Agricultural Aviation

Official Publication of the National Agricultural Aviation Association
www.agaviation.org

November/December 2011
Vol.38, No.6

We're All In, Are You?

Join NAAA and a Full House of Ag Pilots At NAAA's 2011 Convention in Las Vegas Dec. 5–8!

THE SAME FUNGICIDE THAT LIFTS YIELDS FOR CORN GROWERS CAN ALSO LIFT YOUR BUSINESS.

Headline AMP™ fungicide

BASF
The Chemical Company

Headline AMP™ fungicide combines the proven power of **Headline®** fungicide with a unique triazole for corn that stops diseases in their tracks. And independent trials demonstrate that **Headline AMP** delivered more bushels of corn per acre than any other fungicide.* Your ultimate success can depend on the performance of the fungicide you apply. So use **Headline AMP,** and your business can take off too. Visit **HeadlineAMP.com** or talk to your authorized BASF retailer today.

*Results summary 34 university and seed company small-plot replicated trials conducted 2007-2010

APN 11-01-268-0011

Hemisphere GPS

Satloc Bantam

Experience state-of-the-art GPS guidance

SATLOC BANTAM

Customizable touch screen with real-time, moving map

2 USB ports. Log to hard drive or USB stick.

Create and convert Google Earth KML files or shape files for viewing on the Satloc Bantam

Remote switches with various programmable functions

New A21 antenna with superior noise rejection

7″ Display Screen (shown left): 12.9 cm H x 20 cm W x 8.6 cm D

CPU: 8 cm H x 24.25 cm W x 13.71 cm D

Total weight with optional lightweight lightbar: 15 lbs

The Satloc Bantam, along with all Hemisphere GPS products, feature optional real-time tracking through HQ!

Featuring the new SX-2E Crescent board, which enhances functionality to handle G Force

Talk To Your Local Dealer About Further Details

Frost Flying Services	AR	(870) 295-6213	Landry Aero	LA	(800) 280-2884	M&M Air Service	TX	(409) 656-9044
HeynSight, Inc.	AZ	(480) 377-6463	Mid-Continent	MO	(573) 359-0500	Lane Aviation	TX	(281) 342-5451
Jones Flying Service	CA	(530) 868-1222	Earl's Flying Service	MO	(573) 695-3842	Aero Clinic	TX	(432) 758-6455
Jensen Aircraft Service	CA	(559) 582-5000	Air Repair	MS	(662) 846-0228	Yorkton Aircraft (Canada)		(306) 786-7007
Johnston Aircraft	CA	(559) 686-1794	Donald's Air Park Inc.	NC	(252) 935-5000	Brandon Flying Club (Canada)		(204) 728-7691
The Flight Doctor	ID	(208) 678-0372	Sky Tractor Supply	ND	(800) 437-5319	APG (Australia)		+ 61 2 6581-4250
R&S Aviation	ID	(208) 743-1554	Compton Flying Service	OK	(888) 336-3924	Trisponder Inc (Australia)		+ 61 2 9597-1247
Tyree Ag	KS	(620) 723-3108	Vaughn Flying Service	TX	(806) 684-2732			

www.hemispheregps.com • air@hemispheregps.com

National Agricultural Aviation Association
1005 E Street SE, Washington, DC 20003
(202) 546-5722 • Fax (202) 546-5726
information@agaviation.org
www.agaviation.org

NAAA Staff

Executive Director/Executive Editor
Andrew Moore

Assistant Executive Director
Peggy Knizner

Office Affairs Coordinator
Margaret Dea

Director of Education & Safety
Kenneth Degg

Manager of Communications/ Agricultural Aviation Managing Editor
Jay Calleja

Coordinator of Government & Public Relations
Danna Kelemen

Editorial Message

Your opinions, ideas and contributions are welcome! To submit a letter for publication, please keep it under 200 words and include your name. We may need to edit your letter for clarity and length.

If you submit a story or picture for publication, we will do our best to handle your materials with care, but we cannot be responsible for their safety.

As for what you see and read in the stories and letters, we make every effort to ensure accuracy, but we cannot accept responsibility for the correctness or accuracy of information provided, or for opinions expressed.

Neither have we tested any of the products advertised in this publication, nor verified any of the statements made in the advertisements. We do not guarantee the fitness of any product, or the suitability of any advice or statements.

Subscription rates: $30 of NAAA domestic dues and $45 of international dues is for the annual subscription. Yearly subscription rate for non-members is $30 in the U.S. and $45 for international, including Canada. All subscriptions must be paid in U.S. dollars.

Reprints: All editorial material is available. NAAA requests that any party desiring to publish, distribute or quote any part of *Agricultural Aviation* first seek the permission of the Association.

The purpose of NAAA shall be to advance the aerial application industry and its members in their efforts to enhance agriculture, and to protect the public health and the environment.

Advertising Information

To advertise in *Agricultural Aviation* or the 2011 NAAA Membership Directory, please contact Marshall Boomer, Advertising Sales Representative, at (800) 501-9571, Ext. 123, or marshall.boomer@theYGSgroup.com.

2011 NAAA Officers

President: Rick Richter, Calif.
Vice President: Mark Hartz, Ark.
Secretary: Chip Kemper, Idaho
Treasurer: Perry Hofer, S.D.

2011 NAAA Committee Chairmen

Allied Industry: Chip Kemper
Awards: Tom Harkin
Budget & Finance: Perry Hofer
Communications & Public Relations: Gaylon Stamps
Constitution & Bylaws: Brett Dickerson
Convention: Bob Bailey
Government Relations: J.R. Reabe
Insurance: Jim Anderson
Long Range Planning: Rod Thomas
Membership: Brent Short
Museum: Drew Keahey
Nominating: Brian Rau
Research & Technology: David Eby
Safety & Federal Aviation Regulations: Ron Cline

Agricultural Aviation (ISSN 0745-4864) is published bimonthly by the National Agricultural Aviation Association. © 2011. **Editorial and circulation office:** 1005 E St. SE, Washington, DC 20003. **Change of address:** Please send notices to the circulation department and include your old mailing label with your new address, including zip and postal codes. Please also include your new phone and fax numbers. Allow two months for the change. **POSTMASTER: Send address changes to *Agricultural Aviation*, 1005 E St. SE, Washington, DC 20003.** Periodicals Postage Paid at Washington, DC and at additional mailing offices. Printed in York, Pa. Distribution coverage: Distribution includes NAAA members and those in related industries, educators, libraries, government officials and the news media.

Contents

ON THE COVER

They're all in, are you? Ag pilots will take Las Vegas by storm at NAAA's 2011 Convention & Expo

ALSO INSIDE:

Despite his impressive credentials, Wayne Handley remains a plane-spoken guy

COVER STORY

FEATURES

NOTES

DEPARTMENTS

Agricultural Aviation is the Official Publication of The National Agricultural Aviation Association

President's Message

Rick Richter

It's Been a Great Ride

I can't believe it's been almost a full year since Brian Rau handed me the gavel at the Awards Banquet in Savannah. As the saying goes, "Time flies when you're having fun!" I can honestly say that I've truly enjoyed representing NAAA and agricultural aviation throughout the country this past year. The best part has been meeting and talking with all of you at the many trade shows and state and regional association conventions I've attended. Your support of this Association and the industry is unwavering and has been omnipresent wherever I've been, and I'd like to thank all of you for allowing me the opportunity to serve as your 2011 President.

Of course, my job was made much easier thanks to the highly talented and skilled NAAA staff based in Washington. Andrew, Peggy, Margaret, Danna, Jay and Ken are dedicated professionals who work tirelessly for your Association. They are team players, and we're lucky to have them watching our backs as we go about our daily routine of making a living in this business of agricultural aviation. My hat's off to them for a job well done. I'd certainly be remiss if I didn't also include my 2011 officer team of Mark Hartz (Ark.) as Vice President; Chip Kemper (Idaho) as Secretary; and Perry Hofer (S.D.) as Treasurer. All of them, along with our WNAAA President Julie Broussard (La.) have been there with support when needed, and I'd like to thank them for their dedication and commitment to the industry.

Challenges to the agricultural aviation industry seem to be commonplace nowadays, and the first year of the second decade of the 21st century was no exception. These challenges came not only from the usual direction of regulation and legislation, but also from Mother Nature in the form of floods and droughts. In late spring some areas in the Midwest and South were so hard hit by floods that thousands of acres of crops were devastated. Summertime brought record-breaking heat to the nation's midsection and east. Droughts in Texas and other areas began in the spring and continued well into the summer. It's our hope that many of the operators affected were able to salvage the season or find work elsewhere to sustain their business.

Looming over us like yet another large dark thundercloud was the NPDES issue. As of this writing, this issue remains hanging in the balance, waiting for the Senate to move it out of committee and to a vote. NAAA has made great progress for a successful outcome to this issue with the introduction of HR 872 in the House of Representatives. This bill, if enacted, would exempt pesticide applications from having to obtain NPDES permits. It is a bi-partisan bill that has progressed through the legislative system from a textbook grassroots movement of all the affected industries forming a coalition to come up with a solution to the NPDES dilemma. EPA was granted an extension by the courts to come up with a final PGP (Pesticide General Permit) before the end of October. It's possible that there could be another extension, but unlikely. The reality is that beginning the first of November, if Congress doesn't act, all pesticide applications on or near waters of the U.S. will be required to obtain these onerous and time-consuming permits. NAAA will continue this battle as we move forward.

The new year brought a proposal to revise the existing Advisory Circular by the FAA for marking towers under 200 feet in height. It wasn't soon enough for California pilot Steve Allen, whose Thrush collided with an unmarked MET (Meteorological Evaluation Tower) in the Bay Delta area just days after the FAA's notice. The accident was the first for the year and took Steve's life. NAAA and the industry were saddened by the news. NAAA and other states had brought this issue to the attention of the FAA years before to no avail. The MET issue took on a new meaning and a groundswell of support began for the marking of these invisible towers that posed a great danger to aerial application. Over 400 comments were received during the comment period, with only two being negative. NAAA and many of you submitted comments to mark and light METs. Those efforts were finally rewarded when the revision to the Advisory Circular was published in the Federal Register in late June. It recommended painting the towers with

alternating bands of aviation orange and white and placing high visibility fluorescent cable balls and/or sleeves on the guy wires. Aerial application will be safer as a result, and it's due to the collective efforts of NAAA and others who care about our industry.

Switching gears, I'd like to remind you of the value your NAAA membership provides. This year the Executive Committee made funding available to send every member a copy of the Aerial Applicator's Manual, a new study guide with pertinent current information about the aerial application business. Other examples of the value of a membership have been in the distribution of the Wind Tower Statement Stuffers explaining the importance of aerial application and the risks that towers pose to the safety of an application, as well as the emergency response video which will soon be released. We can't forget the eNewsletter and the NAAA website, www.agaviation.org, both good sources for keeping up with the goings-on in the industry.

The programs NAAA continues to offer are great values as well. The PAASS Program, from NAAREF, our education and research foundation, continues to educate pilots about everything from accident awareness to drift mitigation and health and safety standards to ensure your future in the industry. NAAA and Syngenta are completing the17th year of the Leadership Training Program. The Leadership Training Program has been training a select group of individuals from our industry since 1995 on how to deal with the media and communicate with the public. The program has become so popular that NAAA has had to implement a new policy for admittance. Congratulations to this year's candidates—you are to be applauded for stepping up to the plate and offering to lead this important industry into the future.

And with that said, I'd like to touch on advocacy briefly before signing off for the last time. We as a group of aerial applicators cannot affect change without making our concerns known. In order to do this we need to step up and let others, mainly the public, know the importance of what we do (by helping to provide them with food, fiber, and bio-fuel) to enhance their daily lives. We can't be naïve

It's been quite a year for Rick and Nick Richter. Rick juggled his duties as NAAA President with work at Richter Aviation back home. Nick completed his second season of ag flying while juggling the impending birth of his first child. Daughter Avery Lynn was welcomed into the world in early October. That same day Nick learned he had been awarded NAAA's 2011 John Robert Horne Memorial Award, which is given to an exemplary pilot with less than five years of ag flying experience. For the complete list of 2011 NAAA Award recipients, see pg. 25.

in our thinking, knowing full well that some of those we provide for are making careers out of trying to put us out of business. They're wrong, we know that—but everyone in this free society of ours is entitled to their own opinion, and as professionals in our field of expertise, we must respect their position. We must reiterate the importance of agricultural aviation to the well being of everyone on the planet earth, and we need to get that message out in a way that will ensure the future of our industry and agriculture as we know it. Please, ask yourself if you've done enough to support the cause for agricultural aviation, and then look for ways to do more.

Again, it's been my pleasure to serve as your President this past year. It's been the most rewarding and unforgettable experience I've ever had, and I will cherish the memories I've made for as long as I live. One last "thank you" to my family, to Jen for proofreading these articles, and to Nick, Brenda and Troy for the sacrifices they've made while I've been away from home.

I hope to see all of you at the 45th Annual NAAA Convention & Exposition in Las Vegas, where we can relax and celebrate America's Winning Hand! Take Care and Fly Safe. ■

Executive Director's Message

Andrew Moore

Counting Our Allied Blessings

We are about to unite as an industry at the NAAA Convention in Las Vegas to celebrate the end of what was for some a successful and profitable year, a mediocre year for others and a dry extremely slow year for some. Regardless of how good or bad the year was, the one consistent theme for the aerial application industry is that nothing would be possible without a full-service, cutting-edge allied industry. As we all know the allied companies manufacture the crop protection products applied; they manufacture the aircraft, engines, nozzles, GPS systems and all the parts in between; they insure the equipment in the event it is damaged; and the list goes on. They enable applicators to be good stewards of the land, while being safer, and more effective and efficient than ever before.

Allied industry partners have allowed aerial businesses to grow and expand on a yearly basis, hence greatly expanding the industry over time. Prior to 1921 no acres of cropland were treated by air. Today 18.75 percent of crop protection products applied commercially are treated by air. That totals approximately 315 million aerially applied acres when you take into account forest land, cropland and pasture and rangeland. New chemistries applied to grains over the past few years and their ability to achieve significantly greater yields have been a boon for aerial applicators due to their requirement that they must be applied during a later stage in the crop's growth cycle when other forms of application moving within and not above the crop might result in crop damage.

Allied aircraft manufactures have improved upon the Army Air Service trainer Stearman with its reliable but limiting 140-gallon hopper and developed 300, 400, 500, 600, 800 and soon to be 1,000-gallon hopper capacity agricultural aircraft. Of course getting airborne wouldn't be possible without an engine that could power the larger ag aircraft and allied engine manufacturers have brought us from the likes of the Lycoming R-680, 9-cylinder radial with 220–295 horsepower to the likes of today's turboprop engines such as the PT6A and TPE-331 turboprop engines that can range from 500–2,000 shaft horsepower. These are just a few of numerous examples where allied industry companies have brought us great lengths allowing us to treat more acreage using less fuel. GPS development and better application equipment have allowed us to use less product to cover more acres due to its ability to better target and more efficiently deliver precise doses of plant health products.

We've come such a long way that it makes one wonder where we will be in 10, a score or even more years. Recently, I joined NAAA President Rick Richter and 2010 NAAA Treasurer Garrett Lindell on a visit to turbine engine manufacturer Pratt & Whitney Canada's corporate headquarters in Longueil, Quebec, to see where they manufacturer the workhorse turboprop PT6A engine used commonly in our industry. Garrett displayed his AT-602 aircraft equipped with the donated Pratt & Whitney Canada PT6A-34AG engine he bought at last year's NAAA auction to the company's employees for an employee appreciation day they were hosting. More inquiries were made about the ag aircraft by the 5,000 employees and family members attending than any other aircraft on display, which included a Boeing 720 (see picture to the right).

Company scientists at Pratt & Whitney Canada informed us that in roughly 10 years alternative bio-fuels made from algae, and plants like camelina, jatropha and halophytes will be likely fueling turbine aircraft. This will result in an approximate 80 percent reduction in carbon dioxide emissions compared with Jet A made from today's fossil fuels. In the nearly 50 years that the PT6A has been in production, the engine is 70 percent more powerful and 20 percent more fuel efficient so one wonders what new engine innovations will have been made by 2050. Future allied innovations will continue in the field of crop protection products as well. Major headway is being made in drought-resistant seed varieties that will be on the market soon.

MERCI TRIP *In August, NAAA representatives joined more than 5,000 Pratt & Whitney Canada employees and family members at the company's Employee Appreciation Day in Longueil, Quebec. Garrett Lindell (second from left), NAAA's 2010 treasurer from Illinois, displayed his AT-602 powered by the brand new PT6A-34AG he bought at NAAA's convention auction last year, which Pratt & Whitney Canada generously provided. Also pictured from left to right: Mike Perodeau, Pratt & Whitney Canada's vice president for corporate aviation and military; Andrew Moore, NAAA's executive director; Nivine Kallab, Pratt & Whitney Canada's marketing account manager; and Rick Richter, NAAA's president from California. In the background is Pratt & Whitney Canada's Boeing 720 used to test the company's engines' performance in flight and at altitude.*

Many applicators in the U.S. Southern Plains would have liked these varieties to be available for the bone dry season they experienced this year. Also it will be interesting to see what innovations will be made in the next several years in the field of unmanned aerial vehicle (UAV) development and if it will penetrate the field of aerial application. I was recently invited to attend a conference for the Association for Unmanned Vehicle Systems International (UVSI) and learned that already UAVs are being used in agriculture to survey cattle using infrared technology to discern individual cow's temperature. Cows with higher temperatures can be detected this way and immediately isolated from the rest of the herd to prevent the spread of harmful diseases such as Mad Cow and other lethal bovine diseases.

The point here is that we are blessed as an industry to have such cutting-edge allied companies supporting us with their innovative equipment and services. We are also blessed by their philanthropy. They help the association by contributing to our communication, advocacy and education services through their sponsorship of convention events, donation of auction items, advertisements in our publications and sponsoring our life-saving education programming. If you haven't already, register and attend the NAAA Convention and observe up close at the trade show and concurrent sessions the allied industry's products and services that have and will continue to build efficiencies and cost savings into aerial application operations. A more complete list of allied exhibitors can be found by turning to pg. 30. See you in Las Vegas! ■

WNAAA President's Message

Julie Broussard

It's Been an Honor

As your WNAAA President I have enjoyed working with all of you starting with the national staff of Andrew, Peggy, Jay, Ken and all those I haven't had the pleasure of meeting personally. I have talked over the months on different issues that have arisen, especially with Jay concerning the magazine articles.

NAAA President Rick Richter and I have run into each other at state conventions and also at Mr. Leland Snow's memorial service in Texas. I have enjoyed his messages in the magazine.

Thanks to my committee chairs and their committee members. They have done their jobs exceptionally well. A big thanks goes to Vice President Kathy Diehl from Kansas, Secretary Dona Jorden from Texas and Treasurer Elly Rau from North Dakota. They are all dedicated to this industry and made this year a breeze for me.

When I accepted the presidency, I did not anticipate my current situation or how the unknown events that unfolded would interfere with my ability to travel to different states as much as I would have liked. That has been my only regret, even though I feel lucky to be able to do what I can. Little did I realize having a stroke would affect me the way it did. On top of that, Lewis and I were in a serious wreck coming home from Mr. Snow's memorial service, again putting a damper on things. I have learned not to take things for granted and to take one day at a time yet plan for the future. It's good to be alive.

Beignets with Broussard, Anyone?

Hey, ladies, join Julie Broussard for Cajun delicacies at the WNAAA President's Open House Dec. 6 and the WNAAA President's Breakfast Dec. 7. Both functions are at the **Las Vegas Hilton** and all women are invited.

I had a great time and met many wonderful women at the state conventions I did attend. The one thing that impressed me was how dedicated we all are in helping the men with their occupation of working with farmers to feed and clothe millions of people throughout the world.

I have enjoyed representing the WNAAA. It has been a great honor. The directors of each state are chosen because they are capable of handling any situation that may arise. We are one dedicated group of women, and each representative should be proud of themselves for being part of the WNAAA organization. This is not a paid job, it only comes from a true dedication to our profession.

Most of all, I'd like to go back a bit and thank those people of my home state of Louisiana who were instrumental in making me want to be part of this organization. The leadership of Joan and Zoren O'Brien and dear Mr. E. A."Slim" Cancienne was unsurpassed and I admire them to this day. They had true dedication to this industry.

The WNAAA Convention committees have planned a great program in Las Vegas at the NAAA Convention. Check the schedule in this issue for all of the convention details.

Thank you again for the opportunity and honor of serving as your WNAAA President. I hope to see you all in Las Vegas. ■

NAAREF President's Message

Rod Thomas

Ambitious PAASS Program Delivers a Sobering but Necessary Message

Since its inception in 1982, the primary missions of NAAREF have been research, education and the transfer of that information to all associated with our industry. I think it is safe to say the best tool we have to accomplish our education part of that mission is the PAASS Program which is now in its 14th year. While Operation S.A.F.E. might be where the "rubber meets the road" we continue to reach the most folks when we share PAASS at state and regional meetings. The 2011–2012 season is no different, except I believe we have the most ambitious education goal we have ever undertaken.

The Program Development Committee chose to cover security, drift, human factors and a host of other topics in ONE continuous scenario. By now a few of you have seen it and whether you like it or not the NAAREF board would love to hear your opinion. Future programs have always been tailored to audience reaction, and I can assure you the board will continue to write, produce and deliver topics and ideas that reflect the industry's wishes. After you have attended the PAASS Program, please go to *www.surveymonkey.com/s/11-12evaluation* and complete the electronic evaluation sheet to make sure your opinion is known.

All of that having been carefully said, I will warn you that this season's presentation incorporates a fictionalized death of a pilot in an ag aircraft. We didn't come to the decision about that subject matter lightly, as we don't want our premier education program to be the purveyor of carnage. But, as we see every year in this industry, as hard as we try there is a little bent metal and, sadly, fatalities. It is a sobering fact that a few of us won't be around to do this another year and that some nice aircraft will be reduced to scrap. I have always used humor in my communications, but I find little to joke about in this year's program. It is worth it if we save a number of lives as a result.

On a lighter note, I am pleased that some of you read what I write and take the time to comment. I won't reveal what the comments are, but can report that a few of the wives out there believe I am on the right track when I describe those of us who fly ag for a living. Most of us are cut from the same bolt of cloth and my observation is that it takes a special woman to deal with the likes of us. Take a little time to thank the woman in your life for their love, patience and support. Treat them to a vacation in Southern Nevada the week of Dec. 4 where you might want to stop in on that NAAA/WNAAA Convention going on at the Hilton. There is a bit of information in other pages of this magazine to help to cement those plans.

See you there. ■

I have always used humor in my communications, but I find little to joke about in this year's PAASS Program. It is worth it if we save a number of lives as a result.

Washington Report

NPDES Pesticide General Permit Update

NAAA, along with a coalition of other agricultural groups, continues to fight for legislation that would exempt the application of pesticides made over or near waters of the U.S. from Clean Water Act NPDES pesticide general permit requirements. However, at the time of print, EPA had not requested or received an extension from the U.S. Court of Appeals, 6th Circuit, nor had legislation passed through the Senate and been signed into law. The Oct. 31 deadline remains in effect for NPDES pesticide general permit implementation. Please visit the *NPDES Permits* section of the NAAA website at www.agaviation.org/content/clean-water-acts-effects-aerial-application for the most up-to-date and accurate information on the issue. ■

Government and Agriculture: What Does the Future Hold?

2011 has been a year for the record books in terms of extremes—from extreme weather to extreme highs in commodity prices, American agriculture has had a taste of it all. And the records may not be finished yet, with a Congressional "Super Committee" currently writing a plan for trimming the federal budget deficit that is likely to include significant cuts to agricultural spending. Growers are now bracing for yet another extreme, but this time Mother Nature won't be to blame. Agriculturalists are hoping for the best and counting on Congress to recognize the quintessence of the industry to American life. But, as President Dwight D. Eisenhower so aptly stated, "Farming looks mighty easy when your plow is a pencil and you're a thousand miles from the corn field."

Although both crop and livestock revenues are up, and on average low crop yields are resulting in record-high prices, this doesn't necessarily predicate an overall rosy outlook for agriculture as a whole. Ask those in the drought-ridden areas of the South (being compared to the Dust-Bowl era of the 1930s) or those affected by the Mississippi River flooding and the picture isn't quite so cheery.

While American farmers may have fared well in 2011 despite extreme crop losses, they are on target to potentially lose the valuable commodity support programs that have literally kept them afloat in the past whether a crop made it or not. The $4.7 billion in annual payments has been lifeblood to a sometimes unpredictable industry for the past 15 years. Federal payments to farmers are expected to fall to about $10.6 billion this year, compared with $24.4 billion in 2005. Some in Congress see this as an indication that government commodity payments are unnecessary and agriculture should incur deeper cuts, but House Agriculture Committee Chairman Frank Lucas (R-OK) and Ranking Member Collin Petersen (D-MN) feel differently.

Rep. Peterson stated agriculture needs to take a cut like other programs, but it shouldn't be "a disproportionate hit that will cut into the infrastructure of our economy." Reps. Lucas and Peterson state they plan to have a unified strategy in place when it comes to making recommendations to the Joint Select Deficit Reduction Committee for cuts to ag programs. But they're also counting on the fact that four of the 12 Committee members have large farm constituencies:

> "The fact is that agriculture's slice of the pie is shrinking and we can expect no less than for our portion to shrink as well."
>
> —NAAA Executive Director Andrew Moore, on congressional efforts to trim the federal deficit

By Danna Kelemen, NAAA Coordinator of Government & Public Relations

Sen. Max Baucus (D-MT), Reps. Dave Camp and Fred Upton (R-MI), and Rep. Jim Clyburn (D-SC).

According to *The Kiplinger Agriculture Letter*, estimations for budget cuts venture somewhere around $1.5 trillion, with farm expenditures being cut by as much as $48 billion or as little as $10 billion over the next decade. However, if Congress scratches the cuts or can't come to agreement by Nov. 23, automatic cuts would kick in and agriculture would stand to shoulder only moderate 4–5 percent cuts for farm programs over the next 10 years.

What do these cuts mean to you as small businesses? Well, they could potentially predict the future boom or bust of your livelihood. For as we all know, ag aviation can only fare as well as the farmers, landowners and businesses we support.

Speaking of the future, in July the U.S. Department of Agriculture's Economic Research Service (ERS) released its economic brief for *Public Agricultural Research Spending and Future U.S. Agricultural Productivity Growth: Scenarios for 2010–2050*. The results of the study were quite illuminating in terms of what is to be expected of agriculture in the future and how we as an industry are going to get there. The bottom line that both the ERS and the United Nations Food and Agriculture Organization agree on is global agricultural demand is projected to grow by a minimum of 70 percent by 2050. The ERS states this is due primarily to population growth, energy demands and higher incomes in developing countries. According to the ERS, to meet this incredible demand "will require raising global agricultural total factor productivity (TFP)[1] by a comparable level. Maintaining the U.S. contribution to global food supply would also require a similar rise in U.S. agricultural TFP." As such, one of the biggest ways to grow the TFP is through investments in public agricultural research and development (R&D).

Over the past 50 years ERS states the rate of TFP growth of U.S. agriculture has averaged about 1.5 percent annually and indications from ERS research points to the yearly rate of growth dropping below 0.75 percent should agricultural R&D spending only maintain the current status qou. This is troubling because at this rate ag output in the U.S. would only grow by 40 percent by 2050—far below the projected global agricultural demand.

More importantly, ERS believes to raise agricultural output above this level "would require bringing more land, labor, capital, materials and other resources into production." With urban sprawl growing and available farmland shrinking, this in itself presents a highly unrealistic remedy.

The easiest solution would be to raise agricultural R&D—something ERS estimates could be accomplished by raising ag spending by 3.73 percent annually; thereby

[1] Total factor productivity (TFP) is the broadest measure of productivity. It compares the total output of a sector to the total land, labor, capital and material inputs used to produce that output. Increases in TFP imply more output is forthcoming from a given level of inputs, or, equivalently, fewer inputs are required to produce the same output. Growth in TFP is considered to be an indicator of the rate of technical change in a sector.

resulting in an increase in agricultural output of 73 percent by 2050. This small increase in outlay seems worthy of the substantial benefits that could potentially be reaped overall. According to the U.S. Department of Agriculture Under Secretary for Research, Education and Economics, Catherine Woteki, USDA economists have found that every dollar invested in agricultural research has a $20 return to the American economy.

The United States has always been at the forefront of research and innovativeness in agricultural science and technology. As such, a new Presidential initiative, *Feed the Future*, has been undertaken by the USDA and USAID to help surmount the many challenges facing the international agricultural industry today. The USDA believes this initiative will not only allow for agricultural productivity to occur in an environmentally friendly and sound manner, but will also improve the availability of nutritious food worldwide in order to meet the pending surge in population growth and multiple other demands. Utilizing science and technology to improve the efficacy of the industry is nothing new to ag aviation. In fact, it is as a result of such innovations that aerial application continues to be viable and vital to agricultural production, not only in the U.S. but around the world.

2011 has been a record year for agricultural exports and strong farm income, yet those in the industry have faced a deluge of challenges as well. All told, this phenomenon is as much a part of the cyclical nature of business as it is agriculture itself. The trick remains in how best to handle the positives and negatives that accompany the many highs and lows.

Just as sure as agricultural research took a hit with the removal of earmarks from federal funding in the 112th Congress, we know agricultural spending is due to face the music as well. NAAA Executive Director Andrew Moore summed it up by stating, "The fact is that agriculture's slice of the pie is shrinking and we can expect no less than for our portion to shrink as well."

And while losing valuable commodity support is one possible option that would undoubtedly impact the nation's ability to produce adequate food and fiber to feed the planet, America will continue to be the breadbasket for the rest of the world for the foreseeable future. The challenge we face is learning to do more with less and striving to increase the overall efficiency of agriculture while relying on less federal input and depending on more local output. ■

FUEL NOZZLES NOW

Overnight Service, Competitive Pricing for the PT6A AG

Keep your PT6A AG engine running at peak efficiency with our fuel nozzle exchange kit*. We'll overnight a kit containing nozzles, O-rings and gaskets. You simply switch out nozzles and return your used ones to us. We offer industry-competitive pricing and the backing of more than 75 years of service to ensure your satisfaction.

Clean, Check, Return If you're not AOG, you can choose to save extra dollars by sending your fuel nozzles to us. We'll clean, flow-check and return them to you in a one-day turn time. Either way, we offer OEM-standard kits and guaranteed satisfaction.

A Full Range of Service Dallas Airmotive delivers a full spectrum of support, including 24/7 field service, OEM parts, repair and overhaul. We have eight PT6A-qualified regional turbine centers in the USA to ensure that you're never far from a center of engine repair excellence.

Major and Minor Repairs Whether you need a fuel nozzle exchange, lightning-fast field repair to get you back in the air, or an end-of-season major repair to get you ready for next year's flying, Dallas Airmotive has the people and experience to get the job done – right. We'll get you airborne again and help keep you there.

AGRIGHT
POWERED BY DALLAS AIRMOTIVE

*Simplex nozzles, AG engines only.

For field support and OEM-authorized service to keep your engine and your operation running smoothly, contact Dallas Airmotive.
Tel +1 214-956-3001 • Toll-Free (USA) 800-527-5003 • AgRight@DallasAirmotive.com • AgRight.com

HOW TO BECOME A STRAIGHT ACE STUDENT OF AERIAL APPLICATION

Your A to Z Guide to NAAA's 45th Annual Convention

By Jay Calleja
Manager of Communications

Those are some of the attributes NFL teams are looking for in an NFL-caliber quarterback. *Does this guy have the right makeup? Is he a student of the game? scouts ask themselves.*

Being an aerial applicator is akin to being an elite quarterback. To thrive, ag pilots need to possess the same basic characteristics. The split-second decisions they have to make while operating at altitudes less than 15 feet and speeds over 100 mph are both breathtaking and mindboggling. Couple that with the vast reservoir of knowledge an ag pilot has to have about aviation, agriculture and chemicals and its plain to see the education of an aerial applicator never stops. Even with more than 30 years' experience, Tommy Summersill, an ag pilot and operator in Belle Glade, Fla., says a day doesn't go by that he doesn't learn something new.

NAAA's Annual Convention is a big part of that continuing education process and it's coming up fast. Join the best and the brightest at the **Las Vegas Hilton** Dec. 5–8 for the most entertaining, extravagant, informative, educational and exciting event in all of global agricultural aviation: the 2011 NAAA Convention & Exposition! You'll find plenty of sizzle to go along with more than 25 hours of educational programming.

In the NFL, quarterbacks command complicated offenses. When practice ends, the work isn't over—far from it. To get an edge, they take extra reps after practice and spend countless hours in the film room studying the opposing team's tendencies. Likewise, the top applicators in this industry are constantly learning inside and outside of the cockpit.

If you are a true student of aerial application seeking to attain or maintain *straight Ace* status, this is an easy call. Attending NAAA's 2011 Convention & Exposition is a must! But to make the best use of your time, you've got to study the playbook beforehand. Fortunately our convention playbook is nothing compared to the complexity and terminology of an NFL playbook. It's elementary really, as the following A to Z guide reveals.

Here are the A, B, C's of attending the aerial application industry's equivalent to Super Bowl XLV: NAAA's 45th Annual Convention & Exposition.

A. Aerial Application Tech Support. On Dec. 5, ASABE's Aerial Application Committee will report on their ongoing research at the NAAA/ASABE Technical Session. Come hear top industry researchers as they share key findings and discuss a number of new aerial application technologies and techniques that help mitigate drift and ensure proper crop coverage. In this day and age, within this regulatory environment, maintaining the status quo isn't enough. Increase your odds of success by staying on top of the latest research. Some states allow CEUs for this session. (*See pg. 34 for more information*).

B. Broaden your Social Network. Between the Kickoff Breakfast, Welcome Reception, Live Auction, Pratt & Whitney Canada Reception, Farewell Banquet, private functions and informal get-togethers in and around the **Las Vegas Hilton**, there will be no shortage of opportunities to kick back and

visit with old friends and make new acquaintances after a long year.

C. Com*paass* Rose. Looking for direction and guidance? Then Com*paass* Rose is for you! This is your opportunity to talk to a real pro. NAAA's Com*paass* Rose Program is designed to provide professional support and direction to prospective agricultural aviation pilots. The goal is for the participants to enhance their own knowledge, continue to gain agricultural aviation experience and improve their individual professionalism. New, prospective and low-time ag pilots will have an opportunity to discuss ideas and philosophies about the business, make informed decisions about their future and interact with some of the industry's top operators.

D. Deck the Halls. For a truly all-inclusive experience, stay at the **Las Vegas Hilton**. The Hilton is NAAA's headquarters hotel and the site of all 2011 convention activities. Everything—and we mean everything—takes place within the confines of this spacious hotel, including meetings, social engagements and the trade show itself.

E. Educational Opportunities. Choose from among 25 hours of educational programming, including special sessions on avgas, the status of NPDES permit requirements, aerial firefighting and helicopters. Additional sessions cover chemicals, application technology, security, aircraft airframe and engine manufacturing, and more.

F. Fun for the Whole Family! There's something for everybody in Las Vegas, which in addition to being a gaming mecca, is much more of a family destination these days. Parents who need or wish to bring children under 12 to NAAA's Convention can register them for free if they don't opt for the children's banquet package. This gives them access to the Trade Show and other events.

G. Glimpse the Future. Futurist Bob Treadway will lead a fascinating discussion on the future of agriculture. He preaches that organizations and industries can't just "invent the future," they need to anticipate, prepare, strategize and act on factors beyond their control. Treadway also will help audience members learn *how* to think about their future using anticipatory habits and implication thinking.

H. Healthful Advice. It's important for all pilots to develop healthy habits, but doubly so for anybody who makes a living stepping into the cockpit of a single-engine, single-seat aircraft. Pulmonologist and air medical examiner Dr. Mark Ivey will cover a

LAS VEGAS

BE THERE!

DECEMBER 5–8, 2011

NAAA 45TH

ANNUAL CONVENTION & EXPOSITION

Ag Aviation, America's Winning Hand
National Agricultural Aviation Association
Las Vegas 2011

Exhibitor and sponsorship opportunities still remain. Visit http://tinyurl.com/NAAABooths to reserve your booth today!

Marshall Boomer
Sponsor/Exhibitor Sales Consultant
717-505-9701 x123
Marshall.Boomer@theYGSgroup.com
The YGS Group is a proud partner of NAAA.

Prospects and clients abound for you and your company at the world's largest trade show for ag aviation!

Unlimited networking opportunities and a great lineup of speakers and events makes NAAA's 45th Annual Convention & Expo an experience you won't want to miss.

Job Fair and Marketplace to Debut at NAAA 45th Annual Convention & Expo

This year's NAAA Convention & Expo at the **Las Vegas Hilton** will showcase two new additions to the trade show floor. NAAA will sponsor a Job Fair Booth where new pilots can post their résumés as well as a Marketplace Booth where operators and pilots can highlight their aerial application items for sale.

NAAA Job Fair Booth (#231)

At the Job Fair Booth, employment seekers will find a place to advertise their skills and experience, as well as post a photo for potential employers to see. Employers looking for new hires will have the opportunity to see what talent is out there and how to contact individuals while at the Convention. And if you're concerned your information will not be spotted during all the excitement on the Trade Show Floor, check out the Job Fair Booth in the Meeting Space area on Thursday where Operators can take a more leisurely look at what you have to offer. So whether you're a green pilot looking for your first seat or an Operator looking to add a new pilot to your business, be sure to stop by the Job Fair Booth to see what ag aviation has to offer. And don't forget to bring your résumés and business cards for posting.

Marketplace Booth

Calling all Operators and Pilots:
Make plans now to join NAAA at the Marketplace Booth on the Trade Show Floor. NAAA will supply the bulletin boards, display racks and tables—the space and equipment you need to showcase your application industry items for sale. Bring photos and descriptions of equipment, aircraft and operations—whatever types of aerial application items you are trying to sell.

range of pilot health issues, including fatigue and the importance of proper sleep, during NAAA's General Session.

I. Inspiration Gathering. You go to a conference to learn, to be inspired, to hear different perspectives, to challenge yourself and reward yourself. NAAA has lined up an impressive roster of speakers to help you achieve enlightenment, including SR-71 pilot Brian Shul, futurist Bob Treadway and pulmonologist Dr. Mark Ivey.

Don't discount inspiration by osmosis! You'll be surrounded by the cream of the crop within the aerial application industry. Capitalize on that intellectual and experiential firepower by engaging with fellow ag pilots, operators and exhibitors in formal and informal settings. For starters, make a point of approaching NAAA's 2011 Award recipients, who will be honored at the Farewell Awards Banquet Dec. 8. Once you hear their stories, you can't help but feel good for them and about the state of our industry.

J. Job Fair Booth. NAAA's Job Fair Booth is a new addition to the trade show. New pilots can post their résumés and operators looking for pilots can post job notices. Stop by Booth # 231. (*For more information, see sidebar, pg. 18*).

K. Kickoff Breakfast. Conventional wisdom has long held that breakfast is the most important meal of the day. By registering for NAAA's Kickoff Breakfast you'll get a hearty breakfast and a healthy dose of *convention* wisdom. Kickoff Speaker Brian Shul has captivated audiences nationwide with his story of perseverance and triumph over tragedy. After surviving a near fatal plane crash, he went on to scale some of the highest heights ever in the SR-71, the world's fastest jet. His message about living fearlessly, making the most of each day and following your passions in life is one you won't want to miss.

L. Live Auction. When it comes to high-stakes entertainment, the intrigue, drama and excitement of NAAA's Live Auction is hard to beat. Last year, the Live and Silent Auctions raised a record amount for NAAA and WNAAA. This year's list of auction items boasts a wide array of products and prizes, including a Pratt & Whitney 985 piston engine, Ram Air upgrade kits for an Air Tractor 402, 502, 602 and 802 and valuable gift certificates.

Kickoff Speaker Brian Shul

Las Vegas Hilton Offers It All

If you're looking for the best place to stay in Las Vegas for convenience to the NAAA Convention & Exposition, great shopping and fine dining, as well as proximity to the Strip, look no further than the **Las Vegas Hilton** Hotel. What exactly does this mean to NAAA members? All NAAA meetings and convention events will be held inside one building!

Not only does the **Las Vegas Hilton** offer everything you expect in a Las Vegas vacation, including gaming and world class entertainment, fine dining and spots for that early morning coffee, snack or beverage of your choice, your use of the NAAA headquarters hotel helps NAAA meet its obligations. Using rooms from the NAAA room block helps us pay for all the meeting and trade show space our convention requires.

The **Las Vegas Hilton** is the NAAA headquarters hotel and the best place for all NAAA convention attendees. It's where hundreds of aerial applicators will be. Meet your friends, relax and enjoy the convention. Join us at the **Las Vegas Hilton,** Dec. 4–8.

Want to go to the strip without waiting for a cab? Try the Las Vegas Monorail—it's quick, easy, above ground and reasonably priced. The Las Vegas Monorail is offering NAAA attendees and exhibitors exclusive web discounts. Unlimited-ride three-day passes are available for $24 online compared to $28 on site. For $50, attendees can purchase an unlimited-ride seven-day pass. Week-long passes are not available at ticket vending machines. Discounted tickets must be purchased ahead of time at *https://tickets.lvmonorail.com/naaa2011*.

For a truly all-inclusive experience make the Las Vegas Hilton your convention haven. It's not just the place to stay, it's the place to see and be seen.

For more information, visit *www.agaviation.org/content/naaa-hotel-registration-0.* From there, you can book online by linking to the **Las Vegas Hilton's** secure website. You can also call 800-635-7711. Rates are $105 per night, plus tax. Ask for the "National Agricultural Aviation Association" room block.

45th Annual NAAA Convention & Exposition

SCHEDULE OF EVENTS

Sunday, Dec. 4	
9 a.m.–4 p.m.	Pratt & Whitney Canada PT6 Seminar
8 a.m.–4 p.m.	CD Aviation-TPE331 FAA Approved IA Refresher Course
12 p.m.–6 p.m.	Registration Open–Convention Center
4 p.m.–6 p.m.	Com*paass* Rose Concurrent Session
4 p.m.–6 p.m.	**WNAAA Board Meeting**
4:30 p.m.–6 p.m.	NAAA Board Meeting
Monday, Dec. 5	
7:30 a.m.–6:30 p.m.	Registration Open – Convention Center
8 a.m.–8 p.m.	Exhibitor Setup
8 a.m.–9:45 p.m.	Kick-Off Breakfast–Brian Shul
10 a.m.–2 p.m.	**WNAAA Program–Saks Fifth Avenue Offsite Event (*RSVP required*)**
10 a.m.–2:30 p.m.	ASABE Sessions
10 a.m.–5 p.m.	Canadian AAA Board Meeting
1 p.m.–8 p.m.	Exhibitor Setup
2:45 p.m.–4:15 p.m.	Concurrent/Company Sessions • FAA/Security • Hemisphere GPS • Pratt & Whitney Canada – Piston Engines
4:30 p.m.–6 p.m.	Concurrent/Company Sessions • Chemical Division • AgSync • Honeywell Engines
6:30 p.m.–7:30 p.m.	Welcome Reception
Tuesday, Dec. 6	
7 a.m.–8:30 a.m.	CP Products Breakfast
7:30 a.m.–5:30 p.m.	Registration Open
8 a.m.–11:30 a.m.	Exhibitor Setup
8:45 a.m.–9:45 a.m.	NAAA Business Meeting
9 a.m.–11 a.m.	**WNAAA Athena Program**
10 a.m.–12 p.m.	NAAA General Session
10:30 a.m.–11:30 a.m.	Allied Industry Meeting
12 p.m.–6 p.m.	Trade Show Hours
1 p.m.–3 p.m.	**WNAAA President's Open House**
3 p.m.–5 p.m.	NAAREF Board of Directors
5:30 p.m.–7 p.m.	Live Auction & Reception
7:30 p.m.	Pratt & Whitney Canada Reception
Wednesday, Dec. 7	
7:30 a.m.–4 p.m.	Registration Open – Convention Center
8 a.m.–9:30 a.m.	Concurrent/Company Sessions • Pratt & Whitney Canada – Turbine Engines • NPDES Permits • DuPont Crop Protection
9 a.m.–10:30 a.m.	**WNAAA President's Awards Breakfast**
10 a.m.–4 p.m.	Trade Show Hours
11 a.m.–1:30 p.m.	**WNAAA Program – Art Tour (offsite event)**
3 p.m.	Silent Auction Closes
4 p.m.–5:30 p.m.	Concurrent/Company Sessions • Application Technology Division • GE Aviation • Support Division – Fuels
6:30 p.m.–9:30 p.m.	GE Aviation "Booty Scootin Party"
Thursday, Dec. 8	
8 a.m.–6 p.m.	Registration Open
8 a.m.–9:30 a.m.	Concurrent/Company Sessions • Air Tractor Inc.
9:45 a.m.–11:15 a.m.	Concurrent/Company Sessions • Thrush Aircraft • Syngenta
9:45 a.m.–11:15 a.m.	Concurrent/Company Sessions • Ag-Nav Inc. • Aerial Firefighters
1:15 p.m.–2:45 p.m.	Concurrent/Company Sessions • Helicopter • Com*paass* Rose
5:30 p.m.–6:30 p.m.	Farewell Reception
6:30 p.m.	Farewell/Awards Banquet
Unless otherwise indicated, all events take place at the Las Vegas Hilton.	


AgSync
Aerial Application Management System
Come experience AgSync
NAAA Booth 923
What Pilots Say...
"I like the ability to store the field and customer information, and plan on meeting with my growers in the off-season, to use AgSync as a way to better plan for the next season. AgSync will also help my growers indirectly, as they will not have to go to the FSA or other places to get maps for us."
Rex Kelley,
Air, Inc.
Join Us!
AgSync Session
Monday Dec .5th at 4:30 p.m.
NAAA Convention - Las Vegas
Plan • Organize • Communicate
1-877-923-5832
www.agsync.com

Among the many items up for bid at NAAA's 2011 Live Auction is a Pratt & Whitney 985 piston engine donated by Tulsa Aircraft Engines. The engine comes with a 1,000-hour warranty.

M. Marketplace Booth. This is another new addition to NAAA's Trade Show and a way for non-exhibitors to get in on the action by showcasing their aerial application items for sale. (*For more information, see sidebar, pg. 18*).

N. NPDES Permits. The saga concerning new court-mandated NPDES pesticide general permit requirements continues. With the Oct. 31 deadline for implementation approaching fast, as of this writing the EPA still had not released its final permit requirements. NAAA added a special concurrent session to its schedule Dec. 7 to keep aerial applicators apprised of the very latest developments and explain how the scheduled permits and their state equivalents will affect them.

O. Operators are Standing By. It's no coincidence that the operators who faithfully attend NAAA's Annual Convention are among the best in the business. Typically, they are also NAAA members. So, does success breed attendance, or does attendance breed success?

For the industry's ace operators, they go hand in hand. They make the sojourn each year because NAAA's Convention is the place to be to stay on top of the latest techniques and technologies, see the latest products and equipment on the market and forge partnerships with vendors and other applicators who can help them in their operational needs. NAAA's operators are a tremendous resource in their own right, and you'll see them in Las Vegas at the largest gathering of aerial application operators anywhere.

P. Peer Pressure. The rationale won't fly with mom, but when kids and teenagers brandish this sales pitch on each other, it often elicits

the desired effect: *C'mon, everybody's doing it!* Far be it from us to resort to such juvenile tactics, but you may be interested to know nearly three out of four (73 percent) attendees surveyed after NAAA's 2010 Convention in Savannah, Ga., said they definitely plan to attend NAAA's 2011 Convention in Las Vegas. Ergo, *almost everybody is doing it!*

Q. Quality Companies, Quality Programming, Quality People. With more than 25 hours of educational programming, 130 exhibitors and 1,000 aerial application professionals, you'll be in good company when you attend NAAA's 2011 Convention.

R. Receptions. After long convention days, you'll be ready to unwind, and NAAA can help you with that too. We've got wall-to-wall receptions, including the Welcome Reception (Dec. 5), Live Auction Reception (Dec. 6), Pratt & Whitney Canada Reception (Dec. 6), GE Aviation "Boot Scootin' Party" (Dec. 7) and Farewell Reception (Dec. 8). With the exception of the Farewell Reception, these are decidedly informal affairs. Best of all, they're open to every attendee.

S. Silent Auction. *Shhhh!* In addition to the Live Auction, more great items are up for bid in the Silent Auction. Bidding opens on Tuesday and closes on Wednesday afternoon.

T. Trade Show. The world's largest agricultural aviation trade show just keeps getting larger. A record number of exhibitors participated in NAAA's last two conventions, and they are pushing the limits again. More than 130 exhibitors are locked in already (*see pg. 30*)! Whether you plan on upgrading your GPS and GIS hardware and software, are in the market for a new aircraft or simply want to investigate new crop protection products available from different chemical companies, you'll find what you're after at NAAA's 2011 Trade Show.

U. Updates. Updates. Updates. To keep up on important changes affecting the industry, including regulations, new application recommendations and manufacturers' guidelines, as well as advances in aircraft engineering, application technology, crop protection products and more, you need the latest information. You'll find it at NAAA's Convention.

V. Vegas, baby! Enough said.

W. WNAAA Convention. *Fashion, fellowship, food and fun!* Those elements add up to a WNAAA Convention women in the industry won't want to miss. The WNAAA's fun-filled agenda includes several onsite and offsite events. See pg. 28 for more information.

X. X Factor. Last year Fire Boss entertained attendees and other

onlookers by performing aerial water scoops and drops along the Savannah River. There aren't any real rivers running through Las Vegas, but you never know what else NAAA, its convention sponsors and exhibitors have up their sleeves.

Y. You've Earned This! Tumultuous weather across the country in 2011 helped aerial applicators in some cases and was a major hindrance for applicators in drought-stricken or flood-ravaged areas. The bottom line is this has not been an easy year. 2011 tested aerial applicators' mettle. Ag pilots are a resilient bunch, though; it's practically a prerequisite for the job. You deserve a reward for making it through what's been a tough year for operations in many parts of the country. Joining your peers for NAAA's 45th Annual Convention & Exposition is the perfect present to yourself and a fitting way to begin preparing for the 2012 season.

Z. Zero Downside! The downside to attending NAAA's 2011 Convention? There is none. See you in Vegas! ■

And the Winner is…

NAAA is proud to announce the winners of the Association's 2011 Annual Awards. The award recipients will be honored Dec. 8 at the Farewell Awards Banquet, the closing ceremony of NAAA's 2011 Convention & Expo. Without further ado, the 2011 honorees are as follows:

- **Allied Industry Individual Award:** John Garr (Ind.)
- **John Robert Horne Memorial Award:** Nick Richter (Calif.)
- **John Robert Horne Memorial Award:** Billy Whitfield (N.C.)
- **Larsen-Miller Community Service Award:** Co-awardees Loren Dannhaus & Grant Lane (Texas)
- **Most Active Award:** Jayne Rucker (Kan.)
- **Opal & Bill Binnion Memorial Award:** Judy Chanay (Kan.)
- **William O. Marsh Safety Award:** Robert McCurdy (La.)
- **Outstanding Service Award:** Carolyn Baecker (Ariz.)
- **Outstanding Service Award:** Rod Thomas (Idaho)

Please join us in recognizing these individuals for their service to their industry, their Association and their communities at NAAA's awards dinner and ceremony Dec. 8 at the Las Vegas Hilton.

It's on! Members are going all in in response to the NAAA Auction Challenge

Coming on the heels of last year's record auction fundraiser, NAAA upped the ante this year by issuing a "Can you top this?" challenge to its individual and company members: *Let's see if you can beat last year's historic $460,000 auction intake!*

With several companies stepping forward already, NAAA's Allied Industry and aerial applicator members appear intent on giving last year's record a run for its money. Highlighting the growing list of auction items (see chart) are two full-service hot section inspections from Pratt & Whitney Canada (*see sidebar*)! NAAA is very appreciative of everyone who has pledged an item, service or experience to the NAAA/WNAAA Live and Silent Auctions. We'd also like to thank Syngenta for once again sponsoring this year's Live Auction Reception.

The Live Auction is undoubtedly the single most important fundraiser NAAA and WNAAA undertake. Donations and purchases from the Live and Silent Auctions provide much-needed revenue for association projects and programs. In light of recent and continued budget-cutting efforts, fundraising from within the industry is critically important since federal funding for programs vital to the aerial application industry is no longer assured.

In exchange for contributing to the NAAA/WNAAA auctions, we will showcase your company's contribution to the aerial application community on site and leading up to the convention. The sooner companies contribute the more exposure they'll get as we tout the auction items in the magazine, NAAA eNewsletter and our website, www.agaviation.org.

To donate an auction item, call Marshall Boomer at 717-505-9701, Ext. 123, or complete and return the Auction Donation Form at www.agaviation.org/content/2011-auction-donation-form. Big-ticket items are usually reserved for the Live Auction, with smaller items allocated for the Silent Auction, but final determinations are made once all the offerings have been inventoried. ■

2011 Auction Payment Information

Auction Payment Arrangements
NAAA items selling for $3,000 or more require either payment in full or a 10 percent deposit at the time of purchase. The balance must be paid within 30 days of the auction. Item will be transferred upon receipt of payment in full. Payment must be made via cash, certified check, credit card or wire transfer.

All items selling for less than $3,000 must be paid in full at the time of the auction. Payments may be made by cash, check

Auction Spotlight: Health Insurance for Your PT6 Engine

PT6 operators and owners know just how important it is to have easy-to-accomplish inspections at reasonable intervals. That's why Pratt & Whitney Canada (P&WC) is especially pleased to offer the 2011 NAAA Auction with two credits of OEM parts and labor(*) related to Hot Section Inspection parts (HSIs) which can be applied at either an HSI, repair or overhaul shop visit. One credit is for a small PT6 AG Engine and the other one is for a large PT6 AG Engine. Again, this includes parts (e.g., new OEM CT blades, new OEM CT shroud segments and new OEM CT shroud housing) and labor(*). These HSI parts are valid for a five-year period and transferable upon sale of your aircraft.

The credit for the small PT6 engine OEM Parts is good for up to $70,000 and the credit for the large PT6 engine is good for up to $125,000. Winners of either will be able to choose between a P&WC-approved maintenance facility and a facility of their own choice. Either way, the parts are 100% P&WC.

(*) It's your choice
- P&WC covers the cost of parts if you choose your own facility.
- P&WC covers the cost of parts and labor if you choose among 30 P&WC-owned and -designated overhaul facilities.

Designated engine models
- PT6A small AG engines: PT6A-11AG, PT6A-15AG, PT6A-34AG
- PT6A large AG engines: PT6A-60AG, PT6A-65AG, PT6A-67AG

The PT6 engine is backed by a team that keeps its promises
Commitment is an engine that starts reliably in all conditions, stays healthy thanks to planned inspections and is backed by the industry's largest service and support network. While the PT6 engine's reliability rates are legendary, when you need support, it's nice to know it's there, wherever *there* is. And with P&WC's worldwide Customer Service network you've got it 24/7/365 in the more than 30 company-owned and -designated service facilities that support our fleet around the world.

Yet at P&WC, commitment is also about contributing time and money to ensure organizations such as NAAA and its sister organization, the National Agricultural Aviation Research & Education Foundation (NAAREF), can continue to do their good work.

That's commitment you can depend on.

or credit card (MasterCard, Visa and American Express).

Auction Payment Arrangements for PT6A Hot Section Inspections (HSI)
Potential buyers must provide a letter of credit from a financial institution to NAAA and place 10 percent down as an initial deposit. The retail value is $70,000 for the small PT6 HSI and $125,000 for the large PT6 HSI.

Auction Shipping Arrangements
NAAA is not responsible for shipping auction items. You can make arrangements with T3 (booth in back of trade show) to ship your auction purchases for you. T3 can pack and ship anything you purchase.

In 2010, Pratt & Whitney Canada contributed a fresh-from-the-factory PT6-34AG engine, making it the highest-priced item in the history of NAAA's auction. This year P&WC is providing two full-service hot section inspections for a small and large PT6 engine to the Live Auction. In this picture, last year's auction winner, Garrett Lindell of Lindell Aerial Ag Service (center), poses with his new engine and the P&WC team.

THRUSH AIRCRAFT

THIS JUST IN…

Thrush Aircraft Inc. and Electronics International (EI) are donating a complete panel assembly (upper with shroud, lower left with all switches, etc.; lower right with all circuit breakers, etc.) to NAAA's Live Auction. The complete panel assembly includes everything necessary to "convert" any older Pratt & Whitney powered Thrush to the new EI MVP-50T "glass panel" display, as well as completely replace all instrument panels in the aircraft. EI's glass panel multi-function display is also available for other engine types, including GE, Walters and Garrett.

SAMPLING OF AVAILABLE AUCTION ITEMS

COMPANY	AUCTION ITEM
Pratt & Whitney Canada	2 credits of OEM parts and labor related to Hot Section Inspection parts (HSIs) applicable at either an HSI, repair or overhaul shop visit—one for small PT6 AG Engine, one for large PT6 AG Engine. Includes parts (e.g., new OEM CT blades, new OEM CT shroud segments and new OEM CT shroud housing) and labor. For more details, see sidebar on pg. 26.
Ag Air Update LLC	1 Lifetime Subscription to AgAir Update; 2 pen & ink Drawings by Richard DeSpain
Ag-Nav Inc.	3 $500 gift certificates good toward Ag-Nav products; 2 TrackerNav Systems
AgriSmart Information Systems	Nook Color Reading Tablet
Air Repair Inc.	STC'd Fast Start System for Turbine Air Tractor or Thrush
Air Tractor Inc.	2 Ram Air upgrade kits for 402/502 Air Tractors, 2 Ram Air upgrade kits for 602/802 Air Tractors, 1 Garmin GPS Aera 560, 1 "AT Spares package"
APS	His and Hers Letherman Jackets
Bayer CropScience	To-Scale Model AT-502 with NAAA Logo
Chartis Aerospace Insurance	2 Christine Alexander Tops
Covington Aircraft Engines	$15,000 Certificate toward PT6-A, R-985 or R1340 Engine Overhaul, Maintenance or Repair preformed by Covington Aircraft Engines
CP® Distributor Family	50 CP-11TT Flat Fan Nozzles and 50 CP-06 Swivels
DuPont Crop Protection	#24 DuPont Motorsports car hood, autographed by driver Jeff Gordon
DynaNav Systems Inc.	$3,000 DynaFlight/AirAg System Gift Certificate
Fighters & Legends LLC	Corsair Ride – dependent on Air Show schedule; available through the expanded central U.S. (Upper Midwest to Delta)
FMC	2 Embroidered Flight Jackets
Flying Tiger Aviation	$3,000 toward a Turbine Transition Course
Kansas Aviation of Independence LLC	2 KAI-logoed Nylon Camping Chairs; 1 Flight Jacket with KAI Logo
Lane Aviation Inc	Ground adjustable balance pump fan & electric brake
Tim McPherson, Tall Towers Aviation	P-51 Mustang ride
NAAA/Wayne Handley Aerosports	Harold Miller helmet trophy & aerobatics course
Prime Turbines Inc.	Fuel nozzles for small or mid-size PT6 engine
Serv-Aero Engineering Inc.	F100AA Windmill/Fan Assembly
Southeastern Aircraft Sales & Service	$1,000 in Air Tractor Parts & Service
Starr Aviation Insurance	iPad with accessories
Tennessee Aircraft	6-foot Vintage Prop with Clock
Thrush Aircraft Inc. and Electronics International	Complete panel assembly (upper with shroud, lower left with all switches, etc.; lower right with all circuit breakers, etc.), including everything necessary to "convert" any Thrush to the new EI MVP-50T "glass panel" display. See sidebar at left for more details.
Transland	Custom Booms LH/RH
Tulsa Aircraft Engines Inc.	P&W 985 Piston Engine (1,000-hour warranty)
Turbine Conversions	Single-point fueling system approved for all Thrush, AT's Dromader and Ag Cats
Turbines Inc.	$30,000 credit towards overhaul of a PT6A-20 to PT6A-65 engine at Turbines Inc.

Thank you to our contributors! To donate an auction item, complete the Auction Donation Form at *www.agaviation.org/content/2011-auction-donation-form* and e-mail it to Marshall.Boomer@theYGSgroup.com or fax it to either 717-825-2171 or 888-608-0288. For auction-logistics questions, please contact Lori.Racey@theYGSgroup.com.

2011 WNAAA Las Vegas Convention Schedule

By Jayne Rucker
WNAAA Convention Co-Chair

Ladies, on behalf of the WNAAA Convention Committee, I would like to invite you to join us for an array of wonderful activities at the 2011 WNAAA Convention Dec. 5–8 in Las Vegas. The WNAAA Convention is open to all women, including spouses and employees who work in the agricultural aviation industry. We have a fun-filled agenda packed with enriching onsite and offsite events. It starts with a "holiday" load of fun.

Monday, Dec. 5

8 a.m.–9:45 a.m. NAAA Kickoff Breakfast

10 a.m.–12 p.m. Seminar on Holiday Fashion (RSVP required)

12 p.m.–1:30 p.m. Light Bites

1:30 p.m.–2 p.m. Shop your Shape

The festivities start with a real treat, a Seminar on Holiday Fashion at Saks Fifth Avenue, right after the NAAA Kickoff Breakfast. Fashionista or not, the primary accessory retailing here is fun! We'll enjoy mimosas, light bites and fabulous information on how to shop for the holidays and every day. To add to the festivities, each participant will receive a $20 Saks Fifth Avenue gift card for use during convention week. This is WNAAA's treat to you—there's no cost, but seating is limited, so you must RSVP by Nov. 30. Contact Kayla Caillouet at KPC57@hotmail.com or 337-432-5558 to sign up for this fashion extravaganza. We are so excited to provide this fun day for you ladies. We hope you can join us! Don't forget, you must be RSVP by Nov. 30.

Tuesday, Dec. 6

9 a.m.–11 a.m.
The WNAAA Convention activities are so much fun, but we also want to provide information and ideas for your lives in ag aviation. The Athena Presentation gives us all the opportunity to share our insights about living the "ag aviation lifestyle." Together, we can learn new strategies and ideas to use in our everyday lives. We all can be mentors. Please join us and share your thoughts and ideas.

1 p.m.–3 p.m.
Our current WNAAA President, Julie Broussard, is from Louisiana. Please join us for her Cajun Country Come Along/President's Open House. This is a "come and go" or "come and stay" time for us to unwind with Cajun tidbits, wine and great conversation. Let's relax together and visit with old and new friends. Please join us for a wonderful afternoon.

Wednesday, Dec. 7

9 a.m.–10:30 a.m.
The WNAAA cordially invites you to the President's Breakfast hosted by Julie Broussard. We will have a lovely breakfast with mimosas, Bloody Marys and Cajun treats. Once again, this is on us! Fill up. You'll need your energy for the rest of the day's fun.

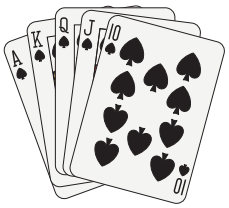
11 a.m.–1:30 p.m.
Get ready for something really special! We'll slip away from the hustle and bustle of the convention to take a walk on the quiet side. Our search for the softer, quieter side of Las Vegas begins with a tour of the Bellagio Conservatory and Botanical Gardens. From there we'll head to the Bellagio Gallery of Fine Art. Our walk on the quiet side will conclude (at least for this day) with a viewing of the Fiori di Como, an extraordinary glass sculpture chandelier by glass sculptor Dale Chihuly. Sometimes we forget all the creative activities Las Vegas has to offer. This is a tour you won't want to miss. We will provide transportation and cover all admission fees. Join us on this cultural excursion!

Thursday, Dec. 8

Thursday is a free day to enjoy the sights, relax at the hotel or take advantage of the Saks Fifth Avenue gift card one last time. We'll reconvene and bid adieu at the Farewell Reception and Awards Banquet that evening.

See you in Las Vegas. The WNAAA looks forward to meeting you! ■

Stack the Deck with WNAAA in Las Vegas



In keeping with the theme of this year's NAAA Convention, "Ag Aviation, America's Winning Hand," the WNAAA will not be selling raffle tickets, but boxes of playing cards instead. The cards will be attractively marked with the NAAA convention logo and more importantly, as an incentive to buy, several boxes will have prize cards marked in them. The prizes will be cash or an item from the WNAAA Booth.

The ladies of the WNAAA have been working hard all year to bring new items to the booth, so be sure to stop by and purchase a convention logo T-shirt, long-sleeve NAAA shirt or other item. Don't forget to purchase something to take home for the kids, spouse or staff you left behind as well. WNAAA items and this year's playing cards make great stocking stuffers.

Be sure to "stack the deck" in your favor by buying your playing cards early. If you don't get a prize card, you can try, try again. The WNAAA looks forward to seeing you at Booth #129!

WNAAA to Highlight Children's Author at NAAA Expo

The WNAAA is back with new convention apparel for the whole family (sizes range from infant to adult). In addition to these always popular purchases, the women will have an added attraction at their booth (#129). Children's author Mary Coleman-Woolslayer will be present to sign her book, *A Biplane and her Boy*. She will donate 40 percent of the proceeds from purchases of the book to the WNAAA Ways & Means Committee.

Coleman-Woolslayer is a former kindergarten teacher who was inspired to write the book by her husband's restoration of his antique Stearman biplane. Her dream is "for children from 8 to 80 years of age to enjoy her story and appreciate these beautiful old planes as well as the pilots who are brave enough to keep them flying!" For more information on the author and the book, please visit *tigermothpublications.com*.

Pick up an official 2011 NAAA Convention T-shirt at booth #129. Short- and long-sleeved tees are available in a variety of sizes from the WNAAA.

CONVENTION SPONSOR	COMMITMENT
DIAMOND SPONSORS ($20,000 OR GREATER)	
BASF	Kickoff Breakfast, Program Guide (Inside Ad), Convention Passport and Embroidered Patches
syngenta	Auction Reception, General Session–Futurist
PLATINUM SPONSORS ($12,000–$19,999)	
Bayer CropScience	Internet Café and WiFi Sponsor, This One's On Us Beer Station, Hotel Key Cards
Dow AgroSciences	Welcome Reception, Convention Passport
Hemisphere GPS	Window Clings, Trade Show Floor Graphics, Stand-Alone Signage, Hotel TV Channel, Program Guide (Inside Front Cover), Convention Passport
GOLD SPONSORS ($7,500–$11,999)	
AIR TRACTOR	Conference Registration Bags, Program Guide (Back Cover)
Southwest Turbine, Inc.	Coffee Breaks (Exclusive), Continental Breakfast
SILVER SPONSORS ($3,000–$7,499)	
GPS AG-NAV	Corridor Signs and Floor Graphics
AgriSmart INFORMATION SYSTEMS LLC	Convention Lanyards, Program Guide (Inside Ad)
COVINGTON AIRCRAFT	Aisle Signs (Exclusive), Bag Inserts, Convention Passport
DUPONT	Farewell Awards Banquet
FMC	Convention Pins
BRONZE SPONSORS ($1,200–$2,999)	
CHARTIS	General Session–Air Medical Issues
FARMAIR INC.	Convention Notebooks and Pens
Kimmel Aviation Insurance Agency	Live Auction Catalog
Phoenix Aviation	NAAA Museum Booth
Queen Bee Air Specialties Inc.	Program Guide (Inside Ad), Convention Passport
	Window Clings
EMERALD SPONSORS ($500–$1,199)	
AgSync	Convention Newsletter
Pratt & Whitney Canada	Program Guide (Inside Ad)
Simplex Manufacturing Co.	Registration Bag Inserts
Star-Flex	Window Cling
Starr Aviation	Window Clings
Sutton James Inc.	Helicopter Concurrent Session
Texas AAA	Com*paass* Rose Concurrent Sessions
Trade-A-Plane	Publication Refillable Display
Transland LLC	Aerial Firefighters Concurrent Session

2011 NAAA Convention Exhibitors as of 09/22/2011

Nearly 130 companies have signed on to exhibit at NAAA's 45th Annual Convention & Exposition. The following exhibitors reserved booth space as of press time. Exhibitor opportunities remain but are filling up fast. Call Lori Racey or Marshall Boomer at The YGS Group at 717-505-9701 to reserve your booth today!

EXHIBITOR NAME	BOOTH #
ACES Systems	413
Acorn Welding Ltd.	631
Aero-Engines, Inc.	528
AeroFlow Systems	928
Ag Air Turbines Inc.	518
Ag Container Recycling Council (ACRC)	323
Ag-Nav Inc.	108
AgAir Update	713
AgLasers LLC	716
AgriData Inc.	706
Agrinautics	302
AgriSmart Information Systems LLC	400
AgSync	923
Air Repair Inc.	509
Air Tractor Inc.	807
Aircraft Accessories of Oklahoma	515
Allianz	429
AmSafe	512
ApplicationMGMT.com	714
Av-DEC	424
Aventech Research Inc.	1013
Aviation Products Systems APS Inc.	905
BASF Corporation	223
Bayer CropScience	823
Biobor Aviation Additives from Hammonds	200
BrightPortal Resources LLC	1002
Capman Inc.	233
Cascade Aircraft Conversions LLC	417
CD Aviation Services	517
Central Florida Ag Aero LLC	1009
Chartis Aerospace Insurance Services Inc.	508
Compton's Flying Service	611
Covington Aircraft	623
CP Products Co. Inc.	511
Curtis Agri-Line ASC	1000
Dallas Airmotive	801
Davidon Inc.	305
Davidson Solid Rock Insurance	229
Desser Tire & Rubber Co. Inc.	725
Dromader USA LLC	826
DTC DUAT Service	411
DuPont Crop Protection	607
DynaNav Systems Inc.	1006
Executive Aircraft Maintenance	516
Falcon Insurance Agency Inc.	608
Farm Air Inc.	822
Fire Boss LLC	1001
First Pryority Bank	705
FMC Corporation	612
Frost Flying Inc.	812
Garrco Products	703
GE Aviation	317
Hardy Aviation Insurance Inc.	502
Hatfield/Turbine Conversions	307
Hemisphere GPS, Air Business Unit	717
Huffy's Airport Windsocks Inc.	704
Hunter Agri-Sales Inc.	405
Isolair Helicopter Systems	408
J & C Enterprises Aviation	1122
Johnston Aircraft Service Inc.	415
Kansas Aviation of Independence LLC	708
Kawak Aviation Technologies	422
Kugler Company	203
Lane Aviation Inc.	907
Leading Edge Associates LLC	718
Machida Inc.	900
MANA Crop Protection	830
Micronair Sales & Service Inc.	107
Mid-Continent Aircraft Corp.	204
Mint Turbines LLC	510
Monty's Plant Food Co. Inc.	404
NAAA Museum Booth	600
Nation Air Aviation Insurance	1017
National Flight Services Inc.	406
OctaFlex Environmental Systems, Inc.	829
Pacific Oil Cooler Service, Inc.	202
PARMA	804
Perkins Technologies P/L	710
Pickett Equip. Co. Inc.	616
PIM Aviation Insurance	603
Pratt & Whitney Canada	523
Precision Aviation Group	531
Precision Laboratories	619
Premier Turbines	313
Prime Turbines	303
Proair	513
ProAir RRG	806
Queen Bee Air Specialties	1011
Reabe Spraying Service Inc.	1140
Red River Specialties Inc.	201
Rocky Mountain Propellers	728
Rosen's Inc.	532
RT Turbines	808
S & T Aircraft Accessories Inc.	1007
Scott's Helicopter Services Inc.	929
Serv-Aero Engineering Inc.	407
SIFCO Minneapolis	426
Simplex Manufacturing Company	630
Sky-Tractor Supply	123
Southeastern Aircraft Sales & Service	1015
Southwest Turbine Inc.	629
Spectrum Electrostatic Sprayers Inc.	301
StandardAero	723
Starr Aviation	824
StollerUSA	514
Sutton James Inc.	403
Syngenta Corporation	901
Teledyne Battery Product	712
Tennessee Aircraft Co. Inc.	802
Thrush Aircraft	111
Timken Aftermarket Solutions	702
TRACE Engines L.P.	1003
Transland LLC	707
The Trend Group	727
Turbine Engine Consultants Inc.	519
Turbine Installation LLC	428
Turbines Inc.	423
United Turbine Corp.	617
Valley Air Crafts	902
Weber Aviation Insurance	328
Western Skyways Inc.	300
Wilbur-Ellis Co.	614
WinField Solutions	1023
Wings Insurance	118
WNAAA	129
World Fuel Services Inc.	506

45th Annual NAAA Convention & Expo

Las Vegas ◊ Dec. 5–8, 2011

Pre-registration must be received by Thursday, Nov. 23, 2011. Use this form and register today!

MEMBER REGISTRATION: You must be the designated member of an Operator or Allied Industry Company, State Association Executive, or have a Pilot, Affiliated Operator, Affiliated Allied, Associate, International or WNAAA membership in your name, or be the spouse of an NAAA member to qualify for member rates.

Registration at the convention site will cost $50 more per person!

NAAA Members	Registration With Banquets	Registration Without Banquets
Member	$320	$220
Spouse	$265	$165
Child (under 12)	$110	Free

Non-NAAA Member	Registration With Banquets	Registration Without Banquets
Non-member	$440	$340
Spouse	$380	$280
Child (under 12)	$110	Free

Banquets: Kickoff Breakfast and Farewell/Awards Banquet

EXTRA BANQUET/RECEPTION TICKET FEES:

NOTE: Attendance at the Welcome Reception, Auction Reception and Farewell Reception are included in your registration fee. Purchase Kickoff Breakfast or Farewell/Awards Banquet tickets only if you purchased a "without banquets" package. Purchase extra Welcome Reception and Farewell Reception tickets only for guests with no registration package.

Monday, Dec. 5	Kickoff Breakfast	$40/each	# needed ___
Monday, Dec. 5	Welcome Reception	$40/each	# needed ___
Thursday, Dec. 8	Farewell Reception	$30/each	# needed ___
Thursday, Dec. 8	Farewell Banquet/Awards	$75/each	# needed ___

REGISTRANT: First Name _____ MI _____ Last Name _____

(Please print your name as you would like it to appear on your convention badge.)

Company _____ Phone _____

Address _____ City _____ State_____ Zip _____

Country _____ Fax _____ Email _____

SPOUSE REGISTRANT: _____

(Please print name as you would like it to appear on convention badge.)

ADDITIONAL REGISTRANTS:

First _____ MI ____ Last _____

First _____ MI ____ Last _____

First _____ MI ____ Last _____

First _____ MI ____ Last _____

PAYMENT:

Registrant Fee $_____ Credit Card _____ or Check # _____

Spouse Fee $_____ Card# _____

Add'l Registrants $_____ Exp Date: _____ Phone _____

NAAA Dues $_____ Address_____

Banquet Tickets $_____ City _____ State _____ Zip _____

TOTAL DUE $_____ _____

(*U.S. funds only, must accompany registration*) *"Signature is permission to bill Credit Card."*

Mail payment and registration form to: NAAA – 1005 E Street SE – Washington, DC 20003
Print registration form at www.agaviation.org – Fax 202-546-5726 – Questions? Call 202-546-5722
E-mail information@agaviation.org. Online registration is now open at www.agaviation.org.

Article provided by Pratt & Whitney Canada courtesy of its NAAA Auction Contributions

Getting Stronger with Age: The PT6A, an Oldie but a Goodie

By Mike Perodeau
VP, Marketing (corporate aviation and military programs), Pratt & Whitney Canada

Mike Perodeau

In 2013, we'll be celebrating a birthday at Pratt & Whitney Canada. Our PT6A engine will mark 50 years in service. It's an engine that's obviously well known in NAAA circles and it has long been a favorite of the ag industry.

Bragging about one's age does have one drawback: people might start saying that you're old. Since the PT6A and I are in roughly the same age category, it's something to which I can relate, but truth be told the PT6 is getting better with time, while only my wife might say the same about me. While I am far less excited about my own age, I kind of like being associated with an engine that has accumulated 350 million hours, that others have tried—unsuccessfully—to emulate, and that's been the "go to" powerplant for more than 130 different applications.

When it comes to our iconic engine, what has been constant over the years is the name, the well-deserved reputation for dependability and the learning that comes from five decades of experience. The technologies incorporated have of course continued to advance with each new model of the engine—there have been 65 of them—we bring to market. So we think of the PT6 as an always-new engine that just happens to have an established track record, making it the turboprop of choice for 6,500 operators in 170 countries around the world.

What we have noticed about many PT6 operators—and this is especially true in the Ag sector—is they tend to be independent thinkers who understand value comes from the entire package that Pratt & Whitney Canada offers with every PT6; not only one of the finest engines ever made, but also readily available service and support almost anywhere in the world, backed by people who are passionate about keeping it the best in the business. The "culture" of the PT6, which our operators created and continue to foster, is one of the reasons we created a microsite devoted to the engine and its "fans." PT6nation.com has become an online meeting place where operators and enthusiasts can share their stories and experiences. It gives the PT6 community a collective voice and it's one that we are keen on hearing.

The stories and sentiments we are gathering have been highly instructive, leading us to rethink the way in which we understand and communicate the fundamental values of the PT6. By listening to our customers, we are best able to articulate the enduring strengths of the PT6 and what it means to them, and ensure we keep improving the engine and the ways we support those who operate it.

- The PT6 engine is about **choice**—it has the versatility to power so many applications over the years because of its unique configuration and wide range of small, medium and large models, which in turn means it can satisfy diverse missions and performance requirements.
- It's about **confidence** when it comes to relying on an engine that has such a remarkable service record—accumulating 10 times more flight hours than its closest competitor.
- And the PT6 is about **commitment**, with reliable starting, performance retention and durability, backed by the industry's largest service and support network, with low, predictable operating costs.

What we are discovering through the PT6 site, and through our forays into social media such as Facebook and Twitter, is that much like the engine itself, the PT6 story never gets old. It's a constantly changing narrative that gives us new insights almost every day.

At Pratt & Whitney Canada we invest some $400 million per year in research and development, initiatives that are improving our current engines and creating the powerplants of tomorrow. The PT6 engine continues to benefit directly from these investments, ensuring that the legend remains the leader.

As I said at the beginning, it's good to own the engine that helped build the industry. It's satisfying to hold the standard that all others strive to reach, and to have literally thousands of satisfied customers. And rather than sit on our laurels, it's exciting to be part of a community that is passionate about continuously introducing improvements. When you have that sort of foundation, birthdays aren't that bad at all. ■


Pratt & Whitney Canada invests $400 million per year in R&D, research that directly benefits the PT6 engine.

Like the thousands of other PT6-powered aircraft operators, Top Hat Ag owner Stan Jones is proudly PT6. With 23,000 engines in flight, pilots trust the PT6 more than any other engine of its class. Yet this remarkable engine hasn't just made history. With continual technology improvements and rock-solid performance, it defines the future. Are you proudly PT6? Join the nation. At PT6Nation.com.

DEPENDABLE
ENGINES

Pratt & Whitney Canada
A United Technologies Company

Morning Session:
10 a.m. to 12 p.m., Dec. 5
Afternoon Session:
1–2:30 p.m., Dec. 5

Sessions are continuous and not repeats.
The author in bold is the presenting author.

2011 ASABE/NAAA Technical Session Program

EPA Container and Containment Rule Compliance Update from Bayer CropScience

By J.D. Fish, *M. Jones and J. Bloomberg*

The 2006 EPA Container and Containment Rule became fully enforceable on August 16, 2011, after a five-year implementation period. Promoting best practices which avoid product spills and product cross contamination plus proper container management are the main objectives of this rule. The rule defines specific responses and label modification by product registrants, distributors and retailers regarding instructions to end users related to cleaning and disposal of containers, containment of bulk shipments, avoidance of cross contamination and procedures for repackaging products. Success with this rule will call upon end users of products, such as aerial applicators, to help with the process by following product label instructions from registrants and guidelines from retailers regarding cleaning and adherence to instructions related to refillable and non-refillable containers. Bayer CropScience will provide an overview of container management practices that have been developed by registrants and the industry to ensure an efficient supply of product that is delivered in refillable or non-refillable containers.

Bio: *J.D. Fish is an Application Technology Manager at Bayer CropScience.*

A Preliminary Evaluation of the VeriRate Nozzle

By Daniel Martin

In 2006, Spray Target Inc. released its newly designed VeriRate™ variable-rate aerial nozzle. This retrofit nozzle is important to the aerial application industry because it addresses two main issues inherent when attempting to make variable-rate aerial applications with conventional hydraulic nozzles. The first is a change in droplet spectrum that results when changing flow rates with a fixed-orifice nozzle. The second issue is a physical limitation of 70–80 psi on most aerial application systems, which would be required for a basic 2X rate change. The VeriRate nozzle was designed to address both of these issues. Determination of flow rate variability in these newly designed variable-rate aerial nozzles is important because excess variability in flow rate between nozzles can lead to poor coverage, reduced efficacy and product wastage. The objective of this study was to measure and document the flow and variability of a full set of VeriRate variable-rate aerial nozzles at constant pressures ranging from 30–70 psi.

Bio: *Dr. Dan Martin is an Agricultural Engineer with the USDA's Aerial Application Technology research group in College Station, Texas. His focus is on aerial application efficacy studies and precision aerial application research projects. He is also an Operation S.A.F.E. analyst and educator.*

Weather Conditions and Time Intervals to Reduce the Potential for Off-target Movement of Spray Due to Temperature Inversions—An Update

By Steven Thompson, *Y. Huang and B. Fritz*

A study was reported on to determine atmospheric conditions favorable for long-distance spray drift deleterious to susceptible crops downwind from spray application. The goal was to incorporate this information into new guidelines for pilots on weather conditions and times of the day to reduce off-target drift potential in the Mid-south due to stable atmosphere. A brief survey of US States was made dealing with regulations that consider temperature inversions. The Arkansas regulations were seen to be the most specific, so results presented were compared with Arkansas guidelines regarding air temperature increase required before spray can commence in the morning, and temperature decrease before which spray must be stopped in the early evening. Results of our study indicated good agreement with those guidelines, and specific weather conditions and times of day during which spraying would be inadvisable are indicated.

Bio: *Dr. Steven J. Thomson is an Agricultural Engineer with USDA Agricultural Research Service in Stoneville, Miss. His research primarily focuses on spray sampling methods, improving chemical deposition into crop*

The following states have confirmed they will offer CEU credits for attending the ASABE Session: Delaware, Indiana, Oklahoma, South Carolina, Virginia, Wyoming

canopies, reduction of off-target spray drift, variable-rate aerial application and remote sensing for detection of crop stress and to support of variable-rate aerial application.

Aerial Application Research Updates and Smartphone App Demonstration

By Clint Hoffmann, *B. Fritz, Y. Lan, D. Martin and J. Lopez Jr.*

The USDA-ARS-Aerial Application Technology research group is responsible for conducting application research that addresses immediate needs within the application community, as well as planning and conducting research projects that address future issues and regulations that may impact the aerial application industry. Many of the specific projects that provide applicators with information that they can incorporate into their daily operations are reported on by AAT researchers as part of other presentations at the NAAA/ASABE session. This presentation will focus on future research projects, such as drift reduction technologies, remote sensing, variable-rate technologies and changing cropping rotations, with the goal of encouraging applicators to stop by the AAT group's

Aerial Application Technology Lead Scientist Clint Hoffmann presents at NAAA's 2010 ASABE Session.

booth to discuss these projects as well as any additional problems they are seeing in their operation that could be addressed through directed research.

Additionally, the new Smartphone apps that have been released on the Apple and Android app stores will be presented. These apps are a mobile solution that allows aerial applicators to predict the droplet size produced by their particular operational setup in the field independent of a computer or Internet connection. The droplet size data allows applicators to ensure that they are compliant with any product label requirements. The results, along with the initial operational parameters, are time and date stamped and can be saved to the user's device and/or emailed.

Bio: *Dr. Wesley "Clint" Hoffmann is an Agricultural Engineer with the USDA Agricultural Research Service (ARS) in College Station, Texas, and serves as the Lead Scientist of the Aerial Application Technology research group. His research efforts are focused on effects of physical properties and nozzle operational parameters on spray atomization, spray evaluation and development and sampling methodologies for measuring spray droplet transport in the environment*

Accounting for Effects of Real World Tank Mixes on Droplet Size Estimates from USDA ARS Spray Nozzle Models

By Brad Fritz, *W.C. Hoffmann and W.E. Bagley*

The currently available USDA ARS Spray Nozzle Models are based on droplet size testing done using a standard spray formulation that mimics the effect of active ingredient formulations. This standard formulation prevents the environmental contamination and human exposure potential present when using active formulations. However, recent findings suggest that this standard solution may not serve as a proper mimic for some real-world tank mixes, especially when various spray adjuvants are added to spray solution. The objective of this study was to determine the effects of active ingredients combined with spray adjuvants on spray atomization and determine if the present spray models, along with a set of formulation specific correction factors, can be used to better estimate the droplet size of applied sprays. Initial measurements will be made at a selected number of points to determine if a simple scalar correction factor can be used, based on the formulation physical properties, to

correct models generated using blank formulations. If the results show that this is not the case, a full atomization model may be developed for each tank mix tested.

Bio: *Dr. Bradley Fritz is an Agricultural Engineer with the USDA Agricultural Research Service (ARS) in College Station, Texas. His primary research efforts include environmental impacts on spray drift, biological impacts resulting from spray applications, optimizing spray applications for maximum on-target deposition and evaluation and modification of sampling methodologies for assessing transport and fate of applied sprays*

Evaluating Drift when Spraying an Active Ingredient Tank Mix Solution with and without Additional Adjuvants

By Robert Wolf, *S. Bretthauer, B. Fritz, W.C. Hoffmann*

A study was conducted to evaluate spray deposition and drift from active ingredient spray formulation treatments made with and without additional spray adjuvants. Testing included both a high speed wind tunnel and a field drift study component. In the high speed wind tunnel, multiple spray formulations were assessed for droplet size, with the data then used both for modeling spray drift with AGDISP and to select a limited subset of formulations that were evaluated in the field.

Atomization testing was conducted in the USDA ARS Aerial Application Technology high speed wind tunnel at a 137 mph wind speed for each treatment. Initial spray testing was completed for 33 individual spray treatments spanning three nozzles and 16 spray formulations. The three nozzles tested included a 110 degree flat-fan with an 03 orifice (reference nozzle), a 40 degree flat-fan with a #12 orifice mounted in a CP Products 11TT nozzle body, and an ASC rotary atomizer set to the D-12 orifice and a blade setting of 2. Droplet size measurements were made using a Sympatec HELOS laser diffraction droplet sizing system. In the field study, seven treatments were evaluated. Each used an active ingredient and contained either no additional adjuvants or an adjuvant selected from the wind tunnel screening. Six treatments were sprayed with the CP 4012 nozzles at 137 mph and 2 GPA. The other treatment rate was at 1 GPA using 11003 flat fan nozzles which served as a reference spray.

Using the wind tunnel data for the selected seven treatments, AGDISP was used to determine the application efficiency (% of applied spray material that deposits in-swath) and the downwind deposition (% of applied spray material that deposits downwind of the intended swath). A preliminary review of the model data show minimal

differences among treatments if compared relative to each other. More differences are noted in application efficiency and downwind deposition due to an increase in wind speed rather than the treatments themselves. Field measurement findings are similar.

Bio: *Dr. Bob Wolf recently retired from Kansas State University, where he spent 12+ years as a Professor and Extension Specialist in Application Technology in the Biological and Agricultural Engineering Department. His main responsibility was to conduct an extension and research program in all areas of chemical/pesticide application with a particular emphasis on nozzle technology. His research focus has been to evaluate nozzle types for improved efficacy while minimizing spray drift. Prior to joining Kansas State Wolf held a similar position at the University of Illinois. He serves on the NAAA Board of Directors and has formed Wolf Consulting & Research to continue his work with the application industry. He relocated to the Mahomet, Ill., area to be closer to family and operate his consulting business.*

Precision Aerial Application: Past, Current and Future

By Yubin Lan *and W.C. Hoffmann*

Precision agriculture includes different technologies that allow agricultural professionals to use information management tools to optimize agriculture production. The new technologies allow aerial application applicators to improve application accuracy and efficiency, which saves time and money for the farmer and the pilot. The USDA-ARS-Aerial Application Technology group has an active research component in precision application. This presentation will discuss the various research components and how they will ultimately fit into a complete precision application package. Since aerial applicators are flying over numerous fields between spray missions, these aircraft can be fitted with multispectral cameras that can detect crop diseases, water stress and other crop conditions. Research is underway to convert these images into application maps (i.e. shape files) without a lot of effort or special knowledge from the pilot/operator, which could then be a new service to a customer. These application maps could then be easily uploaded into the spray system computer to make variable-rate aerial application of cotton growth regulators, defoliants and insecticides. The goal of these research projects is to demonstrate that precision agriculture technology has the potential to benefit the industry by saving operators and farmers time and money.

Bio: *Dr. Yubin Lan is an Agricultural Engineer with USDA ARS in College Station, Texas. He has been involved in sensor and instrumentation research in agriculture for the last 20 years. His current main research focus is on remote sensing and development of new sensor and instrumentation for precision agriculture in aerial application.*

System Development for String Analysis During Operation S.A.F.E. Clinics

By Y.L. Chiu and ***Roberto Barbosa***

An integrated system was developed to automate several ancillary measurements and analyze liquid deposition on string for use in liquid aerial application calibration clinics. This system automates several measurements that usually require several technicians with manually operated equipment to attempt to measure the instantaneous aircraft speed, height and weather information. In addition another string liquid deposition system was developed by using smaller and more compact analysis sensors, motor drive units and microcontrollers. During a calibration trial, the equipment is placed in key locations on the test field and the data is streamed wirelessly to a Wi-Fi enabled device terminal (smartphones, tablet hardware and laptops). A single operator can capture the instantaneous speed and height of the aircraft at the moment the aircraft passes the target location and releases the liquid material to be collected by cotton string. The weather conditions are continuously monitored and the most relevant data can be retrieved from the device terminal via an intuitive web-based interface. Afterward, the cotton string is collected onto reels and brought over to the string analysis system where the operator can run through the automated system and the sensor outputs the results based on relative concentration as well as its location on the entire length of string.

Bio: *Dr. Roberto Barbosa is an Assistant Professor with the Biological and Agricultural Engineering Department at the LSU AgCenter. He holds an extension appointment with the Louisiana Cooperative Extension System and a research appointment with the Louisiana Agricultural Experiment Station of the LSU AgCenter. He works primarily with application technology issues, precision farming technologies and agricultural safety in Louisiana.*

Characterization and Monitoring of Tank Mix Properties with a Handheld, On-Board Electronic System

By Russell Stocker and D.K. Giles

Fluid properties, especially those of tank mixes of many components, affect the resulting droplet size from ag spray nozzles. Moreover, the properties of tank mixes can change

Ag pilot Russ Stocker is pursuing several research projects that relate to spray management.

as the liquid is sheared by pumps and it ages. Most droplet size prediction models cannot account for complex fluid mixtures or changes to properties. This paper reports continued work on developing a tool that can assess tank mix properties, such as predicted spray characteristics, and assist applicators in choosing nozzles or making other application decisions. The tool predicts spray properties by measuring the vibration of the fluid as it flows through a nozzle. Experiments have determined relationships between vibration measurements and volume median diameter of spray from commonly used nozzles in wind tunnel conditions. A prototype field system has been developed.

Bio: *Russ Stocker holds a B.S. in Environmental Toxicology from University of California, Davis, as well as an Agricultural Pest Control Advisors License, Aircraft Pilot's Pest Control Certificate, Qualified Applicator License and Qualified Applicator Certificate. Russ has 39 years' experience in the pesticide application industry, including 36 years as an ag pilot. He has logged more than 25,000 hours as an agricultural pilot both in airplanes and helicopters. Spray management, combining climatic conditions, nozzle selection and orientation to achieve the best droplet spectrum for the job, is one of the most critical aspects of his work. His long-term goal has been to achieve better control over the percentage of driftable fines produced during aerial applications. He has been involved in research projects related to pesticide applications for university, forestry and private industry including the Spray Drift Task Force.*

Evaluation of Swath Uniformity and Deposition in a Corn Canopy

By Scott Bretthauer, *R. Wolf, B. Fritz, W.C. Hoffmann, P. Jank*

Spray deposition was measured in a corn field using a monofilament line. Each replication consisted of four swaths flown in a racetrack pattern. The line was analyzed for amount of a fluorescent tracer dye, and the amount of deposition and coefficient of variation (CV) were calculated. Variables tested included time of day, aircraft height and swath width, and the presence of crop oil concentrate (COC) in the spray solution. Results indicate that the use of COC increased deposition but also increased CV. For both morning and afternoon applications, the lowest CV was achieved with the aircraft's optimum swath width, as determined by pattern testing. Narrowing or widening the swath width increased the CV and either did not change the average deposition or decreased it. In morning applications with COC, the lowest CV was achieved using the standard aircraft height.

Bio: *Dr. Scott Bretthauer is an Extension Specialist with the Pesticide Application Technology Program at the University of Illinois. His extension areas include pesticide application technology, sprayer calibration, aerial application, drift reduction and pesticide safety education.*

Increasing Spray Efficacy: An Integrated Approach

By Dave Davies

Forest Protection Limited (FPL) has long participated in research to improve the efficacy of sprays and the improvement of spray methods. Development of the Accuair systems was a multifaceted, multidisciplinary project that included a redesign of an aerial spray research wind tunnel, development of Forest Protection and Optimization planning software and the creation of a fully integrated Aerial Management System (AMS) for deployment on spray aircraft.

The Accuair Wind tunnel is an aerial spray and aerodynamics research facility located near the city of Fredericton in New Brunswick, Canada. With a top speed of 300km/h and a 1m diameter test section, it is one of only a few tunnels worldwide capable of testing real sprays at full scale and at aircraft speeds. It has been used to measure and calibrate spray systems for FPL and other aerial applicators. In 2010, the wind tunnel facility was used for background research instrumental in the creation of an aerial spray measurement test method. The Forest Protection Optimization System (ForPRO) was developed as a plug-in tool for forest management software. It overlays insect defoliator risk data on forest stand information. Much of the integration occurs within an AMS, an

Some states offer CEUs for attending the NAAA/ASABE Technical Session. States that have agreed to grant CEUs include Delaware, Indiana, Oklahoma, Virginia, South Carolina and Wyoming. Other states are expected to follow suit. Look for sign-in sheets in the back of the room.

aircraft-based guidance, navigation and control system that enhances on-target delivery of sprays.

Over the course of the project, the wind tunnel was developed into an advanced spray research tool. The Forest Protection Optimization system was developed into a commercial product and has been used in research and operational programs. The Aerial Management System improves application efficacy as shown by a 2006 experimental program in Florida. It has been used since then in operational programs in Canada. This presentation will recap the history of aerial spray research and development and show results of experimental programs designed to test an AMS and demonstrate its ability to reduce spray drift during an actual operation.

Bio: *David Davies is Forest Protection Limited's Managing Director. He joined the company in 1990 after positions with Kimberly Clark Pulp & Paper Co. (Ontario), McMillan Blodel Ltd. (British Columbia), the New Brunswick (NB) Forest Authority and NB Department of Natural Resources. His career has varied over many years from a road/bridge builder; woodlands manager; tree seedling production manager to his current role with FPL in the aerial application and fire suppression industry.* ■

Test Your Knowledge

Agricultural Aviation continues its series of questions to quiz you on your knowledge of aerial application topics. Thanks to the National Association of State Departments of Agriculture Research Foundation (NASDARF) for permission to use selected questions from their chapter review questions from the Aerial Applicator's Manual: A National Pesticide Application Certification Study Guide.

See pg. 69 for an explanation of the answers and the page or pages in the manual where the topic is discussed. Hopefully this will introduce those taking the quiz to the contents of the manual, which we encourage everyone to study in the quest for industry knowledge.
—Ken Degg, NAAA Director of Safety & Education

How well will you fare? Let's find out!

1. Knowing how to properly handle, mix, store and dispose of pesticides is a requirement of the:

A. Environmental Protection Agency (EPA).
B. Occupational Safety and Health Administration (OSHA).
C. United States Department of Agriculture (USDA).
D. Federal Aviation Administration (FAA).

2. If a person spills liquid pesticide onto his or her arm, the amount of exposure and injury can often be reduced by:

A. Wiping arm with antibacterial wipes.
B. Wiping the liquid off the person's arm.
C. Covering the exposed area with a damp cloth.
D. Washing the exposed area with soap and water.

3. Which of the following factors has NO effect on off-target pesticide drift?

A. Nozzle orientation.
B. Spray pressure.
C. Constant 3 mph wind.
D. Physical properties of the spray mixture.

4. The purpose of bleed valves at the ends of the spray boom is to:

A. Prevent spray from continuing to flow from nozzles after the spray valve is closed.
B. Prevent pressure from building up from trapped air when the spray valve is opened.
C. Make cleaning the inside of the spray boom easier.
D. Reduce internal corrosion of the spray boom.

5. An effective swath width is the:

A. Total swath made by two passes.
B. Total swath made by a single pass.
C. Width of a single pass that includes portions of overlaps from other passes.
D. Distance between the outermost or widest points of application across the entire swath.

6. Given an application rate of 11.3 gallons per acre, how many acres can be sprayed with 147 gallons of spray mixture?

A. 11
B. 12
C. 13
D. 14

7. Varying the application speed without changing flow volume during an application will:

A. Provide a more even application.
B. Accommodate for wind direction changes.
C. Result in uneven coverage.
D. Increase off-target drift potential.

8. The problem with flying too low when making a granule application is that:

A. Granules are still moving vertically at lower heights.
B. Granules are still moving horizontally at lower heights.
C. Even granule dispersal is affected by the ground effect at lower heights.
D. Propwash has a greater effect on granules at lower heights.

The next two questions are agricultural aviation trivia. Can you come up with the answers?

9. It is a well-known fact the first aerial application of pesticides was accomplished on Aug. 31, 1921, near Dayton, Ohio. Powdered lead arsenate was applied to kill the Catalpa Sphinx Moth which was devastating catalpa trees used to produce posts and poles. Lt. John A. Macready flew the aircraft with Etienne Darmoy in the rear seat operating the hopper which he designed and built. What type of aircraft was used?

10. What was the first airplane specifically built for ag flying?

See answers on pg. 69

Seriously Fun!

Consummate showman and teacher Wayne Handley uses his aerobatics course to put the fun into fundamentals

By Jay Calleja
Manager of Communications

WAYNE HANDLEY IS A LIVING LEGEND. The former ag pilot-turned-aerobatics champion holds the world record for inverted flat spins with 78 consecutive turns. It is a record that still stands today. He has dazzled audiences with his "agrobatic" exploits at airshows around the world. In 1999 a horrific crash during a performance at the California International Airshow nearly consigned him to legendary status. He used one of his nine lives that day, bouncing back from a broken back and other injuries to fly, and teach, another day.

Handley became famous for his stunt flying feats and could fill a hangar with all the awards and trophies he has earned. But personal accomplishments alone aren't enough to achieve true icon status. The mark of a living legend is the indelible impact he or she has on other people, or indeed an entire industry.

Wayne Handley is revered by the agricultural aviation community. More than 20 years after he sold his ag operation and committed to aerobatics full-time, he continues to influence a legion of ag pilots by way of flying lessons, speaking engagements and the stall/spin lessons he imparts in NAAREF's "Turn Smart" video. Handley starred in and produced the video with Air Tractor's Leland Snow in the mid-1990s. "The content, the layout and his reputation made it an excellent video," said Mike Schiffer, who chaired the PAASS Program Content Committee when "Turn Smart" was in development.

Handley retired from the airshow circuit after his accident in 1999 but continues to teach aerobatics to ag pilots, general aviators and aerobatic enthusiasts at Wayne Handley Aerosports Inc. in Groveland, Calif. For the past six years the Museum Committee has used the proceeds from auctioning off the Harold Miller Trophy to cover the tuition for the winner of the Wayne Handley Aerobatics Course Scholarship for the private class. State and regional associations get to nominate one ag pilot from their ranks for a scholarship raffle. The winner is drawn at random during the farewell dinner at the end of NAAA's convention. It's a once-in-a-lifetime adventure for anyone lucky enough to win the scholarship, but past recipients attest the course is much more than that.

Bow Casper of Frontier Ag Aviation, Oakley, Kan., took the course in 2010 after winning the scholarship in 2009. For him, the hands-on, personal training he got during the two-day course was more than unforgettable, it was a life-changing, even life-saving experiencing. "In the three hours I flew with Wayne he changed the way I fly more than anybody else," Casper said.

Handley gives his students his undivided attention. Casper flew with him three times a day for two days. He also shared three meals a day with the veteran aviator. "He's just a true ace in teaching and flying," Casper said. "Aerodynamics and what the airplane is going to do and how you do it is so hard to understand for a lot of people. You read it in a book and it makes no sense. Wayne can put it into normal man terms and explain it to you in a way so you understand that when you do *this* the airplane does *that,* and this is why—and it's not some big, long explanation of stuff."

"Oh, he's great as a teacher," Mike Campbell of Campbell Aviation Inc. agreed. The Dutton, Mont.-operator won the Wayne Handley Scholarship in 2007. "We'd go through the maneuvers in his hangar until you had an idea of what you were going to be doing. Then you would put them into practice in the air."

Mike and Al Schiffer of Al's Aerial Spraying, Ovid, Mich., have been the purchasers of the Harold Miller Trophy since the auction began. In fact, they have purchased it every year, including 2005 when the helmet was auctioned twice, the second time to Terry Sharp of Agri-Tech Aviation, Inc., Indianola, Iowa. By right, that qualifies them for a turn at Handley's course, but neither Schiffer brother has taken it due to scheduling conflicts. They've had to cancel more than one planned trip because of an influx of unscheduled application work.

Mike Campbell, with wife Colleen, won the Wayne Handley aerobatics scholarship in 2007.

The beauty of training in an Extra 300L, an aircraft designed for aerobatics, is that Handley can take an ag student up 3,000 feet and experiment with flight situations he wouldn't purposely put himself when flying an ag plane. "[We can] bank the airplane in a steep turn and intentionally, ham-fistedly pull it too hard, where we stall the airplane and the wing gives up. And we can roll the other way and pull it around and intentionally stall it. And we're well within the capability of this airplane—there's nothing dangerous about that at all," Handley said.

Ag Aerodynamics 101

"Back in the day, especially back in the early days of ag flying, there were pilots not well-grounded in aerodynamics and they thought they could turn an airplane around quicker, more efficiently by using a lot of rudder into the turn. I've always felt that's totally bogus and the best way, the most efficient way to turn an airplane is when the airplane is in balanced flight—where the ball's in the center."

—Wayne Handley, on the aerodynamics of ag aviation

"Now, imagine we're at two or three hundred feet where you'd normally be in an ag turn, not up here at 3,000 feet. Up that high they don't feel the urgency to recover from an unusual attitude or some surprise situation by using full power. I say, 'Just keep in mind we're practicing to recover from a situation close to the ground. Don't worry about my airplane. Don't worry about the situation. I want you to come in with full power immediately.' It's kind of a psychological disconnect when you're working at 3,000 feet and simulating things that would happen at 200 feet."

If it sounds like flying fundamentals come at the expense of fun, they don't. "Whatever you're flying, he will tailor his course to what you do to teach you how to stay safer in your field," Casper said. "But you also have fun. There's no part of it that's not fun."

Handley's two-pronged focus on fun and safety maneuvers is by design. "There is a big emphasis on fun," he said, "but we are able to do things with this airplane that you would not do with an ag plane and [work on] things pilots should know how to react to instinctively."

"We went through every type of stall you could do," Campbell said. "Did a lot of fun stuff too—all types of rolls, how to do a roll correctly, doing nice even loops. We played around a lot, too, and just had a ball."

Campbell has done some aerobatics flying since he took Handley's course, but the stall/spin training is what sticks with him during the course of his everyday aerial application work. "The more you can know about stalls the better you are, because you can stall at any speed," he said. "It just has to do with the angle of attack. The neat thing about the Extra 300 is you can really do some crazy stuff with that airplane, stuff you'd never try with an ag plane."

Casper has been an ag pilot for six years. He has about 3,000 hours of ag flying time and 4,000 hours total. A few months after going through Handley's course, he was doing some cleanup passes to finish a field up. He was executing a turn at 250 feet when something went awry. "I started to pull up to the left, and I changed my mind and pulled up to the right." The indecision caused his plane to stall, and it started to roll. It dropped to 150 feet before he managed to recover. "It was coming pretty fast," Casper said. "Wayne probably saved my life."

For the last couple of years Handley has asked NAAA to double-check before offering his scholarship in case he decides to hang up his wings. He says he's feeling good at 72 and intends to teach for the foreseeable future. "I want to work with the association and not take anything for granted from year to year, but I expect to be doing this for several more years," Handley said.

That's good news for NAAA members and good for the industry. "I would encourage every pilot, whether they fly ag or whatever, to go take this course," Casper said. "Not only will you learn this stuff, but it's fun and you get to fly with a legend in aviation."

"He is a professional in every sense. He uses his skills and mistakes to teach others. He gives back to the industry by donating his acrobatic course each season. What more can you ask of a man?" Mike Schiffer said. "He has my utmost respect."

He even has hopes of taking Handley's course himself as soon as their schedules align. ■

TEACHER AND PUPIL *Wayne Handley and Bow Casper, NAAA's 2009 scholarship recipient.*

AG NAV
1-800-99-AGNAV (24628)
www.agnav.com
HEADS UP!
NEW TECHNOLOGY WILL BE UNVEILED
AT THE 2011 NAAA
VISIT US AT BOOTH 110

The Ag-Nav Inc. team invites you to visit us at **Booth # 110** during the 45th NAAA convention in Las Vegas, Nevada. FREE navigation demo software and GIS post-processing software will be available to all visitors. Visitors to our booth will also have the opportunity to see our new products and will be able to speak with our staff.

Our customer loyalty speaks volumes for the quality of products we have delivered in the past and the experience obtained during these years will guarantee that every product manufactured by Ag-Nav Inc. will have 100% satisfaction. When you purchase from Ag-Nav, we offer you reliable factory service and support as well as FREE software updates for the life of your product.

This year, Ag-Nav Inc. is pleased to introduce the new and improved **TRACKERNAV** system. This system is designed like no other tracking system without operational costs. TRACKERNAV is an advanced Automated Vehicle Location (AVL) system designed with fleet management in mind. GPS technology and airwave communication technology provide for a robust, scalable system with no upfront telemetry costs. TRACKERNAV consists of an in-vehicle GPS receiver coupled with a modem. Combined with TRACKERNAV software on your PC, TRACKERNAV puts you in control of your data from anywhere in the world and when you want to see it. Other AVL systems store data off site which can lead to costly monthly data hosting fees. When deployed as part of a fleet management system, TRACKERNAV delivers accurate real-time information enabling route planners to compare where the vehicle should be and where the vehicle actually is.

Our **SPRAYVIEWW** software has been very successful with helping our clients interface applied data to Google Earth. During the 2011 season many customers used this software to get accurate maps and geo-referenced data for their applications by interfacing with Google Maps. With SPRAYVIEWW, data analysis is easy and reporting is better than with other more costly agriculture GIS software on the market.

Many of our clients have asked for the automatic booms on/off technology to be able to use geo-referenced maps with exclusion zones and such. This year we delivered a fully automatic on/off valve that reacts in a fraction of a second to the maps information during the application. This allows for the pilot to just fly the lines and maintain the guidance line accuracy. This makes the system fully automatic along with our automatic AG-FLOW control and our navigation system.

The **SMART BAR** hardware suits the requirements for fixed wing aircrafts and helicopters. We have produced a small, medium and large size **NAV-BAR.** They are equipped with state-of-the-art technology and are able to give you four alphanumeric messages with four digits for each selection; thus, displaying more accurate information in real time. This new design is brighter than any other intelligent light bar on the market. It is lightweight and aerodynamically designed to fit any type of aerial application aircraft. A new light bar will be shown at the NAAA. All models will be on display at **Booth # 110.**

When you visit us at our booth, we will have several systems on display for you to interact with, such as the popular Ag-Nav **GUIA** "GOLD" model for aerial application. The Ag-Nav GUIA is a DGPS navigation system designed to meet and exceed specific requirements for guidance in aerial applications. Features such as the USB port allows for fast uploading and downloading of files, saving you time and money. One USB stick can store data for a whole season, making the Ag-Nav GUIA very safe and reliable. No data cards, no PCMCIA, no memory cards to carry or lose, just a plain USB key will do the trick. With the Ag-Nav GUIA, your data stays in the hard drive until you decide otherwise.

Unlike other heavy and bulky systems on the market, the Ag-Nav GUIA is packaged in a compact single unit to save space and reduce weight. The user-friendly software makes it easy to navigate through menus for set-up and real-time application and its built-in light bar is useful, convenient and sufficient for some operations. Installation and removal are done in a snap! The Moving Map Display has a rugged design to withstand G forces and vibration from any aircraft, unlike some models on the market today that are made with plastic structures that fatigue with time. The screen delivers bright color in daylight and adjusts for night flying when necessary.

NO VIRUS - The operating system for the Ag-Nav GUIA allows pilots to navigate through menus with relative ease. It runs on LINUX platform; thus, there are no attacks from viruses most common in Windows operating systems. The Ag-Nav GUIA uses features with full data logging that has proven user-friendly and successful in agricultural, forestry, geophysics, mosquito control and many other airborne applications.

TOWERS AND OBSTACLES – Ag-Nav Inc. has developed an application that allows you to load all USA towers above 200 feet as per FAA data files. This is also true for worldwide towers if the information is available, please see one of our staff for more information…

The **FLIGHTMASTER** navigation system has been designed to meet Mosquito Control Aerial Application specific requirements in the battle against field infestation. This system carries an on-board weather station (AIMMS20) and provides real-time information on wind speed, wind direction, relative humidity, temperature and barometric pressure. Data is updated on every pass and displayed on a Moving Map during navigation. FLIGHTMASTER provides the pilot with swath, directional guidance and other navigational information required to carry out precise aerial applications. The **FORESTMASTER** works in similar fashion, but with features geared for forestry application.

The **AG-FLOW** automatic flow control system has been designed to ensure a steady distribution of application rates by automatically adjusting its flow. This system consists of a flow meter or sensor, a valve and DC motor to adjust the valve position, and a controller box. The flow rate is adjusted automatically by the valve position; thus, controlling the required flow to the spray booms. The controller box is a state-of-the-art computer which has serial ports and CAN bus technology used for communications with other systems. The simple and easy installation process guarantees that the AG-FLOW is ready to use right after installation as calibration is very fast and effective. The AG-FLOW is also capable of variable rate application.

Looking into the future, we wonder if there is a need for a full autopilot Ag-Nav system…we are working on it and will be revealed to the industry by the end of 2012.

For more information on the above systems and other Ag-Nav products such as **FIRE-NAV, TRAX-NAV, GROUND-NAV, LI-NAV** and **PHOTO-NAV,** please visit us at **NAAA Booth # 110** or contact us today at 1-800-99 AGNAV (24628). You can also visit our website at www.agnav.com.

DURING THE 45th NAAA CONVENTION, PLEASE SIGN UP AND JOIN US FOR A FREE SESSION OF AG-NAV TRAINING. CONTACT US FOR DETAILS.

Ag Aviation in 2011:

WHERE DO WE GO FROM HERE?

By David Eby, Chairman,
NAAA Research & Technology Committee

Looking ahead to the future and imagining new possibilities is a necessity for any endeavor to grow, develop and mature. Perhaps the following are some questions the aerial industry should be asking to envision a new perspective for future advancement.

- **Where should the industry capabilities be in five years?**
- **What new technologies will be needed to accomplish what will be expected of aerial applicators?**
- **What information will be required by customers, government and environmentalists?**
- **Will the capability be available to make every aerial application "safe and effective"?**
- **What technology should be developed today so that aerial application will continue to be a viable application platform in the future?**

This article will not attempt to answer all these questions, but use them as a springboard for aerial applicators to explore some of the new technological developments that are currently being implemented in agriculture and imagine future possibilities.

In the early '90s the emerging GPS technology was rapidly adopted by the aerial application industry mostly in response to the innovative leadership of companies such as Satloc and Ag-Nav. Initially, ground applicators were slower to implement the new technology. Then in the mid '90s the ground application GPS market began to explode and equipment manufacturers quickly realized that sales in the aerial market were relatively minor compared to the ground market's potential. New aerial GPS development waned and consequently, the aerial market was basically ignored.

In spite of the fact that current development has been directed toward the ground application market, 99 percent of all ag aircraft today are equipped with GPS systems and the aerial industry has continued to thrive and grow.

With an impetus to the future, goals should now include integrating aerial application, and its specialized software programs, with ground application equipment so that ultimately agriculture operations will all be "connected." Additionally, in today's reality applicators need to understand and use our current GPS computers to their fullest capabilities which in turn will add value to aerial applications and ultimately help customers' profitability. The GPS systems installed in agriculture aircraft today are programmed to provide much more information than simply swathing, but their full use is limited due to a lack of common functionality and universal exportable files, which results in complications in sharing of information. It is time to move past proprietary software codes and subscribe to a universal format so that no matter whom the customer, information (i.e., file transfers) can be interchanged, uploaded and downloaded without compatibility problems.

> THE DAYS OF GETTING A MAP, SPRAYING A FIELD AND SENDING THE FARMER A BILL ARE RAPIDLY COMING TO AN END. THE QUESTION IS, WILL THE AERIAL INDUSTRY PARTICIPATE IN THE COMING INFORMATION AGE OR RESIST AND BECOME OBSOLETE?

In the ground application markets the current buzzword is "connectivity." There is a race among the ground application equipment manufacturers—Ag Leader, Deere, Trimble, Raven, iFarm, FarmWorks, etc.—to be the first to seamlessly control the various farming practices from one program. This includes all aspects of the production process from agronomy, scouting, field preparation, planting, spraying and harvesting.

As farm inputs continue to rise, increasing interest will be placed on maximizing agriculture production where every input will be scrutinized. Farmers will want access to every application and product applied to their crop to determine what is profitable. With today's modern harvesting equipment, the combine knows the exact location of every variety planted. Yields can be determined and varieties compared as the machine is harvesting. For example, fungicide response can be accurately evaluated to isolate the most responsive varieties if "as applied" maps from applicators are readily available. Aerial applicators, as well as ground applicators, will be expected to provide their application data along with accurate completion information.

The days of getting a map, spraying a field and sending the farmer a bill are rapidly coming to an end. The question is, will the aerial industry participate in the coming information age or resist and become obsolete? Spray orders in the near future will be placed by a scout or farmer from his tractor on a cell phone and electronically sent to the applicator with the application information sent back to the farmer/scout on his communication device for immediate evaluation.

"Connectivity" means information will be shared between growers/retailers/applicators to maximize the producer's profitability. The aerial application industry needs to not only participate, but lead in this technology evolution.

To help prepare the aerial application industry for the future the *"Aerial Research Project"* was initiated as a personal project by this writer who believes the use of this technology will be necessary for his aerial application business in the future. However, each aerial business needs to evaluate its own operation and clients' needs, creating solutions which contribute to environmental safety and customer profitability.

The goal of this project is to promote and develop "real" precision aerial application technology and then share this information with our industry. Being aware of the proposed regulations concerning waterways and buffer zones on future label changes the aerial application industry has no choice but to take the offense and develop solutions before regulations are written.

As examples, the EPA has initiated regulations concerning waterways requiring permits, fees and unprecedented fines if regulations are violated. There have been discussions about pre-notification of 24 hours for property owners surrounding fields where an aerial application would take place. Also, on some new labels, buffer zones of a mile have been proposed and unless applicators can prove applications can be safely

CHEMINOVA
HELPING YOU GROW

In case you haven't heard...
DECLARE® DELIVERS!

DECLARE® insecticide – the latest generation AND the most active pyrethroid in the world – now made with extra care. A packaging upgrade allows it to deliver even more. DECLARE delivers outstanding control with a use rate that is among the lowest of any comparable insecticide. ***In fact, you can treat at least 20 more acres with a gallon of DECLARE than with a gallon of any other pyrethroid.***

So, for effective control of a broad range of insect pests, when you deliver DECLARE, it delivers for your customers!

For more information, visit www.cheminova.us.com or call 1.800.548.6113.

DECLARE®
INSECTICIDE

Think about it!

made without these restrictions our effectiveness will be radically affected. Can you imagine documenting spraying with 300-foot waterway setbacks, 24-hour pre-notification of property owners within a mile of a field scheduled to be sprayed tomorrow, or having to deal with one mile buffer zones when applying a pesticide regardless of the wind? With these concerns the time has come for our industry to preempt the regulators and develop solutions before we are regulated out of existence, hence the Aerial Research Project.

The *Aerial Research Project* consists of the following:

1. Using equipment such as Aventech's AIMMS-20 system (Aircraft Integrated Meteorological Measurement System) the exact wind and other environmental information will be collected and evaluated during the application.

2. Information from an onboard Laser will input the exact height above the crop and hopefully display on the light bar. (Future labels could specify actual boom spray height which will require documentation in case of drift complaints.)

3. The shape file of the field will be preloaded into an onboard GPS computer. Then with the actual wind information, droplet size and airspeed, the buffer zone will be calculated using the AgDrift equations and displayed on the pilot's onboard computer display.

4. Actual spray data and field completion information will be sent wirelessly to the office enabling everyone involved to know precisely when the application was completed.

With the leadership of the NAAA Research and Technology Committee, whose goal is making ***every application safe and effective,*** hopefully these technologies can be developed and implemented so the aerial industry will remain a viable method of application well into the future. ■

David Eby is Chairman of the NAAA Research & Technology Committee and owner/operator of Agriflite Services Inc. in Wakarusa, Ind. He also is a founder and co-owner of AgSync Inc., an online software program that utilizes technology to streamline crop protection and fertilizer application processes, as well as the founder and owner of AeroFlow Systems, manufacturer of AFS check valves. Eby would like to share initial findings from his Aerial Research Project at the ASABE Technical Session at the 2012 NAAA Convention, provided that sufficient field testing has occurred by that point. The precision aerial application technologies he wishes to sync together have yet to be fully installed in the aircraft that will be used for the project. He expects more cost-effective models of some of the technologies of interest to be released by their manufacturers, but they have yet to become available to the aerial industry.

Underwriting the future.

Our forward-looking approach means we are always a step ahead of the risks you face.

STARR AVIATION | A Member of Starr Companies

Aerospace Manufactured Products Liability · Airline Hull & Liability · General Aviation

Light Aircraft · Space Coverages · Complex Risk Facilities · Aviation Workers' Compensation

To learn more about Starr Aviation, contact us at **aviation@starrcompanies.com**, or visit **www.starrcompanies.com**

STARR COMPANIES

WORLDWIDE SINCE 1919

NAAA Booth #824

Five Keys to Planning Success

By Kevin Spafford,
Legacy by Design, Chico, Calif.

"You never forget your first solo." It's a common refrain for anyone who's ever spent time around an airport. As a pilot, you know it's true. As an experienced ag pilot, you also know that first solo was only the beginning of a lifelong adventure in learning. The lessons didn't stop when you could fly straight and level; real insight came with hours in the seat. Becoming proficient and refining your skills are the result of trial and error, a lot of experiences, and nonfatal mistakes.

That first solo was merely a stepping stone, an opportunity to continue learning. School wasn't out because you could fly alone. You went on, earned a private ticket and commercial license, got certified as a pesticide applicator and obtained a Part 137 certificate in many cases. You refined your skills and continue to learn today. Now you're a sage in the industry.

Like flying, life is full of learning opportunities. And the more you learn the more you want to know, the more you know the more you want to understand …

Succession—planning for an eventual ownership transfer, the next stage in your vocational life, and the next phase of business growth—is very much the same as learning to fly. Following the steps, learning the rudiments and refining the process will help you achieve your most heartfelt goals. As I've shared with clients, workshop participants and other advisors there are five essential steps to achieving succession planning goals:

1. Learn and utilize good communication skills.
2. Define objectives for succession.
3. Overcome common planning obstacles.
4. Continue to grow and stabilize the operation.
5. Take definitive action, and stay the course.

Learn to Use Good Communication Skills

Communication is the heartbeat of any business. Learning to connect in a respectful and constructive manner is necessary for planning success. Good communication will help you, loyal employees and customers navigate the succession planning process—especially as you begin the transition from one owner/manager to the next.

Communication is more than talking. It's listening to learn, and then making sure your actions support the message. It's important to understand the wants, needs and intentions of others. Most owners have spent a lifetime communicating, but they need to realize that transitioning a business through a sale, merger or acquisition requires a new level of intent, call it formality, to maximize results.

Although it may seem a bit formal to some aerial applicators, a written communication plan can be very advantageous for you and the business. A good communication plan should include:

- Regular meetings
- Written agendas
- Behavior guidelines
- A decision-making process
- Written/taped records of each meeting
- Follow-up procedures

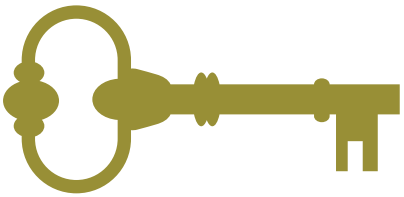
Define Objectives for Succession

Human nature encourages us to focus on our own needs first. As an entrepreneur, unchecked self-interest

can be the beginning of the end. As an owner, you must acknowledge the decisions you make and actions you take will affect many others. You must consider the wants and needs of an acquiring owner, as well as loyal employees and customers. Focusing your efforts on what's best for the business will result in an operation that will continue to endow you with financial rewards, growing equity and provide vocational satisfaction.

You should focus on succession planning objectives related to:

- Improving operational integrity
- Enhancing financial security
- Preparing a next generation to lead the operation

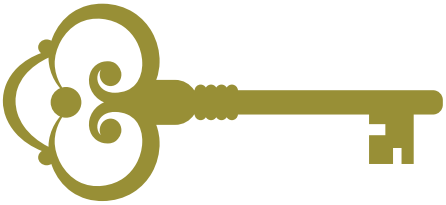


Overcome Common Planning Obstacles

A succession plan must overcome hurdles that are common to every entrepreneurial venture and provide solutions to the complex puzzles which plague most business owners. The succession planning process is designed first to distill those concerns and draw them out into the light of day, and then to develop solutions to which all the stakeholders can commit.

Early in the succession planning process, you must confront and consider the following common obstacles:

- Identifying the right successors.
- Ensuring financial security for the owner.
- Negotiating a workable ownership transition.
- Involving extended stakeholders—loyal employees, customers, alliance partners and family.
- Tackling the unknown …

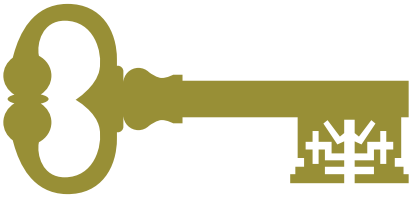


Continue to Grow and Stabilize the Operation

If each of the stakeholders speaks for their own self-interest, who speaks for the operation? If the operation is going to survive and continue to endow the current owners in retirement while providing future opportunities for the new owner, it must have a voice in the discussion. I call it "giving voice to the operation." A vibrant, healthy and growing business will return opportunities in direct proportion to the care it's given. The opposite is true as well. If a business is not healthy, financially and structurally, it cannot possibly continue to survive, especially through an ownership transition.

The strength and long-term health of the business must be a first priority. Like Aesop's goose that laid the golden eggs, if not careful we can tear it apart …

- Each decision must be measured against what is good for the operation.
- Each of the stakeholders must realize some financial and intrinsic value from continuing ownership.
- Personal goals must not compromise or unduly burden the integrity of the operation.



Take Definitive Action, and Stay the Course

Good intentions without action are just hollow promises. They don't mean anything, and they'll never lead to a successful result. A determined entrepreneur must take definitive action in order to achieve his most heartfelt succession intentions. Each stakeholder plays a vital role in the succession planning process. From the very first step to implementation, from accountability to professional development, each person must accept the obligation for a successful outcome.

Are you ready to take the next step? Go to *www.farmjournallegacyproject.com* and learn more about the tools and resources I've made available for farmers and agribusiness owners. The Legacy Project is designed to provide good information, relevant tools and valuable experiences to the agricultural community. Though many of the tools refer to farmers and agribusiness owners, the planning principles and the tools are appropriate for all agripreneurs. ■

*Kevin Spafford serves as Farm Journal's succession planning expert. His firm, Legacy by Design (*Legacy-by-Design.com*), works with farm families from coast to coast, guiding them through the succession process. He has a lifetime love of farming and flying. For questions: (877) 523-7411 or* legacyproject@farmjournal.com.

Vote for NAAA!

It's a Matter of *NAAA*tional Security

American presidents are elected every four years. U.S. Senators face voters once every six years. Members of the House of Representatives are up for reelection every two years. Every year is an election year for NAAA.

All memberships run from Jan. 1–Dec. 31, so as sure as the leaves turn from green to orange to brown, each fall NAAA finds itself in the throes of campaign season. NAAA's officers have been hitting the stump at state conventions across the country, and the polls are open now. This is your chance to register your support for NAAA in the form of our 2012 membership drive.

If you have been a member this year, the Association thanks you for your support. The trust you have placed in NAAA means a great deal, and we're counting on your continued support in 2012. If recent history is any indication, the vast majority of members will re-up. With a renewal rate that consistently tops 85 percent, NAAA has the support of a very strong base.

At the same time, there's a much wider universe of undecideds and independents the Association continues to court. Fewer than 800 operators out of more than 1,600 in the U.S. belong to NAAA, and there are only 480 non-operator pilots out of a total U.S. population of 1,625. Taken together, NAAA has a 45 percent market share of operators and pilots. The other 55 percent are up for grabs.

"I see my dues as the cheapest insurance policy premium I pay for protecting my business. … For instance, the fuel tax exemption that NAAA got through, the amount of money my operation saved by not having to pay that federal excise tax on fuel has been unbelievable."

–Perry Hofer, Doland Aerial Spraying, Doland, S.D.

As dependable and commendable as that backing is, to succeed in Washington savvy candidates understand they cannot rely on their base alone. They need the support of independents and undecideds, many of whom, in our case, may be reading this now. NAAA has done well in this arena too. Over the past 10 years, membership has increased by 40 percent. Not only has NAAA been able to offset the loss of individuals who leave the Association for retirement or other reasons, we have consistently ended the year with a net gain in members. Approval ratings like that are enough to make even the most securely positioned politician envious.

If ever there was a time to join NAAA, this is it. 2012 is shaping up as a pivotal period in the history of aerial application. The outcomes of several key issues will have a profound effect on the way aerial applicators work going forward. Major ongoing issues facing the industry include:

- Mitigating the impact of Clean Water Act NPDES permit requirements for aquatic pesticide applications if they go into effect on Oct. 31, while simultaneously pursuing a legislative solution to exempt the application of pesticides from NPDES permit requirements.

- The prospect of pesticide use restrictions and fewer pesticides being available to commercial applicators due to duplicative statutory conflicts between the Endangered Species Act and FIFRA.
- The battle over proper MET tower marking and agriculturally aware wind energy siting.
- Threats to GPS stability and availability.

Declining tax revenues and Washington's renewed focus on deficit-reduction measures have led to an environment in which it will be extremely difficult to maintain federal research funding for the USDA's Aerial Application Technology Group or obtain grants for PAASS from EPA or FAA. It may even jeopardize the fuel tax exemption NAAA secured from Congress, potentially putting the more than $4 million in annual federal fuel tax relief U.S. aerial applicators have benefited from back into play.

Politicians have been known from time to time to make empty promises. We don't offer empty promises; we deliver results. Since NAAA is considered the "voice of the aerial application industry," imagine if *NAAA the Candidate* could address its constituents directly. The candidate would probably proclaim, "Don't judge us on what we say we're going to do, judge us on what we have done and continue to do. NAAA's record of accomplishments speaks for itself!"

This year NAAA sought to add to its already impressive services by unveiling several new member benefits. The new and improved NAAA eNewsletter, which debuted in August, is the latest in a series of valuable resources NAAA has conferred to members this year. Others include NAAA's Wind Tower Statement Stuffers, the Aerial Applicator's Manual: A National Pesticide Applicator Certification Study Guide, the "50 Ways to Treat Your Pesticide" stewardship brochure for aerial applicators and the new emergency spill-response training DVD from NAAREF.

Now more than ever a strong voice for the industry is needed in Washington. NAAA is fighting valiantly on the industry's behalf, but it can't do it alone. Join or renew your membership today. Your support of NAAA allows the association to work even harder for you and your business. It is one of the best investments you can make for yourself and your business. You can do so in three easy ways: complete the membership application on pg. 59, renew online at www.agaviation.org/content/membership or call 202-546-5722.

Cast your ballot and remember this: A vote for NAAA is a vote for your future. ■

What is the Value of NAAA Membership?

Here's what it says to your insurance company

By Randy Hardy
NAAA Insurance Committee

In the adjacent article you read about why membership in NAAA is important. So, what is the value of that membership and how is it viewed from the perspective of an insurance company?

Let me begin by saying your NAAA membership has less benefit if you don't use the tools provided through your association. I'm of the opinion that most, if not all people, are aware of the benefits and tools NAAA provides. But as a quick refresher, our industry would be a sitting duck in Washington torpedoed by regulations that would instantly sink aerial application businesses without NAAA's government relations services. Also, the educational programs via PAASS, Operation S.A.F.E. and the convention and the resources on the latest trends, equipment and technologies fed to us from the magazine, eNewsletter and website are additional priceless services.

So, how does NAAA membership relate to insurance? Being a state and national association member, participating in Operation S.A.F.E. clinics, attending the seminars provided such as the PAASS Program, Compaass Rose and various other educational seminars—these functions, plus all the direct benefits already talked about, equate to PROFESSIONALISM.

Insurance companies want competent professionals who continue their education, even when they think they know it all. What are the criteria for being a professional?

- **Training**: There is an extensive period of training and apprenticeship, even into the later years of life, due to ever-changing environment, crop and technology issues.
- **Intellectualism**: Judgment, values, service, dedication and pride. A professional strives to provide an environment of public acceptance and promotes ethical practices. How you look, talk, write and work determine whether you are viewed as a professional or an amateur. "Just getting by" is an attitude of amateurs.
- **Competence**: A professional learns every aspect of the job, carefully determining what is needed and wanted. A professional is focused and clear-headed, does not let mistakes slide by and jumps into difficult assignments to achieve a competent outcome. A professional remains level-headed and optimistic, carefully handles money and accounts and produces a product or performs a service to a higher quality.

Professionalism involves training, education, achieving credentials, participation in continuing education opportunities and joining and actively involving oneself in professional associations like NAAA. Insurance companies want customers who are involved in organized groups that promote credibility, education and management skills.

Support through state associations and NAAA, such as offering conventions, recertification hours, lobbyists working on your behalf and public awareness or education, is afforded to you whether you join their organizations or not. But in today's environment "just getting by" isn't enough. Insurance companies give greater consideration—whether it be offering better rates, being adaptive to various needs (higher limits, adding new pilots, considering special contract needs) or, in some cases, the simple willingness to write an account—to aerial applicators that are members of NAAA and their state or regional association. It's quickly changing from insurance companies hoping that an operator will act in a professional manner to them expecting and demanding professionalism.

To show you are committed to being a professional, join NAAA, take an active role and use the opportunities your NAAA membership gives you each day. ■

Insurance companies give greater consideration—whether it be offering better rates or being adaptive to various needs—to aerial applicators that are members of NAAA and their state or regional association.

There's no time like the present to protect your future.

Become an NAAA Member today!

2012 NAAA Membership Application

Please note: NAAA Membership runs from Jan. 1 to Dec. 31 regardless of the date joined.

Membership Categories: (please select one)

Dues amounts are subject to change by NAAA Board.

Operators & Pilots who do not belong to a State/Regional Aerial Application Association must pay Participating Operator or Participating Pilot dues.

$450	___ Operator
	___ $10 each aircraft over 3
$170	___ Affiliated Operator
$900	___ Participating Operator
$170	___ Pilot
$340	___ Participating Pilot
$450	___ Allied (1–10 employees)
$680	___ Allied (11–50 employees)
$850	___ Allied (51–100 employees)
$1,000	___ Allied (101–500 employees)
$1,700	___ Allied (500+ employees)
$170	___ Affiliated Allied
$85	___ Associate
$225	___ International
$680	___ State/Regional Association
$170	___ WNAAA

Allied Industry Indicate your division:

__ Airframe __ Application Technology __ Chemical
__ Dealer/Parts __ Insurance __ Propulsion __ Support

Not sure which categories applies to you? Visit www.agaviation.org/Membership%20Classification.pdf for more information.

Name: _____

Company: _____

Address: _____

City, State, Zip: _____

Bus (_____)_____ Home (_____)_____

Fax (_____)_____ Cell (_____)_____

E-mail _____

Website: _____ Spouse _____

NAAA Dues $_____

NAAREF Donation $_____

Please consider a donation to support NAAREF programs.

(NAAREF depends on your donations to pay for PAASS and other programs such as Compaass Rose, Operation S.A.F.E., Fly Safe and Athena. PAASS attendance fees do not completely offset program costs. Your additional donation, made out to NAAREF, is greatly appreciated and is tax deductible.)

Total Payment $_____

Payment via: ___ Check Enclosed ___ Credit Card

Card # _____ Exp Date _____

Signature _____
(signature authorizes billing credit card)

Cardholder Name _____

Cardholder Address _____

Date _____

Mail to: NAAA, 1005 E Street St., Washington, DC 20003 Ph: (202) 546-5722 Fax to: (202) 546-5726 E-mail: information@agaviation.org Join online – www.agaviation.org

Dues, contributions or gifts to the NAAA are not tax deductible as charitable contributions for income tax purposes. Dues and similar payments may be deducted as ordinary and necessary business expenses subject to restrictions imposed as a result of the NAAA's lobbying activities as defined by Section 13222 – Omnibus budget Reconciliation Act of 1993 {IRS Code 162(e)}. NAAA estimates the non-deductible portion of dues paid during calendar year 2010 as 17%. Agricultural Aviation subscription cost ($30 for domestic, $45 for international) is included in membership dues for all membership categories.

MORE FACTS TO THE FUTURE

Aerial Application Technology Group Previews its Research Plans for 2012

By Brad Fritz, Agricultural Engineer, USDA-Agricultural Research Service

As the Aerial Application Technology Group prepares for both the upcoming NAAA Convention and 2012, we wanted to provide you with a taste of some of the projects we are gearing up for next year. As you read through these, think about how they could potentially impact your day-to-day operations and, if you feel compelled, provide us with feedback, good and bad, to assist us in better designing our research program's objectives to meet your needs. You can contact us by e-mail at aerialapplication@gmail.com or our website (apmru.usda.gov/aerial). We are also hosting a booth at the NAAA Convention & Exposition in Las Vegas and encourage you to stop by Booth # 828. We look forward to your comments and to talking with you this December. As always, we are here to serve you, the aerial applicators.

Research Objectives for 2012

DRT Program: We will continue to work with the U.S. EPA and other research groups as the EPA's Drift Reduction Technology (DRT) program begins to be implemented in the first half of 2012. We plan to remain involved with this program through directed research projects examining new and presently available DRT products to determine their effectiveness under aerial application conditions. This includes systems like aerial electrostatics, spray adjuvants and best operating procedures, which we will continue to evaluate for performance through targeted deposition and spray drift studies.

Effect of Tank Solutions on Spray Models: As we continue to develop and update our spray nozzle models, we will begin to focus on real-world tank solutions and how different products, including active ingredients, spray adjuvants and fertilizers and nutrients, change the physical makeup of the spray solution and ultimately the resulting droplet size characteristics. Since a number of these real-world solutions can radically change spray droplet size from

what the spray nozzle models predict, this work will help ensure that you are complying with product labels and making the most effective applications.

Screwworm Control Prototype: As part of a novel method for controlling screwworm, a prototype system is being built to release sterile screwworm flies from an aircraft. The system will meter out flies as a fixed rate based on the ground speed of the aircraft with the ultimate goal of using the sterile flies to disrupt the mating success of the natural screwworm population, thus providing control.

Insecticide Research: Relative to efficacy, various insecticides for pests of corn, cotton and forest will be evaluated to determine how different deposition patterns on plants relate to product effectiveness. Additionally, evaluations of organic control of adult corn earworm in sweet corn using spinosad will be conducted at the small plot and field level. Insecticides with multiple use levels and modes of action will be evaluated, including control of black margined pecan aphid in orchards with neonicotinoids, to prevent resistance development.

Variable-Rate/Precision Applications: We also continue to focus on variable-rate and precision aerial application. A number of aerial spray nozzles, including those designed for variable rate conditions, will be evaluated to document how changes in airspeed and spray pressure, as would be made with on-the-go rate changes, affect applied rate, spray pattern, and droplet size. Coinciding with this, we continue to examine using satellite, airborne and ground-based remote sensing data to develop prescription maps for precise application of products at the locations and rates they are needed, thereby, increasing application efficacy and effectiveness. These prescription maps will cover both crop pest managements and crop nutrient deficiency needs.

Helicopter Acquisition: Finally, the project has obtained a2004 McDonnell Douglas MD600 helicopter from U.S. Customs and Border Protection. Initially, the aircraft will be fitted with a mosquito spraying rig but we plan on expanding into other application situations as the need arises. We invite you helicopter guys to let us know of any specific research needs you may have. ■

The Aerial Application Technology Group welcomes your feedback at aerialapplication@gmail.com or the AAT website (apmru.usda.gov/aerial). Stop by Booth # 828 to visit with them at NAAA's Annual NAAA Convention & Exposition in Las Vegas.

New Emergency Response DVD Set for Release

By Ken Degg
Director of Education & Safety

NAAREF is pleased to announce its planned release of the new 22-minute DVD titled, "First Response: An Emergency Response to a Pesticide Spill." The video is produced to educate emergency first responders about what to expect if they are called to an agricultural aircraft accident or other accident involving the possible release of a hazardous material. NAAREF's intent and desire is to make the DVD available as a training aid to any organization with personnel serving as first responders.

Help make the "First Response" DVD available to as many emergency units as possible. Someday the information could save your life or the life on someone else in the industry.

More than a decade ago, a tragic ag aircraft accident occurred in which the pilot was critically injured. The first responders to the site were afraid to render medical assistance because of the unknown toxicity of materials in the hopper. They also refused to transport the injured pilot in the ambulance for fear of contaminating the vehicle and making it unusable until it was decontaminated. The pilot succumbed to his injuries.

In 1993, the California Agricultural Aircraft Association (CAAA) produced a VHS tape titled *Emergency Response to Pesticide Spill Accidents* addressing the subject of giving aid to an accident victim and suggesting methods of decontaminating the victim prior to transport. NAAREF was in the process of formulating a plan for getting our message to responders and CAAA allowed NAAREF to use their video for this purpose. In 1994, the foundation began making the video available under the NAAREF name.

Fast-forward to today. It was obvious to NAAREF it was time to update the video from VHS to DVD format and at the same time, make the content current. The new production is based on the VHS tape but care was taken to have the content reviewed by individuals who supply education for various first responder organizations. NAAREF understands the first responder's primary responsibility is to protect the safety of the public as well as their own while completing the rescue of the injured party. They are trained to avoid an unknown substance which may be hazardous. We realize we can't change this concept of protecting everyone involved, but we can offer methods for identifying the chemical more quickly. Once the product is identified, the responder no longer needs to treat it as an unknown hazard. In some cases, the aircraft is not carrying chemical—it may be empty or carrying something benign, such as seed.

The video points out once the substance is identified, a chemical label or MSDS may be consulted for cautions which should be used when handling these materials. It also tries to ease some of the first responder's fears by explaining the chemical label specifies the personal protective equipment (PPE) to be used while handling undiluted chemical. The mixture in the hopper has generally been diluted many times from the undiluted form. With many

agricultural chemicals, the required PPE may be as simple as long pants, long-sleeved shirt, shoes with socks and chemical resistant gloves.

Distribution & Dissemination

NAAREF has financed the mailing of this video to all pilots and operators on the NAAA mailing list. The intent is for a copy to be made available to all fire and ambulance services serving as first responders. We suggest operators secure enough copies for their respective working area and make themselves available for assisting in training sessions. Emergency responders regularly receive training and are generally delighted to have a chance to become familiar with an applicator's equipment.

Supplemental Training Materials and Uses

Unlike the VCR media used for the previous tape, the DVD allows some unique ways for users to learn more about their subject. Besides being able to view the presentation on a DVD player or computer, the disk can be inserted into a computer to access a PDF file with additional training material. This file can be viewed or the reference material can be printed for use by trainees. One of the drawbacks of the previous tape was the inability to furnish hands-on illustrations for use in explanations and for later study. The PDF contains excerpts from an MSDS and chemical label as well as a more in depth explanation of different aircraft systems too lengthy to be included on a video of this type.

NAAREF will make additional copies of this DVD available for purchase so operators can distribute them in their area as required. Additional copies can be ordered by email at information@agaviation.org or by phone at 202-546-5722. The single copy price is $15, shipping included, or a quote may be obtained for multiple copies.

Help the industry make this educational and informative venture available to as many emergency units as possible. Someday this information could save your life or the life on someone else in the industry. ■

NAAREF PROGRAM SPONSORS

Operators and Pilots, Federal and State Agencies, Insurance and Service Providers, Aircraft and Equipment Manufacturers, Chemical Companies, Academic Institutions and State Associations sponsor NAAREF projects, including the PAASS Program. Donations are at the category level unless individually noted. **Donors that have pledged for 3 to 5 years or have donated the last 3 years at that level are shown in bold print.**

STS Enterprise $50,000

National Agricultural Aviation Association
Environmental Protection Agency

F-22 Raptor $40,000

Federal Aviation Administration ($47,500)

P-51 Mustang $25,000

BASF Corporation

P-40 Warhawk $15,000

Syngenta

Spirit of St. Louis $10,000

Air Tractor Inc.
Bayer Crop Science
Pratt & Whitney Canada
Thrush Aircraft Inc.

Sikorsky R-4 Hoverfly $5,000

Covington Aircraft Engines Inc.
DuPont Crop Protection
Professional Aviation Risk Management Association
Ron Deck Memorial by Sky-Tractor Supply Co.

Curtiss Jenny $1,000

WNAAA ($3,000)
Chartis Aerospace Insurance Services Inc. ($2,000)
Illinois AAA ($2,000)
New Mexico AAA ($2,000)
South Dakota AA ($2,000)
Alabama AAA
Chanay Aircraft Services Inc.
CP Products Company Inc.
Garrco Products Inc.
Growers Air Service
H&P Flying Service
M M Satterfield Aviation Fuels
Andrew, Kristen & Benjamin Moore
O'Brien Flying Service Inc.
Schertz Aerial Service Inc.
Starr Aviation Agency

Piper J-3 $500

Jones Flying Service ($750)
Agriflite Service Inc.
Allianz
Bunkie Flying Service Inc.
Colorado AAA
Double L Flying Service
Everett Flying Service Inc.
Goodman Flying Service
Helicopter Applicators Inc.
K&P Flying Service
Monticello Flying Service Inc.
Thomas Helicopters Inc.
Tulsa Aircraft Engines
Lee & Nancy Turnquist

Graf Zeppelin $250

Matt Crabbe ($267)
Bell Flying Inc.
William F. Bergman
Bernard "Marty" Brill
Carroll Flying Service Inc.
Crop Air Inc.
Medina Flying Service
Plu's Flying Service Inc.
Precissi Flying Service
Richter Aviation Inc.
Rucker Flying Service Inc.
Jayne Rucker

Daedalus $100

Burnett Aviation Inc. ($200)
Hale Aviation Inc.
Richter Aviation Inc. ($200)
Thomas "Jim" Avery ($150)
Hummingbirds ($150)
Aerial Crop Care Inc.
Aerial Crop Services LLC
Aerial Sprayers Inc.
Ag Air Inc./Frontier Helicopters
American Ag Aviation Inc.
Arrow Aviation Inc.
Blair Air Service
Boedeker Flying Service Inc.
Brignac Flying Service
Reid Brown
Cady Aerial Spray
Central Valley Aviation Inc.
Charles Trower Aviation Inc.
Allen Chorman & Son Inc.
Dan's Flying Service Inc.
Floyd Aero
FMC Corp.
Garland Aviation
Garrco Products Inc.
Glades Ag Service Inc.
Golden Ranch Aviation Inc.
Golden Wings Air Inc.
Grand Prairie Dusters Inc.
Haley Flying Service
Heiderscheidt Aerial LLC
Heinen Brothers Agri Service
Holloway Air Service Inc.
Robbie Howard
Jameson's Aero Ag
Kimmel Aviation Insurance Agency Inc.
Clyde Kornegay
Lakeland Dusters Aviation Inc.
Lewis Ag Aviation
Linden Aerial Spraying
Mundell Enterprises
Nolan Ag Services Inc.
North Fork Helicopters Ltd.
Platte Valley Aviation
Probasco Flying Service
Professional Fiberglass
Quality Spraying Service
Racer's Ag Service
Roma Air Corp.
Mary Beth Schwaegel
Shelby Air Service Inc.
Douglas M. Smith
Russell Stocker
Richard M. Stoltz
Thiel Air Care Inc.
Blair Thompson
Trade Winds Ag Service
Tri-Me Spraying Service
Tri-Star Agrinautics
Valley Sprayers Inc.
Jayse Wharam
Williams Ag Service

Memorials presented to the PAASS Program

NAAREF and the PAASS Program express sympathy to all those who have lost loved ones or friends this past year. We are extremely grateful to those families who, during their time of grief, decided to request that memorial donations be made to the PAASS Program. Those memorials will be used in the production of our PAASS safety and educational program with the goal of preventing injury or death to those engaged in the aerial application industry.

Steve Allen Memorial
California AAA
Thiel Air Care Inc.

Darrell Frey Memorial by Mr. & Mrs. Dennie Stokes

Casey Garcia Memorial by Jane Barber

Dave Bickel Memorial Fund
Stephen & Barbara Adams

2011–2012

Cecil & Tamara Anderson
Arapahoe Sheriff's Employee Fund
Brett's Spray Service
Stephanie & Ronald Bryant
Claudia Day
Laura Delong
Ren & Joanne Eastman
Kimber Eubanks
Helen Fenton
Heather Gallagher
Dana & Elaine Gustafson
Hardy Aviation Insurance Inc.
Ed & Jennifer Haselden
Adele Hause
Mr. & Mrs. Ed Klinkefus
Robert Kula
Sam & Dianne Macdonald
Carol & Paul Patterson
Pocahontas Iowa Airport
Bruce & Linda Ream
Donald Schick
Kyle Scott & Family
Richard & Karen Sheldon
Lois Sorensen
Terry & Melissa Ulven & Family
Thomas & Jeannette Ulven
Nancy Ulven
Jack & Wilma Weber
Dennis & Debbie Wernsman
Curtis & Tina Wirth

Ron Deck Memorial Fund
Al's Aerial Spraying LLC
North Dakota AAA
John & Marci O'Connell
Sky-Tractor Supply Co.
Mr. & Mrs. Dennie Stokes

Alan East Memorial Fund
Mr. & Mrs. Paul Abbott
Charlotte Abell
AgSur Aviones
Air Tractor Employees
Air Tractor Paint Shop 1 & 2
Tommy & Arlene Allen
Bailey Flying Service
Bonnie & Glenn Beavers
Benny White Flying Service
Breckenridge Bible Study Group
Donald & Glenna Cagle
Mike Cobb
Conair Group
George Cossar Jr.
CP Products Company Inc.
James & Hicky Crouch
Harley Joe Curless
C. Neil & Beth Davis
Gary & Cynthia Davis Jr.
Steve Dye
Kara East
David & Garrett Eby
Kristin & Trevor Edwards
Elbit Systems
Frank Thompson and Weaver LLP
Fort Worth Air & Space Museum Foundation
Linda & Harley Garrett
George & Louise Gilkerson
Greg & Pam Gilkerson
Dr. L.J. Goodgame
WB & Clair Gurley
Dana & Elaine Gustafson
Marlin & Cindy Haberstroh
Hartzell Propeller
Don & Karen Hightower
Gary Hillhouse
Rick & Gay Ho
Sam Hobson
David & June Holoubek
J.J. Humphreys
Lee Jackson
Mr. & Mrs. Joe Jordan
Ben & Candace Kidder
Roger & Margaret Kroes
Kubecka Flying Service
Donald & Shirley Kubecka
Grant Lane
Marshall Leemann
David Ligon
Thomas Lisenby
Mike & Adrienne McClendon
Mr. & Mrs. Charlie McCool
Beckie McCullen
Leland & Patricia McDivitt
Andrew, Kristen & Benjamin Moore
Claire Musckat
National Agricultural Aviation Association
Billy Nicholas
LR & Deborah Palmer Jr.
Pratt & Whitney Canada
Charles & Cheryl Prothro
Reed's Fly-On Farming
Mr. & Mrs. Ronald Robbins
Ronny Rogers
Cary & Jayne Rucker
Jamie & Debbie Sargent
Michael Schoenau
Kyle Schroeder
J. Richard Schwalje
Donna Schwartz
Matt Searcy
Jason Smith
Springcreek Aero Club
Mr. & Mrs. Dennie Stokes
Chuck & Rick Stone
Sherry & Tom Storey Jr.
William & Patricia Tate
Bill & Dianne Taylor
Heather Hamilton Tedford
Doug Thiel
Thrush Aircraft Inc.
Traction Marketing Group
Larry & Terry Tucker Families
Ricky Turner
Troy & Phillis Vaught
Billy Wheeler
Wipaire Inc.
Cameron Wischer
Women of the National Agricultural Aviation Association
Gwynne Woodward

Leland Snow Memorial Fund
Charlotte Abell
Aerial Sprayers Inc.
Aero Dynamix Inc.
Aerosciences Inc.
Ag Pilots of MN, ND & SD
AgSur Aviones LLC
Tommy & Arlene Allen
Anderson Smyer & Riddle LLP
Hollie Baker
Jane Barber
Terry Barber
BBA Aviation USA Inc.
Jon H. Bear
Bonnie & Glenn Beavers
Blair Air Services Inc.
Jason Blanke
Lily Bond
Breckenridge Bible Study Group
Bert Bruton & Family
Paul Bruton & Family
Wyatt Burkhalter
C & C Flying Service
Canadian Aerial Applicators Association
Leon & Karen Clinton
Colorado AAA
Covington Aircraft
Craig & Leslie Craft
Harley Curless
Dallas Airmotive
Don & Barbara Dennis
David & Denise Eby
Joan & Charles Engleman
Randy & Janice Everett
Fire Boss LLC
Forest Protection Limited
George & Louise Gilkerson
Grant Lane
Hamilton Hospital
Norman & Celena Hampton
Calvin J. Hansen
Harold & Peggy Hardcastle
Marcus Hartley
Hartzell Propeller
Teddy & Mary Jane Hirsch
Hirschi Investments (John Hirschi & Susie Dickey)
Rick & Gay Ho
David & June Holoubek
Ralph J. Holsclaw
Dr. & Mrs. David S. Huang
Mr. & Mrs. Joe Jordan
Mike & Dottie Kimbro
Roger & Margaret Kroes
Dan, Wanda, Jill & Jana Kubecka
KZCO Inc.
Lamar Technologies LLC
Darrel & Dolle Lehrkamp
Mark & Kathleen Lorance
R.E. Lovett Family
M. & F. Litteken Co.
Otis & Glen Mannon
MJ Aviation Inc.
Andrew, Kristen & Benjamin Moore
E.W. Moran Jr.
Murphree Flying Service Inc.
National Agricultural Aviation Association
Curt & Shari Nixholm
Ohio Agricultural Aviation Association
Pacific Northwest AAA
Richard Packer
Dale & Jill Pence
John & Lois Pew
Georgia E. Pogue
Pratt & Whitney Canada
Ann & Bill Price
Principal Financial Group
Charles B. & Cheryl Prothro
Diann & Jose Reyes
Ronny & Donna Rogers
Kevin C. Ross
Fred & Juerrine Routon
S & T Aircraft Accessories Inc.
W.T. Sanders Jr.
Scarlett Hatters of the Falls
Al Schiffer
Mike Schiffer
Michael Schoenau
Ed & Beth Smith
Mr. & Mrs. Carr Staley
Stewart's Food Store Inc.
Joe Tannehill
Bill & Dianne Taylor
Heather Hamilton Tedford
Doug Thiel
Mr. & Mrs. Leroy Upham
Dr. Hulse & Carol Wagner
Rick & Brenda Watts
Gordon & Alice West
Jerry R. Williams
Cameron Wischer
Women of the Mississippi AAA

Bill Spain Memorial Fund
California AAA
Thiel Air Care Inc.
Tulare Ag Flying Service

NTSB Accident Report

Date	City	State	Aircraft Type	N #	Injury	Description of Accident
04/23/11	Belhaven	NC	G-164A	8896H	Minor	Hit crop while entering field
06/11/11	Cash	AR	G-164B	3629C	None	Power loss on takeoff–hit levee on forced landing
06/14/11	Glasgow	MT	Ce 188	9802V	Minor	Fuel exhaustion
06/18/11	Faith	SD	PA-25-235	7018Z	Minor	Collided with terrain
06/18/11	Montgomery City	MO	47G-4A	24HM	None	Settled after takeoff–hopper loaded on slant–overfilled
06/24/11	Castroville	TX	A188B	731ST	None	Hit irrigation system–chemical on windshield
07/09/11	Yuba City	CA	G-164B	7503L	None	Power loss–damaged on forced landing
07/13/11	Minot	ND	PA-25-235	7709Z	None	Boom hit dirt berm along road used for runway
07/18/11	Burlington	CO	S2R-T34	70216	None	Lost power on final–landed short
07/19/11	Greenstown	IN	A188B	4725R	None	Booms caught in crop canopy
07/20/11	Watsonville	CA	47G-5	1375X	None	Blade hit pole–flying beneath wires washing out hopper
07/21/11	Devils Lake	ND	A188B	731AU	None	Stalled during spray turn
07/21/11	North English	IA	G-164A	5439	None	Lost control on landing–chemical on windshield
07/22/11	Ullin	IL	AT-802A	396LA	Minor	Power loss–damaged during forced landing
07/25/11	Anderson	IN	M-18A	92640	None	Power loss–damaged during forced landing
07/25/11	Wilton	IA	UH-34D	3880J	FATAL	Hit terrain for unknown reason
07/26/11	Drew	MS	AT-602	8525L	FATAL	Crashed in fog–reported 200-foot visibility
07/27/11	Creston	IL	OH-13E/M74	10009	Minor	Caught skid on cart on landing–rolled over
07/27/11	Nicolett	MN	47G-2A	7578	None	Lost RPM in turn–Hit ground
07/30/11	Hettinger	ND	We 620B	90181	None	Power loss–cracked cylinder
07/31/11	Rushford	MN	OH-58C	82855	None	Hit power line–distracted by horses
07/31/11	Porterville	CA	47G-5	6260C	None	Unable to remain airborne on takeoff
08/01/11	Joice	IA	OH-13H/M74A	51857	None	Hit power line and impacted terrain
08/02/11	Charles City	IA	47G-2A	4771N	Serious	Fuel Exhaustion–Pilot distracted and forgot to fuel
08/03/11	Hazelton	ID	S2R-600	4021S	None	Power loss–damaged during forced landing
08/08/11	Willcox	AZ	AT-602	5123L	Minor	Hit GPS tower–force landed
08/10/11	Nelson	NE	AT-400	3659N	Minor	Mechanical–unable to reduce power
08/10/11	Bronson	IA	We 201C	9054W	None	Unable to maintain airspeed in rough terrain–hit tree
08/10/11	Mansfield	SD	G-164A	127FC	None	Power loss–damaged on forced landing
08/14/11	Los Banos	CA	47G-3B-2	475AL	None	Power loss–landed in almond grove
08/20/11	Whitewood	SD	PA-25-235	7051Z	FATAL	Hit terrain for unknown reason

Welcome to New Members

As of September 15, 2011

OPERATOR

Kent Croom
Croom Aviation
Donalsonville, GA

Melvin Neidert
Ulysses Air Service
Ulysses, KS

ALLIED INDUSTRY

Rick Richardson
BIOBOR by Hammonds Fuel Additives
Houston, TX

Thomas Brittain
Headsets Inc.
Amarillo, TX

AFFILIATED ALLIED

Jeffrey Bradshaw
Syngenta
Plainfield, IN

Blaine Calaway
Syngenta
Bloomington, IL

Steve Fleming
Syngenta
Lake St. Louis, MO

Todd McNeal
Syngenta
Overland Park, KS

PILOT

Wade Berry
Devil Dusters Inc.
Lake Arthur, NM

Andrew Burr
Cassville, MO

John Conyers
Air Care Inc.
Lamar, CO

Derek Hallum
Tommy's Flying Service
Keo, AR

Warren Hubbard
Merritt Island, FL

Jerry Marshall
Thomas, OK

Christopher Morris
Patton Custom Fertilizer
Sunray, TX

Willie Nelson
Tommy's Flying Service
Keo, AR

John Otten
Ag Flyers
Lingle, WY

Greg Souther
Fernandina Beach, FL

David Trotter
Glover Aviation
Heber Springs, AR

Ryan Turner
Arkadelphia, AR

WNAAA

Karen Brunetti
Shelby Air Service Inc.
Shelby, MS

Kathy Diehl
Garden City, KS

Kristy Kelley
Kelley's Flying Service LLC
Bay City, TX

Jill Pence
Pence Aerial Service
Richmond, MO

ASSOCIATE

Robert Fusco
Valent
Mifflintown, PA

Robbie Howard
Bradenton, FL

Christopher Stratman
Heritage Petroleum LLC
Evansville, IN

Test Your Knowledge Answers

Continued from pg. 43

1. The correct answer is A. The certification of people handling and applying pesticides is a part of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) which is enforced by the Environmental Protective Agency (EPA) as well as other state, tribal and territorial pesticide regulatory agencies. (Aerial Applicator's Manual: A National Pesticide Applicator Certification Study Guide [AA Manual], pgs. 9–10)

2. The correct answer is D. As a general rule, washing the skin with soap and water will reduce the pesticide exposure. Consult the chemical label for additional first aid recommendations. (AA Manual, "Planning for Emergencies," pgs. 28–30)

3. The correct answer is C. The answer key indicates that C is the correct answer. This may be based on the AA Manual, pg. 35, which states, "In wind speeds ranging from 1 to 9 mph, droplets that are 200 microns or larger have insignificant drift potential." C is the "most correct" answer because we know nozzle orientation, spray pressure and physical properties of the spray mixture do have an effect on drift. (*Editor's Note: Our experts say the question is not worded correctly because wind does have an effect on drift. In this case, it may be a positive effect since the wind is a constant wind of only 3 mph which is sufficient to break up the "mist cloud" while providing a predictable direction of movement but not enough to carry the droplets over 200 microns a significant distance.*)

4. The correct answer is B (see explanation below). The question would be much easier to understand if the word "valves" was replaced with "lines." Air bleed lines should be installed when there is a section of the boom beyond the outermost nozzle. Air caught in this void will be pressurized and will cause the spray to continue flowing for a short time after the spray valve is closed. (AA Manual, pg. 48). (*Editor's Note: Our experts agree that answer A is also correct. The air bleed line does prevent pressure from building up from the trapped air when the valve is opened but as a result also prevents spray from continuing to flow from the nozzles after the spray valve is closed making answer A correct as well.*)

5. The correct answer is C. The effective swath width should include overlaps made with each pass to achieve a more even application. This width may be less than the actual swath width. (AA Manual, "Swath Width," pgs. 67–68. Also refer to pgs. 76–77 for granular swath width discussion)

6. The correct answer is C. The answer can be calculated by this method. If you are applying 147 gallons of spray at a rate of 11.3 gallons per acres, the answer can be easily arrived at by simple division. 147 gallons/11.3 gallons per acre ≈ 13 acres. (AA Manual, "Equipment Calibration Methods," pgs. 65–75)

7. The correct answer is C. If the speed of the aircraft over the ground is varied while the flow volume remains the same, the rate of application per acre will change resulting in uneven coverage. (AA Manual, pg. 87)

8. The correct answer is B. If the height of granular application is too low, granules will still be moving horizontally when they reach the ground resulting in less than the optimum pattern width. (AA Manual, pg. 90)

Trivia Answers

9. According to Mabry I. Anderson in his book "Low & Slow," the aircraft used by Lt. Macready was a Curtis JN-6H (Jenny).

10. According to Mr. Anderson in "Low & Slow," the first airplane designed for ag flying was the Ag-1. The Ag-1, built at Texas A&M University at College Station, Texas, first flew on Dec. 1, 1950. The primary design work was done by Fred E. Weick, known to aviation history as the designer of the Ercoupe which was the first and only "one-control" airplane without rudder pedals ever marketed. The Ag-1 was not designed as a production aircraft but rather as a learning tool in the development of a production ag plane. The Ag-1 evolved into the Ag-3 which became known as the Piper Pawnee.

Stearman Fly-in Stokes Memories of Ag Aviation's Past

By day Randy Hardy of Hardy Aviation Insurance Inc. sells aviation insurance. Whenever the opportunity arises, though, he likes to take his 1943 PT17 Boeing Stearman out for a spin. He is a member of the Stearman Restorers Association and an avid Stearman enthusiast. So much so that in early September he participated in the 40th annual National Stearman Fly-in in Galesburg, Ill. Hardy's biplane was one of an estimated 139 Stearmans that turned out for the event organized by the National Stearman Foundation. If you look closely at this photo, you'll notice a group of Stearmans lined up behind Hardy (front and center) and his friends.

In many respects, today's ag pilots owe a debt of gratitude to the Stearman. As Mabry Anderson put it in "Low & Slow: An Insider's History of Agricultural Aviation," "The development of the Stearman aircraft virtually assured the future of ag aviation." The original Stearman was designed in the 1920s. It was a popular training aircraft during World War II because it was easy to fly and almost perfect in terms of its aerodynamics. When the war ended in 1946 thousands of Stearmans hit the surplus market. Dusting companies and ex-military pilots swooped in and bought many of them at bargain prices. Coupled with the advent of new chemicals, by the late 1940s the Stearman had become a ubiquitous tool of the ag aviation industry and the precursor to today's modern ag planes. ■

NAAA's Online Job Bank Will Empty Out at End of the Year

Are you a pilot looking for work or an operator looking for a pilot? The job listings section of NAAA's website is a resource for owners and pilots to connect with each other. Anyone can browse the listings for job openings and pilots available for work. Only NAAA members are afforded the ability to post a listing. Currently, a handful of operators and several pilots have listings up on NAAA's website. These listings will remain on the site until the end of the year. All previous year's listings will be removed at the beginning of January at which point pilots looking for work and operators looking for pilots may post a new, up-to-date job listing.

To access NAAA's job listings or create your own, visit www.agaviation.org/content/job-listings. The printable job submittal form for non-members is also available there. For questions or help creating or updating a job listing, please call the NAAA office at 202-546-5722.

CLASSIFIEDS

Hardy's PT17 Boeing Stearman


NAAA
NATIONAL AGRICULTURAL AVIATION ASSOCIATION®
We get it.
You're used to flying solo. But everyone knows you can't do it alone.
And neither can NAAA.
Membership matters.
Join NAAA in its efforts to preserve and protect agricultural aviation and your way of life. Call (202) 546-5722 or visit www.agaviation.org to join the cause.

Index of Advertisers

U.S. POSTAL SERVICE STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

1. Publication title: *Agricultural Aviation.*
2. Publication number: 0745-4864.
3. Filing date: October 10, 2011.
4. Issue frequency: bimonthly.
5. Number of issues published annually: 6
6. Annual subscription price: $30 (domestic); $45 (international)
7. Complete mailing address of known office of publication (not printer): 1005 E Street SE, Washington, DC 20003
   Contact person: Jay Calleja, Managing Editor; Tel (202) 546-5722.
8. Complete mailing address of headquarters of general business office of publisher (not printer): National Agricultural Aviation Association, 1005 E Street SE, Washington, DC 20003
9. Full names and complete mailing addresses of publisher, editor and managing editor: Publisher and Editor, Andrew Moore, National Agricultural Aviation Association, 1005 E Street SE, Washington, DC 20003; Managing Editor, Jay Calleja, National Agricultural Aviation Association, 1005 E Street SE, Washington, DC 20003
10. Owner: National Agricultural Aviation Association, 1005 E Street SE, Washington, DC 20003
11. Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities: None.
12. Tax status (for completion by nonprofit organizations authorized to mail at nonprofit rates): The purpose, function and nonprofit status of this organization and the exempt status for federal income tax purposes: has not changed during preceding 12 months.
13. Publication title: Agricultural Aviation
14. Issue date for circulation data below: September/October 2011

15. Extent and nature of circulation:	Average no. copies each issue during preceding 12 months	Actual no. copies of single issue published nearest to filing date
A. Total number of copies (net press run):	6,082	6,200
B. Paid circulation (by mail and outside the mail)		
1. Mailed outside-county paid subscribers stated on PS Form 3541	5,641	5,685
2. Mailed in-county paid subscribers stated on PS Form 3541	0	0
3. Paid distribution outside the mails including sales through dealers and carriers, street vendors, counter sales, and other paid distribution outside USPS	70	76
4. Paid distribution by other classes of mail through the USPS	50	50
C. Total paid distribution	5,761	5,811
D. Free or nominal rate distribution (by mail and outside the mail)		
1. Free or nominal rate outside-county copies included on PS Form 3541	0	0
2. Free or nominal rate in-county copies included on PS Form 3541	0	0
3. Free or nominal rate copies mailed at other classes through the USPS	60	59
4. Free or nominal rate distribution outside the mail	55	50
E. Total free or nominal rate distribution	115	109
F. Total distribution	5,876	5,920
G. Copies not distributed	206	280
H. Total	6,082	6,200
I. Percent paid	98.0%	98.2%

16. Publication of Statement of Ownership will be printed in the November/December 2011 issue of this publication.
17. I certify that all information furnished on this form is true and complete.

(signed) Jay Calleja, Managing Editor

Aircraft insurance solutions from people who share your passion.

At Chartis, many of our aviation underwriting and claims professionals are pilots themselves, so they understand your needs—and have the answers you're looking for. We are a full service provider for coverages required for the aerial applicator, whether it would be spraying row crops, tree farms, rights of way or mosquito. We can provide coverage for ground rigs, CGL and Workers' Compensation in most states. Ask your broker about Chartis or visit **www.chartisinsurance.com/aerospace**

CHARTIS®
Your world, insured

At Day's End, You Know You've Accomplished Something.

An Air Tractor has a strong work ethic, just like you. Because getting more acres sprayed in a day is what counts for you and your customers. Performance, with no excuses. No other airplane delivers like an Air Tractor.

Air Tractor Global Dealer Network

Domestic

FARM AIR, INC.
(877) 715-8476
farmair@winco.net

FROST FLYING, INC.
(870) 295-6213
jrfrost47@hotmail.com

LANE AVIATION
(281) 342-5451 /
(888) 995-5263
glane@laneav.com

NEAL AIRCRAFT, INC.
(806) 828-5892
larry@nealaircraft.com

QUEEN BEE AIR SPECIALTIES
(208) 745-7654 / (800) 736-7654
chipkemper@aol.com

SOUTHEASTERN AIRCRAFT
(772) 461-8924 / (800) 441-2964
mail@southeasternaircraft.com

VALLEY AIR CRAFTS
(559) 686-7401
valleyaircraft@clearwire.net

Parts Only

ABIDE AERO CORP.
(662) 378-2282

International

AGSUR AVIONES, S.A.
(Argentina & Brazil)
+54-2477-432090
amoreno@waycomnet.com.ar

AIR TRACTOR EUROPE
(Europe & North Africa)
+34-96-265-41-00
v.huerta@avialsa.com

CONAIR GROUP INC.
(Canada)
(604) 855-1171
rpedersen@conair.ca

FIELD AIR (SALES) PTY. LTD.
(Australia)
+61-353-394-222
sales@fieldair.com.au

FROST FLYING, INC.
(Central & South America,
except Argentina)
(870) 295-6213
jrfrost47@hotmail.com

LANE AVIATION
(Mexico, Central & South America,
except Argentina)
(281) 342-5451 / (888) 995-5263
glane@laneav.com

MOKORO SAFARIS
(South Africa)
+27-568-181-703
mokoro@mweb.co.za

QUEEN BEE AIR SPECIALTIES
(Canada)
(208) 745-7654 / (800) 736-7654
chipkemper@aol.com

AIR TRACTOR®

Air Tractor, Inc.
Olney, Texas 76374
940-564-5616

airtractor.com