearing House Committee wish to express their appreciation to all who have assisted us by submitting methods or suggestions for improvement.

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AUDITING

J. R. Anderson, Chairman

The auditing committee examined the books of the Association's Treasurer and found them to be correct.
COLLABORATIVE CHECK SAMPLE

J. E. Schueler, Chairman

This year's program marks the second in the revived project. In some respects it has shown improvement over the preceding year; at the same time, further improvement would seem desirable.

Essentially, the information furnished in last year's report regarding the mechanics and operation of the program is equally pertinent at this time. By way of change, two innovations have been introduced during 1962.

First, the samples have been selected according to the wishes of the collaborators. These choices were indicated on a ballot sent to all participants at the start of the program. In general, this has proved satisfactory, with the exception of a few unforeseen delays in securing the particular samples. This in turn has necessitated a speed-up during the later months of the project. At this time it is appropriate to thank the various collaborators for their cooperation in supplying results on shorter-than-usual notice during this period.

Second, the previous custom of eliminating extreme results from the averages by inspection alone has been superseded by the adoption of the Dixon test to establish the validity of questionable results. Likewise, this statistical treatment theoretically guards against the exclusion of significant results, and promotes general uniformity in reporting the figures.

The same number of laboratories - 53 - were represented in 1962 as in the previous year. One state laboratory and one industry laboratory withdrew from the study. An additional industry laboratory was dropped for non-payment of the program fee, and one control department thus far has not made payment.

Response by the various collaborators has been at approximately the same level as in 1961. As expected, more results were received from the state agencies. It is the policy in some quarters of the industry to report only on those materials with which they are directly concerned.

No attempt has been made to draw conclusions from the results in regard to the suitability or degree of precision obtainable from the particular methods supplied. The program is not basically a research project, and such evaluation is not properly a function of the Association.

The committee wishes to express thanks and appreciation to the following companies for their assistance in supplying the sample materials for the program:

American Cyanamid Co., P. O. Box 400, Princeton, New Jersey
E. I. duPont de Nemours and Co., P. O. Box 347, LaPorte, Texas
Miller Chemical & Fertilizer Corp., 3006 W. Cold Spring Lane, Baltimore, Md.
Shell Chemical Co., 110 W. 51st St., New York, N. Y.

The chairman likewise wishes to thank the members of the committee for their help whenever requested.

Recommendations

1. That the general conduct of the program be continued in 1963 essentially as during the past year.
2. That the Dixon test be continued as a criterion for rejecting questionable results from the average.
3. That the collaborators be given a voice in the selection of materials, as in the program just completed.

In consideration of the fact that the present chairman has been responsible for the conduct of the program for two years, and recognizes the need for introducing new ideas and personnel to maintain the general effectiveness and vigor of the study, he requests at this time to be relieved of these duties in 1963.

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SEE PAGE 41 FOR COMMON NAMES OF CERTAIN PESTICIDES.
SUBJECTS FOR DISCUSSION AT WORKSHOP

With Comments by W. J. Huffman, Chairman

1. Do states follow the federal policy of not requiring registration of dessicants even though pesticidal claims for the prevention of mold and mildew are shown on the label? Comment: We require that such products be registered. Some other states do also.

2. Are control officials becoming more moderate in their view toward the acceptance of continuous type lindane vaporizers in the home? Comment: Control Officials are not becoming more lenient in their views toward such vaporizers. However, as long as they are accepted for Federal registration, even conditionally, states whose law contains the phrase "shall register the article under protest," are going to have a tough job keeping such things out of the state.

3. What materials and/or methods are most effectively used for public relations (e.g. "Read and heed" the label, pamphlets, slide talks, routine press releases, etc.) Comment: Any of these methods are good. The more that can be used the better.

4. What are the most effective methods used by control officials for eliminating old, discontinued products from sale? Such products as may be found at close-out sales, junk yards, so-called war surplus stores, etc.

5. Pesticide registrations.

6. Spray residue enforcement work. Comment: Several states, notably California, Virginia and Wisconsin, are doing considerable work in this field and some others are preparing to go into it in a limited way. It was the opinion that as many states as could should start such work. If a state could not afford the expense of establishing a laboratory for such work, perhaps two or more states could establish a joint laboratory.


8. Require pounds per gallon as well as percentage of the toxicant be shown on the label. Comment: This we cannot do without changing most state laws. It would probably be a help to extension workers and researchers who make recommendations.

9. To what extent do states whose law includes "devices" register instruments or contrivances intended for preventing, destroying, repelling, or mitigating pests? Comment: We require registration if they are considered devices under the law.

10. Why must we have an "approved list" of pesticide products for certain programs under U.S. D. A. and BAI when all such products are subject to the FIFRA and state pesticide laws? Example - products used in poultry processing plants, peanut storage, meat packing plants, etc.

11. What about a good, consistent, equitable, reliable and uniform method for the analysis of Methyl Parathion? Comment: This is a job for AOAC.

12. How do field men take samples from drums or containers that have an intricate seal? Some dealers object to having such seals broken.


14. Registering discontinued items. Comment: This question was settled several years ago by an agreement to advise Control Officials when a product is discontinued and register for one year after discontinuance.

15. Should manufacturers be requested to seal their products at the factories to prevent or reveal that they have been tampered with or adulterated before they reach the consumer?

16. Should a box, that contains an economic poison and a device for dispensing it, be labeled as required by the Economic Poisons Law if the poison container is properly labeled? Comment: The outside container as well as the vial containing the pellets should be labeled.
Acceptance of labels bearing such words as "harmless", "safe", "non-toxic", etc. Has USDA regulation been clarified on this point? Comment: The question of the use of such words as "non-toxic", "harmless", "safe", etc. was discussed in 1961. See Resolution 12, page 13 of the Official Publication for 1961.

SUBJECTS FOR DISCUSSION AT STATES RELATIONS MEETING

H. E. Halliday, Chairman

1. Are our present laws adequate to prevent misuse of pesticides by commercial applicators?
2. Are our pesticide residue laboratories adequately equipped to handle pesticide residue problems?
3. Experimental permits.
4. To register or not to register?
5. Trends in pesticide management.
6. What positive actions are State Regulatory Officials taking to effectively counteract mounting adverse publicity and to defend the law which they enforce?
7. What view is taken on the State level of efforts by Public Health agencies to usurp the authority rightfully held by Agricultural Officials in pesticide matters?
8. To what extent are State Control Officials adopting safety education programs along the lines of the program now succeeding in the state of Florida?
9. How do the Control Officials view proposals witnessed in some states for salesman and dealer licensing?

RESOLUTIONS

A. E. Thomas, Chairman

WHEREAS, the continued success of this Association during the year and the success of this the 16th Annual Convention is due to the efforts of our officers, their committees and investigators in carrying out their duties and responsibilities, be it therefore resolved to express our sincere appreciation to these members for their diligent and faithful services.

WHEREAS, the progress of this Association is attained only through the cooperation and support of the several trade associations, the federal and the various state agencies, be it therefore resolved that we express sincere appreciation to all members for the contributions they have made.

WHEREAS, special speakers have contributed much interest and information, be it therefore resolved that the Secretary be instructed to express our sincere appreciation to each speaker that addressed us at this meeting.

WHEREAS, Mr. Lea S. Hitchner has been for many years a valued source of information and wise counsel and a worthy and respected representative of industry at our meetings, be it therefore resolved that this Association expresses its sincere appreciation of his many contributions to our progress and its hope that he will be able to meet with us frequently in the future.

Be it further resolved that this Association acknowledges and expresses appreciation for the hospitalities extended to us by the several trade associations and the Sheraton-Gibson Hotel during our stay in Cincinnati.
LEGISLATION

A. E. Thomas, Investigator

This report contains a digest of the changes in status of state pesticide laws. It is a compilation of the replies from the control officials of all 50 States and Canada. States not listed reported "No Changes".

COLORADO - Change of registration fees and registration period. (Was changed from $5 to $10 for 1st 10 products and from $2 to $1 for each thereafter. The registration period was changed from the Fiscal to the Calendar year.)

DELAWARE - No laws or regulations except products must conform with Federal Regulations regarding interstate shipment of pesticides being sold in Delaware.

FLORIDA - Added a New Administrative regulation No. 3, and Technical Regulations No's. 9 and 10.

GEORGIA - Has adopted extended coverage regulation similar to USDA; effective date to be announced January 1, 1963.


INDIANA - A herbicide law was passed effective January 1, 1962 concerning the labeling and the removal of highly volatile herbicides from the market, also brand registration of these materials to facilitate checking materials that would appear on the market. The law covers no other pesticides.

MASSACHUSETTS - Added a new act of 1962 establishing a pesticide board in the Department of Public Health and regulating the distribution and application of pesticides within the Commonwealth.

MINNESOTA - Revised Economic Poisons and Devices Law by redefining the term "ingredient statement" and omitting certain wording.


SOUTH CAROLINA - Revision requiring any Economic Poison Manufacturer who does business in South Carolina to pay License Fee of $50.00. Annual inspection fee of $20.00 each for first 10 brands and grades and $10.00 each for the next 20 brands or grades but not to exceed an aggregate fee of $400.00 per year.

Federal regulations were amended so as to declare certain forms of plant and animal life and viruses to be pests when it exists under circumstances that make it injurious to plants, man, domestic animals, other useful vertebrates, useful invertebrates, or other articles or substances. Federal regulations were further amended by the issuance of Interpretation 18, Revision II and Interpretation 23 with respect to liquid, powdered and pressurized household insecticides acceptable for depositing insecticidal chemical residues.

This being a digest compiled by this investigator, it is recommended that persons interested in any particular laws of these or other states, please contact those officials.

It is recommended by this investigator that this investigation on legislation be continued each year.

----------------------------------------
Feeling that it would be of interest to the Association to know how many state pesticide laws or regulations had been amended to include those products such as nematocides, plant regulators, desiccants, etc., as well as materials for repelling or controlling birds, certain mammals, certain fishes and a number of other forms of animal life, the Investigator of Registration sent out a questionnaire to all state pesticide control officials to obtain this information. The response to this questionnaire was 100% and the Investigator would like to express his appreciation for this most excellent cooperation. Questions asked in the questionnaire are given below. The numbers given in each question show the number of states or territories answering "Yes" or "No".

**Questions Asked In The Questionnaire**

<table>
<thead>
<tr>
<th>Do you have an economic poison law?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plant regulators</strong></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Have planting regulators</td>
<td>26</td>
<td>19</td>
</tr>
<tr>
<td><strong>Defoliants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have defoliants</td>
<td>31</td>
<td>14</td>
</tr>
<tr>
<td><strong>Desiccants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have desiccants</td>
<td>33</td>
<td>12</td>
</tr>
<tr>
<td><strong>Devices</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have devices</td>
<td>17</td>
<td>27</td>
</tr>
<tr>
<td><strong>Nematocides</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have nematocides</td>
<td>38</td>
<td>6</td>
</tr>
</tbody>
</table>

Products for repelling or controlling the following:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mammals, such as:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dogs, cats, moles, bats, wild carnivores, armadillos, deer, etc.</td>
<td>33</td>
<td>12</td>
</tr>
<tr>
<td><strong>Birds, such as:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>starlings, English sparrows, crows, blackbirds, etc.</td>
<td>33</td>
<td>12</td>
</tr>
<tr>
<td><strong>Fishes, such as:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>jawless fishes, the cartilaginous fishes and bony fishes</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td><strong>Amphibians and reptiles, such as:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>snakes</td>
<td>31</td>
<td>14</td>
</tr>
<tr>
<td><strong>Acquatic and terrestrial invertebrates, such as:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>slugs, snails and crayfish</td>
<td>39</td>
<td>6</td>
</tr>
<tr>
<td><strong>Roots or other plant parts growing where not wanted</strong></td>
<td>36</td>
<td>8</td>
</tr>
<tr>
<td><strong>Viruses, other than those on or in living man or other animals</strong></td>
<td>40</td>
<td>5</td>
</tr>
</tbody>
</table>

---

**SEE PAGE 38 FOR SUMMARY OF PESTICIDE LAWS.**
PESTICIDE - FERTILIZER MIXTURES

J. Claggett Jones, Investigator

A request for advice on any changes which have taken place in policy on Pesticide-Fertilizer Mixtures in the past year was sent to all State Control Officials as well as to Canada and Puerto Rico. Replies have been received from all except Puerto Rico and one State (Nebraska) with the following results:

48 States and Canada report no change.
1 State reports changes, as follows:

Massachusetts. These mixtures must now be registered with the Feed and Fertilizer Control Service as fertilizers, and with the Food and Drug Division as pesticides.

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UNIFORM POLICIES

M. E. Christensen, Investigator

It is recommended that the following resolutions be adopted in the interest of promoting a uniform policy of administration of Pesticide Laws of the various states:

1. Resolved that pesticide labels be required to show directions for decontaminating used containers of highly toxic pesticides.

2. Amendment to Section 19.
   Resolved that pesticide products dispensed by veterinarians are subject to registration unless specifically prescribed by the doctor and labeled in accordance with the well established practices of druggists. Products intended for use by veterinarians and animal hospitals must be registered if packaged and distributed in regularly labeled containers.

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SEE PAGE 9 FOR RESOLUTIONS, POLICY AND INTERPRETATIONS
REPORT OF THE EXECUTIVE COMMITTEE

The Executive Committee and other members of the Association met in the offices of Justus C. Ward, Pesticide Regulation Division, Agricultural Research Service, Washington, D. C. during the week of May 14, 1962. A report on these sessions was issued in the June 1962 Pest Controller.

The Executive Committee met at the Sheraton-Gibson Hotel at 4:00 p.m., October 9, and at 12 Noon, October 10, to review committee and investigator reports.

TOXICITY AND ANTIDOTES

The Committee recommends the continuation of the Committee on Toxicity and Antidotes and suggests that the incoming President and the Chairman of this committee work together to bring the committee membership up to full quota.

REGULATIONS

The Committee thanks the members of the Regulations Committee for their labors in presenting the "Proposed Regulations" to our Association. The Committee recommends that the "Proposed Regulations", as amended, as shown in the Report of the Regulations Committee be adopted as "Tentative", and that the Regulations Committee continue to study and review these Tentative Regulations with the view of adopting same as "Official" at our 1963 Annual Meeting.

TERMS

The Committee recommends that the Terms Committee be continued.

METHODS CLEARING HOUSE

The Committee thanks the Methods Clearing House Committee for their work during the past year and recommends:

(1) That Pesticide Control Laboratories which have developed new methods for certain Pesticides, send these methods to the Chairman of the Methods Clearing House Committee for review, and

(2) That Pesticide Control Officials strongly urge their Laboratory Staff to volunteer to serve as collaborators for both AOAC and the Collaborative Check Sample Series.

COLLABORATIVE CHECK SAMPLE

The Committee expresses its appreciation to Mr. John E. Schueler and his Collaborative Check Sample Committee. It is recommended that this Committee be continued and more States and Industry are urged to participate in this program. A complete report by this Committee will be given Wednesday morning, October 17, 1962, at the Pesticide Session of AOAC, Shoreham Hotel, Washington, D. C.

EDITORIAL

The Committee expresses its appreciation to the Editorial Committee for their work in preparation of the new edition of our Pesticide Chemicals Official Compendium. It is recommended that this Committee be continued and special attention be given to include even more Pesticide chemicals in our Compendium.

NOMENCLATURE

The Committee recommends that the Nomenclature Committee be continued.

LEGISLATION

The Committee expresses its appreciation to this investigator for his thorough digest of legislative changes and recommends the continuation of this work.
REGISTRATIONS

The Committee commends Mr. O. T. Guice, Jr., for his work in tabulating questionnaire results on certain coverages under the various State Pesticide Laws. The committee recommends the continuation of this work.

PESTICIDE-FERTILIZER MIXTURES

The Committee thanks this investigator for his report and recommends its continuation.

UNIFORM POLICIES

The Committee thanks this investigator for his work over the past years, and recommends that the following policy resolutions be adopted:

1. Resolved that pesticide labels be required to show directions for decontaminating used containers of highly toxic pesticides.
2. Amendment to Section 19.
   Resolved that pesticide products dispensed by veterinarians are subject to registration unless specifically prescribed by the doctor and labeled in accordance with the well established practices of druggists. Products intended for use by veterinarians and animal hospitals must be registered if packaged and distributed in regularly labeled containers.

1963 ANNUAL MEETING


The Executive Committee expresses its appreciation to the committees, investigators, and others who have contributed unselfishly toward the advancement of this Association.
<table>
<thead>
<tr>
<th>STATE</th>
<th>CLASS (Federal, Uniform or Special)</th>
<th>SCOPE H - Includes Household D - Includes Devices</th>
<th>Registration Expires</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>Uniform</td>
<td>H</td>
<td>Sept. 30</td>
<td>$15 per brand</td>
</tr>
<tr>
<td>Alaska</td>
<td>No Law</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arizona</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$25 1st two $7.50 ea. addl.</td>
</tr>
<tr>
<td>Arkansas</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 per brand</td>
</tr>
<tr>
<td>California</td>
<td>Special(^1)</td>
<td>H</td>
<td>Dec. 31</td>
<td>$75 1st 10 $3 ea. addl. 2</td>
</tr>
<tr>
<td>Colorado</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 ea. 1st 10 $1 ea. addl.</td>
</tr>
<tr>
<td>Connecticut</td>
<td>Special(^3)</td>
<td>H</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td>Delaware</td>
<td>No Law</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 ea. 1st 10 $2.50 ea. addl.</td>
</tr>
<tr>
<td>Georgia</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$5 per brand $200 maximum</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Federal</td>
<td>H</td>
<td>June 30</td>
<td>$10 per brand</td>
</tr>
<tr>
<td>Idaho</td>
<td>No Law</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illinois</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$5 per brand</td>
</tr>
<tr>
<td>Indiana</td>
<td>Special(^4)</td>
<td>-----</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td>Iowa</td>
<td>Special(^5)</td>
<td>H</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td>Kansas</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$15 ea. 1st 10 $5 ea. addl.</td>
</tr>
<tr>
<td>Kentucky</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$5 per brand $50 maximum</td>
</tr>
<tr>
<td>Louisiana</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$10 per brand</td>
</tr>
<tr>
<td>Maine</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$5 per brand</td>
</tr>
<tr>
<td>Maryland</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$7.50 ea. 1st 10 $3 ea. addl.</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Uniform</td>
<td>H - D</td>
<td>June 30</td>
<td>$7.50 ea. 1st 10 $2 ea. addl.</td>
</tr>
<tr>
<td>Minnesota</td>
<td>Federal</td>
<td>H - D</td>
<td>June 30</td>
<td>$7.50 ea. 1st 5 $2 ea. addl.</td>
</tr>
<tr>
<td>Mississippi</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$15 ea. 1st 10 $5 ea. addl.</td>
</tr>
<tr>
<td>STATE</td>
<td>CLASS (Federal, Uniform or Special)</td>
<td>SCOPE</td>
<td>Registration Expires</td>
<td>Fee</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------</td>
<td>-------------</td>
<td>---------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Missouri</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$7.50 ea. 1st 10 $5 ea. addl.</td>
</tr>
<tr>
<td>Montana</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>None</td>
</tr>
<tr>
<td>Nebraska</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$5 per brand $125 maximum</td>
</tr>
<tr>
<td>Nevada</td>
<td>Federal</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 ea. 1st 10 $3 ea. addl.</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$10 per brand $100 maximum</td>
</tr>
<tr>
<td>New Jersey</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$5 ea. 1st 10 $2 ea. addl.</td>
</tr>
<tr>
<td>New Mexico</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 per brand</td>
</tr>
<tr>
<td>North Carolina</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 per brand</td>
</tr>
<tr>
<td>North Dakota</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$5 ea. 1st 5 $1 ea. addl.</td>
</tr>
<tr>
<td>Ohio</td>
<td>Special6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oklahoma</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$5 per brand</td>
</tr>
<tr>
<td>Oregon</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$20 ea. 1st 3 $75 total 1st 4-25 $2 ea. addl. over 25</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$7.50 ea. 1st 10 $2 ea. addl.</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>Uniform</td>
<td>H - D</td>
<td>May 31</td>
<td>$10 per brand $50 maximum</td>
</tr>
<tr>
<td>South Carolina</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$20 ea. 1st 10 $10 ea. addl. $400 maximum</td>
</tr>
<tr>
<td>South Dakota</td>
<td>Uniform</td>
<td>H - D</td>
<td>June 30</td>
<td>$5 ea. 1st 5 $1 ea. addl.</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Uniform</td>
<td>H - D</td>
<td>June 30</td>
<td>$10 ea. 1st 10 $5 ea. addl.</td>
</tr>
<tr>
<td>Texas</td>
<td>Special</td>
<td>H - D</td>
<td>Aug. 31</td>
<td>$10 ea. 1st 25 $5 ea. 26-75 $2 ea. over 75</td>
</tr>
<tr>
<td>Utah</td>
<td>Uniform</td>
<td>H - D</td>
<td>June 30</td>
<td>$5 per brand $50 maximum</td>
</tr>
<tr>
<td>Vermont</td>
<td>Uniform</td>
<td>H</td>
<td>June 30</td>
<td>$5 ea. 1st 10 $2.50 ea. 11-20 $1 ea. addl.</td>
</tr>
<tr>
<td>STATE</td>
<td>CLASS</td>
<td>SCOPE</td>
<td>Registration Expires</td>
<td>Fee</td>
</tr>
<tr>
<td>--------------</td>
<td>------------</td>
<td>--------------</td>
<td>----------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td></td>
<td>(Federal, Uniform or Special)</td>
<td>H - Includes Household Devices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virginia</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 ea 1st 20 $5 ea. addl.</td>
</tr>
<tr>
<td>Washington</td>
<td>Special</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 per brand</td>
</tr>
<tr>
<td>West Virginia</td>
<td>Uniform</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$10 ea. 1st 20 $5 ea. addl.</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Uniform</td>
<td>H</td>
<td>Dec. 31</td>
<td>$10 per brand $100 maximum</td>
</tr>
<tr>
<td>Wyoming</td>
<td>Federal</td>
<td>H</td>
<td>June 30</td>
<td>$2 per brand $25 maximum</td>
</tr>
<tr>
<td>Canada</td>
<td>Federal</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$20 per brand - Initial Reg'n. $5 per brand - annual renewal</td>
</tr>
<tr>
<td>Federal</td>
<td>Federal</td>
<td>H - D</td>
<td>5 yr.</td>
<td>None</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>Federal</td>
<td>H - D</td>
<td>Dec. 31</td>
<td>$5 per brand $200 maximum</td>
</tr>
</tbody>
</table>

1Similar to Federal Law. No provisions for registration under protest. Does not include plant growth regulators.
2If total retail sales value of products registered does not exceed $500 per annum, fees are: $15 for 1st two and $3 for each additional.
3Follows Federal Act of 1910.
4Covers herbicides only.
5Limited labeling law on insecticides and fungicides.
6Livestock Remedy Act regulates certain pesticides.

PLEASE ADVISE YOUR SECRETARY OF ANY CHANGES IN THE ABOVE SUMMARY IN ORDER THAT CORRECTION CAN BE MADE IN OUR NEXT PUBLICATION.
<table>
<thead>
<tr>
<th>Common Name and Use</th>
<th>Chemical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>amiben (Herbicide)</td>
<td>3-amino-2,5-dichlorobenzoic acid</td>
</tr>
<tr>
<td>amitrole (Herbicide)</td>
<td>3-amino-s-triazole (or 3-amino-1, 2, 4-triazole)</td>
</tr>
<tr>
<td>atrazine (Herbicide)</td>
<td>2-chloro-4-ethylamine-6-isopropylamino-s-triazine</td>
</tr>
<tr>
<td>barban (Herbicide)</td>
<td>4-chloro-2-butynyl m-chlorocarbanilate</td>
</tr>
<tr>
<td>binapacryl (Fungicide-Miticide)</td>
<td>2-sec-butyl-4, 6-dinitrophenyl 3-methyl-2-butoenate</td>
</tr>
<tr>
<td>carbaryl (Insecticide)</td>
<td>1-naphthyl methylcarbamate</td>
</tr>
<tr>
<td>carbophenothion (Insecticide-Miticide)</td>
<td>S- [(p-chlorophenylthio)methyl ]O, O-diethyl phosphorodithioate</td>
</tr>
<tr>
<td>chlorazine (Herbicide)</td>
<td>2-chloro-4, 6-bis (diethylamino)-s-triazine</td>
</tr>
<tr>
<td>chlorbenside (Miticide)</td>
<td>p-chlorobenzyl p-chlorophenyl sulfide</td>
</tr>
<tr>
<td>dalapon (Herbicide)</td>
<td>2, 2-dichloropropionic acid</td>
</tr>
<tr>
<td>dicapthon (Insecticide)</td>
<td>0-2-chloro-4-nitrophenyl O, O-dimethyl phosphorothioate</td>
</tr>
<tr>
<td>dicryl (Herbicide)</td>
<td>3’4’-dichloro-2-methylacyranilide</td>
</tr>
<tr>
<td>dimethoate (Insecticide)</td>
<td>O, O-dimethyl S-(N-methyl carbamoylmethyl) phosphorodithioate</td>
</tr>
<tr>
<td>dimethrin (Insecticide)</td>
<td>2, 4-dimethylbenzyl 2, 2-dimethyl-3-(2-methylpropenyl) cyclopropanecarboxylate</td>
</tr>
<tr>
<td>diphacinone (Rodenticide)</td>
<td>2-diphenylacetyl-1, 3-indandione</td>
</tr>
<tr>
<td>diquat (Herbicide)</td>
<td>6, 7-dihydrodipyridine (l, 2-a : 2’, 1’-c) pyrazidiinium salt</td>
</tr>
<tr>
<td>diuron (Herbicide)</td>
<td>3-(3, 4-dichlorophenyl)-1, 1-dimethylurea</td>
</tr>
<tr>
<td>dodine (Fungicide)</td>
<td>n-dodecylguanidine acetate</td>
</tr>
<tr>
<td>endosulfan (Insecticide)</td>
<td>6, 7, 8, 9, 10, 10-hexachloro-1, 5, 5a, 6, 9, 9a-hexahydro-6, 9-methano-2, 4, 3-benzodioxathiepin 3-oxide</td>
</tr>
<tr>
<td>endothall (Herbicide)</td>
<td>7-oxabicyclo-(2. 2. 1) heptane-2, 3-dicarboxylic acid</td>
</tr>
<tr>
<td>endothion (Insecticide)</td>
<td>S, [(5-methoxy 4-oxo 4H-pyrant-2-yl) methyl ]O, O-dimethyl phosphorothioate</td>
</tr>
<tr>
<td>erbon (Herbicide)</td>
<td>2-(2, 4, 5-trichlorophenoxyl) ethyl 2, 2-dichloropropionate</td>
</tr>
<tr>
<td>ethion (Miticide-Insecticide)</td>
<td>O, O, O’, O’-tetraethyl S, S’-methylene bisphosphorodithioate</td>
</tr>
<tr>
<td>fenuron (Herbicide)</td>
<td>3-phenyl-1, 1-dimethylurea</td>
</tr>
<tr>
<td>folpet (Fungicide)</td>
<td>N-(trichloromethylthio) phthalimide</td>
</tr>
<tr>
<td>isocil (Herbicide)</td>
<td>5-bromo-3-isopropyl-6-methyluracil</td>
</tr>
<tr>
<td>Common Name and Use</td>
<td>Chemical Name</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>linuron (Herbicide)</td>
<td>3-(3, 4-dichlorophenyl)-1-methoxy-1-methylurea</td>
</tr>
<tr>
<td>monuron (Herbicide)</td>
<td>3-(p-chlorophenyl)-1, 1-dimethylurea</td>
</tr>
<tr>
<td>naled (Insecticide)</td>
<td>1, 2-dibromo-2, 2-dichloroethyl dimethyl phosphate</td>
</tr>
<tr>
<td>neburon (Herbicide)</td>
<td>1-n-butyl-3-(3, 4-dichlorophenyl)-1-methylurea</td>
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<tr>
<td>ovex (Miticide)</td>
<td>p-chlorophenyl p-chlorobenzenesulfonate</td>
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<tr>
<td>paraquat (Herbicide)</td>
<td>1, 1'-dimethyl-4, 4'-bipyridinium salt</td>
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<tr>
<td>phorate (Insecticide)</td>
<td>O,O-diethyl S-(ethylthio) methyl phosphorodithioate</td>
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<tr>
<td>phosphamidon (Insecticide)</td>
<td>2-chloro-2-diethylcarbamoyl-1-methylvinyl dimethyl phosphorate</td>
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<tr>
<td>ronnel (Insecticide)</td>
<td>O,O-dimethyl O-(2, 4, 5-trichlorophenyl) phosphorothioate</td>
</tr>
<tr>
<td>silvex (Herbicide)</td>
<td>2-(2, 4, 5-trichlorophenoxy) propionic acid</td>
</tr>
<tr>
<td>simazine (Herbicide)</td>
<td>2-chloro-4, 6-bis(ethylamino)-a-triazine</td>
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<tr>
<td>solan (Herbicide)</td>
<td>3'-chloro-2-methyl-p-valerotoluidide</td>
</tr>
<tr>
<td>swep (Herbicide)</td>
<td>methyl 3, 4-dichlorocarbanilate</td>
</tr>
<tr>
<td>tetradiion (Miticide)</td>
<td>4-chlorophenyl 2, 4, 5-trichlorophenyl sulfone</td>
</tr>
<tr>
<td>trietazine (Herbicide)</td>
<td>2-chloro-4-diethylamino-6-ethylamino-s-triazine</td>
</tr>
<tr>
<td>zoalene (anti-coccidial drug)</td>
<td>3, 5-dinitro-o-toluamide</td>
</tr>
</tbody>
</table>
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PESTICIDE REGULATION DIVISION
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D. A. Spencer
L. S. Stuart
T. H. Harris
S. C. Billings
E. A. Walker
J. S. Leary, Jr.

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Asso. Director
Asst. to Director
Registration & Enforcement
Case Development
Registration
Animal Biology
Bacteriology
Chemistry
Entomology
Plant Biology
Pharmacology

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DU 8-2416 or DU 8-2417
DU 8-2416 or DU 8-2417
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DU 8-2393
DU 8-2648
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1962 ANNUAL MEETING
SHERATON-GIBSON HOTEL
CINCINNATI, OHIO
OCTOBER 9 & 10, 1962
OFFICERS, COMMITTEES AND INVESTIGATORS 1961-62
ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INC.

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Vice-President M. E. Christensen Salt Lake City, Utah
Secretary P. E. Irwin Richmond, Virginia
Treasurer A. B. Heagy College Park, Maryland

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R. Z. Rollins (1962) Sacramento, California
O. T. Guice, Jr. (1963) State College, Mississippi

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R. H. Guntert Topeka, Kansas
C. P. Osgood Augusta, Maine
J. D. Patterson Salem, Oregon
H. S. Peckinpaugh Montgomery, Alabama
L. D. Rodriguez, Miss Santurce, Puerto Rico

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TERMS

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L. M. Cox, Jr. Richmond, Virginia
Ulric Green Calgary, Canada
Norman Knight Beltsville, Maryland
<table>
<thead>
<tr>
<th>COLLABORATIVE CHECK SAMPLE</th>
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<tbody>
<tr>
<td>J. E. Schueler, Chairman</td>
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<tr>
<td>R. L. Caswell</td>
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<td>Loren Delp</td>
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<td>A. B. Heagy</td>
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<td>G. T. McGrew</td>
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<td>R. A. Moncrief</td>
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<th>WORKSHOP</th>
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<tr>
<td>W. J. Huffman, Chairman</td>
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<tr>
<td>Henry DeSalvo</td>
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<tr>
<td>H. E. Halliday</td>
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<tr>
<td>H. C. Hammond</td>
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<td>J. H. Jonakin</td>
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<td>R. W. Ludwick</td>
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<td>D. K. Myers</td>
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<td>Clemens Olsen</td>
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<td>J. W. Scott</td>
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<td>V. E. Stewart</td>
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<td>J. C. Ward</td>
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<th>EDITORIAL</th>
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<tbody>
<tr>
<td>E. R. Winterle, Editor</td>
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<tr>
<td>H. J. Fisher</td>
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<tr>
<td>E. Gilbert</td>
</tr>
<tr>
<td>Kenneth Helrich</td>
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<tr>
<td>J. S. Leary, Jr.</td>
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<td>W. S. McLeod</td>
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<td>R. Z. Rollins</td>
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<thead>
<tr>
<th>NOMENCLATURE</th>
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<tr>
<td>S. B. Randle, Chairman</td>
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<tr>
<td>H. L. Haller</td>
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<tr>
<td>P. E. Irwin</td>
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<tr>
<td>A. A. Mulliken</td>
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<td>J. A. Noone</td>
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<tr>
<td>J. D. Patterson</td>
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<tr>
<td>Forrest Quackenbush</td>
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<td>J. C. Ward</td>
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<tr>
<th>INVESTIGATORS</th>
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<td>Legislation</td>
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<td>Registration</td>
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<td>Pesticide-Fertilizer Mix.</td>
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<td>Uniform Policies</td>
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THE "SPRING MEETING" OF THE EXECUTIVE COMMITTEE, AND OTHERS INTERESTED, WILL MEET THE WEEK OF MAY 11-18, 1962 WITH THE PESTICIDE REGULATION DIVISION, ARS, USDA, IN WASHINGTON, D. C.
PROGRAM FIFTEENTH ANNUAL CONVENTION

Shoreham Hotel, Washington, D. C.
November 1 - 2, 1961

Tuesday, Oct. 31 - 8:00 PM
Methods Clearing House
Collaborative Check Sample Series

Wednesday, Nov. 1 - 2:00 PM
Executive Committee Meeting

Wednesday, Nov. 1 - 8:00 PM
States Relations Meeting
J. R. Anderson, Chairman

Thursday, Nov. 2 - 9:00 PM
Registration - 8:30 AM
Roll Call by States
Announcements & Appointment of Committees
Report of the Secretary
Report of the Treasurer
Address by the President............................ E. R. Winterle, Director
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"Registering Pesticides and Interpreting Labels,"......... Dr. W. L. Popham, Deputy
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"The Pesticide Situation From CSMA Viewpoint"........ A. A. Mulliken, Secretary,
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Pesticide-Fertilizer Mixtures........................... J. Claggett Jones
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Report of the Executive Committee
Report of the Auditing Committee
Report of the Resolutions Committee
Unfinished Business
Report of the Nominating Committee
Election of Officers
Recognition of Past President
Workshop Session.................................... Henry DeSalvo, Chairman
Adjournment
<table>
<thead>
<tr>
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<th>Department</th>
<th>State</th>
</tr>
</thead>
<tbody>
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<tr>
<td>Gates, F. Herbert</td>
<td>Chief, Div. of Plant Industry Chemist in Charge</td>
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<td>Guice, O. T., Jr.</td>
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<td>Heagy, A. B.</td>
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<td>New Brunswick, N. J.</td>
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<td>Hudson, R. P.</td>
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<td>Poundstone, Bruce</td>
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<td>Shanbollinger, K. V.</td>
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### STATE REPRESENTATIVES (Continued)

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<td>Snyder, Marvin H.</td>
<td>Chief, Field Crops &amp; Agri. Chem.</td>
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<td>Spikes, H. E.</td>
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<td>Stewart, Albert E.</td>
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<td>Thomas, Albert E.</td>
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<td>Oklahoma City, Oklahoma</td>
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<td>Ware, Wm. C.</td>
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<td>Tallahassee, Florida</td>
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### FEDERAL REPRESENTATIVES

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<tr>
<td>Alford, H. G.</td>
<td>Assistant to the Chief, Pesticide Regulation Branch, U. S. D. A.</td>
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<tr>
<td>Betz, D. O.</td>
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<td>Billings, S. C.</td>
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<td>Blickenstaff, Wilbur N.</td>
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### INDUSTRY REPRESENTATIVES

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<td>Galant, Raymond</td>
<td>E. I. du Pont de Nemours &amp; Co.</td>
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PRESIDENT’S ADDRESS

Members of the Association, Industry Associates and Guests:

Welcome to the Fifteenth Annual Meeting of the Association of American Pesticide Control Officials.

I cannot say that I am happy to be here on this platform to address you as your president but I can say that I feel very highly honored at being able to do so. This year just passed has not presented any special Association problems, although I am sure that each of you, as pesticide control officials, has had many problems. It has been no different in our State. At the present time the Florida State Board of Health appears to be well on its way towards passing regulations setting up a permit system for the sale or purchase of certain highly toxic pesticides. This move by the Board of Health was hastened by recommendations from a grand jury after investigating a number of deaths caused by highly toxic pesticides. I might add that most of these deaths were due to a misuse of the product or container and could have been avoided. Apparently the Board of Health has the power to institute this permit system and it seems likely that one will be put into effect by early part of 1962.

If I may digress just a moment at this point I would like to recall something Bill Geagley said in his presidential address of 1958.

This is Bill’s statement: "little did we realize some ten or twelve years ago what the implications of pesticide control really meant or what it would lead to. I wonder if we now fully appreciate the many problems confronting us and just how we are to successfully cope with them in the future." The last two sentences of this statement are of particular interest to me -- "I wonder if we now fully appreciate the many problems confronting us and just how we are to successfully cope with them in the future." As most of you know Bill Geagley retired from the job of State Chemist of Michigan about a year ago and I trust that he is now enjoying a life of relaxation with his favorite hobbies.

There are several items which are of interest to most of you and I would like to touch briefly on them at this time.

Back in May of 1961 the Executive Committee of this Association adopted a resolution as follows: "In view of the growing tendency to increase the stringency of precautionary labeling on dangerous products, it is the considered belief of the Executive Committee of the Association of American Pesticide Control Officials, Inc. that many years of experience has proven that the precautionary labeling presently required on pesticides under the Federal and State pesticide laws are adequate when complied with to safeguard the public. Therefore, be it resolved, that this Executive Committee supports the continued use of precautionary labeling standards established by the Manufacturing Chemists Association LAPI Manual, the regulations and interpretations of the Federal Insecticide, Fungicide and Rodenticide Act and the corresponding state laws which have been used effectively for the past twelve years."

I believe we will all agree that this is pretty much true, that the labeling requirements on pesticides are stringent enough for the protection of the public but I wonder if we are following these requirements closely enough.

I have become increasingly concerned in this respect as I review some of the labels which we have accepted for household sprays and on which I see statements such as: "non-toxic, non-poisonous and non-hazardous" occupying very prominent positions on the label. I believe we are asking for trouble in accepting this type of labeling.

I am wondering if our continued laxity in this respect might not leave the door open whereby the Hazardous Substance Law may find reasons to over-lap the pesticide law. We do not want this to happen.

A publication of which we are all quite proud is our Pesticide Chemicals Official Compendium and it is about this publication that I would like to speak briefly at this time.

We all appreciate the importance of this publication and what it means to the Association and I am sure control officials and industry alike use it quite frequently as a reference book. However, if we fail to keep this Compendium up-to-date in the addition of new pesticides as they appear on the market and in the revision and correction of the data for the pesticides already included then we will have a publication which is obsolete in many instances and we will be doing an
injustice to the Association in its continued publication.

A new printing of this Compendium of pesticide chemicals is planned shortly and I trust that all concerned in anyway with the accuracy of its contents will help make it one that the Association can continue to be proud of.

Along this same line it seems to me that we could very well do with a bit more assistance from our friends in Industry in regards to obtaining the basic data for new chemicals to be included in the Compendium. As most of you know in the past the investigator of a particular group of chemicals had no way of knowing when a new chemical for his group was on the market, unless he possibly ran into it in a magazine article or was requested to register it as a pesticide. The situation in this respect has improved to some degree today but it seems obvious that we are approaching the solution to this problem from the wrong direction.

It is certainly to industry's advantage to see that the correct information in every respect is shown in the Compendium on each of their pesticidal chemicals and the most logical manner of doing this is for each of the industrial concerns making basic pesticidal chemicals to designate a key man to supply this information to the Association and as soon as it is available. Industry can do much to help us here and I sincerely hope this move can be put into effect.

The presence on the Association program each year of the Methods Clearing House Discussion indicates the importance we as control officials place upon this phase of control work. However, I hope that the amount of time devoted to this discussion is not indicative of the importance we place upon it. I do not feel that we can put enough emphasis on meetings which allow industry personnel and control officials to sit down together, to discuss their problems, and exchange much needed information. There is so much need for this in our field of analytical methods. Many of you are familiar with the Infrared Workshop which was held in Ernie Epps' home State of Louisiana in 1958 and I am sure that many of you are using the valuable data which was compiled at that meeting in your infrared analytical program today. The fact is however that industry does not stand still and each year new pesticides and new methods continue to increase our responsibility. I would strongly urge the Association to examine the feasibility of sponsoring a Pesticide Methods Workshop each year or each two-years and not for two or three hours but two or three days. I am sure members of industry would look with favor upon a program of this type and lend any assistance needed to make it a success.

In closing I would like to express my appreciation to Paul Irwin, our Secretary, and to Al Heagy, our Treasurer, for their fine help throughout the year, to members of the Association who have accepted responsibility so cheerfully when called upon, to members of industry for their help in supplying us with data for our Compendium and to Justus Ward and his staff for the fine educational program many of us attended back in May. I hope many more of you will be able to make Mr. Ward's meeting next Spring.

Serving as President of this fine Association has been a very rewarding experience -- I thoroughly recommend it to all of you who have not had this pleasure. I thank you.

E. R. Winterle, Chief
Pesticide Laboratory
Florida
REGISTERING PESTICIDES AND INTERPRETING LABELS

W. L. Popham

Advances in technology in the past 25 years are phenomenal -- in fact, little short of frightening. Some of you may be old enough to remember the fantastic stories we read as youngsters Jules Verne and his "Twenty Thousand Leagues Under the Sea" or "Around the World in 80 Days." Now, Major Yuri Gagarin makes the trip in 89 minutes. And our Triton atomic submarine has retraced Magellan's round-the-world course -- 36,000 miles -- in 84 days -- underwater.

It isn't easy to keep abreast of new discoveries these days.

To us who deal with developments in the field of pesticide chemicals all the time, they may seem quite commonplace. But changes occur in this field, too, with amazing speed. Let's review some of the things that have happened in our lifetime, particularly within the past 25 years.

Chemicals have contributed immeasurably to the health and well-being of mankind. It is easy to forget our blessings and accept as commonplace the many advancements in this field.

At the beginning of the century we were reconciled to sharing our potential production with crop pests. We accepted the fact that many areas in the South were hardly habitable because of insects that transmitted diseases to man and animals and insects that destroyed our crops.

We had sulphur, Bordeaux mixture, Paris green, lead arsenate, and nicotine to work with. A little later calcium arsenate and pyrethrum became available. These defensive tools served a useful purpose, but as our population grew and the demands for food increased, there was an incentive for both industry and Government to meet the ever-present challenge of the pests and diseases that were sharing our harvests.

Today, only occasionally are we reminded that, without chemicals to combat the boll weevil and other cotton insects, without dips to control Texas fever ticks...in fact, without a scientifically determined spray program, few, if any, of the major crops in this country could be produced profitably. It is little wonder that much research effort, both in and out of Government, has been directed to the control of economic pests in recent years.

With the increased use of pesticides has come new problems and new responsibilities responsibilities to be borne by the research man, the manufacturer, the user, and the regulatory agencies that must insure the safe use of these materials. Twenty-five years ago industry was producing some 50 basic chemicals for use on the farm; now this number is well over 200. Farmers today spend about nine times more for pesticides than they did in the 1930's. In terms of total volume, 90 percent of the chemicals used on farms today were unknown or at least not available in their present form at the beginning of World War II.

The use of pest control chemicals will continue to increase until research can provide a better means of protecting our crops and livestock -- some alternate approaches show promise -- but the opportunities in the chemical field are also great. To derive full benefit from chemicals, and that calls for safe usage, the manufacturer, farmer, and the food processor each has well defined functions to perform and obligations to meet. All must be aimed at providing a stable supply of quality food, protecting our health, and conserving our natural resources.

An appraisal of where we have been, where we are now, and where we go in the future in the field of pesticide chemicals leads to this conclusion: The public generally is losing sight of -- or taking very much for granted -- the contributions that the entomologist and the chemist have made to better human health, the stable production of quality foods, and the preservation of these foods in transit and in storage. Consumers take for granted -- and we are all alike in this respect -- that we are entitled to a great variety of quality foods available at reasonable prices -- not on a seasonal basis but every month of the year.

To keep abreast of demands has brought rapid expansion in the use of chemicals, and there are bound to be problems associated with such growth in any industry.

The first legislation recognizing a problem in this field was the Insecticide Act of 1910. This was a simple labeling law. If you were going to market Paris green it had to be so labeled and the weight shown. This Act was considered adequate for 37 years. The Federal Insecticide, Fungicide and Rodenticide Act of 1947 superseded and broadened the authority of the Act of 1910 and provided for comprehensive regulation over pesticides moving in interstate commerce. This is
accomplished in part by requiring registration of products bearing accurate and adequate labeling to guide the user as to the quantities, modes of application, and precautionary measures which he should follow to insure safe use of these materials. This protection is intended not only for the users, but for other people, useful animals, and vegetation that may be exposed to these chemicals, and to consumers of treated agricultural products.

It was not long after this, however, until there was public demand for further regulation. This led to Public Law 518, the Miller Amendment to the Federal Food, Drug, and Cosmetic Act. This amendment, as you know, requires that the Food and Drug Administration set tolerances when there is evidence that residues remain on raw agricultural commodities at time of marketing. We also have Public Law 86-139, which further extends coverage of the Act of 1947 to include nematicides, defoliants, desiccants, and plant growth regulators.

All this is well known to you people -- but what the public wants to know is this: How well are we, as regulatory agencies, meeting our responsibilities under the Law? What margin of safety do we observe? Is the consumer fully protected? Thirty-five States have legislation similar to the Federal Acts I have cited, and 13 others have compatible laws. Only two States have no protective pesticide legislation.

This is important because there are some 51,000 registrations on file with the Department of Agriculture. About 4,500 new ones are added a year. This is a dynamic file, constantly changing as new information becomes available, new chemicals are discovered, new formulations developed, and new uses found. It is quite understandable, when you stop to think about it, that pest control chemicals have attracted wide public attention.

Few people realize what registration means... what it entails in the way of research before registration is granted -- the responsibility assumed by the industry in placing their product on the market, the responsibility that rests with the Federal government and State experiment stations to recommend certain formulations for specific purposes; the extension man who must carry information to the farmer and to the food processor, and the regulatory man who must be constantly alert to violations of Federal or State statutes that could lead to fraudulent or hazardous practices. We all know that to derive full benefit from pesticides, they must be used intelligently and the coordinated effort of all is needed to achieve that goal. Experience shows that it's not the use of chemicals that gets us in trouble -- it's the misuse.

Let's take a closer look at these responsibilities. I am convinced that they are often confused, not only in the public mind, but too frequently in the minds of those of us who are in one way or another charged with some area of responsibility for producing, recommending, advising, or regulating pesticides.

Established procedures provide that the man who produces and markets a pesticide must demonstrate through research and field trial, crops on which it is useful, the rate and timing of application to achieve effective results, and whether or not a residue remains on the raw agricultural commodity when the pesticide is used as directed. This places a terrific burden and responsibility on the manufacturer -- but in my opinion it is a function that should be performed by industry with advice and counsel of appropriate Government agencies.

The registration of a product by the Federal Government carries with it a responsibility that few stop to consider or to understand. Few people realize that if a pesticide leaves a residue on food or feed when used according to proposed directions, responsibility shifts to the Federal Food and Drug Administration to make a determination as to whether the residue constitutes a health hazard and whether or not a safe tolerance can be set.

Once a product is registered under the Federal Insecticide, Fungicide and Rodenticide Act for a specific purpose, it becomes the responsibility of the Department and State experiment stations to recommend whether or not it should be used for a specific purpose in a specific locality. Federal registrations are nationwide in scope and should not be looked upon as recommendations for specific uses. We must expect problem areas to develop -- and we must deal with them when they arise.

When a spray schedule has been developed for a specific crop in a particular area of the country, it then becomes the job of the Extension Agents and other farm advisers to set up guide lines for those who use the material. They must help interpret the limitations set forth on the labels -- and the recommendations developed by appropriate recommending agencies.

In meeting our responsibility as regulatory people -- Federal and State -- we must
detect and appropriately deal with violations -- but we have a further responsibility -- why do these violations occur? Is labeling inadequate? -- are materials ineffective? -- are users careless or irresponsible? In the case of repeated violations there must be an answer -- and it's up to us to find it and to remove the cause.

The Department of Agriculture gets from 5,000 to 6,000 reports from State officials in a year. Often samples submitted for analysis draw attention to trouble areas. If the Department finds adulteration or misbranding of a product, both Federal and State enforcement officials are notified and prompt action follows. The closest of cooperation in this area is essential if we are to utilize to the fullest the various disciplines that can contribute to an effective program.

In the light of the above I would like to comment on the revised "USDA Summary of Registered Agricultural Pesticide Chemical Uses". As you are quite aware, this Summary does not attempt to list all registrations. It does set forth typical examples of accepted patterns of use for specific chemicals and specific crops. Some of these patterns have been in use for many years. They were registered on the basis of the best information available at the time. Since then new legislation has been enacted, new and improved methods of analysis have come into common use, and extended studies in the field of toxicology have added to our knowledge of their acceptability for specific purposes.

In compiling the Summary, registered patterns of use known to leave a residue in the absence of a tolerance, or known to leave a residue in excess of an established tolerance, were omitted. I should like to call to your attention the closing sentence of the Foreword, and I quote:

"As new chemicals and new patterns of use are registered by the Department they will be added to present listings. A pattern of use now listed will be revised or deleted should new information support such action."

In keeping the Summary up-to-date and of maximum use to all concerned, you can help us immeasurably by promptly reporting instances where a registered pattern of use is not fulfilling claims made on the label or is known or suspected of leaving a residue in excess of an established tolerance. All such reports are given prompt attention. This may call for a review of all accepted patterns of use for a particular formulation. If such reports are substantiated, corrective action must be taken promptly. I should like to say at this point that we have had the finest cooperation from industry in dealing with problems of this kind.

When releasing the Summary, the Department invited agricultural research agencies, agricultural advisers, food processors, manufacturers and regulatory agencies, to bring to our attention promptly any entries which were found questionable. Only by the closest of cooperation and mutual confidence can we meet our individual responsibilities in a manner that will insure full benefit and unquestionable consumer protection.

There are some aspects of our job of helping you, as State regulatory officials, we would like to do better -- and some areas where you could be of greater help to us. We can all work for greater uniformity in our laws. We can both work to improve the flow of information from industry and Government to the man who uses pesticides. The contribution you can make goes far beyond the exercise of police authority. Who else is better equipped to recognize and appraise a problem area -- and to take the lead in working out a solution? If recommendations are faulty you know where to go and what to do about them. We in the Department appreciate the close relationships that prevail in our work with you. We need your closest cooperation -- and we want to help you in any way we can. Preventive medicine is good medicine. I know of no other Federal-State relationship where there is better understanding and a fuller appreciation of the responsibility that must be shared by Government and industry.

Consideration of these points brings us face to face with one of the basic facts of life. We are living in a changing world. Nothing is static. Marcus Aurelius may have been the first, but certainly not the last, to say that there is nothing Nature likes so well as change.

It seems to me that our situation is not too different from the position that Thomas Jefferson took with regard to the Constitution.

"Some men look at constitutions with sanctimonious reverence and deem them like the ark of the convenant, too sacred to be touched. ***I am certainly not an advocate for frequent and untried changes in laws and constitutions*** but I know that laws and institutions must go hand in hand with the progress of the human mind. ***As new discoveries are made, new truths disclosed, and
manners and opinions change with the change of circumstances, institutions must advance also, and keep pace with the times. We might as well require a man to wear still the coat which fitted him when a boy, as for civilized society to remain ever under the regimen of their ancestors***."

One of the current changes we face at the moment is a move to broaden the scope of the Act of 1947 to include still other pests under certain conditions. The suggested list covers moles, slugs and snails, predatory animals, crustaceans, predators of oyster beds, etc. There is a growing demand that recommended controls for these be made subject to the same controls that apply to pests presently included under the Act.

Some of the problem areas encountered in recent months lie in the "gray zone", so to speak, and arise from the fact that Department registration is for nationwide use. Climate and growing conditions can, and do, create problems. In most cases State registrations follow the Federal pattern, but there are exceptions. Sometimes there are gaps in coverage. We need to recognize these for what they are and to deal with them in an aggressive manner.

The public must have complete confidence in those who manufacture and sell chemicals, the man who uses them, and the regulatory agencies responsible for ferreting out and dealing with violations. Nothing is more reassuring than intelligent and conscientious service when problems arise.

The man who manufactures or uses pesticides must strive for a high level of precision in his operational procedures. It is the misuse on the part of a few and a varying degree of carelessness on the part of others, that leads to trouble. This carelessness may extend to the formulation, mixing, or application of the pesticide, cleaning of sprayers, the disposal of containers, or total disregard for the instructions on the label.

When accidents occur our first reaction is to take a look at the label. How good is it? Does it tell what we want it to tell? Is it easily understood? Are the precautionary warnings adequate?

Official records of accidental deaths from solid and liquid substances issued by the Public Health Service range from about 1,300 to 1,600 annually. Eight to 10 percent of this number are traceable to pesticides... 40 to 45 percent to drugs... and the rest to household and industrial products that are not required to carry warning labels.

Although it is our feeling that, generally speaking, labels are sound, we can not overemphasize the importance of reading the label and observing directions. While no agricultural products have been seized because of chemical residues when pesticides were applied according to registered patterns of use, there is no room for complacency. Our big problem remains one of education. The record is good -- but someone once said "The biggest room in the world is the room for improvement."

We are all in this work to serve the public ... You know and we know that chemicals can be used safely .... It is up to us to see that they are .... and to let the public know that we are getting a job done -- and have confidence in what we are doing. In the final analysis we are making a major contribution to the production of an abundant supply of wholesome food.
RESOLUTIONS, POLICY AND INTERPRETATIONS
OF THE ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS

1. Resolved that the Association opposes strenuously the practice of dispensing pesticides from bulk containers for retail distribution. (1955)

2. Resolved that no pesticide should be offered for sale or distributed after its registration has terminated. (1955)

3. Resolved that pesticides which are represented for seed treatment purposes should be colored with a dye that will distinctly color the seed on which it is applied. (1955)

4. Resolved that the Association of Pesticide Officials cooperate with related associations in a program to require the coloring of treated seeds which have a potential health hazard. (1955)

5. Resolved that pesticides offered for sale only to veterinarians for professional use should be subject to registration. (1955)

6. Resolved that materials used by pest control operators and not sold or distributed to the public are not subject to registration. (1955)

7. Resolved that directions for control should be shown on labels for all pests referred to on the label. (1955)

8. Resolved that it is the opinion of the Association of American Pesticide Control Officials that to the extent that regulatory control over sale and distribution of agricultural chemicals is necessary, in the interest of the uniformity of regulatory control, it should be imposed in accordance with the following principles:
   (1) Any regulatory control deemed necessary over agricultural chemicals intended to affect the physiological processes of plants such as gibberellins, plant regulators, desiccants and defoliants, other than plant foods, should be imposed by amendment to the Uniform State Insecticide, Fungicide, and Rodenticide Act and the counterpart state acts, rather than under the State Fertilizer Laws.
   (2) In the case of a product which consists of a combination of both plant foods and pesticides or other regulated chemicals or products claiming both plant food and other regulated chemical value, it should be subject to control under both the applicable aforementioned laws. (1958)

9. Resolved that control measures should be adopted to eliminate the distribution of pesticidal vaporizers for home use. (1958)

10. Resolved that it shall be the policy of the Association of Pesticide Control Officials that each scented variety of a specific pesticide shall be separately and independently registered; and, furthermore, that separate and individual brand registrations be required for each variety or physical form of any pesticide which may be offered for sale in a variety of physical forms and differentiating labeling even though the composition may be the same. (1960)

11. Resolved that legally required label information must be printed in type of size and placement which will render it conspicuous and easily readable. (1961)

12. Resolved that the word 'safe' and similar declarations should not appear upon pesticide labels. (1961)

13. Resolved that products bearing the same brand name but different manufacturer designation should be separately registered. (1961)

14. Resolved that a new certificate and number be issued if a change is made during a registration period in the statement of ingredients even though the brand name may remain unaffected. (1961)

15. Resolved that the use and distribution of pesticides intended for experimental purposes only be regulated and controlled either by law, regulation or effective administrative policy. (1961)

16. Resolved that a separate registration be required for fertilizer-pesticide mixtures for each grade or guaranteed analysis of either the fertilizer mixture or the pesticide ingredient. (1961)
17. Resolved that the following forms of animal or plant life be declared as pests for the purpose of bringing under State Insecticide, Fungicide and Rodenticide Acts those products distributed for preventing, destroying, repelling, or mitigating such forms of life, as provided in the Act:

Mammals, including but not limited to dogs, cats, moles, bats, wild carnivores, rabbits, armadillos, and deer;

Birds, including but not limited to starlings, English sparrows, crows, and blackbirds;

Fishes, including the jawless fishes such as the sea lamprey, the cartilaginous fishes such as the sharks, and the bony fishes such as the carp;

Amphibians and reptiles, including but not limited to poisonous snakes;

Aquatic and terrestrial invertebrates, including but not limited to slugs, snails, and crayfish;

Roots or other plant parts growing where not wanted. (1961)

18. Resolved that pesticide-fertilizer mixtures when mixed upon request shall be subject to registration under applicable existing statutes. (1961)

19. Resolved that pesticide products dispensed by veterinarians are subject to registration unless specifically prescribed by the doctor and labeled in accordance with the well established practices of druggists. (1961)

IN MEMORIAM

PAUL RUBENS BIDEZ

Paul Rubens Bidez, Principal Chemist, Alabama State Chemical Laboratory, Auburn, Alabama, died Sunday, February 5, 1961. He was 69.

He was a member of the class of 1915 of the Auburn University School of Chemistry. During his college days, he was a star fullback on the Auburn University football team serving as its captain his senior year. He was director of the 167th (Rainbow) Division Band during World War I.

Mr. Bidez joined the staff of the Alabama Chemical Laboratory in 1919. At the time of his death he was Principal Chemist in that same laboratory, having worked there for 42 years.

For 30 of those 42 years, he was also director of the Auburn University school band.

He is deeply missed by all who knew him.

H. S. Peckinpaugh
Alabama
REPORT OF THE SECRETARY

Paul E. Irwin, Secretary

Your Secretary performed the following duties during the year 1960-61:

1. Prepared and distributed the proceedings of our 1960 Annual Meeting.
2. Prepared and distributed four issues of the "Pest Controller".
3. Arranged meeting rooms, program and other details for our 1961 Annual Meeting.
4. Handled considerable correspondence pertaining to activities of our Association.

Four issues of the Pest Controller have been published since our 1960 meeting---in December (1960), March, June and September. Your Secretary plans to continue this practice in the future on the same quarterly basis and trusts that the membership will supply items of interest for use in this publication.

A brief summary of the "Spring" meeting of the Executive Committee and the Pesticide Regulation Branch of USDA was included in the June 1961 issue of the Pest Controller. At this meeting the Executive Committee adopted resolutions concerning precautionary labeling of Pesticides and expansion of coverage of the general Pesticide Laws to include certain other forms of plant and animal life. These resolutions were addressed to The Honorable Orville Freeman, U. S. Secretary of Agriculture, and copies were also sent to all Pesticide Control Officials.

The first year as Secretary of this Association has been a rewarding one, and though several items were neglected or overlooked, it is hoped that next year's activities will be benefited by this year's experience.

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EDITORIAL

E. R. Winterle, Chairman

During the past year the Editorial Committee was increased to include the following members: Messrs. E. Gilbert, Kenneth Helrich and J. S. Leary, Jr.

A reprinting of the Pesticide Compendium is planned before 1962 and all investigators are urged to review their monographs and bring them up-to-date by making any necessary revisions, corrections, or additions. This is very important in order to keep our publication correct.

At the present we have received data for the addition of 23 pesticidal chemicals to the compendium. It is hoped that this number will be greater by press time.

The Committee recommends that the present size of the Compendium be retained and punched to fit a standard three-ring binder. We feel this is a move in the right direction since it will eliminate the problem of our Association having to supply a suitable cover for a continually expanding volume.

We are now holding orders for 125 copies of the Compendium.

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The 1961 Collaborative Check Sample Program is a revival of similar activity carried on by the Association in previous years. Committee personnel, for the most part, were new at the job, and after a general meeting to program the project, the actual mechanics settled down essentially to a one-man operation. Some of the duties involved were:

1. Preparing, printing, and mailing preliminary letters.
2. Locating sources of supply and obtaining bottles, vials, and mailing cartons.
3. Obtaining samples.
4. Obtaining, and in some cases, printing, methods.
5. Packing, addressing, and mailing samples.
6. Preparing, printing, and mailing reports and letters of transmittal.
7. Analysis of several of the samples in question.

As a result of experience thus gained, certain modifications in procedure, to be outlined later, seem desirable for the future, to insure programs of greater value.

General

In all, 53 laboratories signified their willingness to participate in the program, with 28 representing control officials, and 25 from the industry. Of the latter group, one laboratory made no payment and was dropped near the end of the program.

The control departments, including 24 states, Puerto Rico, the U. S. Department of Agriculture, and two laboratories in the Dominion of Canada, reported more consistently on samples than did their counterparts in industry. Some of the latter stipulated in advance that they would report only on those materials manufactured or handled by their own companies.

This year it was decided to designate laboratories by number rather than name in reporting results.

Comment from several quarters indicated that some of the collaborators would have preferred more work on the newer pesticides. To some extent this was provided, but no special effort was exerted in that direction. It is the belief of the chairman that this is undesirable for two reasons:

First, the purpose of the program has been stated as a check on the efficiency of various laboratories. This would not be gained by a quasi-research program in which a group of unstandardized analytical methods would be employed on materials whose shelf life and other characteristics had not been fully determined. Too much would depend upon outside conditions, such as temperature and humidity, and not enough on the individual's ability to follow directions.

Second, the sphere of analytical research is essentially that of the Association of Official Agricultural Chemists. Collaborative research should not be predicated on results from a single sample, but rather on those from various concentrations and mixtures. Obviously this is impractical in a multiple-sample program. In this connection, results on two samples have been made available to A.O.A.C. referees for any assistance they may gain from a study of the data.

Other suggestions advanced have included a statistical analysis of each report and publication of two or more results from each laboratory, rather than an average as has been done this year. In this type of program, the value of such activity seems questionable.

Despite repeated requests for adherence to the submitted procedures as closely as possible, results were received from some laboratories obtained by various other methods. This is patently no help in the primary purpose of the study, namely, the comparison of analytical technique of various individuals. To some extent, these extra-curricular results have been kept separate; it is now proposed that all be set apart and not included in the basic averages.

It should be emphasized that the above comment does not apply to those laboratories which include supplementary results by other methods for purposes of comparison, in addition to reports on analyses by the submitted procedures.

In this first year of readjustment, no specific criterion for eliminating results from the
general averages has been used. The rule-of-thumb policy of dropping a few extreme values, high or low, might be discarded, if possible, in favor of a more logical exclusion system.

Throughout this series of analyses it has been noted in general that results obtained by those procedures based on instrumentation have shown larger variations than those depending upon classical laboratory manipulation. The possibility at once suggests itself that the procedures and techniques involved in performing instrument determinations may need further refinement, or at least closer delineation, to insure more uniform application of the principles concerned.

For various reasons it has been impossible in all cases to space the submission dates of samples equally during the past year. It is hoped that this condition will be improved in the future.

Recommendations

In consideration of the items discussed above, the chairman wishes to offer the following recommendations for consideration of the Executive Committee:

1. That the Executive Committee state the purpose and policy of future collaborative check sample programs. (For example, that the program is basically a comparison study rather than a research project, and should be based upon analysis of traditional materials by proven methods.)

2. That the Executive Committee decide the question of whether or not to publish two or more results as received from each laboratory, or to continue the simplified system in use during the past year.

3. That the omission of extreme results be specified to be continued as at present, or determined mathematically through some process such as the following:
   Average all results received, regardless of magnitude, then -
   For averages up to 1%, drop all which vary by 20% or more;
   For averages over 1% and including 10%, drop all which vary by 15% or more;
   For averages over 10%, drop all which vary by 10% or more.
   (For example, on a material averaging 1% determined ingredient, all results of 0.8% or less, or 1.20% or higher would be dropped. For averages of 10%, all below 8.50% or above 11.50% would be dropped, and so on.)

Acknowledgements

The chairman wishes to acknowledge and express appreciation for the following assistance rendered the program during the past year:

1. To the Miller Chemical and Fertilizer Corporation, Baltimore, Maryland, for supplying all samples without cost.

2. To the Plant Pest Control Division, Agricultural Research Service, USDA, for supplying copies of methods in bulk when available.

3. To the Maryland Inspection Service for use of its printing and addressing equipment.

4. To A. B. Heagy, Treasurer of the Association, for cooperation and advice whenever requested.

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REGULATIONS

Floyd Roberts, Chairman

The committee has not yet arrived at a draft of proposed regulations to present to the Association. The approach being applied is to use the current regulations under the Federal Insecticide, Fungicide and Rodenticide Act as a basis. Additions, deletions and modifications are being applied to these, consistent with provisions of the Model Bill. Regulations that were submitted to the committee by several states last year are being studied for desirable features to be incorporated.

It is recommended that the committee continue work on regulations with a view toward presenting a draft at the annual meeting in 1962.

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TERMS

W. E. Ozard, Chairman

The Terms Committee considered only the definitions of Fumigants and Fumigation during the past year. This was a carryover matter from the previous year.

To date, interest in a change of the present definition appears to be confined to the National Pest Control Association. With only this Association’s viewpoint, the Terms Committee has no recommendation to make at this time. We do believe, however, that a change in our present definition of fumigant is in order.

The National Pest Control Association suggests that a definition of fumigant include the following concepts:

1. a gas,
2. for the purpose of pest control,
3. in an enclosure,
4. at concentrations hazardous to man, and that the final statement be in such form as to be readily understood by persons of average intelligence and education.

The 1960 Committee on Terms suggested the establishment of a classification for fumigants and descriptive definitions for different types or means of fumigation. Expressions of opinions from others is urgently needed before a recommendation can be made.

RESOLUTIONS

Stacy B. Randle, Chairman

WHEREAS, the continued success of this Association during the year and the success of this 15th Annual Convention is due to the efforts of our officers in carrying out the duties and responsibilities of their respective offices, be it therefore resolved to express our sincere appreciation to the officers for their diligent and faithful services.

WHEREAS, this Association’s objectives are attained through the cooperation and diligence of our several committees and investigators be it resolved that we express our appreciation to these workers for the services they have rendered.

WHEREAS, the progress of this Association is attained only through the cooperation and support of the several trade associations, the state and federal agencies; now be it resolved that we express our sincere appreciation to all members for the contributions they have made.

Be it further resolved that our Secretary be instructed to express our sincere appreciation to each speaker that addressed us at this meeting.

Be it further resolved that this Association acknowledges and expresses appreciation for the hospitalities extended to us by the several trade associations and the Shoreham Hotel during our stay in Washington.

AUDITING

H. E. Halliday, Chairman

The auditing committee examined the books of the Association’s Treasurer and found them to be correct.
METHODS CLEARING HOUSE

T. H. Harris, Chairman

The following methods were forwarded to all the State, Federal, industrial laboratories, and to representatives of foreign countries that were on the circulation list. Also numerous individual copies have been personally given or sent to others upon request:

- 335. 1 Reissue - Determination of Calcium Hypochlorite and Bleaching Powder (Chlorinated Lime).
- 491. 6 May 1961 - Determination of Phosphorus in Organic Phosphates (Molybdenum Blue Method).
- 558. 02 (Tent.) - Determination of Sulfur Dioxide in Fumigants.
- 559. 0 (Tent.) - Gas Chromatographic Method for Fumigant Mixtures.
- 565. 1 Rev. - Determination of Pentachlorophenol in Oil Solutions (Lime Fusion Chlorine Method).
- 744. 2 Rev. - Colorimetric Determination of Parathion or Methyl Parathion in Dust and Wettable Powder Formulations.
- 750. 2 (Tent.) - Infrared Determination of Rotenone in Cube Root and Dusts.
- 764. 0 (Tent.) - Ultraviolet Determination of Sevin (1-naphthyl N-methyl carbamate).
- 764. 01 (Tent.) - Infrared Determination of Sevin (1-naphthyl N-methyl carbamate).

The gas chromatographic method for grain fumigants has simplified the determination and identification of the components of relatively volatile mixtures. This technique is becoming more and more important in analysis. The infrared methods for rotenone and Sevin have been studied collaboratively and promise to be useful.

The colorimetric method for parathion was modified to make it applicable to methyl parathion. We hope to distribute a new (3rd) edition of the index to the methods and several methods for plant growth regulators in the near future.

We need many new methods for the analysis of the increasing number of pesticide formulations. We would appreciate receiving any methods for pesticides that may prove to be useful as well as any corrections or additions to the present methods. New A.O.A.C. Associate Referees and collaborators are needed to carry out this program. Those willing to help with these studies are invited to submit their names to the Chairman of the Methods Clearing House Committee or the Secretary-Treasurer of the A.O.A.C.

Eight methods were tested this year in the collaborative check sample program of the A. A. P. C. O. The A.O.A.C. Associate Referees may use the results of analysis to help establish these methods as first action or official A.O.A.C. methods.

The members of the Methods Clearing House Committee wish to express their appreciation to all who have assisted us by submitting methods or by suggesting improvements.

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CREDENTIALS

Albert Thomas, Chairman

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REGISTRATION

O. T. Guice, Jr., Investigator

The Investigator did not send out a questionnaire this year and no particular problems relating to registration have been called to the Investigator’s attention. Since the Economic Poisons Laws of most states have now been in force for a number of years, it is apparent that problems relating to registration are less frequent and apparently most states are now following a uniform policy regarding the registration of pesticides.

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PESTICIDE - FERTILIZER MIXTURES

J. Claggett Jones, Investigator

A request for advice on any changes which have taken place in policy on Pesticide-Fertilizer mixtures in the past year was sent to all State Control Officials as well as to Canada and Puerto Rico. Replies have been received from all except Puerto Rico and one State, Nebraska, with the following results:

42 States, and Canada, report no change.
7 States report changes, or possible changes as follows:

Florida. Regulation changes are contemplated, and will be discussed in the fall meeting of their Fertilizer and Pesticide Technical Committees.

Georgia. Regulations have been changed, effective October 1, 1961, to simplify labeling of these mixtures for Georgia manufacture and use only, at the request of the Agricultural Extension Service.

Maryland. No change in general policy. Specific changes were made in alfalfa weevil control recommendations pertaining to Heptachlor and Dieldrin.

Minnesota. No change in general policy. However, effective on the July 1, 1962 registration period, fertilizers of different composition containing the same percentage of the same insecticide will be treated as a single formulation under the Economic Poisons Law.

New York. Amendments to the Fertilizer Law are being prepared for submission to the 1962 Legislature. Fertilizer-pesticide mixtures for food crops are still not accepted.

Ohio. Ohio has a new Fertilizer Law becoming effective in 1962, which includes these mixtures, thus making it necessary to check the content of pesticides in fertilizers in the future.

West Virginia. West Virginia has a new Pesticides Law effective June 7, 1961. Previously, fertilizers carrying pesticides were not specifically controlled by any law as regards their pesticide content. Now, all fertilizers carrying pesticides must be registered as pesticides.

While not included in the above listing of States with policy changes, Texas does have a new Fertilizer Law which became effective September 1, 1961. The law does not appear to change the previous policy, which required registration under both the Fertilizer Law and the Pesticide Law.

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The Association has adopted several resolutions, statements of policy or interpretations of the Uniform Act which actually represent the official attitude of this organization. The Investigator for Uniform Policies recommends that these statements be consolidated and printed under a separate section in each annual bulletin under the general heading: "Resolutions, Policy and Interpretations of the Association of American Pesticide Control Officials".

Proposed Policy Resolutions - 1961

1. Resolved that legally required label information must be printed in type of size and placement which will render it conspicuous and easily readable.

2. Resolved that the word 'safe' and similar declarations when unqualified should not appear upon pesticide labels.

3. Resolved that products bearing the same brand name but different manufacturer designation should be separately registered.

4. Resolved that a new certificate and number be issued if a change is made during a registration period in the statement of ingredients even though the brand name may remain unaffected.

5. Resolved that the use and distribution of pesticides intended for experimental purposes only be regulated and controlled either by law, regulation or effective administrative policy.

6. Resolved that a separate registration be required for fertilizer-pesticide mixtures for each grade or guaranteed analysis of either the fertilizer mixture or the pesticide ingredient.

7. Resolved that the following forms of animal or plant life be declared as pests for the purpose of bringing under State Insecticide, Fungicide and Rodenticide Acts those products distributed for preventing, destroying, repelling, or mitigating such forms of life, as provided in the Act:

   Mammals, including but not limited to dogs, cats, moles, bats, wild carnivores, rabbits, armadillos, and deer;
   Birds, including but not limited to starlings, English sparrows, crows, and blackbirds;
   Fishes, including the jawless fishes such as the sea lamprey, the cartilaginous fishes such as sharks, and the bony fishes such as the carp;
   Amphibians and reptiles, including but not limited to poisonous snakes;
   Aquatic and terrestrial invertebrates, including but not limited to slugs, snails, and crayfish;
   Roots or other plant parts growing where not wanted.

8. Resolved that pesticide-fertilizer mixtures when mixed upon request shall be subject to registration under applicable existing statutes.

9. Resolved that pesticide products dispensed by veterinarians are subject to registration unless specifically prescribed by the doctor and labeled in accordance with the well established practices of druggists.
LEGISLATION

Marvin L. Schreiber, Investigator

This report contains a digest of the changes in status of state pesticide laws. It is a compilation of the replies from the control officials of all 50 States, Federal Government Agency, and Puerto Rico.

Colorado - Law was amended to include nematocides, plant regulators, defoliants and desiccants.

Idaho - Has no law. The Commercial Sprayers and/or Dusters Application Law was revised to include restricted areas for the use of insecticides and fungicides.

Illinois - The Legislature passed Senate Bills 468 and 469 and House Bill 355, relating to the distribution, sale, or transportation of adulterated or misbranded insecticides, fungicides, rodenticides, defoliants, desiccants, plant regulators, nematocides, and other economic poisons and devices, regulating traffic therein; providing for regulation and examination of such materials, imposing penalties and for related purposes.

Indiana - The Indiana Legislature enacted a Herbicide Law to become effective January 1, 1962. It outlaws the sale or use of highly volatile herbicides and requires registration and guarantees on labels of all herbicide products. The law covers no other pesticides.

Maine - Changes were made to conform with the amended Uniform Bill, that is, the law now recognizes defoliants, desiccants, devices, plant regulators and nematocides.

Massachusetts - Enacted a Hazardous Substance and Pesticide Law which became effective July 1, 1961. The Hazardous Substance section pertains to the labeling, distribution, and sale of any substance or mixture of substances which is toxic, corrosive, and irritant, strong sensitizer, inflammable or generates pressure through decomposition, heat, or other means. It shall also include radio-active substances.

The Pesticide Section includes defoliants, desiccants, devices, fungicides, herbicides, insecticides, nematocides, plant regulators, and rodenticides: conforming to the Uniform Bill as to the registration, labeling, distribution and inspection.

Michigan - The Michigan Economic Poison Law, Act, 297, P. A. 1949, was amended by the 1961 Legislature to include four additional classes of products, namely: defoliant, desiccants, plant regulators, and nematocides.

Minnesota - The Minnesota Economic Poisons and Devices Law was amended, changing Section 24.02, Subdivision 8, the ingredient statement required, to be in harmony with the Federal Insecticide, Fungicide and Rodenticide Act.

Missouri - Enacted House Bill No. 320. An act to regulate the treatment of timber and timber products with preservatives and provides penalties for violations.

Nebraska - Enacted Legislative Bill 585. An act relating to economic poisons and devices, to define terms, to make certain acts unlawful, to require registration as prescribed, to provide for rules and regulations, to provide for enforcement, to provide penalties, to authorize cooperative agreements as prescribed, to provide severability, and to provide an operative date. Effective January 1, 1962. Follows Model Bill.

New Mexico - The New Mexico Legislature amended the Economic Poisons Act to include plant regulators, desiccants, herbicides, and products of like nature.

New York - A new Pesticide Law became effective January 1, 1961 - Article 11 of the Agriculture and Markets Laws. This differs from the old law in that (1) registration for a fee is required, and (2) the addition of plant regulators, defoliants, and desiccants are under the provisions of the law.

Ohio - No Pesticide Law as such. Pesticides applied to livestock require registration under the Livestock Remedy Act. A new Fertilizer law requires the registration of economic poisons incorporated with commercial fertilizers.
Oregon - The 1961 Legislature amended the Oregon Pesticide Law in several respects. Amendments include (1) Title. Law is now known as the "Pesticide" Law. (2) Coverage was increased similar to federal requirements covering defoliants, desiccants, hormone and similar preparations. (3) Experimental products were given more coverage. (4) Sale of broken packages prohibited.

South Carolina - April 26, 1961, the South Carolina Economic Poison Law was amended to: (1) include plant regulators, defoliants and desiccants; (2) to further define the terms "Economic Poison", "Active Ingredient", and "Misbranded"; (3) to increase the fees for registering economic poisons; (4) to provide for an annual license fee for manufacturers of agricultural chemicals; and (5) to provide that if any provision of the act is declared unconstitutional such declaration shall not affect the remaining provisions of the act.

Tennessee - Present law was amended by House Bill No. 50 to include nematocides, plant regulators, defoliants and desiccants. Also increases the registration fees.

Utah - The law was amended during the current year to include such products as defoliants, nematocides, plant regulators, etc., conforming to the proposed uniform amendments.

Vermont - The act was amended to include desiccants, defoliants, plant regulators, and nematocides following the Model Bill very closely. In addition the fees were changed to $5 for the first ten products registered, $2.50 for the next ten, and $1 for each additional.

Washington - Enacted a new Pesticide Law Chapter 244. The law covers the registration, definitions, and labeling of devices, fungicides, rodenticides, herbicides, insecticides, nematocides, plant regulators, defoliants, desiccants, and other pests as declared by the director. Registration fees are $10 for the first pesticide and $10 for each additional pesticide. Commercial dealers are required license fees of $10 annually.

Federal - Federal laws and regulations were amended to include defoliants, desiccants, plant regulators and nematocides.

This being a digest compiled by this investigator, it is recommended that persons interested in any particular laws of these or other states, please contact those state officials.

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NOMINATING

J. D. Patterson, Chairman

President
Vice-President
Secretary
Treasurer

R. H. Guntert, Kansas
M. E. Christensen, Utah
P. E. Irwin, Virginia
A. B. Heagy, Maryland

Executive Committee

C. P. Osgood
R. Z. Rollins
O. T. Guice, Jr.
J. C. Ward

Maine
California
Mississippi
Federal

-----------------------------

23
REPORT OF THE EXECUTIVE COMMITTEE

The Executive Committee and other members of the Association met in the offices of Justus C. Ward, Pesticide Regulation Branch, Agricultural Research Service, Washington, D. C. during the week of May 22, 1961. A report on these sessions was issued in the June 1961 Pest Controller.

On Wednesday, November 1, 1961, at 2:00 p.m., this group met at the Shoreham Hotel to review committee and investigator reports.

TOXICITY AND ANTIDOTES

The Committee recommends the continuation of the Committee on Toxicity and Antidotes, and suggests that they follow the procedures as outlined in their report.

REGULATIONS

The Committee recommends continued work on regulation with a view toward presenting a draft of regulatory principles at our annual meeting in 1962.

TERMS

The Committee recommends that the Committee on Terms be continued.

METHODS CLEARING HOUSE

The Committee commends the Methods Clearing House Committee for their effort toward uniformity of pesticide laboratory procedures. The Committee emphasizes the need for new methods and urges the members of this Association to submit new and useful methods for assaying pesticides.

LIAISON

Although a negative report was made by this committee this year, the Executive Committee wishes to express its appreciation for the past services of the Liaison Committee. It is recommended that the Liaison Committee be discontinued.

COLLABORATIVE CHECK SAMPLE

The Executive Committee gives special thanks to this committee for a job well done, and recommends the following:

1. That the Collaborative Check Sample program is basically a comparison study rather than a research project.
2. That all the results from each laboratory be published as part of the report.
3. That the Collaborative Check Sample Committee devise a plan or system to eliminate extreme results from the calculation of the averages.

EDITORIAL

The Committee concurs with the recommendation of the Editorial Committee with regards to retaining the present size of the Compendium, but to have the pages punched to fit a standard 3 ring binder. We urge all investigators to review their current monographs to bring them up-to-date and turn this information over to the Editor by December 1 (repeat) by December 1, 1961.

LEGISLATION

The Committee expresses its appreciation to this investigator for his thorough digest of legislative changes and recommends the continuation of this work.

REGISTRATIONS

Even though no problems relating to registration were brought before the investigator this year, the Committee recommends the continuation of this office.
PESTICIDE-FERTILIZER MIXTURES

The Committee expresses its appreciation to this investigator for his thorough digest of policy changes with regards to Pesticide-Fertilizer Mixtures and recommends the continuation of this work.

UNIFORM POLICIES

Special thanks is extended to this investigator for his comprehensive report covering policy resolutions which have previously been adopted and additional proposed policy resolutions. The Executive Committee recommends that all statements of policy which have been formally adopted should appear each year in the annual publication under the general heading, "Resolutions, Policy and Interpretations of the Association of American Pesticide Control Officials, Inc."

The Executive Committee recommends that the following policy resolutions be adopted:

1. Resolved that legally required label information must be printed in type of size and placement which will render it conspicuous and easily readable.
2. Resolved that the word 'safe' and similar declarations when unqualified should not appear upon pesticide labels.
3. Resolved that products bearing the same brand name but different manufacturer designation should be separately registered.
4. Resolved that a new certificate and number be issued if a change is made during a registration period in the statement of ingredients even though the brand name may remain unaffected.
5. Resolved that the use and distribution of pesticides intended for experimental purposes only be regulated and controlled either by law, regulation or effective administrative policy.
6. Resolved that a separate registration be required for fertilizer-pesticide mixtures for each grade or guaranteed analysis of either the fertilizer mixture or the pesticide ingredient.
7. Resolved that the following forms of animal or plant life be declared as pests for the purpose of bringing under State Insecticide, Fungicide and Rodenticide Acts those products distributed for preventing, destroying, repelling, or mitigating such forms of life, as provided in the Act:
   - Mammals, including but not limited to dogs, cats, moles, bats, wild carnivores, rabbits, armadillos, and deer;
   - Birds, including but not limited to starlings, English sparrows, crows, and blackbirds;
   - Fishes, including the jawless fishes, such as the sea lamprey, the cartilaginous fishes such as the sharks, and the bony fishes such as the carp;
   - Amphibians and reptiles, including but not limited to poisonous snakes;
   - Aquatic and terrestrial invertebrates, including but not limited to slugs, snails and crayfish;
   - Roots or other plant parts growing where not wanted.
8. Resolved that pesticide-fertilizer mixtures when mixed upon request shall be subject to registration under applicable existing statutes.
9. Resolved that pesticide products dispensed by veterinarians are subject to registration unless specifically prescribed by the doctor and labeled in accordance with the well established practices of druggists.

The Executive Committee further recommends the adoption of the following resolution: "In view of the growing tendency to increase the stringency of precautionary labeling on dangerous products, it is the considered belief of the Association of American Pesticide Control Officials, Inc. that many years of experience has proved that the precautionary labeling presently required on pesticides under the Federal and State pesticide laws are adequate when complied with to safeguard the public.

Therefore, be it resolved that this Association support the continued use of the precautionary labeling standards established by the Regulations and Interpretations of the Federal Insecticide, Fungicide and Rodenticide Act, and of corresponding State Laws, which have been used effectively for the past twelve years."
The Executive Committee expresses its appreciation to the committees, investigators, and others who have contributed unselfishly toward the advancement of this Association.

SUBJECTS DISCUSSED AT STATES RELATIONS MEETING

J. R. Anderson, Chairman

1. Fertilizer-pesticide mixture problem.
2. Are any states checking uniformity of granular pesticides?
3. How are pesticide damage reports investigated and to what extent?
4. Are there any state publications on pesticide container disposal? Any state publications on pesticide disposal or accident clean-up?
5. Are there uniform standards of human pesticide toxicity?
6. Any states requesting standardized labels for sanitizers, etc.? What supporting data is required?
7. Should state reports give actual percentages found when within tolerance or use wording such as "satisfactory"?
8. Discuss necessity of all labels having the actual percentage of active ingredients.
9. Discuss need of barring label or advertising statements such as "Safe for use around small children, pets, etc., non-toxic, harmless, etc."
10. How serious a problem is it when a 2, 4-D fertilizer mixture guaranteed as esters and salts, tests out to contain 2, 4-D acid?
11. What stand are we going to take on snakes, birds, bees, being pests and on killers, repellents, etc. covering them?
12. Discuss disclosure of inert materials in pesticides for food crop usage.
13. What should be our policy concerning unstable products and formulations being offered for sale? What is causing deficiency, poor formulation or deterioration?
14. What are we going to do about re-use of containers of hazardous materials?
15. Where do you draw the line on air deodorants, insecticides used on humans, etc?
16. How are custom fertilizer mixes handled which have pesticides added? Does each mixture require registration?
17. Discuss bulking of pesticides and repackaging by chain outlets.
18. When does a sanitizer become an Economic Poison?
19. Should animal dewormers be exempted?
20. What about the multiple listing practice?
21. What is causing deficiency, poor formulation or deterioration?
22. Discuss disclosure of inert materials in pesticides for food crop usage.
23. Discuss need of barring label or advertising statements such as "Safe for use around small children, pets, etc., non-toxic, harmless, etc."
24. How should discontinued products be handled for registration? Should manufacturers notify?
25. How do other states handle reluctant registrants?
26. Discuss necessity of all labels having the actual percentage of active ingredients.
27. Discuss disclosure of inert materials in pesticides for food crop usage.
SUBJECTS DISCUSSED AT WORKSHOP SESSION

Henry DeSalvo, Chairman

1. Advisability of amending the uniform and state acts to require full open formula on label.
2. Should we require the disclosure of inert materials for pesticides used for food crop?
3. Discuss unstable products on the market.
4. Should we have a definite Association policy on re-use of hazardous materials containers?
5. Should toxicant absorbed by certain clays which cannot be extracted with usual solvents be considered as an active ingredient?
6. Should sodium chlorate, not labeled as a pesticide, be permitted to be sold to a customer preparing his own defoliant?
7. Should there be a penalty for deliberate late registrations?
8. Do most states distribute a list of registrants upon request?
9. Custom mixes: Are they permitted? When is it considered as such? Are special labels required? Is this governed by law or regulations?
10. % vs. lbs/gal discrepancies: which is followed for guarantee purposes?
11. What is a "concentrate technical material"? Is registration required? How should it be labeled?
12. Sales of pesticides by veterinarians: prescriptions; registration; and tear labeling.
13. Should statements such as "non-toxic", "non-poisonous", and "non-hazardous" be permitted on household spray or aerosol labels?
14. Bacillus Thuringiensis: Is the viable spore guarantee adequate?
15. Spray damage investigations: Techniques for pinpointing source when same sprays are being used by several people at the same time.
17. Sample preparation of: aerosols or pressurized sprays; fertilizer-pesticide mixtures.
18. How are these problems handled: Insufficient name and address on the label? Pesticide misinformation in press, etc.
19. Discuss policies on registration of detergents, air sanitizers, bactericides, plant growth regulators, defoliants, desiccants, and nematocides.
20. Is there a need for AAPCO adoption of standard measures and official terms to determine degree of deficiency?
21. Uniform interpretation of the term "pest" as applied to the deficiency of an economic poison.
22. Inclusion of devices as economic poisons.
23. Uniform procedure for handling economic poisons on sale at retail level when manufacture has been discontinued.
24. Suggestion on Pest Controller.
25. Discuss current meeting and suggestion for next year.
AGENDA FOR THE ROUND TABLE DISCUSSION
OF PESTICIDE METHODS OF ANALYSIS AND
THE 1961 COLLABORATIVE CHECK SAMPLE
SERIES

COLLABORATIVE CHECK SAMPLE

J. E. Schuele:

Methods Clearing
House No.

1. Dithiocarbamates 10% Ferbam
   4% Zineb
   765.11
   765.1
   CS₂ evolution
   CS₂ evolution

2. Copper-zinc-chromate complex
   Cr: 236.0
   ------------

3. 1% Rotenone
   750.2 Tent.
   Infrared

4. 40% Pentachlorophenol in oil
   565.1 Rev.
   Lime ignition

5. 50% Captan
   809.7
   Hydrolyzable Cl

6. 50% Thiodan
   789.0 Tent.
   Hydrolyzable SO₂

7. 50% Sevin dust
   764.01 Tent.
   Infrared

8. Mercurial (13% mercury)
   652.3
   Thiocyanate titration

METHODS OF ANALYSIS

R. L. Caswell

1. Aldrin, methods and factors for calculation
2. Mercury
3. Phosphorus, organic phosphates
4. Infrared methods
5. Gas chromatographic methods
6. Total chlorine methods
7. Plant growth regulators
8. Pyrethrins.

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Association of American Pesticide Control Officials, Inc.

Report of the Secretary

The Secretary, because of circumstances beyond his control, has not been able to carry on the activities of the office altogether to his satisfaction. There have been many items necessarily omitted which resulted in an appeal to the President for a division of the Association work. A report will be heard from the Committee on the Constitution and By-Laws.

Duties of the office of Secretary-Treasurer are as follows:

(1) Preparation and distribution of the annual meeting proceedings. This material is distributed to those attending the meeting and other interested persons.


(3) Billing and collection of membership dues.

(4) Preparation and mailing of invoices covering book sales.

(5) Arranging meeting rooms, program and other convention details with the Shoreham Hotel.

(6) Handling official correspondence, which has increased significantly during the past year.

Comment:

The Secretary has not had the time or assistance available to continue the preparation and distribution of the Pest Controller for the first time since it was originated. Another phase of the office which needs more attention is that of circularizing available information on common names as they are adopted by the American Standards Association.

Primarily, most of the time available to the Association is devoted to the preparation, sale and distribution of the Association's publications. Along with numerous inquiries, details of sales, records, invoicing and checking correspondence concerning the books consumed the major portion of the time devoted to Association work.

On the second page of the Treasurer's report you will note that our Association accounting shows a sound financial position. Details concerning our assets include a savings account, savings bond, an estimated evaluation of books on hand and accounts receivable.

Respectfully submitted,

Albert B. Heagy
Secretary
TREASURER'S ACCOUNT

For the Fiscal Year Ending September 30, 1960

Balance on hand September 30, 1959 $ 8,409.55

Cash Receipts:

1958 Revisions $  692.80
1959 Publications  2,024.10
Postage  77.38
Membership Dues  615.00
Registrations-1959 Meeting $  74.00

Total Deposits for the Fiscal Year Ending September 30, 1960
(Total Deposits on Bank Statement $3,494.00
$3,494.00 - $5.14-check #6398 cancelled
- $5.00-check returned for insufficient funds
= $3,483.86)

Expenditures:

Convention $  20.00
- Amplification (1959)
- President's Plaque (1959)  39.97
- Programs (1959)  20.00

Office Expense
- Postage $  227.50
- Printing Proceedings  100.00
- Printing 1958 Revision  786.25
- Printing 1959 Publication  1,076.00
- Secretary's Honorarium  300.00
- Secretarial Help  300.00
- Refunds on Dues & Books  46.58
- Purchase Saving Bonds  500.00
- Saving Account  1,500.00
- Check #6398 Cancelled  5.14
- Check Returned for Insufficient Funds  5.00

Total Expense $ 4,846.47 $ 4,926.44

Balance on hand as of September 30, 1960 $ 6,977.11

A. B. Heagy, Treasurer

(Over)
PROCEEDINGS
OF THE
FOURTEENTH ANNUAL CONVENTION
ASSOCIATION OF AMERICAN
PESTICIDE CONTROL OFFICIALS
INCORPORATED

SHOREHAM HOTEL
WASHINGTON, D. C.
OCTOBER 11-12-13, 1960
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OFFICERS, COMMITTEES AND INVESTIGATORS 1960-61
ASSOCIATION OF AMERICAN PESTICIDE CONTROL OFFICIALS, INC.

President E. R. Winterle
Vice-President R. H. Guntert
Secretary P. E. Irwin
Treasurer A. B. Heagy

Tallahassee, Florida
Topeka, Kansas
Richmond, Virginia
College Park, Maryland

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M. E. Christensen (1961)
J. C. Ward (1961)
C. P. Osgood (1962)
R. Z. Rollins (1962)
Salt Lake City, Utah
Washington, D. C.
Augusta, Maine
Sacramento, California

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Oklahoma City, Oklahoma
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Montgomery, Alabama
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C. H. Hines
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Harlan Specht
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Ulric Green
B. L. Samuel
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Beltsville, Maryland
Beltsville, Maryland
Calgary, Canada
Richmond, Virginia
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D. W. Dean
H. J. Fisher
J. F. Fudge
S. B. Randle

Vermillion, South Dakota
Richmond, Virginia
Raleigh, North Carolina
San Francisco, California
New Haven, Connecticut
College Station, Texas
New Brunswick, New Jersey

COLLABORATIVE CHECK SAMPLE

J. E. Schueler, Chairman
C. G. Donovan
T. H. Harris
G. T. McGrew
R. A. Moncrief

College Park, Maryland
Beltsville, Maryland
Washington, D. C.
Baltimore, Maryland
Atlanta, Georgia

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Henry DeSalvo
H. E. Halliday
H. C. Hammond
J. H. Jonakin
R. W. Ludwick
D. K. Myers
Clemens Olsen
J. W. Scott
V. E. Stewart
J. C. Ward

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Little Rock, Arkansas
Madison, Wisconsin
Bismarck, North Dakota
Nashville, Tennessee
University Park, New Mexico
Harrsiburg, Pennsylvania
Mesa, Arizona
Montpelier, Vermont
Tallahassee, Florida
Washington, D. C.

EDITORIAL

E. R. Winterle, Editor
H. J. Fisher
E. Gilbert
Kenneth Helrich
C. H. Jefferson
J. S. Leary, Jr.
R. Z. Rollins

Tallahassee, Florida
New Haven, Connecticut
Washington, D. C.
New Brunswick, New Jersey
Ottawa, Canada
Washington, D. C.
Sacramento, California

INVESTIGATORS

Legislation
Registration
Pesticide-Fertilizer Mix.
Uniform Policies

Marvin Schreiber
O. T. Guice, Jr.
J. Claggett Jones
M. E. Christensen

Topeka, Kansas
State College, Mississippi
Richmond, Virginia
Salt Lake City, Utah
IN MEMORIAM

SAMUEL JEFFERSON FEW

Sam Few, long assistant state chemist of Mississippi, died suddenly the morning of August 30, 1960. Sixty-seven years old, he had served the state as an analytical chemist for 40 years.

Sam, known to many by his first name, was graduated from Mississippi State in 1918, and after a year of military service and a year with Firestone, returned to State College. In recent years, he devoted his time to the miscellaneous laboratory, concerned with the analysis of nonroutine samples such as water, ores, and nearly everything else the people of Mississippi would send in. Much of the work was forensic chemistry. Sam had a large fund of stories about would-be and successful poisoners. As might be expected, the analytical problems were often of great difficulty, but one of Sam's special abilities was the ingenuity he could bring to bear on the solution of such problems. No matter how foolish their requests seemed, those who sent in samples always received an opinion based on sound scientific observation.

Sam was a member of the American Chemical Society and the Association of Official Agricultural Chemists. He had served the latter as an Associate Referee on Pesticides. He was also well known among the Food and Drug Officials of the Southern States.

Sam will be missed by his colleagues of the State Laboratory and the chemistry department, as well as by his many friends throughout the state and nation. He is survived by his wife, a daughter, Mrs. T. D. Sterling, a stepson, W. W. Taylor, two brothers and three sisters.

M. P. Etheredge
Mississippi

IN MEMORIAM

WEBSTER GREENWOOD REED

Dr. Webster G. Reed, who died early on October 10, 1960, served as Chief of the Insecticide Division and the Pesticide Regulation Section of the U. S. Department of Agriculture from 1945 until his retirement in 1957. During his administration, the Insecticide Act of 1910 was amended to become the Federal Insecticide, Fungicide, and Rodenticide Act of 1947, so that new law is a unique memorial to him. In addition to his sponsoring the revision of this law, it was during his period of service that the Miller Pesticide Chemicals Amendment to the Federal Food, Drug, and Cosmetic Act was passed and became effective.

Early in his career with the insecticide law, the need for uniformity between Federal and state enforcement programs was recognized and Dr. Reed was a pioneer in the drive for agreement between responsible officials. To further this aim, he aided in the formation of the American Association of Pesticide Control Officials and remained a strong sponsor of the organization as long as he was active.

Dr. Reed believed that law enforcement was most effective if it prevented the illegal distribution of faulty or unsafe pesticides, so his staff people were always instructed to give guidance to the industry so as to keep it out of trouble, instead of letting the shipper of a pesticide violate the law and then catch and penalize him.

His dedication to the highest principles of public service for almost 30 years and his many accomplishments in office have established high standards for those in positions of responsibility in government.

The immediate family which survives him includes his wife and three sons all of whom live in the Washington, D. C. area.

J. C. Ward
U. S. Dept. of Agriculture
PROGRAM FOURTEENTH ANNUAL CONVENTION

Shoreham Hotel, Washington, D.C.
October 11, 12, 13, 1960

Tuesday, Oct. 11 - 4:30 PM
Executive Committee Meeting

Wednesday, Oct. 12 - 2:00 PM
Methods Clearing House
Round Table Discussion

Wednesday, Oct. 12 - 8:00 PM
Registration - 7:30 PM
Report of Secretary-Treasurer
Roll Call by States
Announcements and Appointment of Committees
Committee and Investigator Reports:
  Toxicity and Antidotes..............................E. Wm. Ligon, Jr.
  Editorial.............................................E. R. Winterle
  Regulations & Terms................................Floyd Roberts
  Method Clearing House............................T. H. Harris
  Liaison.............................................D. J. Mitchell
  Legislation........................................Paul E. Irwin
  Registration.......................................O. T. Guice, Jr.
  Standards..........................................C. H. Jefferson
  Pesticide-Fertilizer Mixtures......................J. Claggett Jones
  Uniform Policies..................................M. E. Christensen

Thursday, Oct. 13 - 1:00 PM
Registration - 12 noon
Address by the President
J. D. Patterson, Assistant Chief
Division of Foods & Dairies
Salem, Oregon

Report of Credentials Committee
Report of Auditing Committee
Report of Resolutions Committee
Unfinished Business
Report of Nominating Committee
Election of Officers
Recognition of Past President
Workshop..............................................A. E. Thomas, Chairman
Adjournment
### Registrations
#### Fourteenth Annual Convention
October 11 - 12 - 13, 1960

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<th>Name</th>
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<td>Anderson, J. R.</td>
<td>State Entomologist</td>
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<td>Winterle, E. R.</td>
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</table>

Note: The table includes names, departments, and states associated with the attendees of the Fourteenth Annual Convention.
FEDERAL REPRESENTATIVES

Coyne, J. T.
Cromartie, A. D.
Gilbert, E.
Harris, T. H.
Kelsey, D.
Kilpatrick, G. W.
Ligon, E. W., Jr.
Lloyd, G. W.
McFarland, F. J.
Ward, J. C.
White, R. O.

Ass't. Pesticides Regulation Branch, U.S.D.A.
In Charge, Case Dev. Sec., Pesticide Regulation Br., P.P.C.
Entomologist, Pesticide Regulation Br., U.S.D.A.
Chemist, Pesticide Regulation Br., U.S.D.A.
Ass’t. to the Chief, Pesticide Regulation Br., U.S.D.A.
Admr. Officer, Federal-State Relations, F.D.A.
Head, Pharmacology Sec., Pesticide Regulation Br., U.S.D.A.
Entomologist, A.R.S., P.P.C. Div., U.S.D.A.
Pesticide Branch, F.D.A.
Chief, Pesticide Regulation Br., U.S.D.A.
Head, Registration Sec., Pesticide Regulation Br., U.S.D.A.

INDUSTRY REPRESENTATIVES

Barron, F. R., Jr.
Doellinger, H. C.
Dreessen, J.
Fiero, G. W.
Gilbert, E. E.
Groggins, P. H.
Haynes, H. L.
Hill, S. J.
Hitchner, L. S.
Johnston, E. M.
Karabatsos, K. T.
Kirkland, R. O.
Kittelton, J. D.
Knoerlein, R. G.
Krister, C. J.
Mays, J. R., Jr.
McGrew, G. T.
McNally, R. D.
Noone, J. A.
Rothechild, L., Jr.
Sanders, P. M.
Sell, J. P.
Sparre, F. D.
Sunderland, W. W.

Ass't. to Tech. Dir., A.C.Co.
O. M. Scott & Sons Co.
Mgr. Label Sec., DuPont
Tech. Mgr., Union Carbide Corp.
E. I. du Pont de Nemours & Co.
Industrial Service Lab.
Velsicol Chem. Corp.
Mgr., American Cyanamid Co.
Sec. Labels, Mfg. Chem. Assn.
Chemist, Miller Chem. & Fert. Corp.
Pres.-Treas., Barrow-Agee Lab.
V.P., Miller Chem. & Fert. Corp.
Editor, Agri. Chem. Magazine
Food Chemical News
Chief Agri. Reg. Control, E. Lilly Co.
American Cyanamid Co.
E. I. du Pont de Nemours & Co.
Staff Ass't., Dow Chem. Co.

Princeton, N. J.
Marysville, Ohio
Washington, D. C.
New York, N. Y.
Washington, Del.
Washington, D. C.
New York, N. Y.
Washington, Del.
Washington, D. C.
Des Moines, Iowa
Washington, D. C.
Plant City, Fla.
Washington, D. C.
Baltimore, Md.
Washington, Del.
Memphis, Tenn.
Baltimore, Md.
Caldweu, N. J.
Washington, D. C.
Washington, D. C.
Indianapolis, Ind.
Princeton, N. J.
Washington, Del.
Washington, D. C.
PRESIDENT'S ADDRESS

Mr. Chairman, Members of the Association, Industry Associates, Friends:

Many of you were here some 13 years ago when our association was formed. You will recall that the proposal to form the association was spearheaded by the three Pacific Coast States, California, Oregon and Washington. For some years before our national association was formed these three states were meeting to consider mutual problems of enforcement. Dr. Alvin Cox, and later Al Lemmon, represented California; Dr. St. John, Washington; and Oregon by your speaker. Our state laws were not uniform and the three of us used to gang up, so to speak, to supplement each others weaknesses. For example, I recall that the California law was rather strict on claims whereas the Oregon law was not so specific. However, the Oregon law was quite definite in requiring the name and per cent of each active ingredient on the label. California law did not have this requirement in all cases. As a result Lemmon used to suggest to a prospective registrant that he clear his ingredient guarantee with Oregon, and in turn, I would suggest to a registrant that he clear his label claims with California before printing labels. Thus, in many cases, Al got our ingredient guarantee on his label while I was assured of acceptable use claims.

During this time, we had a good working relationship with Pacific Coast Industry. However, many of the coast industries were branches of eastern companies where management was quite often suspicious of this relationship with state control officials. As a result during a get-together in Portland during January of 1947, Al Lemmon, Dr. St. John and myself decided to come to the fall meeting of the ADAC in Washington for the purpose of establishing our present association. During the ensuing years I believe our association has done much to promote uniformity, consumer protection and mutual understanding. Following the enactment of Federal Pesticide legislation we have enjoyed extremely fine cooperation from the enforcement office of U.S.D.A.

During these formative years I think it can be said that our organization revolved around one person in particular and like all preceding presidents, I would like to acknowledge the fine work of our secretary-treasurer, Al Heagy. Our association owes much to him for his unselfish devotion to our affairs.

I have given you a quick review of our past activities because I believe our association faces much the same situation as the original 3 Pacific Coast states faced 13 years ago. To get the job done, at least in my opinion, will require a new approach to our future problems. During the balance of my remarks, I propose to discuss some of the conditions which I believe we should consider in view of the changing condition which the pesticide field now finds itself.

In general, pesticide laws work to protect the public thru proper labeling and a continuing check on the label claims for ingredients. However, due to the nature of pesticides and their relation to public health, fish and wildlife, and other fields, we find many other organizations who share an interest in some aspect of the pesticide field. The passage of the Miller amendment and the Food additives amendment to the Federal Food, Drug & Cosmetic Act has brought a second Federal agency with an indirect interest at least in pesticide laws. Other groups likewise have an interest in this field. The problem, as I see it is this—is the association content to continue to restrict its program or should we study ways in which we can work closer with groups having a legitimate interest in this field? For my part, I believe we should study ways to bring a closer working relationship with these groups.

Let's consider another field where I believe improvement is needed. That is in the field of communications. As I mentioned before, we have a second Federal agency whose work is tied in with pesticide laws. It has been my experience that although our laws may define fields of responsibility for each agency, the public has little understanding of these restrictions. Consequently, a public announcement by one agency may directly affect the work of another agency. This is especially true when announcements are made thru the press without previous notice to cooperating agencies. Such a situation arose last November and in my state left the cooperative control office in a peculiar situation, to say the least. The public, who were requesting more information was further confused when we were unprepared to answer their questions. It was only after several weeks of investigation on our own part that we were able to partially answer these public inquiries. Although we may be in different enforcement agencies communication between these groups, I believe, is a basic responsibility to the public. To meet this responsibility cooperating agencies should be kept freely open. I am happy to report that, in my state, there has been a decided improvement in our communications with other cooperating agencies. Proper communication between cooperating agencies, in my opinion, is a must if we are to develop the full concept of cooperation.

8
A second phase of communication which I would like to mention is our relationship with the public. As I have mentioned before, in my state, at least, we can no longer in the public mind, clearly separate pesticide enforcement work from the pesticide residue field. During the past year I have spoken before many groups on the pesticide problem and invariably the question of residue is broached. This is to be expected because of the fear which has been raised in the public mind by certain types of publicity. In answering these questions I believe we should emphasize the positive. Emphasize the safety factor found in the label when the pesticide is used as directed. I like to point out that the safety factor used in setting tolerances is one to a hundred. I point out also the work and checking that has gone into the label information. In particular I like to point out the excellent work on long term toxicity studies being done by the USPHS. This type of study is necessarily slow but the results are invaluable in rebutting arguments based on fear of the unknown. I am sorry we don't have more of this type of information. As enforcement officials we know that there will always be unanswered questions. While these problems are being solved, I recommend in my talks that we guide our opinions on a common sense approach recently called by our courts the "rule of reason". Tell the full story and give your listeners a chance to decide on the facts.

This type of a pesticide speech may seem out of place for a pesticide control official to be giving. However, I believe our future enforcement path will bring us more and more into both sides of the picture.

Some 13 years ago, a new era in pesticide control got underway. Today I believe we are entering a second phase of this work. The first era, I believe, has been successful and of value to the public we serve. It was achieved thru a spirit of cooperation and mutual understanding. Let us enter this second phase with this same spirit.

J. D. Patterson, Ass't. Chief
Division of Foods & Dairies
Oregon
REPORT OF THE SECRETARY

A. B. Heagy, Secretary

The Secretary, because of circumstances beyond his control, has not been able to carry on the activities of the office altogether to his satisfaction. There have been many items necessarily omitted which resulted in an appeal to the President for a division of the Association work. A report will be heard from the Committee on the Constitution and By-Laws.

Duties of the office of Secretary-Treasurer are as follows:

(1) Preparation and distribution of the annual meeting proceedings. This material is distributed to those attending the meeting and other interested persons.


(3) Billing and collection of membership dues.

(4) Preparation and mailing of invoices covering book sales.

(5) Arranging meeting rooms, program and other convention details with the Shoreham Hotel.

(6) Handling official correspondence, which has increased significantly during the past year.

Comment:

The Secretary has not had the time or assistance available to continue the preparation and distribution of the Pest Controller for the first time since it was originated. Another phase of the office which needs more attention is that of circularizing available information on common names as they are adopted by the American Standards Association.

Primarily, most of the time available to the Association is devoted to the preparation, sale and distribution of the Association's publications. Along with numerous inquiries, details of sales, records, invoicing and checking correspondence concerning the books consumed the major portion of the time devoted to Association work.

On the second page of the Treasurer's report you will note that our Association accounting shows a sound financial position. Details concerning our assets include a savings account, savings bond, an estimated evaluation of books on hand and accounts receivable.
CONSTITUTION & BY-LAWS

H. J. Fisher, Chairman

Proposed Amendments to the Constitution and By-Laws
Association of American Pesticide Control Officials, Inc.

Constitution

Section 4 - Officers. The officers of the association shall be a president, a vice-president, a secretary, a treasurer, and an executive committee.

Section 5 - The executive committee. The executive committee shall consist of the president, the vice-president, the secretary, the treasurer, the retiring president, the four elected members, two members of whom shall be elected at each annual meeting of the association.

By-Laws-Section 3. Duties of officers. The president, vice-president, secretary, and treasurer shall perform the duties usual to such officers.

The secretary shall keep a record of all proceedings of the association and shall attend to all necessary correspondence. The treasurer shall receive all moneys due the association and shall keep an accurate account of all receipts and disbursements, and report with proper vouchers at each annual meeting.

By-Laws

The following shall be the order of business unless changed at the time by the vote of the association:

1. Reading of the minutes of preceding meeting.

(The remaining items in order of business to be re-numbered and remain in present sequence.)

EDITORIAL

E. R. Winterle, Chairman

As noted in last year's report a complete compendium will be published at the discretion of the Editorial Committee on the basis of need, rather than annually, in view of this we will issue additions, revisions and corrections to our compendium periodically.

In May of 1960 the Secretary reported a complete sellout and it was decided to reprint additional copies of the compendium fillers to carry us over until new material is assembled.

The Committee is indebted to the Federal Pesticide Regulation Branch for a list of pesticidal chemicals and sponsoring manufacturers, which they have accepted for registration between 1957 and July 1960. This list contains 64 chemicals, 37 of which are not in our publication and are being referred to investigators.

Again we want to urge all investigators to be prompt in requesting data on new chemicals and in reviewing the present material for revision or corrections of errors.
REGULATIONS AND TERMS

Floyd Roberts, Chairman

The Committee on Regulations and Terms has under consideration a review of regulations of the various States with the aim of drafting uniform regulations in line with those adopted under Federal Law, as recommended by the Executive Committee in 1959. Since the Federal Law was revised in 1959 to broaden the scope to include nematocides, plant regulators, defoliants, and desiccants it was anticipated by the committee that many States would modify their laws to bring them in line with the Federal Law. The committee has thus far laid ground-work by sending out a questionnaire to determine the status in each State respecting regulations and regulatory principles. Thus far (September 15, 1960) 34 States, Canada and Puerto Rico have responded.

Of the 36 responses, 24 indicated that they had promulgated regulations under their laws. Of this number 11 indicated that they also follow Federal regulations. There were 11 others who showed that they follow Federal regulations. Those whose regulations now cover nematocides, plant regulators, defoliants, and desiccants, or most of these, numbered seven, with four others stating that their laws covered most or all of these. The reports indicate that the situation respecting regulations is now in a state of considerable flux as 19 showed anticipation of revisions in their regulations and/or laws. Some laws have been revised and others are now in the process of revision. It is gratifying to note that 34 of those reporting use the A.A.P.C.O. Regulatory Principles and Terms.

The Committee also has another matter under consideration. Earlier this year a request was made by the National Pest Control Association to consider modifying the Official Definitions of the A.A.P.C.O. for the terms "Fumigants" and "Fumigation". The proposed definitions advanced by that Association were:

1. "Fumigants are pesticides that act in a gaseous state."

2. "Fumigation is the use within an enclosed space of fumigant in concentrations acutely toxic to man."

Several interested groups and individuals have been advised of the proposals and comments solicited. Up to this time only a few comments have been received with prospects of more firm commitments to be made later. It appears that there will be objection to revising the present definitions and that, perhaps, a more satisfactory approach will be to establish a classification for fumigants and descriptive definitions for the different types or means of fumigation. The committee requests comments from all interested parties.

RECOMMENDATIONS

It is recommended that the tentative definitions for the terms "pesticide" and "defoliant" as amended in 1959 and the tentative terms "plant regulator" and "desiccant", A.A.P.C.O., 1959, p.31, be adopted as official.

It is recommended that the committee proceed with the study of regulations with the aim of drafting uniform regulations in line with those adopted under Federal law.

It is also recommended that the committee continue its investigation relative to the definitions for "fumigants" and "fumigation".
METHODS CLEARING HOUSE

T. H. Harris, Chairman

The following methods were forwarded to 73 State and Federal laboratories, 31 industrial laboratories, and to representatives of 16 foreign countries. Also numerous individual copies of methods have been personally given or sent to others upon request.

320.2 - Determination of Chloride and Bromide by Potentiometric Titration
332.0 - Determination of Sodium Trichloroacetate in Commercial Sodium TCA
340.0 - Tent. - Ultraviolet Spectrophotometric Determinations of 3,4,4'-Trichlorocarbanilide in Detergents
382.0 - Infrared Determination of N,N-Diethyl-meta-Toluamide in Delphene and in Alcohol Solution
491.25 - Rev. - Method for the Determination of Phosphorus in Malathion
807.3 - Self-Pressurized Dispenser Flame Projection Test
807.31 - Drum Test for Checking the Flammability of Self-Pressurized Dispensers
824.0 - Rev. - Pival (2-Pivalyl-1,3-Indandione) in Baits
824.31 - Pival (2-Pivalyl-1,3-Indandione) or PMP (2-Isovaleryl-1,3-Indandione) in Water-Soluble Formulations
825.0 - Fumarin in Bait Materials.


Steps have been taken by the American Pesticide Control Officials, Incorporated, the Association of Official Agricultural Chemists and Chemical Analysis Committee of the Chemical Specialties Manufacturers Association, Incorporated, to combine their collaborative testing in order to eliminate duplication. Under the auspices of the A.O.A.C. and in collaboration with the State and industry laboratories, collaborative tests were conducted with some pesticides during the past year. The large number of new pesticides being manufactured will necessitate the expansion of this program in order to adopt and publish official methods for their analyses, the appointment of additional A.O.A.C. Associate Referees, and the assistance of a large number of collaborators to complete the proposed tests. It would be appreciated if those interested in this project would volunteer either as associate referees or collaborators by submitting their names to the Chairman of the Methods Clearing House Committee or the Chairman and Editor of the Editorial Board of the A.O.A.C.

The members of the Methods Clearing House Committee express their appreciation to all who have assisted us in the way of suggestions or submission of methods during the past year.

RESOLUTIONS

H. S. Peckinpaugh, Chairman

The Committee recommends the adoption of the following resolutions:

WHEREAS, the 1960 Convention of the Association has as usual been helpful and instructively successful, be it therefore resolved,

That we extend to the officers, Committee members and investigators of the Association our sincere thanks for their much appreciated services during the past year, and be it further resolved,

That the Association express appreciation to the Shoreham Hotel for the many courtesies shown, accommodations provided and services rendered.

WHEREAS, the convention has been greatly sustained and enriched by the encouragement, support and friendship of the several trade organizations, be it therefore resolved,

That the Association acknowledge its sincere gratitude to these trade organizations for their generous and cooperative spirit both during the convention and throughout the year in the regulatory field.

WHEREAS, members of the Association have been recipients of innumerable courtesies and the Association activities have been particularly well coordinated through the services of
its secretary, be it therefore resolved,

That again special commendation be extended Mr. Al Heagy for his outstanding and efficient service to the organization.

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CREDENTIALS

L. D. Rodriguez, Chairman

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AUDITING

Allen Baker, Chairman

The auditing committee examined the financial records of the treasurer and found the records of the receipts and disbursments correct for the period of October 1, 1959 to September 30, 1960.

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NOMINATING

Floyd Roberts, Chairman

President | E. R. Winterle, Florida
Vice-President | R. H. Gunter, Kansas
Secretary | P. E. Irwin, Virginia
Treasurer | A. B. Heagy, Maryland

Executive Committee

J. C. Ward | Federal
M. E. Christensen | Utah
C. P. Osgood | Maine
R. Z. Rollins | California
UNIFORM POLICIES

M. E. Christensen, Investigator

During the 1959 meeting of the Association of Pesticide Control Officials, an appeal was made for greater uniformity between states regarding registration of products differentiated only by a variety of forms, colors or scents. The President subsequently appointed an Investigator for Uniform Policies to consider this question and others requiring similar consideration.

Your Investigator conducted a survey to determine the sentiment of control officials on the question raised. A report of the survey is attached herewith. It indicates that a majority of control officials favor separate registration of various scented Pesticides such as those of Paradi-chlorobenzene as well as individual registration of Pesticides differentiated only by a variety of forms such as balls, flakes, nuggets, etc.

Accordingly, a resolution has been prepared for consideration of the association at this meeting which is intended to unify the policy of the states on this question.

Other problems have been referred to the investigator with the suggestion that some effort be made to attain greater uniformity of policy between states. A tabulated list of such problems is herewith submitted. The association has already declared its policy by resolution or otherwise in the case of some problems listed. Others need further study and disposition by the association and its Executive Committee.

RESULTS OF SURVEY ON UNIFORM POLICY PROBLEMS

47 QUESTIONNAIRES SENT OUT; 40 RECEIVED BY JANUARY 8, 1960

1. Would you favor an association policy which would recommend separate and individual brand registrations for each of the scented varieties of such Pesticides as Paradichlorobenzene and Naphthalene (such as Lavender, Rose, Pine, etc.)?

Yes ___ 23 ___ No ___ 17 ___

Does your agency now require separate registration for each variety?

Yes ___ 12 ___ No ___ 28 ___

2. Would you favor an association policy which would recommend separate and individual brand registrations for each variety or physical form of such pesticides as Paradichlorobenzene and Naphthalene (such as nuggets, flakes, balls, etc.)?

Yes ___ 24 ___ No ___ 16 ___

Does your agency now require separate brand registration for each variety or physical form?

Yes ___ 15 ___ No ___ 25 ___

3. Would you favor an association policy which would recommend separate and individual brand registrations for each different color of fungicidal paint?

Yes ___ 19 ___ No ___ 18 ___

Does your agency now require separate brand registration for each different color of a fungicidal paint?

Yes ___ 8 ___ No ___ 32 ___

PROPOSED RESOLUTION ON UNIFORM ACTION

WHEREAS, the American Association of Pesticide Control Officials is dedicated to a policy of encouraging uniformity of laws and regulations affecting Pesticides, and

WHEREAS, there is at present a variance of opinion among control officials regarding the registration status of scented varieties of certain Pesticides.

15
BE IT THEREFORE RESOLVED, that it shall be the policy of the Association of Pesticide Control Officials that each scented variety of a specific pesticide shall be separately and independently registered.

BE IT FURTHER RESOLVED, that separate and individual brand registrations be required for each variety or physical form of any Pesticide which may be offered for sale in a variety of physical forms and differentiating labeling even though the composition may be the same.

PROBLEMS REPORTED ON WHICH UNIFORM ACTION WAS REQUESTED

1. Stop Sale of discontinued items after a specified time.
2. Require complete ingredient statements showing percentages of all ingredients. Discontinue 100% active clause on household pesticides.
3. Require separate registrations of fertilizer-pesticide mixtures.
4. Require a uniform minimum type size for ingredient statements.
5. Include control of sprout inhibitors, plant growth regulators, defoliants and fruit drop preventatives under Pesticide Law.
6. Do not permit physical forms of pesticides to resemble foodstuffs forms.
7. Discourage such words as "Improved" and "New" in brand names.
8. Require different and distinctive names for each different product manufactured by a company.

REGISTRATION

O. T. Guice, Jr., Investigator

The investigator did not send out a questionnaire this year and no problems relating to registration have been called to the investigator's attention. Since no particular problems relating to registration were called to the investigator's attention, it is apparent that registration problems are becoming less numerous than in previous years.

STANDARDS

C. H. Jefferson, Investigator

Your investigator has nothing to report for the current year.

In view of the apparent absence of interest in this subject, I would suggest that the executive committee consider the dropping of an investigator with regard to this subject.
PESTICIDE-FERTILIZER MIXTURES

J. Claggett Jones, Investigator

The questionnaire enclosed as a part of this report was sent to all State Control Officials as well as to Canada and Puerto Rico. Replies had been received from all except one State at the time of preparation of this report.

1. States in which Fertilizer-Pesticide Mixtures are sold 41
   States in which Fertilizer-Pesticide Mixtures are not sold 8

2. All but 2 States in which sold register such under Fertilizer Law.

3. All 41 collect the regular Fertilizer fees and taxes.

4. States having a law regulating Pesticides 40
   States not having a law regulating Pesticides 9

5. States registering these under Pesticide Law 33

6. States collecting Pesticide Law regular fees on these 31

7. Pesticides most generally used appear to be:
   Aldrin, Dieldrin, and Heptachlor.

Complete list of Pesticides reported generally used:
Aldrin, Boron, Calcium Arsenate, Chlordane, DDT, 1,2-dibromo-3-chloropropane, Dieldrin, Disodium Methyl Arsonate, Heptachlor, Nemagon, PCNB, Phenyl Mercuric Acetate, Phorate, Potassium Cyanate, Terrachlor, Thimet, 2,4-D and 2,4,5-T.

8. State Experiment Station recommends these mixtures 19
   State Experiment Station does not recommend these mixtures 19

9. States limiting registration to Stations recommendations 4

10. From the comments of States not yet having specific Regulations, it is only a matter of time until Regulations will be promulgated.

11. Bulk sales of mixture are permitted by 31

13. States requiring heavy paper containers 14

14. The term "ingredient statement" is perhaps unfortunate, since it occasioned many explanatory notes.

15. States requiring directions for use and warning statement. 39

16. States requiring a special tag 15

19. States permitting "Buyers Mixtures" or "Farmers Mixtures" 30

21. States analyzing mixture for fertilizer 44

22. States analyzing mixture for pesticides 33

23. States which have established pesticide tolerances 13
   States which have not established pesticide tolerances 32

QUESTIONS SUBMITTED TO STATE CONTROL OFFICIALS

1. Are Fertilizer-Pesticide Mixtures sold in your State?
2. Are these mixtures registered under your Fertilizer Law?
3. Do you collect the regular fee and tonnage tax under your Fertilizer Law?
4. Do you have a law regulating Pesticides?
5. Are these mixtures registered under your Pesticide Law?
6. Do you collect the regular fee under your Pesticide Law?
7. Name the Pesticides which are generally used in mixtures for food crops in your State.
8. Does your State Experiment Station recommend fertilizer-pesticide mixtures?
9. Do you limit registration and distribution of fertilizer-pesticide mixtures to those mixtures recommended by the State Experiment Station?
10. Have you issued regulations covering the sale and distribution of these mixtures? (Please send copy of regulations, if available).
11. Do you permit sale in bulk?
12. Do you permit sale in woven bags?
13. Do you require that mixtures be distributed in heavy paper containers?
14. Do you require a label showing an ingredient statement for both fertilizers and pesticides?
15. Do you require directions for use?
16. Do you require warning statement?
17. If you have a Fertilizer Law and a Pesticide Law, do you require that these mixtures comply with provisions of both laws?
18. Do you require a special tag?
19. Do you permit "Buyers Mixtures" or "Farmers Mixtures" whereby a farmer may have any pesticide added to his fertilizer by the manufacturer?
20. Are sales under 19 above subject to regulation under Fertilizer and Pesticide Laws?
21. Do you analyze fertilizer-pesticide mixtures for fertilizer?
22. Do you analyze fertilizer-pesticide mixtures for pesticides?
23. Have you established tolerances for deficiency or excess of pesticide?
24. Do you permit the sale of lime or gypsum mixed with pesticides?

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LEGISLATION

Paul E. Irwin, Investigator

Your investigator sent a questionnaire to pesticide control officials in every State, Canada, Federal Government and Puerto Rico requesting information regarding legislation on Pesticides during the past year. Replies were received from all but four of the States.

The following is a digest of legislative changes reported by control officials which have not previously been reported:

**Florida:** No Law change, but Technical Regulation No. 7, effective July 1, 1960 states: "The presence of thallium compounds in pesticides shall be limited to a maximum of 1% metallic thallium (equivalent to 1.25% thallium sulfate)."

**Georgia:** Law amended to include plant regulators, defoliants and desiccants.

**Kansas:** By regulation on January 1, 1960 the inspection fee was increased from $10 to $15 for each of the first 10 brands. The fee of $5 for each additional brand remains the same.

**Michigan:** No change in Pesticide Law, but a new law for licensing of pesticide applicators was adopted effective March 1960.

**New York:** Law amended to require a registration fee and also to include plant regulators, defoliants and desiccants.

**Virginia:** Law amended to include plant regulators, defoliants and desiccants, and to permit bulk shipments of certain fertilizer-pesticide mixtures as prescribed by the Commissioner.

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REPORT OF THE EXECUTIVE COMMITTEE

During the past year, the Executive Committee and others in the Association met May 23 through May 26 in the offices of Justus C. Ward, Chief, Pesticides Regulation Branch, Agricultural Research Service, U. S. D. A., Washington, D. C. A resume of this meeting has been circularized among the membership.

On Tuesday, October 11, at 4:30 p.m., this group met in the North Room, Shoreham Hotel, to review committee and investigator reports.

CONSTITUTION AND BY-LAWS

The Committee on the Constitution and By Laws was reviewed and accepted as follows:

CONSTITUTION

Section 4 - Officers. The officers of the association shall be a president, a vice-president, a secretary, a treasurer, and an executive committee.

Section 5 - The executive committee. The executive committee shall consist of the president, the vice-president, the secretary, the treasurer, the retiring president, the four elected members, two members of whom shall be elected at each annual meeting of the association.

By-Laws - Section 3 - Duties of officers. The president, vice-president, secretary, and treasurer shall perform the duties usual to such officers.

The secretary shall keep a record of all proceedings of the association and shall attend to all necessary correspondence. The treasurer shall receive all moneys due the association and shall keep an accurate account of all receipts and disbursements, and report with proper vouchers at each annual meeting.

BY-LAWS

The following shall be the order of business unless changed at the time by the vote of the association:

1. Reading of the minutes of preceding meeting.

(The remaining items in order of business to be re-numbered and remain in present sequence)

EDITORIAL COMMITTEE

The Executive Committee approves the report of this committee and recommends the adoption of the Editorial system proposed by the group; for example: An Editor assisted by Associate Editors to review and be responsible for specific phases of the monographs.

INVESTIGATOR ON STANDARDS

This Committee recommends that this office be discontinued and further recommends that the Secretary establish a file, at his discretion, of the material thus far compiled and urges control officials and others to forward to him additional information as it is adopted and publicized.

LIAISON COMMITTEE

Although no problems were studied by this Committee during the past year it is recommended that this group be continued. Further that this Committee be instructed to consider several matters submitted to the Investigator on Uniform Policies and the Investigator on Legislation.

INVESTIGATOR ON REGISTRATION

The Executive Committee recommends the continuation of this office for the purpose of assisting the several states currently considering pesticide legislation.
INVESTIGATOR ON LEGISLATION

Appreciation is expressed to the Investigator on Legislation and recommends a committee study the recommendations of this investigator.

INVESTIGATOR ON PESTICIDE-FERTILIZER MIXTURES

Special thanks is extended to the Investigator on Pesticide-Fertilizer mixtures for his comprehensive report covering policies and procedures practiced in the many states. It is recommended that this investigation be continued.

METHODS CLEARING HOUSE

The Executive Committee especially commends this Committee for an outstanding job over the years in keeping control and other laboratories supplied with new and up to date procedures for the examination of pesticide chemicals. This group continues to urge all laboratories to assist in this activity by submitting methods for distribution.

REGULATIONS & TERMS

The Committee approves the report of the Committee on Regulations and Terms and recommends:

a. That the tentative definitions for the terms "pesticide" and "defoliant" as amended in 1959 and the tentative terms "plant regulator" and "desiccant", A.A.P.C.O., 1959, p. 31, be adopted as official.

b. That the committee proceed with study of regulations with the aim of drafting uniform regulations in line with those adopted under Federal Law.

c. That the committee continue its investigation relative to the definitions for "fumigants" and "fumigation".

It is further recommended that this group continue the project of unifying regulations supplemental to the uniform pesticide law. Also, that a new committee be named to study definitions of terms proposed by the committee and any others brought to the attention of this group.

INVESTIGATOR ON UNIFORM POLICIES

Appreciation is extended to the Investigator on Uniform Policies and recommends the adoption by this Association of the proposed resolution as follows:

WHEREAS, the Association of Pesticide Control Officials is dedicated to a policy of encouraging uniformity of laws and regulations affecting Pesticides, and

WHEREAS, there is at present a variance of opinion among control officials regarding the registration status of scented varieties of certain Pesticides.

BE IT THEREFORE RESOLVED, that it shall be the policy of the Association of Pesticide Control Officials that each scented variety of a specific pesticide shall be separately and independently registered.

BE IT FURTHER RESOLVED, that separate and individual brand registrations be required for each variety or physical form of any Pesticide which may be offered for sale in a variety of physical forms and differentiating labeling even though the composition may be the same.

COMMITTEE ON TOXICITY AND ANTIDOTES

The Committee recommends the continuation of the Committee on Toxicity and Antidotes.

COLLABORATIVE CHECK SAMPLE COMMITTEE

It is recommended that the Collaborative Check Sample Series be revived at an early date and cooperate where applicable with the A.O.A.C. program.
The Executive Committee expresses its appreciation to the committees, investigators, and others who have contributed so unselfishly toward the welfare and growth of the Association.

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ROUND TABLE DISCUSSION
OF METHODS OF ANALYSIS FOR PESTICIDES

R. L. Caswell

1. Total chlorine methods
2. Infrared methods (including benzene hexachloride and rotenone)
3. Gas chromatographic methods
4. Polarographic methods
5. Organic phosphates (including malathion)
6. Rodenticides
7. Defoliants and herbicides
8. Dithiocarbamates
9. Heptachlor
10. Sevin
11. Perthane
12. Pyrethrins

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SUBJECTS DISCUSSED AT STATES RELATIONS MEETING

R. H. Guntert, Chairman

1. How can Industry assist States in obtaining methods of analysis, as well as reference standards for new pesticide materials as they are introduced in trade channels? Can the National Agricultural Chemical Association set up some type of automatic supplying of this information?
2. Do we have too many different formulations of the same pesticide being offered for sale? Would standardization be desirable?
3. Do the majority of the states feel that the policing of advertising of pesticides is an important phase of their regulatory work?
4. What can be done to encourage pesticide manufacturers to submit residue data on pesticide materials of long usage, particularly when these materials are applied to a crop where a no residue tolerance has been requested?
5. Do states permit grain fumigant formulators to show the guaranteed analysis on a confidential basis, such as: Active Ingredients - 100% - Carbon Tetrachloride, Carbon Bisulphide, Sulphur Dioxide?
6. How many states are planning action of amending their present Pesticide laws or enacting new laws to reflect the 1959 Amendment of the Federal Insecticide, Fungicide and Rodenticide Act?
SUBJECTS DISCUSSED AT WORKSHOP SESSION
A. E. Thomas, Chairman

1. Bulk delivery of pesticides to airstrips and farmers sometimes on a custom mix basis and may
or may not involve fertilizer-pesticide mixtures. Also this type of mixture or custom mix
may be either delivered or picked up. Sometimes it has been known that farmer's containers
can be filled from a bulk tank at a saving on containers.

2. Products that contain a pesticide yet make no claims on their label as being a pesticide.

3. Disposition of unregistered pesticides and the practicality or feasibility to charge a retailer
a registration fee.

4. What can be done about pesticide contamination of milk and meat?
   (a) Through residues in feed and forage (insecticides & fungicides)
   (b) Through treated pastures (herbicides)
   (c) Direct treatment of animals

5. How valid is the "Read the Label" propaganda?

6. Should registration numbers be required on all pesticides to be used on food or feed crops or
in food handling establishments?

7. How stringent are other states in enforcing their pesticide laws with regard to such border-
line materials such as swimming pool algaecides, dairy sanitizers, common disinfectants,
impregnated shelf paper and sanitized plastic toys?

8. Should the Federal law cover mole, predatory animal, slug, snail, and pest bird control
chemicals, and bird repellents?

9. What can be done to make it practical for the companies to put the common or commonly
used pesticide name on the label instead of the present "hidebound" antiquated system now
used?

10. Why should the multiple listing clause be continued?

11. Is it feasible to consider any new laws to control the user of a pesticide on a food crop?
Aerial applicator type statute? If such a law is considered, what agency should enforce it?

12. What is the best way to bring old labeling into line with new laws?

13. How can producers of nematicides, plant regulators, desiccants, and defoliants be best made
aware of the existence of a new law before it becomes fully effective on March 5, 1961?

14. What are other states doing when a company changes its name and has a product offered for
sale with the same brand name and guarantee but with a different company name?

15. What can be done to further discourage the dispensing of pesticide from large containers
which are properly labeled into unlabeled containers for sale to growers from hardware and
farm supply stores?