Why another survey?

- Get a snapshot of AAPCO membership exposure to UAV/UAS’s.
- Aid in developing priorities that Workgroup can focus on.
- Provide feedback from AAPCO members that Workgroup can relay to EPA – OPP.
When and how many?

- Survey questions were developed by the AAPCO Technology Workgroup.
  - 12 questions (1 was to collect contact information)

- Survey went out to membership in late January 2020 and closed in mid February 2020.

- Overall there were 46 responses, with 38 members completing their responses.
Q1: Has your state received any requests to apply pesticide products using UAV’s/UAS’s?

- Approximately 74% (34) of the respondents have.
  - Inquiries but no applications have been made
  - No requests for UAV applications on tribal lands

- Approximately 22% (10) have not.

- Answered - 46
Q2: Does your state currently have applicator(s) that are certified/licensed to make pesticide applications using UAV/UAS?

- Approximately 61% (17) do.
- Approximately 39% (10) do not.
- Answered – 28
- Skipped - 18
Q3: Does your state currently have a company(s) that is legally able to make pesticide applications using UAV’s/UAS’s within your state?

- Approximately 61% (17) do.
- Approximately 32% (9) do not.
- Answered – 28
- Skipped - 18
Q4: What State/Tribe/Territory do you represent?

- Answered: 26
- Skipped: 20
Q5: What EPA region is your State/Territory/Tribe located within?

- Region 1 – 2 responses
- Region 2 – 1 response
- Region 3 – 2 responses
- Region 4 – 8 responses
- Region 5 – 3 responses
- Region 6 – 2 response
- Region 7 – 1 response
- Region 8 – 2 responses
- Region 9 – 3 responses
- Region 10 – 4 responses

- Answered – 28
- Skipped - 18
Q6: What type(s) of pesticide(s) are UAV/UAS applicators requesting information on, or are intending to apply?

- Herbicides – 17 responses
- Insecticide-crops – 12 responses
- Vector Control – 8 responses
- Fungicide – 10 responses
- Other – 8 responses
  - Insecticides specific to invasives
  - Biocontrols/adjuvants
  - Right of Way
  - Mosquito Abatement
- Answered – 28
- Skipped - 18
Q7: When inquiring about a UAV/UAS application, what product(s)/brand name(s) are applicators requesting use guidance on?

- Vector Control Products
  - EPA Reg. No. 73049-429, Bacillus sphaericus + Bacillus Thuringiensis
  - EPA Reg. No. 73049-475, S-Methoprene
- Alligare Glyphosate 5.4
  - EPA Reg. No. 81927-8, Glyphosate isopropylamine salt
- Dimilin 2L
  - EPA Reg. No. 400-461, Diflubenzuron
Q7: When inquiring about a UAV/UAS application, what product(s)/brand name(s) are applicators requesting use guidance on? (cont.)

- BTM
- Roundup, 534-xxx
- Movento
- Imazapyr
- Atrazine 4L
- Accort XRT
- Triclopyr
- No questions about specific labels

- Answered - 13
- Skipped – 33
- Listing received of product name, EPA Reg No. will be provided to EPA-OPP
Q8: What site(s) are UAV/UAS applicators requesting guidance on, or are intending to make an application on? (Descriptors within 40 CFR 171.01)

- Agricultural Crops – 18 response
  - Grains, vegetables, feed/forage, etc.
- Fruit Crops – 5 responses
  - Small fruits, tree fruits, etc.
- Forestry Crops – 10 responses
- Rights of Way – 13 responses
- Public Health Control – 13 responses
- Aquatic Pest Control – 5 responses

![Bar chart showing the number of responses for each category.](chart.png)
Q8: What site(s) are UAV/UAS applicators requesting guidance on, or are intending to make an application on? (Descriptors within 40 CFR 171.01)

- Misc. Responses
  - Noxious weed control
  - Turf and ornamental
  - Golf courses
  - Control of Phragmites
  - Non-specified nursery plants
- Answered - 28
- Skipped - 18
Q9: What types of crops have UAV/UAS applicators requested use guidance on?

- Ornamental vegetation
- Forestry
- Fruit crops, vineyards
- Rights Way
- Grapes
- Rangeland and pastures

- Noxious weed control
- Hydroponic lettuce grown indoors
- Leafy greens, cole crops
- Public health mosquito control
- Research crops with University

- Answered - 18
- Skipped - 28
Q10: Upon reviewing product labels in response to the question(s) posed to you by UAV/UAS applicator(s), what part(s) of the pesticide label have you found difficult to interpret regarding UAV applications?

- Worker Protection – 5 responses
- Application method – 14 responses
  - (e.g., non-descriptive aerial)
- Nozzle angle or type – 6 responses
- Boom length – 8 responses
- Application rate(s) – 8 responses
- Certification Reqs. – 7 responses
- Other – 10 responses
Q10: Upon reviewing product labels in response to the question(s) posed to you by UAV/UAS applicator(s), what part(s) of the pesticide label have you found difficult to interpret regarding UAV applications? (cont.)

- Worker Protection
  - Wearing chemical resistant gloves
  - Is the UAV pilot considered the applicator?
  - Label simply stating “aerial application” or can they apply under FIFRA 2ee so long as drone applications are not prohibited?
- Nozzle angle/type combined with multi rotor drones
- Drift concerns
- Buffer zones
- Minimum volume of spray solution per acre

- Answered – 26
- Skipped – 20
Q11: Are there any other questions your state has regarding pesticide applications using UAV’s?

- Does FAA have exemptions for the carrying of hazardous materials via a drone?
- Helicopter Only – is EPA’s definition the same as the FAA?
- Boom-length to rotor width – what does this mean in the context of a hexacopter?
- Drift factors or residue deposition
- Who is applicator/handler?
- Multiple drone units (swarms)

- EPA required safety equipment to prevent flyaways?
- Unmanned ground vehicles – will EPA be addressing?
- Several states have an aerial applicator category, and if a UAV/UAS pilot were to apply a pesticide, they would need to be certified as an aerial applicator.
- Several states stated if a UAV/UAS applicator were to apply a pesticide, they could do so if the label listed “aerial applications allowed”.
- Answered - 17
- Skipped - 29
Questions?

- Robby Personette, Chief, Agrichemical Programs Section – Wisconsin Department of Agriculture, Trade and Consumer Protection
  - Robby.personette@Wisconsin.gov
  - 608-224-4542