

NAAA eNewsletter

Professional Certification for the Future of Agricultural Aviation: Introducing C-PAASS— Certified Professional Aerial Applicator Safety Steward

As the agricultural aviation industry moves from its first century into its second, it faces a strong and increasing demand for fast and effective agricultural input services. It also faces challenges from additional regulations, public input, rising insurance costs, stiffer pesticide label language and competition from technological advances in other facets of agriculture. To meet these challenges, agricultural aviation needs a way to further augment its advancement of safety and application accuracy while also showing our customers, regulators and the public the professional nature of our industry.

NAAA's new Certified-Professional Aerial Applicator Safety Steward (C-PAASS) program, launching in 2023, will fill that very role. Requirements for certification will ensure C-PAASS members are taking part in the best available educational opportunities for agricultural aviation.

C-PAASS is by no means a requirement; however, this voluntary program will allow those aerial applicators who strive to constantly educate themselves to better their safety and applications to be recognized for their efforts. In a recent NAAA survey, 72% of respondents expressed interest in obtaining an aerial application certification if NAAA and NAAREF established such a program.

With 2023 being the launch year, there will be four requirements for an ag pilot to earn their C-PAASS designation, with additional requirements forthcoming in subsequent years. The 2023 requirements will be as follows:

1. Annual Membership in NAAA (2023)
2. Annual Membership in a state or regional agricultural aviation association (2023)
3. Annual PAASS (Professional Aerial Applicators' Support System) attendance (three out of the past three years: 2022-2023 season, 2021-2022 season, 2020-2021 season)
4. Biennial Operation S.A.F.E. (Self-regulating Application and Flight Efficiency) participation (one out of the last two years: either 2022 or 2023)

These initial certification requirements are based on education and professional opportunities already available to all ag aviators. The PAASS Program has a proven record of reducing accidents and drift incidents. Five years after it hit the stage, the industry saw a 26% drop in drift incidents from drift surveys collected by state pesticide enforcement agencies. And since the first PAASS season in 1998-1999, the ag aviation accident rate (number of accidents per 100,000 hours flown) has dropped by nearly 26%, and the fatal accident rate has dropped by 10%.

Astonishingly, this marked reduction in accidents and drift occurrences happened with fewer than half, or 47%, of the agricultural aviation operators and pilots in the U.S. attending the PAASS Program (1,593 attended PAASS before the 2020 season; there are a total of 3,400 ag pilots in the U.S.). And of the 333 accidents that occurred between 2014 and 2020:

- 117, or 35%, were from pilots that had not attended PAASS in the prior five years.
- 52, or 15.6%, were from pilots that had attended PAASS once in the prior five years.
- 41, or 12.3%, were from pilots that had attended PAASS twice in the prior five years.
- 39, or 11.7%, were from pilots that attended PAASS three times in the prior five years.
- 37, or 11.1%, were from pilots that attended PAASS four times in the prior five years.
- 47, or 14.1%, were from pilots that attended PAASS five times in the prior five years.

All these stats are a way to say that continuing education works. Continuing education makes you more professional. Professionalism makes you safer in the cockpit. C-PAASS is being launched as the next phase in professionalism, with a goal of increasing participation in existing programs and expanding that participation to new education opportunities to come.

Operation S.A.F.E. fly-in clinics offer aerial applicators a chance to verify the accuracy of their aircraft to ensure they are making precise applications that meet the demand of growers as well as protect the environment and the public.

Membership in NAAA offers numerous educational and other professional development opportunities, including markedly discounted education sessions at the Ag Aviation Expo, online NAAREF safety and education videos, Fly Safe messages, and a weekly eNewsletter. State and regional associations offer their own education opportunities. Both NAAA and state and regional associations offer leadership development opportunities and roles to help guide the industry into the future.

Starting in 2024, an online learning management system (LMS) will become part of C-PAASS. LMS content will be based on previous PAASS modules and sessions offered at NAAA's annual Ag Aviation Expo. A wide variety of topics will eventually be included in the LMS, including those covered in 14 CFR Part 137 knowledge and skills and those on how to properly set up agricultural aircraft to make on-target applications. The LMS will be used to ensure recurrent training on topics deemed to be critical for the safety and accuracy of aerial applications. Participants will be tested on the presented material to ensure learning retention.

C-PAASS certification will be on a calendar year basis. To remain certified, C-PAASS criteria will need to be renewed annually. There will be an initial annual cost of \$100 for certification in 2023.

C-PAASS certification is offered solely to individual ag pilots. That means agricultural pilots, both operator and non-operator, can become certified. The operation itself will not be certified but could advertise that all of its pilots are certified.

C-PAASS certified aerial applicators can use their certification status to inform regulatory officials and insurance agents and to market to their customers that they have undergone additional training and development to best ensure that they can provide high-quality service. This was the impetus for developing C-PAASS—to expand and gain recognition for maximizing professionalism by ultimately receiving additional benefits for being certified to possibly include insurance discounts and more flexibility pertaining to pesticide label language. For instance, some labels already require Operation S.A.F.E. participation to use. It's possible that in the future C-PAASS certified aerial applicators may be able to apply at lower spray application rates (GPA) or with reduced wind-directional buffer zone distances, etc.

Whatever additional benefits are bestowed upon C-PAASS ag aviators, the program will undoubtedly demonstrate agricultural aviation's professionalism and positive public image to our customers, regulators and the public we help feed, clothe and protect.

Ag Aviation Industry Mourns the Loss of Gavin Morse in Fourth Fatal Accident of 2022

NAAA members and staff mourn the loss of Washington state's Gavin Morse and express their sincere condolences and sympathies to his family and friends. Gavin was lost in an ag aviation accident in Adams County, Washington, on July 2. His service will be held July 16 at 2 p.m. PT at GEM Air Inc., located at 898 W. Lind-Warden Rd., Warden, WA 98857. There will be a catered dinner following the service. Please contact Anna Wells at (509) 398-5890 for more details, including those related to flying an aircraft to GEM Air and discounted hotel rates. Gavin's service will also be streamed live on GEM Air Inc.'s Facebook page at www.facebook.com/GemAirInc.

Gavin was a longtime member of the NAAA Board of Directors and former chair of its Communications Committee. Erin Morse, Gavin's wife, GEM Air partner and NAAA board member from Washington and Awards Committee chair, survives Gavin with their two young daughters. More details, including information about a memorial, will be made available soon. Please keep Gavin's family in your thoughts and prayers.

Field Study in Corn Reveals Need to Maintain Correct Height Above Canopy

A field study by Alan Corr from Agri-Spray Consulting, Ken Ferrie from Crop-Tech Consulting and Matt Gill from the University of Illinois at Urbana-Champaign examined deposition from aerial applications in a corn canopy. The flying was done by David Baurer with Palmer Flying Service in Manito, Illinois. The project was sponsored by Bayer Crop Science. The purpose of the study was to identify potential causes for some of the streaking seen in corn fungicide applications from the 2021 season.

Several treatments were examined with a single replication, including different nozzle setups and application heights. For each treatment, an AT-802 made two adjacent passes with a 90-foot swath width. Spray coverage was captured on white sampling cards located in the top, ear level and lower parts of the corn canopy. The corn was just entering the VT growth stage. Sampling began at the center of the first pass and went to the center of the second pass to see if canopy penetration and deposition were reduced in the zone of overlap between the two passes.

Data for all the treatments showed high variability across the 90-foot swath, which is to be expected for sampling at a 5-foot interval in a plant canopy where much of the spray is intercepted by plant tissue. The results do show that with flat fan nozzles and the aircraft operated with a boom height of around 12 to 15 feet above the canopy, there was no indication of a reduction in spray coverage and deposition in the zone of spray overlap between the two passes. This was true for all three sampling locations in the canopy: top, ear level and lower parts of the canopy.

Flying much lower, with the wheels almost in the canopy, appears to have caused a roughly 15-foot gap with reduced spray deposition in the zone of overlap between the two passes. This reduction was found at all three sampling heights in the canopy. This reinforces the fact that aerial applicators need to fly at an appropriate height for their aircraft. Flying too low prevents the spray pattern from developing to its full width. It can also greatly reduce uniformity within the pattern itself. If you have had your aircraft pattern-tested at an Operation S.A.F.E. fly-in, do not expect to fly it at a much lower height in the field and use the same swath width.

When switching to straight stream nozzles, there was a gap in deposition between the two passes. This gap is to be expected, however, as the same target swath width of 90 feet was used by the pilot. Based on the results of this study, a 75-foot swath width would have been more appropriate for these nozzles. Straight stream nozzles create a larger droplet size that typically results in an overall narrower spray pattern. This trend has also been seen at numerous Operation S.A.F.E. fly-ins. When switching nozzles from flat fans to straight streams, it is critical to understand that swath width will have to be reevaluated and likely reduced. Have your spray pattern analyzed at an Operation S.A.F.E. fly-in to determine its optimum swath width.

NAAA Ag Aviation Expo Attendee Registration Now Open; Booth Sales Open July 14

We look forward to seeing you at the 2022 NAAA Ag Aviation Expo in Knoxville, Tennessee, Dec 5-8, a new convention destination for the Ag Aviation Expo. [Attendee registration is open](#) for the NAAA Ag Aviation Expo.

Every pilot, operator, allied company, researcher, spouse, mixer/loader and office crew has contributed to the industry! It will be a week of fun, sun, education, networking and great food and drinks!

Booth Sales Open July 14: Review directions on the new booth sales system [here](#). The NAAA Trade Show will take place Dec. 6, 12 p.m.–5:30 p.m., and Dec. 7, 10 a.m.–4 p.m. Booth sales for 10'x10' and 10'x20' spaces will begin on Thursday, July 14, at 12 p.m. ET/11 a.m. CT. All details will be emailed to Allied members on Monday, July 11, and are posted [online](#). Large booth sales, which are 10' x 30'+ booth sizes, end on July 8; contact [Lindsay Barber](#) ASAP if your company requires a large booth space.

2022 Featured Highlights at the Ag Aviation Expo

- **Kickoff Breakfast speaker Captain Scott Kelly**, history-making NASA astronaut, the first to complete a year-in-space mission.
- The **NAAA General Session** will feature Dr. Stan Musick and the Farm Babe, Michelle Miller. This session will be full of valuable information, whether it's Dr. Musick's health and flight physical suggestions or Ms. Miller's suggestions to proselytize the benefits of pesticides societally.
- **Flying in the Wire and Obstruction Environment Course** – Attend the **Flying in the Wire and Obstruction Environment Course**, acclaimed by professional airplane and helicopter operators world-wide. It gives low-altitude aviators the essential skills needed to safely operate an aircraft in wire and obstruction environments. This course is for both aircraft and helicopter pilots. Learn how to identify signs of wires and why ag aviators hit wires they already knew were there. This course may very well save your life—**don't miss it**; registration and fee required.
- **NAAA Trade Show** – featuring vintage and modern aircraft and an expected 140+ exhibitors.
- Aerial Application Research Technology Session and more than a dozen **education sessions** where you can earn potential CEUs (CEUs will be available this fall).
- **Excellence in Ag Aviation Banquet** honoring individuals and companies in the aerial application industry. **Award Nominations** are due by Sept. 9.

Low-Time Pilot Registration Offer

If you are an ag pilot with less than five years of experience or you are interested in becoming an ag pilot, we are offering a special price to attend the NAAA Ag Aviation Expo for pilots like you. Further details are available [here](#) (*scroll down to the Low-Time Pilot Registration section*).

AXEing for PAASS

AXEing for PAASS is a fundraising event for NAAREF's PAASS program where axes are thrown by a participant at a giant dartboard-like target. Anyone can play and win! Join us for this friendly competition on Sunday, Dec. 4 at 7 p.m. This is a terrific social event with the added benefit of raising money for PAASS and the lifesaving, environmental stewardship benefits it provides. Teams are four people each and the **donation to participate** is \$110/per person. A cash bar will be available as well as light snacks (you can bring your own food; you cannot bring your own alcoholic beverages). Registration is required [here](#).

Details for the 2022 Ag Aviation Expo

- **Dates:** Dec. 5-8, 2022
- **Location:** Knoxville Convention Center
- **Kickoff Breakfast Speaker:** [Captain Scott Kelly](#), first astronaut to complete a year-in-space mission.
- **General Session Speakers:** [Dr. Stan Musick & Michelle Miller](#)
- **Schedule of Events:** See the current, tentative schedule [here](#).
- **Hotel:** Details [here](#).
- **Attendee Registration:** Now open!
- **Exhibitor Booth Sales:** Large booth sales end July 8. 10'x10' and 10'x20' booth sales open on July 14 at 12 p.m. ET. Please [email Lindsay Barber](#) if you would like to secure a large booth space.
- **Sponsorship Opportunities:** Sponsorships are now available. View the [opportunities here](#). Please [email Lindsay](#) if you would like to secure a sponsorship from last year or would like to be contacted about 2022 opportunities! We have sponsorships available for all budget sizes.
- **Auction Donations:** Thank you to Pratt & Whitney Canada for donating a PT6-34AG to this year's NAAA Live Auction. While we are still several months away from the Ag Aviation Expo, we are already accepting donations for the **Live and Silent Auction**. The earlier you inform us of your auction donation, the more advertising you will receive on the NAAA website and in NAAA publications. Support the aerial application industry by donating an item today. [Email Lindsay](#) with your donation details.

Operation S.A.F.E. Analyst Training August 2022 in Lonoke, Arkansas

WRK of Arkansas will be conducting an Operation S.A.F.E. analyst training course Aug. 22-26. The training will take place in Lonoke, Arkansas, with the classroom portion of the training conducted at WRK facilities at 153 92nd West Street, Lonoke, Arkansas. The first day, Aug. 22, will be the day for students to arrive and check in for training. Graduation will take place on the evening of Friday, Aug. 26.

This training will be appropriate for anyone wanting to become an Operation S.A.F.E. **analyst** or **technician**. It will also be a good refresher for anyone wanting an update on the latest analysis equipment and ag aviation research. If you need to be recertified as an

analyst or a technician, this training will also cover that. All graduates will have their names submitted to NAAREF for approval as either an analyst or a technician.

With **C-PAASS certification** beginning next year, the demand for Operation S.A.F.E. fly-ins is expected to increase dramatically. WRK's Operation S.A.F.E. analyst training is your opportunity to learn how to operate the flight line collection setup, the analysis equipment and software, and gain knowledge on how to interpret ag aircraft application patterns and make recommendations. More information on the training will be forthcoming. If you are interested in attending, contact Dennis Gardisser at (501) 676-1762 or dgardisser@wrkofar.com.

NAAA-NAAREF Board Meetings Oct.7-8 in Oklahoma City

The October 2022 NAAA & NAAREF Board and Committee meetings will take place in Oklahoma City, Oklahoma. [Click here](#) to view a schedule.

All meetings are open to NAAA members. If you are not a board or committee member but you're interested in attending, please contact [Lindsay Barber](#) for more details.

Hotel Details

Skirvin Hilton Oklahoma City
One Park Avenue
Oklahoma City, OK 73102
Hotel Phone: (405) 272-3040

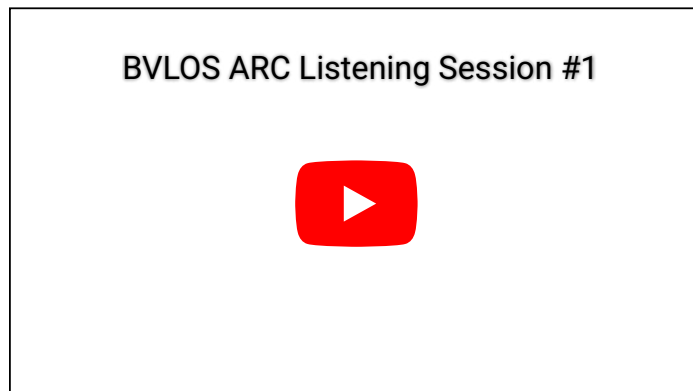
- **Reservations:** [Click here](#) or call 800-4HONORS and refer to NAAA/NAAREF committee meetings.
- **Room Rate:** \$149/night
- **Room Block Closes:** Sept. 10, 2022

NAAA Comments at FAA Public Meeting Opposing Drone Beyond Visual Line of Sight Aviation Rulemaking Committee's Recommendations Compromising Aviation Safety

On June 22 NAAA testified before an FAA public meeting on the FAA aviation rulemaking committee (ARC) proposing recommendations for drones to fly beyond visual line of sight (BVLOS) in the national airspace. NAAA CEO Andrew Moore registered opposition and detailed the serious aviation safety risks posed by recommendations in the ARC's report, such as allowing BVLOS drones, in certain circumstances, to fly in the same airspace as manned ag aircraft without providing right of way or equipping them with ADS-B avoidance technology.

Moore began his comments by underscoring the importance of the U.S. aerial application industry, stating that the industry treats "nearly one-third, or 127 million acres of U.S. cropland each year." He also underscored the industry's value by stating, "The amount of cropland needed to replace the yield lost if aerial application was not available for just corn, wheat, soybean, cotton and rice crops alone is 27.4 million acres—roughly the size of Tennessee. The value of the U.S. aerial application industry for just those five crops is estimated to be \$37 billion. This figure is expected to grow substantially and in importance as food prices increase and food production becomes an issue of growing importance due to the Russian invasion of Ukraine, and growing supply and demand due to our growing global population."

To see and listen to the complete FAA public meeting, click [here](#). Moore's testimony may be found at the 7:44 through 13:20-minute mark and is queued up in the video below.



NAAA submitted more detailed comments on its opposition to the UAS BVLOS ARC into the public record and in a letter to FAA Acting Administrator Nolen last month. Click [here](#) for more information about the detailed letter. Four out of six commenters in the public meeting opposed the ARC's recommendations. The two in support were representatives of drone organizations.

Wilbur-Ellis Partners with Guardian Agriculture in Multimillion-Dollar Agreement to Bring Autonomous Aerial Application to U.S. Farmers

Guardian Agriculture's eVTOL aircraft will be first commercialized with Wilbur-Ellis.

Wilbur-Ellis Company has entered a multimillion-dollar partnership with Guardian Agriculture to bring autonomous aerial application to American farmers. Financial terms were not disclosed, but Wilbur-Ellis President and CEO John Buckley described the company's deal with Guardian Agriculture as "the largest commercial commitment to agriculture robotics to date."

Wilbur-Ellis's application business currently covers approximately 5 million acres annually. The company stated that Guardian Ag's fully electric vertical takeoff and landing (eVTOL) systems will support Wilbur-Ellis's aerial operations business throughout its large share of the aerial application market by adding eVTOL aircraft to its current helicopter and fixed-wing fleets.

Wilbur-Ellis said the partnership will allow its customers to access Guardian Ag's fully autonomous aerial application aircraft system before anyone else. Guardian Ag says its eVTOL aircraft system can safely and securely deliver precision application of crop protection in a timely and cost-effective manner. According to the company, the autonomous aircraft can carry multi-hundred-pound payloads, apply a wide range of application spray volumes and cover 40 acres per hour of full-field crop protection.

"This is the first new aerial technology to make a material impact on American farms," said Mike Wilbur, CEO of Cavallo Ventures at Wilbur-Ellis. "We believe it can be profitably and rapidly deployed and are looking forward to working with Guardian Ag to roll out their technology to our customers and partners."

Guardian's eVTOL system has four 6-foot propellers and an overall 15-foot aircraft width. Designed and manufactured in the U.S. and combining an autonomous aircraft, a ground station supercharger and software generating domestically stored data, the eVTOL systems use industry-standard nozzles, pressure, droplet sizes and application volumes to deliver on-target applications to fields.

With in-flight monitoring, measurement and data collection capabilities, application variables are collected in real-time, including wind speed, temperature, obstructions and more. Coupled with pre-planned flight plans, designated spray boundaries and spray rates, Guardian says its eVTOL systems will significantly reduce application errors by providing superior spray quality with reduced environmental and economic risk impacts. Additionally, eVTOL systems are 100 percent electric and capable of reducing emissions exponentially compared to traditional application methods.

"We are excited to make an early investment in this technology ... and we're even more excited to partner with Guardian to commercialize it and bring it to our customers," John Kuhn, director of business development at Wilbur-Ellis, said.

Both companies have worked together over the last year to commercialize and bring American growers advanced technology that will have immediate positive impacts on their business.

Guardian's regulatory approval process is well underway, with commercialization and availability to growers occurring in 2023.

The Salinas Valley of California is being eyed for the potential first deployment of the eVTOL aircraft in 2023. "When we get the product in our hands, we're going to use them on the more risky, hard-to-apply and sensitive areas in the Salinas Valley," said Willie Negroni, director of sales at Wilbur-Ellis Agribusiness.

For larger areas, Wilbur-Ellis plans to have multiple eVTOL machines on a trailer to cover a field.

NAAA Fights to Keep Dry Formulations of Pesticides for Aerial Applicators Without Unnecessary and Burdensome Restrictions

NAAA commented in late June on the proposed interim decisions (PID) for three pesticides: captan, folpet and propiconazole. A PID is the second step in the pesticide registration review process, preceded by risk assessments and followed by the final interim decision and then an endangered species review.

The PIDs for captan and folpet were similar in that the EPA concluded mixing and loading dry formulations for aerial applications presented a risk of concern because of inhalation exposure. Initial exposure estimates for mixers and loaders are the same across all application methods, but they get multiplied by an estimated number of acres treated daily for each method. Because aerial application can treat far more acres daily than other application methods, the EPA assumes it is more likely for aerial application mixers and loaders to have greater exposure risks.

In the case of captan, the EPA proposed allowing only liquid formulations for aerial applications. NAAA countered by suggesting that while liquid formulations are more common, dry formulations may be the only thing available during certain busy parts of the season. To keep dry formulations available for aerial applications, NAAA proposed limiting the maximum daily acres and maximum application rate for aerial applications of dry captan formulations, as well as maximum PPE requirements for mixers and loaders.

Folpet is only available as dry formulations and can only be applied by aerial application on avocados. Like the argument NAAA made for captan, the comments to the EPA focused on limiting the maximum acres of avocados treated daily. The risk assessments completed by

the EPA assumed 350 acres treated daily, which is much more than the average size of avocado farms, so restricting the daily acreage would have no real impact on applications treating a single avocado farm in a day and would lower the modeled risk of concern for mixers and loaders to a level acceptable to the EPA.

The PID for propiconazole retained aerial application on the label and included drift mitigation language acceptable to the aerial application industry. It allows aerial applications in winds up to 15 mph, requiring a boom shortened to 65% of wingspan or 75% of rotor diameter for helicopters when wind speeds are above 10 mph. A medium or larger droplet spectrum is required, and applications during inversions are prohibited. These proposed drift mitigations have been seen on many PIDs over the last several years. NAAA commented to the EPA that we agreed with the PID.

NAAA continues to monitor the EPA's pesticide registration review docket and comment as necessary to ensure aerial application remains on the label.

NAAA Again Successful in Securing Congressional Support for Funding Federal Aerial Application Technology Research

Through efforts on Capitol Hill, NAAA has succeeded again in getting supportive language for USDA-ARS aerial application technology research in the House Committee on Appropriations Fiscal Year 2023 Agricultural Appropriations Spending Bill Committee Report. The language indicates Congress's continued support of the USDA-ARS Aerial Application Technology Research Unit (AATRU) Program. NAAA has secured \$11,912,500 in aerial application research funding since 2002. The language in the Committee Report reads:

Aerial Application.—The Committee recognizes the importance of aerial application to control crop pests and diseases and to fertilize and seed crops and forests. Aerial application is useful not only to ensure overall food safety and food security, but also to promote public health through improved mosquito control and public health application techniques. The Committee urges ARS to prioritize research focused on optimizing aerial spray technologies for on-target deposition and drift mitigation, and to work cooperatively with the Environmental Protection Agency to update their pesticide review methodology.

The report language supporting aerial application research may also be found on pg. 14 of the full [House Appropriations Committee report](#).

The full U.S. House of Representatives and U.S. Senate must pass their 2023 ag appropriation bills and reconcile them for signature by President Biden to finalize this process. This will likely happen later this year. Having this language included early in the process is a positive step to ensuring continued support for the AATRU program and will help to have the language included in the Senate appropriations process.

NAAA will continue to work for adequate federal aerial application technology research funding for the continued design of aerial application technologies, tools and techniques that mitigate drift, result in fuel savings and make aerial applications more efficacious. This favorable Committee report language sends a strong message to the USDA to continue to sustain appropriate funding for aerial application research.

NAAA Presents at Endangered Species and Pesticide Modeling Meeting

NAAA's director of safety & education, Dr. Scott Bretthauer, presented at a virtual Environmental Modeling Public Meeting (EMPM) on June 23. The focus of the EMPM was mitigation strategies for protecting endangered species from pesticides and was held to engage stakeholders on the EPA's recent [endangered species work plan](#). The EPA accepted presentations dealing with practical measures to reduce the impact of pesticides, labeled mitigations to reduce drift, and how to model these mitigation options to demonstrate their impact on protecting endangered species. Other presenters included pesticide registrants, environmental activist groups, environmental modeling firms and government agencies.

Dr. Bretthauer focused his presentation on NAAA's [2020 proposal](#) to the EPA recommending that the agency update the AgDRIFT model used to estimate the risk of drift from aerial applications. The EPA currently uses the simplified Tier 1 model, which uses outdated assumptions about how aerial applications are made. NAAA recommends the EPA use the Tier 3 model in AgDRIFT with more realistic and label-enforceable assumptions. This fit the focus of the environmental modeling meeting perfectly, as NAAA's proposal contains both label-enforceable mitigation strategies and suggestions on how to include them in the modeling the EPA uses for endangered species and other risk assessments.

NAAA's comments also brought up another important subject that will protect endangered species from pesticide drift and allow every acre of farmland to be fully utilized—wind directional buffers. NAAA has been actively promoting to the EPA and the U.S. Fish and Wildlife Service that because drift can't move upwind and aerial applicators can monitor wind speed and direction throughout an application, buffer zones to protect endangered species should be based on wind direction instead of being mandatory no matter which direction the wind is blowing. A copy of NAAA's EMPM presentation can be seen [here](#).

NAAA & Air Tractor to Exhibit at AirVenture 2022 in Oshkosh, Wisconsin; Industry Forum July 25 at 10 a.m.

After five successful appearances at EAA's AirVenture from 2016 to 2019 and in 2021, NAAA will once again exhibit at AirVenture in Oshkosh, Wisconsin, July 25-31 to showcase the aerial application industry and wrap up the industry's 100th anniversary celebration.

NAAA has partnered with Air Tractor for this year's exhibit, and the company will provide an aircraft for the booth. NAAA staff and volunteers will be on hand throughout the week to speak with attendees who want to learn more about ag aviation.

NAAA will again host an information forum about the aerial application industry where we will discuss the industry and how to become an ag pilot on Monday, July 25, at 10 a.m. at Forum Stage 2.

Presenting to the attendees of AirVenture is a wonderful way to educate adults and children about the importance of our industry in producing a safe, affordable and abundant supply of food, fiber and bioenergy, in addition to protecting forestry and controlling health-threatening pests. The representation by our industry at AirVenture is a move in the right direction to bring positive awareness about aerial application to the general public.

AirVenture Oshkosh, which is organized by the Experimental Aircraft Association (EAA) each summer at Wittman Regional Airport, is a weeklong celebration of aviation. NAAA exhibits at AirVenture to bring more awareness to careers in the aerial application industry because the weeklong show is flooded with aviation enthusiasts, aviation media, military personnel and young aviators looking for new opportunities. AirVenture is the largest airshow in the United States. AirVenture 2021 attendance was approximately 608,000 attendees, which is only the third time in the event's history to reach an attendance of more than 600,000. NAAA's presence at AirVenture helps our industry recruit potential ag pilots.

July is a very busy time of year for ag pilots; however, we know some operators and pilots visit AirVenture. Some even exhibit their own aircraft. Many NAAA Allied members also exhibit each year, and we encourage you to visit with them if you are on-site. If you will be at AirVenture, visit us in booths 446/457 in the [main aircraft display area](#) near the traffic control tower. If you are exhibiting, [let us know where you'll be!](#)

Are you looking for a way to spread the good word about aerial application and share our industry with your community? Check out NAAA's brochure that talks about the positives of aerial application, "[Flying for Your Food.](#)" And don't forget to use [NAAA's Media Relations Kit](#) when speaking on behalf of the industry.

Stay tuned to the AirVenture excitement on NAAA's [Facebook](#), [Twitter](#) and [Instagram](#) pages for updates and to view photos while NAAA staff members are on-site at AirVenture.

FAA Considering Issuing AD for STC Airplanes with TPE331 Engines

The FAA is considering issuing an AD applicable to STC airplanes equipped with Honeywell TPE331 series turboprop engines with a propeller pitch control (PPC) lever interface to the airplane control system for the engine. The TPE331 series engines have a known airworthiness concern in which the propeller pitch control lever can loosen and detach in flight, causing a loss of engine control.

The AD would follow [SAIB NE-16-18](#). Honeywell issued a [letter](#) detailing how to install a secondary retention feature to prevent the PPC lever's detachment (*see photo below*). The FAA recommends that all STC holders affected by SAID NE-16-18 incorporate this retention feature. According to the FAA, attaching the Honeywell letter to the engine and airplane manuals after completing the work will constitute compliance with continued airworthiness.

NAAA previously reported on this issue in [October 2021](#) when the FAA issued an airworthiness concern sheet for G-164 aircraft that have a TPE331 series engine installed. Specific details for G-164 aircraft are available in the [Airworthiness Concern Sheet \(ACS\)](#).

FAA Airworthiness Directive Adopted on Walter/GE M601 D-11 Engines

The FAA is adopting a new airworthiness directive (AD) for all GE Aviation Czech M601D-11 model turboprop engines. This AD was prompted by the manufacturer revising the airworthiness limitations section (ALS) of the existing engine maintenance manual (EMM) to include a visual inspection of the centrifugal compressor case for cracks (*see Figure 1 below*). This AD may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance. Action is required within 90 days after the effective date of the AD, which is Aug. 1, 2022.

The complete AD is available [here](#). NAAA reported on this as a proposed AD in the [April 21, 2022 eNewsletter](#).

Join the Conversation: CropLife America Hosting Pesticide Discussion Training Summit Aug. 1-4

Registration for CropLife America's second session of "The Pesticide Discussion," Aug. 1-4 in Chicago, is [open](#). Join CropLife America's communications team and guest speakers for an immersive and interactive summit designed to help train you on teaching others how to confidently and effectively talk about pesticides.

The Pesticide Discussion training summit takes place at the Westin Chicago River North, beginning with registration and check-in 4-6 p.m. Aug. 1. Training starts Tuesday morning, Aug. 2. The hotel room block cutoff date is July 11.

CropLife America held its first-ever session of The Pesticide Discussion training summit earlier this year. For more information about the Aug. 1-4 event, visit www.thepesticidediscussion.org/trainthetrainer.

14 CFR Part 137 Operations Are Not Subject to OpSpecs

NAAA is once again hearing reports of operators being contacted by FAA inspectors demanding they fulfill various requirements related to 14 CFR Part 119 for operations specifications (OpSpecs). NAAA is aware of the issue and has been in contact with the FAA, which is currently working on a fix for the problem. Below are a few key reminders if the FAA contacts you making requests not backed up by the FARs. For a full description of the issue, please read this [article from the Winter 2020 issue](#) of *Agricultural Aviation*.

- There are no OpSpecs for 14 CFR Part 137 operations.
- A Letter of Authorization (LOA) for Part 137 operations is not required by 14 CFR Part 137 either.
- It is requested in the spirit of cooperation for national security reasons that Part 137 operations complete an A003 LOA to facilitate tracking the nations agricultural aircraft fleet (response to 9/11 terrorist attacks).
- Part 137 operations are not required to have new aircraft or aircraft brought in from other operations to help during a pest outbreak inspected before putting them on an A003 form or putting them into service.
- If you have an aircraft you need to use for work but are being told by an inspector you can't fly it or add it to your A003 form until it has been inspected, do not wait. Inform the inspector of their error using these points and the article and fly the aircraft.
- Part 137 operations do not have to provide a copy of any aircraft lease to an inspector.

NAAA will inform members when the FAA has updated its guidance to deal with this confusion. If you are having trouble with your local FSDO, please contact [Scott Bretthauer](#), who can assist with contacting FAA headquarters to clear up the situation.

AD Issued for PT6A-34, -34B, -34AG, -114 and -114A Turboprop Engines with Specific CT Vanes and Blades

In April, the FAA issued an awaited airworthiness directive (AD) on Pratt & Whitney Canada Corp. PT6A-34, -34B, -34AG, -114 and -114A model turboprop engines. It was prompted by several reports of low-time fractures of compressor turbine (CT) blades causing loss of power or in-flight shutdown of the engine.

AD 2022-08-13 requires the following actions to be taken within 250 flight hours or 270 days after the effective date of May 27, 2022, whichever occurs first:

- Remove from service any CT vane, part number (P/N) 3029051, 3032151 or 3123001, repaired in accordance with Southwest Turbine Inc. (STI) Repair Specification STI 72-50-254 (STI 72-50-254) and replace with a non-STI 72-50-254 repaired CT vane.
- Remove from service any CMSX-6 CT blade that has been operated on an affected engine with any CT vane repaired in accordance with STI 72-50-254.

The complete AD is available [here](#). The FAA initially proposed it in August 2020. The FAA estimates that AD 2022-08-03 impacts 907 engines installed on airplanes of U.S. registry. The agency estimates that 63 engines will need to replace the CT vanes and CT blades.

Guidance from Covington Aircraft on AD 2022-08-13

The following information has been provided by Covington Aircraft Engines' Robert Craymer and Fletcher Sharp.

Robert Craymer
robertc@covingtonaircraft.com
(662) 910-9899

Fletcher Sharp
fletchers@covingtonaircraft.com
(214) 766-1212

Compressor turbine vane rings (CTVR) that are affected by the AD: Part numbers 3029051, 3032151 and 3123001 that have been repaired in accordance with repair process STI 72-50-254. **This is a specific repair process performed by Southwest Turbine Inc. Part number vanes repaired by specific repair STI 72-50-254 are the only ones affected by this AD.**

To determine if your engine is affected:

Review your engine logbooks. There should be entries for hot section inspections and/or CT vane replacement. One may also have 8130-3 forms from the CTVRs that have been installed. If you find any of the above-mentioned CTVR part numbers that have been repaired in accordance with the referenced repair process, then your engine is affected. In addition, if your engine has CMSX-6 blades (single crystal blades), then the blades will require replacement.

If you know a vane replacement has occurred but the logbook doesn't contain complete data or an 8130-3 to identify the CTVR or how it was repaired, the only way to verify if your CTVR is affected is to split the engine and complete a review of the CTVR. You can also

contact your local mechanic who performed your last hot section, as they may have records from their work order.

Keep in mind that when a CTVR is changed, it must be done in accordance with the information in the engine maintenance manual. One must replace the CTVR with a like flow class CTVR to avoid having performance issues upon reassembly.

There is no Alternate Means of Compliance (AMOC). The only "fix" is to remove any CTVRs that were repaired to the process mentioned in the AD note by STI and install a compliant CTVR.

Additional information from Robert Craymer on addressing AD-2022-08-13 is available in *AgAir Update's* June 2022 issue at tiny.cc/Craymers-counsel.

Seek 'Ag Wings of Tomorrow' Scholarship by Aug. 31

From seeking a mentor to finding the funds for training, the road to becoming an ag pilot is fraught with obstacles, but having \$5,000 in seed money certainly helps. Thanks to the generous support of BASF and Thrush Aircraft, \$20,000 in aid is available through the **2022 NAAA "Ag Wings of Tomorrow" Scholarship Program** to assist four aspiring ag pilots in their journey.

The goal of NAAA's "Ag Wings of Tomorrow" Scholarship Program is to strengthen the aerial application industry by helping operator members bring new pilots into the profession and help fund their training. Applicants must be sponsored by an NAAA Operator member. Scholarship recipients may use the proceeds for flight training or aviation or ag-related coursework at a university, college, community college or other institution of higher learning. A stipend for a trainee in an NAAA Operator-sponsored apprentice program is also permissible. The scholarship program is administered by NAAA and funded by educational grants from BASF and Thrush.

This year, NAAA will award up to four scholarships valued at \$5,000 each. Investing in aspiring ag aviators is a win-win for NAAA Operator members and individuals seeking training funds to support their pursuit of becoming a professional ag pilot.

How to Apply

To be considered for the 2022 scholarship, along with completing the two-part application, every applicant must submit:

- **A letter of recommendation** from the NAAA Operator member sponsoring the applicant.
- **An essay of 250 words or less** explaining why the applicant wants to pursue a career in agricultural aviation and how they would use NAAA's "Ag Wings of Tomorrow" Scholarship to further their education and training.
- **A one-page résumé or list of activities** detailing all agricultural and aviation experiences, education and training.

Pictured above from left to right, last year NAAA awarded \$5,000 scholarships to Thomas Wiltz of Lafayette, Louisiana; Kolby Pfyl of Orland, California; Weston Meise of Moses Lake, Washington; and Autumn Smith of Cozad, Nebraska. NAAA will announce the recipients of the 2022 "Ag Wings of Tomorrow" Scholarships in December at the Ag Aviation Expo in Knoxville, Tennessee.

To learn more about the 2022 NAAA "Ag Wings of Tomorrow" Scholarship, review the instructions included with the **2022 application**. The scholarship application can also be found at AgAviation.org/scholarship. Please contact NAAA at (202) 546-5722 or information@agaviation.org for clarification about any of the application requirements.

While the applicant must be sponsored by an NAAA Operator member, NAAA membership is not a prerequisite for applying for the scholarship. Still, becoming an **NAAA Associate member** is an excellent way for candidates to learn more about the industry and augment their training.

The deadline to apply for the 2022 "Ag Wings of Tomorrow" Scholarship is Aug. 31.

2022 Support Scholarship Contest Entries Due Sept. 15

Attention, higher-education students: Don't pass up the opportunity to vie for a combined \$3,000 in educational scholarships. NAAA is accepting submissions for the **2022 Support Scholarship Media Contest** through Sept. 15. Prizes include a \$2,000 scholarship from the NAAA Support Committee and a \$1,000 scholarship, courtesy of Covington Aircraft.

As it was in 2021, the theme for this year's contest is **"What role does ag aviation play in producing a local commodity?"**

The 2022 Support Scholarship Media Contest is open to any individual who is sponsored by an NAAA member. The scholarship is not restricted to individuals pursuing a "flying career" and can be used toward any educational pursuit beyond high school (at any age).

Entrants must be a senior in high school or registered in higher education by the fall semester of 2022. Previous winners are not eligible to compete. Contestants have the choice of submitting an essay of at least 1,500 words or a video or PowerPoint presentation at least five minutes long.

Submissions should be sent as an email attachment by Sept. 15 to information@agaviation.org. More information about eligibility requirements, contest guidelines and sample essays from past scholarship recipients are available [here](#).

Exhibitor Details for the 2022 Ag Aviation Expo: Booth Sales Open July 14

Join us for the 2022 Ag Aviation Expo in the **new location** of Knoxville, Tennessee, Dec. 5-8. NAAA Expo attendees and exhibitors will take over several hotels and the convention center in thriving downtown Knoxville, which is full of restaurants featuring great southern cuisine, fun bars and unique shops. Knoxville is also a short drive to the Great Smoky Mountains, which offer excellent **pre and post**-Ag Aviation Expo trip ideas.

Because Knoxville is a day's drive for more than half of the U.S., we're expecting a large crowd at this year's Ag Aviation Expo. Exhibiting allows you to get your company, product/service and brand in front of an expected 1,500 attendees. We hope to see you and your company in Knoxville!

The NAAA Trade Show will take place Dec. 6, 12 p.m.–5:30 p.m. and Dec. 7, 10 a.m.–4 p.m. Review the [NAAA Exhibitor Prospectus](#) and [exhibitor webpage](#) for further details, pricing and dates. Click here for a full [schedule of events](#).

Booth Sales for Aircraft & Large Booth Space Now Open: If you plan to bring an aircraft, need a 20'x20'+ island booth, a 10'x30'+ inline booth or plan to be a Diamond or Platinum Sponsor, please contact [Lindsay Barber](#) ASAP to ensure the best placement on the trade show floor.

10'x10' and 10'x20' Booth Space: Booth sales for 10'x10' and 10'x20' spaces will begin on Thursday, July 14, at 12 p.m. ET/11 a.m. CT. All details will be emailed to Allied members and posted [online](#).

Details for the 2022 Ag Aviation Expo

- **Dates:** Dec. 5-8, 2022
- **Location:** Knoxville Convention Center
- **Kickoff Breakfast Speaker:** [Captain Scott Kelly](#), first astronaut to complete year-in-space mission.
- **General Session Speakers:** [Dr. Stan Musick & Michelle Miller](#)
- **Schedule of Events:** See the current, tentative schedule [here](#).
- **Hotel:** Details [here](#).
- **Attendee Registration:** Opens July 1.
- **Exhibitor Booth Sales:** Large booth sales open. 10'x10' and 10'x20' booth sales open on July 14. Please [email Lindsay Barber](#) if you would like to secure a large booth space.
- **Sponsorship Opportunities:** Sponsorships are now available. View the [opportunities online](#). Please [email Lindsay](#) if you would like to secure a sponsorship from last year or would like to be contacted about 2022 opportunities! We have sponsorships available for all budget sizes.
- **Auction Donations:** **Thank you to Pratt & Whitney Canada for donating a PT6-34AG to this year's NAAA Live Auction.** While we are still several months away from the Ag Aviation Expo, we are already accepting donations for the [Live and Silent Auction](#). The earlier you inform us of your auction donation, the more advertising you will receive on the NAAA website and in NAAA publications. Support the aerial application industry by donating an item today. [Email Lindsay](#) with your donation details.

FAA's GA Survey for 2021 Coming to a Close

The FAA's annual General Aviation and Part 135 Activity Survey (GA Survey) is coming to an end. There are still a couple of weeks left to participate, so if you received the invitation but haven't completed it yet, now is the time.

The GA Survey is for reporting on activity for the calendar year 2021 and is the only source of information available that provides reliable data on the GA fleet, including the number of aircraft and hours flown. The GA Survey is especially important to the agricultural aviation industry. NAAA uses the results to calculate an overall accident rate and a fatal accident rate for Part 137 operations.

Participation in the GA Survey is voluntary, but the agricultural aviation industry needs your input. If you are selected to participate in the GA Survey, you will receive an email or postcard invitation asking you to complete the survey online. It only takes 10 to 15 minutes to complete the survey and the information is confidential.

If you have questions, please contact Tetra Tech, the independent research firm that conducts the GA Survey for the FAA, toll-free at 1-800-826-1797 or by email at infoaviationsurvey@tetratech.com.

If you have three or more aircraft, you can contact Tetra Tech to get the shorter form.

We All Have a Telling History: Use Yours and NAAA's Materials to Broadly Communicate Agricultural Aviation's

By Andrew Moore, NAAA CEO

If you are an active citizen in the world of aerial application, don't be a static audience member during this epic centennial event. Take the stage with us and bring out your inner thespian as we enunciate the gospel of agricultural aviation to the public.

History is not just documenting famous or infamous people, times and events. We all have a history—a story to tell about ourselves that can contribute to the next and future generations' betterment. One could also believe that sharing our history is one of the meanings of life—to improve and evolve our world by sharing the key to living a good life and sharing the hazards and obstacles that may hinder such living.

NAAA has reached the climax in the centennial epic of sharing our industry's history to the public, which of course was Aug. 3, 2021. But just because the official 100th anniversary date is behind us doesn't mean all efforts to share the importance of our industry to the public have passed you by. We are celebrating the centennial of agricultural aviation for an entire year. We continue to reach out to policymakers, our brethren in the fields of agriculture and aviation, to the trade press, to the public and to the national news media. We continue to share our history of improving the cultivation of food, fiber and bioenergy consumed globally and how we've learned from harrowing experiences and evolved technologically to fine-tune our craft, use less product to cover more acres and better care for Mother Earth. We are continuing to use all types of media to educate the public—three different length video documentaries, a comprehensive book of our history, social, print, trade and news media releases and a special website, AgAviation100.com, to share the 10-decade story of ag aviation and we will continue to do so through July of 2022.

If you are an active citizen in the world of aerial application—whether an operator, pilot, crew member, service-parts-equipment provider or related tangentially to the industry in another way—don't be a static audience member during this epic, year-long centennial event. Take the stage with us as we enunciate the gospel of agricultural aviation to the public. Inform your local television stations, newspapers and radio stations about the industry's 100th anniversary, even if it is by simply directing them to AgAviation100.com. On that site, there is a "Get Involved" tab with a draft press release about the 100th that discusses the importance of the industry, its progressive evolution, and directs readers to AgAviation100.com to learn more. Feel free to cater that press release to your own operation and experience and send it to your local news outlets.

You can also brush up on the ag aviation script about the importance of ag aviation, environmental safeguards that are common practice today and other industry talking points on NAAA's media relations kit webpage that may be found [here](#).

The media relations kit also includes suggestions on how to best communicate to the media and public when espousing ag aviation's significance. If you don't feel comfortable communicating directly, no worries. NAAA staff and an assortment of ag aviation ambassadors can be used as understudies and take over that role, but do make sure the public and news media in your area are informed of our centennial milestone to maximize the value of this pivotal once-in-a-lifetime event.

Don't forget, we all have a great story to tell about this industry. Whether it is how one got into the industry; the training to fine-tune ag aircraft and the application equipment; how ag aviation provides to local employment and the local economy; or how after five generations, our technology and experience are such that we produce more per acre, showing that our care for the environment continues to progress—all of these anecdotes are both important and fascinating to public audiences.

It's up to us all to tell the story to continue this industry's remarkable legacy. And again, just because the official anniversary date has occurred, our centennial lasts a year and you can still contribute plenty. Please join the ag aviation cast for this once-in-a-100-year performance that is leading to glowing public reviews and will continue to do so throughout the year.

NAAA Releases Book of the Century! Buy It Today

NAAA has released the book of the century—a century of agricultural aviation, that is.

One hundred years ago, an aerial crop dusting experiment spawned the birth of the agricultural aviation industry. To commemorate agricultural aviation's 100th anniversary, NAAA is pleased to present *Agriculture's Air Force: 100 Years of Aerial Application*.

Agriculture's Air Force provides a new, updated account of aerial application's history, 35 years after Mabry Anderson's masterpiece, *Low & Slow: An Insider's History of Agricultural Aviation*, was published. NAAA's meticulously sourced book is based on a collective history of the agricultural aviation industry based on material from *Agricultural Aviation* magazine, *AgAir Update*, *Low & Slow* and other resources.

Beginning with *Agricultural Aviation's Spring 2021 issue*, NAAA published excerpts from *Agriculture's Air Force* and continued to do so through the *Fall 2021 issue*. Those stories are just a small slice of what's in the 268-page hardback edition, however. The complete book contains so much more.

Agriculture's Air Force delves into the intersection of agriculture and aviation. It chronicles the agricultural aviation industry's growth from its infancy in 1921 through the boom times after World War II and on to today's modern era of high-tech aerial application.

The finished hardback book has been years in the making but well worth the effort. "This is a significant piece of work covering not just the industry's history, but its essence," NAAA CEO Andrew Moore said. "We are proud of it and believe it will make a lasting contribution to the industry."

The story of agricultural aviation is much like the broader story of aviation: It is mostly punctuated with interesting smaller moments

sandwiched between milestone developments. Aerial application is also the story of technological leaps and bounds.

Agriculture's Air Force covers five eras spanning more than 10 decades. In addition, it features 34 Spotlight pieces focused on significant individuals, organizations, trends, technologies and topics related to aerial application.

Agriculture's Air Force: 100 Years of Aerial Application may well be NAAA's most enduring 100th anniversary initiative. One thing's for sure: It is no textbook. The commemorative book is written from a fresh perspective that is entertaining and enlightening. Readers will come away with a new appreciation for agricultural aviation as a profession and the dedicated individuals who propel it forward.

Order Your Copy of Agriculture's Air Force Today!

Agriculture's Air Force retails for \$45, excluding shipping. Order it from [AgAir Update's Online Store](#).