June 30, 2022

NAAA eNewsletter

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

Last week 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

Last week NAAA commented 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.

NPDES PGP Litigation Surfaces in Federal Appeals Court

Litigation over the EPA's NPDES Pesticide General Permit (PGP) has surfaced in California. The Center for Biological Diversity (CBD) filed a lawsuit against the EPA (No. 21-71306) with the U.S. Court of Appeals for the 9th Circuit last October. The CBD is raising unspecified violations of the Clean Water Act and the EPA's failure to properly consult with other federal agencies enforcing the Endangered Species Act. The 9th Circuit directed the parties to explore mediation. The appeals court also established a briefing schedule and agreed to pause scheduling a court date until July 29 while the parties worked with a mediator. A status report was due June 13 to the mediator but has not been entered in court.

This lawsuit would only affect the federal PGP administered by the EPA in Massachusetts, New Hampshire, New Mexico, the District of Columbia and U.S. territories (except the Virgin Islands) and on certain federal facilities and tribal lands. It does not affect state-issued PGPs.

NAAA has advocated for legislation amending the Clean Water Act to not require pesticides approved for water safety under the Federal Insecticide, Fungicide and Rodenticide Act from complying with NPDES permits due to its duplicative nature. With the farm bill expiring next year, NAAA will advocate for such legislation again.

NAAA will report on further developments as they occur.

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**.

C-PAASS: 2023 Coming Soon

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.

Thrush Aircraft Announces Certification of New Aircraft Model and Corresponding Production Expansion

On June 8, the Federal Aviation Administration (FAA) granted **Thrush Aircraft LLC** a Type Certificate for its newest aircraft model, the 510P2+, powered by a PT6-140AG engine and a 4-blade Hartzell propeller. The 510P2+ is the first of four certification programs the aerial application aircraft manufacturer has launched for two engine and airframe configurations.

The certification programs will combine Thrush's best 500-gallon airframe with additional engine options from Pratt and Whitney Canada (PT6-34AG and PT6- 140AG) to create its new 510P2 and 510P2+ aircraft models. Both engines integrate with single- and dual-cockpit versions of the airframe, which historically has been used for Thrush's 510G model.

Thrush expects its other three configurations to receive certification later this summer. The manufacturer currently has orders for 510P2 and 510P2+ models to be delivered to eight countries. Performance data will be published on both models in June and July.

Thrush has already established its new production line. By the time the first two type certificates are awarded, it expects to have 12 aircraft completed and ready for delivery (about half -140 powered, half -34 powered). The company plans to hire more than 125 people over the next 12 months to grow its production capacity to meet the increased market demand.

Thrush will continue to build and deliver the 710P aircraft, as the certification program does not affect that production line.

"The new P2 and P2+ deliver increased performance, productivity and reliability to our customers," Mark McDonald, Thrush Aircraft's CEO, said. "We are continuing to invest in our production capacity to meet the growing demand for our products and services, and we are grateful for the positive initial feedback and the significant preorders from the marketplace."

NAAA congratulates Thrush Aircraft for bringing its new 510P2+ model to fruition.

Interim Airworthiness Directive Issued for Robinson Helicopter R22 and R44

The FAA is adopting a new airworthiness directive (AD) for certain Robinson Helicopter Company Model R22 BETA, R44 and R44 II helicopters. This AD requires inspecting the engine RPM sensor wiring and installing a wiring kit. Even though this is considered an interim AD with the FAA still accepting comments, it still goes into effect within 15 hours time-in-service or 15 days after the effective date of June 29, 2022.

The AD requires inspecting the engine RPM sensor wiring for damage and, depending on the outcome, accomplishing repairs. This AD also requires modifying the governor wiring connection to the airframe harness by installing wiring kit KI-288 for Model R22 BETA helicopters and wiring kit KI-287 for Model R44 and R44 II helicopters. These inspections and repairs are also addressed in Robinson Helicopter Company R22 Service Bulletin SB-119 and Robinson Helicopter Company R44 Service Bulletin SB-111.

The complete AD is available **here**. To submit comments, follow the links in the AD or click **here**. Comments must be received by July 29.

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.

Ag Aviation Expo Sponsorships Available—Boost Your Company's Brand!

Join us for the **2022 Ag Aviation Expo** in Knoxville, Tennessee, Dec. 5-8. Sponsorship sales are open for this year's convention, where we're expecting a large crowd at this new Ag Aviation Expo location. Branding at the Ag Aviation Expo is a great opportunity to get your message in front of the agricultural aviation industry and reach a targeted and nationwide audience of aerial applicators in North America —an audience responsible for applying 28% of crop protection products to commercial cropland in the U.S.

Take advantage of **getting your company name** in front of the expected 1,500+ operators, ag pilots and other attendees directly related to the agricultural aviation industry through an Ag Aviation Expo sponsorship.

Six reasons why you should be a sponsor at the 2022 NAAA Ag Aviation Expo:

1. A targeted audience will see your company's name and/or logo.
2. Sponsorship enhances your company's credibility and rapport.
3. You will gain brand awareness and recognition.
4. You will generate new sales and/or leads and potential business partnerships.
5. You can drive attendees to your booth and message through your sponsorship.
6. According to a post-convention survey, 75% of aerial applicators stated that they would be "very likely" to use the products and services of a company that sponsors an event at the Ag Aviation Expo. View **sponsorship opportunities here**.

By becoming a sponsor, attendees will:

- Remember your company, services and products.
- See you as a supporter of the ag aviation industry.
- Recognize your brand.
- See you as a partner and industry visionary.
- Hold you above others in purchasing decisions.

For more information, contact **Lindsay Barber** by email or phone at (202) 546-5722.

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 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.

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 due 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**.