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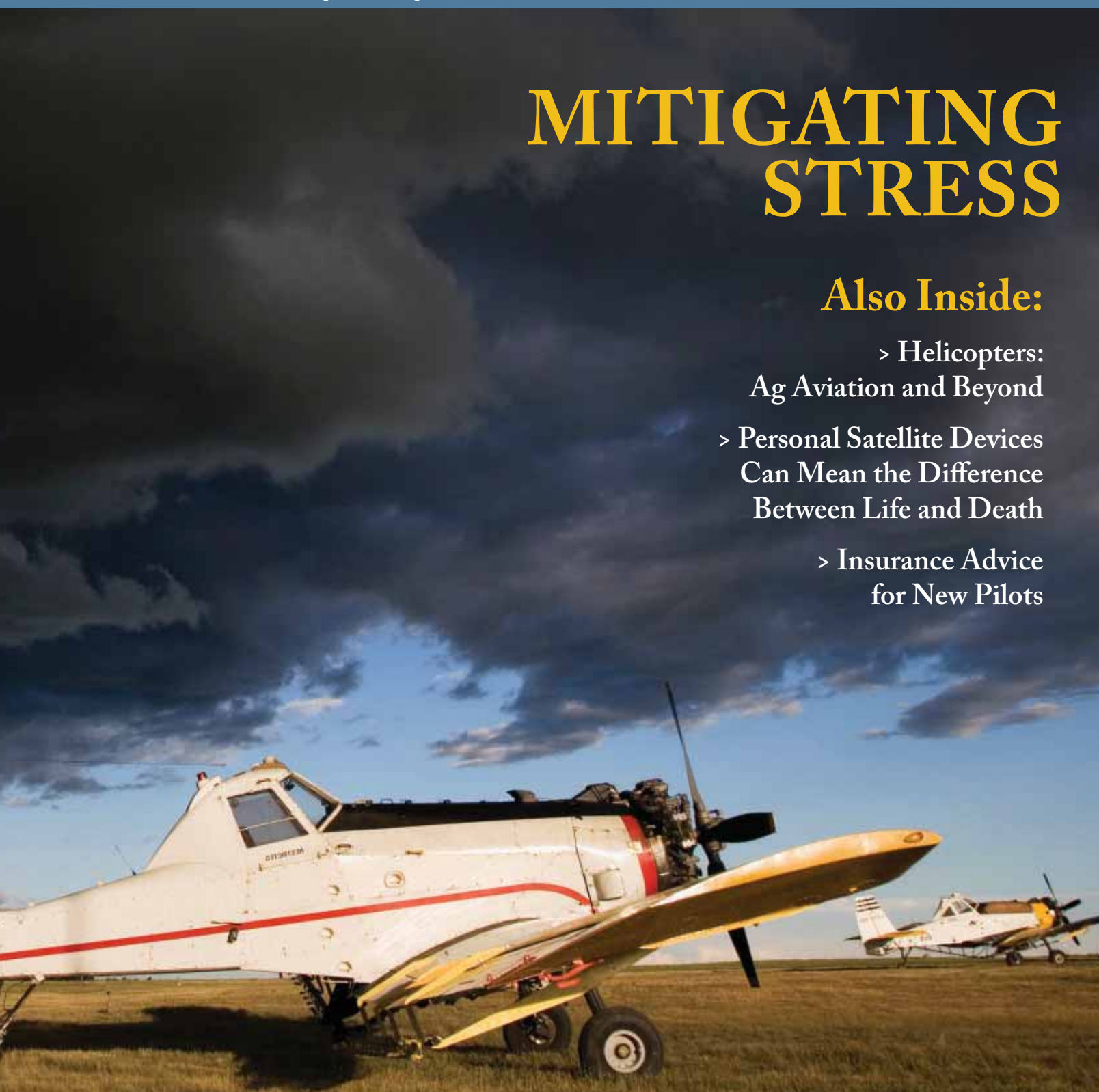

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The purpose of NAAA shall be to advance the aerial application industry and its members in their efforts to enhance agriculture, and to protect the public health and the environment.

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

President's Message

Doug Chanay

Information for new Ag Pilots

Traveling to state and regional conventions this spring has been very interesting, informative and educational. There is a lot of interest in mentoring new pilots into the aerial application business. There were many Com*paass* Rose programs held during the conventions that I was able to attend, in which there was a lot of interest in how new pilots get started. There was also a lot of advice from operators about situations that occur during spraying operations - both in the cockpit and on the ground. There was also information on the technique of finding fields by dead reckoning and GPS systems through latitude and longitude. Many seasoned operators had advice for the new pilots on the most correct method of getting the proper training. There was also discussion at these Com*paass* Rose sessions on ethics new pilots should follow in respect to the operators that mentored them. These include important rules about fairness and competition after training has been provided. A trained pilot's loyalty to the one who took the time to train him should be given consideration so as not to go into competition next door for a given time period to be agreed upon the operator and trainee. Becoming an ag pilot is challenging enough without bringing about bad karma upon himself.

There is a tremendous amount of knowledge one needs to have in order to be an ag pilot. Learning the very basic information about becoming an ag pilot takes about six months to a year of exposure to farming, as one needs to have a basic knowledge of farming practices in order to make the correct decisions on applications to be made. Ag pilots need to be familiar with and be able to identify different crops from the air. Ag pilots need to be able to determine how the crop nearest the crop being targeted would be affected - good *or* bad – before activating the "money handle". Everything an applicator treats will have an effect of some kind on the crop to which he is applying. In the event of a misapplication there can also be effects on nearby crops, trees, animals, and people. It is very important to consider this when making applications.

Vast amounts of product labels need to be studied for uses and for proper precautions to be observed. The first part of a label lists the product's common name as well as its chemical name and active ingredients, inert ingredients and the percentage of each. Important use instructions exist on all labels that must be obeyed by the applicator. The labels will outline environmental hazards, cautions and safety requirements. Labels also specify application methods by ground, air, and sprinkler. Then there are the crop labeled uses that are allowed. Everyone should be familiar with the labels of products they use to ensure safe applications and to find information in a reasonable amount of time.

When one has gotten far enough in their flying experience to have achieved a commercial rating, tail wheel endorsement and enough experience to be comfortable with all preliminary knowledge, then one is ready to start the learning to become an ag pilot. In a lot of ways the flying may be the easiest part of being an ag pilot. It always seemed to be the most enjoyable part to me, even though there is a tremendous amount of thought processes used in flying – starting with making sure the aircraft is airworthy. Always check for yourself that the equipment is in operating order. Then become as familiar with an aircraft as one can - from the placement of instruments to the switches. Practice flying maneuvers such as lazy eights for coordination as this is a good way to get the feel for control inputs the airplane needs. Then listen to what the aircraft is trying to tell you - such as when it might stall and how to react in such an occurrence. Landings and takeoffs are the next best maneuver aspiring ag pilots should practice. They teach you about the distance off of the ground you should become familiar with for when you're flying over crops. This is only a small amount of the overall information that ag pilots think about.

The most important thing less experienced ag pilots should remember is that if you have any questions or doubts, you should always ask someone more experienced and not make any assumptions. The only bad questions are the ones we don't ask. We are all in this industry together for the long haul and our future depends on each of us.

Executive Director's Message

Andrew Moore

Using Ag's Air Force to Influence Public Policy

There is a new Commander-in-Chief in our nation's capital and down the street from him in the Capitol Building 59% of the Congress share his party-affiliation. The gridlock that has kept Congress, and to some extent the regulatory agencies, at a standstill in recent years is thawing. As a result, NAAA has been working double time in following this fast pace of policy-making and in trying hard to protect the agricultural aviation industry from this onslaught. This is a tough challenge when you consider the few ground troops we have on staff compared to the army of congresspersons, policymakers and their respective staff. The good news is we have Ag's Air Force. Ag's Air Force is you—the members that actively involve themselves in communicating the important role our industry plays in agricultural production to your government representatives and community and why the industry needs to be protected from unnecessary and burdensome policies so that it may continue to provide these invaluable services. Ag's Air Force has flown multiple sorties this year to represent national interests to Congress and to the regulatory agencies.

For example, when the NAAA Board met in Washington, DC earlier this year a number of members took to Capitol Hill to lobby Members of Congress. An Arkansas delegation (see picture) met with Congressman Marion Berry (D-AR) urging his continued support of obtaining FAA funding for our educational program PAASS that has resulted in significant reductions of fatalities and drift incidents in our industry since the program's inception in 1999. Shortly after the Board meeting President Obama signed the Omnibus Appropriation Bill for Federal Fiscal Year 2009 appropriating FAA resources to this important ag aviation stewardship program.

Former NAAA Presidents from Texas Bob Bailey (2008) and Randy Hale (2006) met with their U.S. Senators and U.S. Representatives to lobby for federal funds to research new, more efficient, aerial application technologies. They, too, were successful. The 2009 Omnibus Appropriations Bill referenced above included $580,000 of additional funding for USDA-ARS aerial application research in College Station, Texas. Over the past eight years NAAA has been successful in obtaining an additional $4.58 million in federal funding for this research that results in technologies and new aerial techniques that enable prescriptive and precise amounts of product to be delivered aerially exactly where needed in a manner that also results in mitigating drift. Additional efficiencies include fuel savings as the result of being able to treat more acres with a single load by using the precision technology.

2005 NAAA President Scott Schertz has been to Washington, DC five times so far this year for meetings with chemical registrant representatives and the EPA. The purpose of these visits has been to recommend to the Agency, as it works to develop drift policy, pesticide label language that serves the purpose of mitigating drift while at the same time provides applicators flexibility and does not open up applicators to frivolous lawsuits.

These are just a few of many examples of Agriculture's Air Force troops working to influence public policy and opinion. Other examples can be read in the NAAREF President's column on page 8 and in the Washington Report on page 10.

All of us in the industry can play a role in influencing public policy whether it is visiting with state or federal legislators or regulators, answering requests NAAA makes to submit comments or calls to the government regarding proposed policy, contributing to the AgAv PAC (see page 42 on making a contribution) or actively showing the new video Aerial Application's Growing Role to public servants, media or to the public in general in your locality. We have a great story to tell—helping to create a safe, affordable and abundant supply of food, fiber and bio-fuel, not to mention

providing forestry, fire-fighting and public health spraying services. Farmers are able to produce this abundance on only 20% of the land in the U.S. because of high-yield agriculture and the crucial service we provide. The remaining 80% of land can therefore be used for other purposes. These uses include: grassland pasture and range (26%); forests (19%); parks, wilderness and wildlife (13%); urban (3%); deserts, wetlands and miscellaneous lands (10%).[1] Of the nations 442 million acres of cropland about 70% is commercially treated; aerial accounts for roughly 25% of the amount of commercially treated cropland. This accounts for approximately 77 million acres of cropland treated aerially each year (and this doesn't account for the pasture, range, forest land and public health acres aerial treats). The bottom line is our industry does much for the public and that message must get out. Many are doing their part as the examples referenced above indicate. To be truly effective we must all engage. Our work is cut out for us as we are facing a very active time in public policy promulgation. So be ready and willing to serve. Thanks.

1 United States Department of Agriculture, Economic Research Service, "Land Use, Value, and Management: Major Uses of Land (2002).

***Berry Effective:** A squadron of Ag's Air Force from Kansas and Arkansas take to Capitol Hill to visit with Congressman Marion Berry (D-AR). The Congressman was instrumental in procuring FAA funding for the Professional Aerial Application Support System (PAASS) and its efforts to enhance aviation safety and mitigate drift. From left to right: NAAA Secretary Brent Short, MM Satterfield Aviation Fuels, Conway, AR; NAAA President Doug Chanay, Chanay Aircraft Services, Garden City, KS; Doug Davidson, Davidson Solid Rock Insurance, Clinton, AR; U.S. Representative Marion Berry (D-AR); Brenda Watts, K & P Flying Service, Watson, AR; Wayne Keahey, Dirty Bird Inc. Grady, AR; and Lou Stokes, Stokes Flying Service, Parkin, AR.*

WNAAA President's Message

Elaine Gustafson

Education is the Key

I woke up this morning to the sound of the wind chime. That means the wind has come up during the night. It's a good thing we don't have work for today. I am sure that in some areas you have to contend with more windy days making it more of a challenge to get anything done. The most wind we usually want is about 7-8 mph. But with such small fields and sensitive areas that's about all we can tolerate. It's amazing how much the weather dictates when we can or cannot work. That there must be a wind from a certain direction at a certain speed just to finish a field or even to begin doesn't cross the minds of many people. And the wind is only one of many things to consider before the work is done. Most people don't understand that what we do as an industry really does take a lot more time, thought and training than just getting into an airplane and spraying the field.

The pilots are not daredevils. They are highly trained professionals. Yes, the job can be dangerous, but only if you aren't paying attention or if you aren't prepared for the job of the day. This education is an ongoing process for the pilot as well as the public.

When the WNAAA was first thought of by some very insightful ladies, it was with the idea of promoting agricultural aviation through education and communication. It continues to this day. The Women of the National Agricultural Aviation Association are dedicated to education, communication and the promotion of our industry. With the development of the PAASS program, the WNAAA developed the Athena program for the spouses and significant others of pilots and operators. The Athena Project has been a very successful undertaking by the WNAAA. Athena was the daughter of Zeus. She was the goddess of wisdom, agriculture and handicrafts, a very fitting name indeed. The ladies that have kept the Athena Project alive must be commended. It has been a lot of work and they have dedicated themselves to providing a quality presentation to each and every state organization that has asked them to attend their conventions. Unfortunately there have been too few ladies doing all of the work and all of the traveling. The Athena project will only be presented at the NAAA National Convention in Reno this year and I recommend all who can, attend the WNAAA Meetings.

We also promote agricultural aviation through our scholarship program. I feel even children and grandchildren of agricultural aviators who have grown up with the business can learn a lot by just researching a topic about our industry as witnessed by our previous scholarship winners. We have received many quality applications over the years. It would be wonderful if they all could be rewarded for their efforts, but that is just not possible. Another way we can promote our industry is to visit schools or invite classes to our airport to actually see the airplanes and the pilots. It's really a rewarding experience. I know that many of you do this every year. If you haven't had the opportunity, I encourage you to do so.

There are many times throughout the day when I am reminded of lessons I have learned while being involved with this organization. Lessons like knowing that there are friends out there who understand exactly what I am going through and who will drop anything just to talk to me and I would be happy do the same for them.

I wish you all the favorable winds and long runs. Fly safe.

NAAREF President's Message

Randy Hale

Why PAASS?

Have you ever asked or have you been asked, why do we need PAASS? Well, we know that Pilot safety would probably be the number one answer to that question. The evidence is clear that PAASS is working. Since the start of the program, the accident rate is down by 23% and drift claims are down by 26%. Fatal accidents are among the lowest levels ever. Some insurance underwriters give discounts for PAASS attendance, and many states accept the training as CEU credits. These are the obvious benefits of the program that we can put numbers on and measure in a way to see our progress. As you will see in this article, some of PAASS's paybacks are not so easy to see.

As the President of NAAREF, I was recently asked to make a presentation about the aerial application industry in the United States and what the industry is doing to reduce drift. The invitation came from Jay Ellenberger, Associate Director, Field and External Affairs Division, EPA Office of Pesticide Programs. The audience would be the Risk Reduction Steering Group of the Organisation for Economic Co-operation and Development (OECD). The first question I had was, what is the OECD and what do they do? The OECD is an intergovernmental organization with 30 member countries (the U.S. is a member) that provides a forum in which governments work together to address the economic, social and environmental challenges of interdependence and globalization. These governments share experiences, seek answers to common problems and identify good practices. The seminar was titled, "Pesticide Risk Reduction through better National Risk Management Strategies for Aerial Application" and was held in San Francisco, California. With a lot of help from Ken Degg, NAAA's Director of Education and Safety, we put together a presentation focusing on the PAASS training program's benefits and its success.

The first day of the seminar had a field trip scheduled to visit an aerial application business, a vineyard, and an almond orchard. We loaded onto a bus at 7:30 am and headed off on a two hour ride to Bob's Flying Service Inc. in Knights Landing, CA, where ag pilot Russ Stocker was giving a presentation and a tour of the operation. On the bus ride we were encouraged to visit with and get to know one another. There was a little problem with the language differences (most couldn't speak Texan) but it was a great opportunity to educate others about agriculture in the U.S. and the aerial applicators' role in protecting crops. Arriving at Bob's, I was pleased to see not only Bob, Russ and Bob's crew but California members Gary Del Carlo (past NAAA VP), Rick Richter (current NAAA VP) and CAAA President Terry Gage. Russ did a great job telling this group about what he does everyday as an ag pilot He discussed his obligations to the growers, the operator he works for and the community he works in. He also showed some research he is involved in and some of the drift reduction projects he is working on. We then split into two groups with Bob explaining the different parts of his AgCat and Russ showing off his wind tunnel and nozzle designs. Many thanks go to Bob, Russ and all involved in opening his operation up so people who haven't seen the inside of ag aviation could get an up close look.

Back on the bus we were off to Lodi, California and the Lange Twins Winery for lunch and a look at the equipment used at the vineyard. The meal was good as was the wine tasting (there are perks to this job) but we didn't hear

Smart Sprayer?

much about aerial application. Randy Lange showed us his electrostatic spray machine and discussed the time and financial benefit of using less water in his spraying operation. We brought up the fact that the same technology is being used on ag aircraft with similar results. The next stop was an almond orchard to see a demonstration of a Smart Sprayer. This is an air blast orchard sprayer with sensors built in to detect when a tree is near. A computer turns the spray on when it senses a tree and off when it is between them. Again there wasn't much here about aerial application, but I was about to get the opportunity to discuss the importance of training on any type of sprayer. As the "Smart Sprayer" started its application run it was working great until it came by the group and thought we were trees and gave us a good spraying. The operator wasn't a professional applicator and the machine only had water in it so no damage was done, but it planted a seed for the presentation the next day. On the way back to San Francisco I received a call from Clint Hoffmann from USDA-ARS in College Station. He was in town to attend the presentations and wanted to have dinner that night. Clint's expertise on aerial application technology would be a great help during the presentations and now there was someone here that could understand Texan.

The last day of the seminar was scheduled for presentations from several sides of aerial application. The headings were "Training & Certification of Aerial Applications on Drift Management (USA)," "Government Regulatory Initiatives," "Experience and Perspectives (European Commission)," "Aerial Application Equipment and other Technologies for Drift Management (Australia/New Zealand, Germany, Crop Life International)" and "Perspectives from the Public on Aerial Application (Pesticide action Network)." The meeting opened with a video we had included in our program. It was one minute long and brought several "ooo's" and "aah's" as ag aircraft did their graceful work on the screen. The twenty minute presentation on PAASS training that we had put together went over well. We were able to show the program's focus on safety, security and drift reduction along with the numbers to back up the success it has had. When the spraying incident from the day before was mentioned it was the perfect opportunity to explain that training is the key in any type of application and that the aerial application industry has led the way in training professional applicators.

The other presentations were interesting because of their international perspectives. A discussion of the ban of aerial application in the European Union brought comments from around the table. The ban seems to have been passed without much study on the effects on growers or the environment. The presenter from Australia included news about wind sensitive buffers on labels there. It provides a buffer on the downwind side next to sensitive areas which can be sprayed when the wind conditions change. The last speaker was Susan Kegley from the Pesticide Action Network North America (PANNA). The topic was drift from aerial spraying: the view from the other side of the fence. The group believes that pesticides are doing great harm to people and the environment even when applied legally. They say that any enforcement actions that are taken are weak and don't stop illegal applications. Their preferred approach to the problem is no aerial applications of any products. They urge regulators to change drift language on labels to include buffer zones, wind speed restrictions etc. and pull labels on the most toxic chemicals. A lively round table discussion ended the day with everyone allowed to ask questions and make comments.

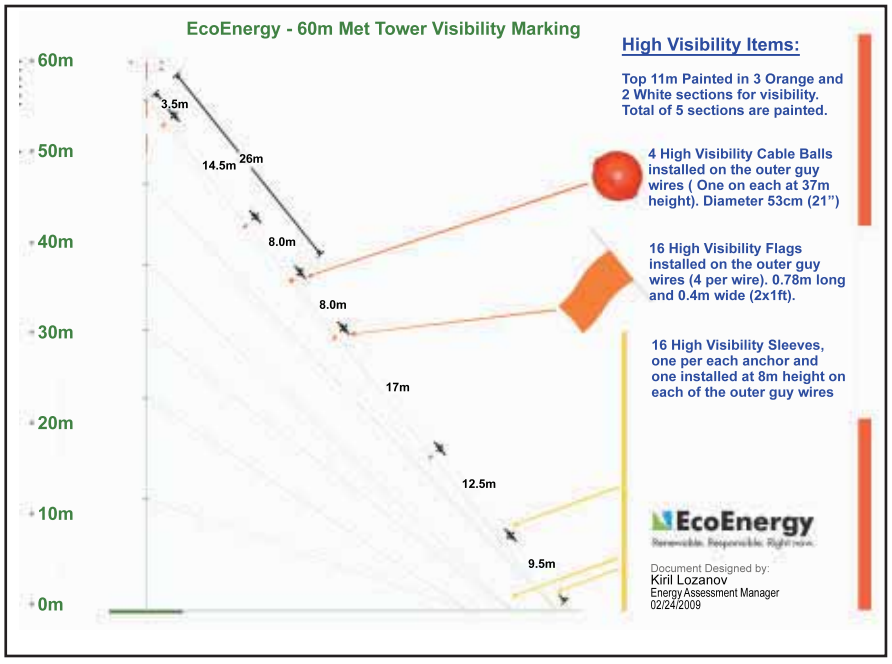
Without the NAAA and the PAASS program we would not even be at the table during these discussions. As you can see there are people out there that want to see our industry gone. These are smart well financed groups that must be taken seriously. The first question that was asked after the presentation was how many aerial applicators are in the U.S. and how many are members of NAAA and have been PAASS trained. If we are to win these battles we must continue to train ourselves to become the most professional means of pesticide application. This includes all of us, not just half of us. The next time you ask, why do we need PAASS remember "Upon the Performance of Each Rests the Fate of ALL."

Washington Report

Working for Symbiosis with Big Wind

It's no longer "Big Oil" now that black gold has declined from a record high of $147.27 a barrel last July to a recent low of $32.41 (as of the writing of this article the price was just below $50.00). Now, it seems, the new money-making energy source is wind. Some in our aerial application community are calling it "Big Wind" because of the influence the wind-energy industry is displaying in setting federal and local wind energy policy. The wind energy industry is a hotspot in an overall chilly national economy. The industry experienced a growth surge of 50% in 2008. A key to the industry's success is a 2.1 cent subsidy per kilowatt hour provided by Uncle Sam. Wind energy currently supplies less than 2% of the country's energy but the American Wind Energy Association (AWEA) seeks a national standard of 25% renewable electricity by 2025. Wind is an energy source wholeheartedly embraced by the Obama Administration.

Unfortunately, wind energy policy and the locations where these turbines and sampling towers are situated do not always take into account the aerial application community's concerns. Improper placement of wind turbines, related meteorological testing towers and the additional power lines to join them to the grid may jeopardize the safety of agricultural pilots as well as prevent them from accessing and treating a farmer's land. There are, however, a number of efforts taking place to develop a more symbiotic relationship between "Big Wind" and aerial application.



Mark it and they won't come: *EcoEnergy, manufacturer of a meteorological testing towers has developed the marking design above for its towers that has been endorsed by the NAAA.*

NAAA has been working with federal legislators to require the FAA to conduct a study on the effects that wind energy turbines have on aviation sites. Such a study was included in the FAA Reauthorization bill (H.R. 915) that was marked up by the U.S. House of Representatives' Transportation & Infrastructure (T&I) Committee in March. The proposed study was authored by Congressman Randy Neugebauer (R-TX) of Texas. Specifically, the study is to determine "the feasibility of developing a publicly searchable, Internet web-based resource that provides information regarding the acceptable height and distance that wind turbines may be installed in relation to aviation sites and the level of obstruction such turbines may present to such sites." The Departments of Defense, Homeland Security and Energy are to be consulted on the study.

NAAA worked with Congressman Neugebauer and his office to include USDA oversight of the study based on NAAA's concerns that the installation of towers near agricultural fields poses a risk to aerial applicators. Also helping advance this inclusion was

Congressman Jerry Moran (R-KS) who serves on the T&I Committee and its Subcommittee on Aviation. The bill must still be considered by the Senate and signed by President Obama. NAAA will continue to guide the bill with the intention that the study remains in the bill when and if it becomes public law (NAAA is also working to ensure that the FAA Reauthorization Bill is void of fees levied on ag aviation users of public airports and preserves ag aviation's relief from federal excise taxes on fuels).

NAAA has also written a letter to the Obama Administration's Secretary of Agriculture, Tom Vilsack, in an effort to solicit the USDA's support of the aerial application industry should the above study be approved by Congress and for placement of wind energy towers that takes into account aerial applicator's safety and cropland accessibility concerns. According to the political news organization *Politico*, Secretary Vilsack in February told the National Association of Wheat Growers that he envisions farms dotted with wind turbines and growers profiting off of second and third-generation bio-fuels, lessening the need for hefty government subsidies and allowing farmers to profit from climate change. These comments prompted letters of concern, from farm groups such as the American Farm Bureau Federation.

NAAA has also recently met again with the American Wind

Blowing Your Own Horn: *Wind energy advertisements on Washington, DC's Metrorail promoting wind energy.*

Energy Association (AWEA) in Washington, DC to communicate the aerial application industry's safety and accessibility concerns with wind energy towers and to mitigate these risks for new power projects. Representing NAAA was 2005 President Scott Schertz of Schertz Aerial Service, Inc. in Illinois and Executive Director Andrew Moore. One of the concerns NAAA communicated to AWEA was wind farm designs that erect the turbine towers in clusters atop cropland rather than in a linear pattern. Clusters make it highly difficult for aerial applicators to access cropland whereas a linear patterned wind farm allows agricultural planes to access farmland from opposing angles in which the turbines are located. AWEA communicated to NAAA that wind farm layouts are established based on maximum use of the wind and that linear layouts of the farms may compromise the most efficient harvesting of the wind.

NAAA also stressed the aerial application industry's concern with the hard-to-see wind-analyzing meteorological (met) towers being erected overnight in agricultural areas. Collisions with these towers have resulted in fatalities in the agricultural aviation industry because they are usually not well marked and are not easily visible to ag pilots. NAAA expressed to AWEA that it would be useful to have a live, current, searchable database detailing the locations of all met and wind turbine towers and to make such towers more easily visible. It was communicated

to NAAA that because of the highly competitive nature of the wind energy industry, individual companies in the industry are not apt to disclose their testing site locations.

NAAA also communicated its support of an actual met tower marking design by the wind energy company EcoEnergy. The NAAA endorsed a marking design—like EcoEnergy's—for towers with guy wires, including meteorological towers, that have the following specifications:

> Mark with four high visibility cable balls installed on the outer guy wires (one on each at 37m [approximately half way up the tower] with a diameter of 53 cm). These towers should also be equipped with 16 high visibility flags installed on the outer guy wires (4 per wire, .78m long and .4m wide). In addition, these towers should be equipped with 16 high visibility sleeves, one per each anchor and one installed at 8m height on each of the outer guy wires. These marking mechanisms must be maintained frequently to ensure their visibility and attachment to the wires.

AWEA did offer to include information in its *Wind Energy Siting Handbook* that contains NAAA's endorsed marking designs for met towers. NAAA also requested that information detailing the notification of local aerial applicators of proposed tower sitings—both turbine and met; and information that towers not pose safety risks and accessibility issues for aerial applicators also be included in the AWEA *Siting Handbook*. The AWEA *Energy Siting Handbook*, which can be found at the organization's website at http://www.awea.org/sitinghandbook/downloads/

AWEA_Siting_Handbook_Feb2008.pdf, presents general information about regulatory and environmental issues associated with the development and siting of wind energy projects in the United States. It is intended to be a general guidance document for wind energy companies providing technical information and tools for identifying potential issues that may arise with wind energy projects. NAAA also submitted to AWEA contact information of the state and regional agricultural aviation associations for their *Siting Handbook* so that wind energy companies would have immediate access to agricultural aviation organizations throughout the country to better identify and inform local aerial application businesses about projected wind energy tower placement sites.

These are just a few of the efforts currently on-going in the aerial application industry to protect the industry from tower placements jeopardizing the industry's safety and livelihood. A number of other state associations and individuals in the agricultural aviation community have met with wind energy companies and local zoning authorities that approve wind energy farm sites. Rick Reed of the Illinois Agricultural Aviation Association; Jean Payne of the Illinois Fertilizer & Chemical Association; Brian Rau of Medina Flying Service in Medina, North Dakota; Terry Stieren of the Minnesota Agricultural Aviation Association; Tim Steier of Blue Earth Aviation in Blue Earth, Minnesota; Bryan Hauschild of Otter Aviation in Fergus Falls, Minnesota; and Randy Hale of Hale Dusting Service in Banquete, Texas are just a few folks in the agricultural aviation community actively involved in their local areas

Kansans Can: *NAAA Kansas members visit with U.S. Representative Jerry Moran (R-KS) from Kansas. NAAA Kansas members informed the Congressman of the dangerous effects improper placement of wind energy turbines can have on aerial applicators. Moran was helpful in advancing legislation studying wind energy tower placement's affect on aviation, including aerial application, by including USDA input on such a study. From left to right: Dr. Bob Wolf, Kansas State University, Manhattan, Kansas; Travis Lattin, Beettcher Aerial, Beloit, Kansas; Randy Hardy, Hardy Aviation Insurance, Wichita, Kansas; Congressman Jerry Moran (R-KS); Doug Chanay, Chanay Aircraft Service Inc., Garden City, KS; Tim Bonnell, Jr., Professional Insurance Management, Inc., Wichita, KS.*

ensuring wind energy sites take into account aerial applicators' safety and livelihood. These activities include developing marking designs with the tower companies, working on tower placements outside of agricultural areas or pushing different pricing policies to treat ag land where towers exist or are nearby. Some applicators are prominently displaying on their pricing lists and invoices **bold** print stating: **fields nearby or with erected wind turbines or meteorological testing towers will not be sprayed if inaccessible; if accessible they will include significant surcharges.** This is especially important to do in areas where farmers are considering signing leases to host wind turbines. Placement of this language on invoices is an important way of reiterating this information to customers of aerial application services so they, if they aren't already, can be made aware of the issue and to join in the effort to ensure the safe placement of these towers for aerial applicators to perform their important services.

Information is surfacing questioning wind energy's efficiency as a perfect energy substitute. At a recent Farm Foundation Forum a spokesperson for the National Rural Electric Cooperative Association stated that wind turbines' capacity are low at 30 percent, and are most functional during the spring and fall months, and at night when the need for electricity is lowest. Wind turbines work at full capacity only six percent of the time, creating high costs. Wind energy also costs more on the grid then coal or nuclear energy. According to a spokesperson for the National Renewable Energy Laboratory, wind energy costs need to decrease by 10 percent and efficiency needs to improve by 15 percent for the industry to reach a goal of producing 20 percent of the nation's energy by 2030. The goal for the aerial application industry is not to oppose wind energy, but rather to achieve a relationship where the two industries can live safely and unhindered by one another. Symbiosis has not yet been achieved; rather it is a work in progress.

New Technology Has a

By NAAA Director of Education and Safety, Ken Degg

Personal satellite devices can help search teams locate crash sites as quickly as possible, maximizing the likelihood of successful rescue.

Life-Saving Potential

Have you ever taken a load out on a minute's notice and not told anyone else where you were going only to find yourself over inhospitable terrain, wondering where you would land if the engine failed? If the worst happened, how long would it take someone to realize that you were late returning? If you were injured, how long would it take rescuers to find you? New technologies, in the form of personal satellite devices, exist which can give you, and your loved ones, some peace of mind. They are the SPOT Satellite Messenger and the MicroFix™ 406 GPS Personal Locator Beacon.

SPOT Satellite Messenger

The SPOT Satellite Messenger alerts emergency responders to your GPS location and allows contacts to track your progress using Google Maps. NAAA board member Bill Lockwood of Okanogan, Washington stated that "benefits of Personal Tracker include providing both an additional layer of pilot safety and a tool to increase productivity by being better able to judge when an aircraft is on its way back to the base for another job."

More information on the SPOT, manufactured by Spot, Inc. can be found on their web site at http://www.findmespot.com or by calling 866-651-7768. The handheld, water-proof unit is about 4.4 x 2.7 inches, weighs slightly less than 8 ounces, and is capable of performing a number of worthwhile functions. According to Spot, Inc. the unit is able to function almost anyplace around the world – even offshore – as long as SPOT has access to the array of commercial satellites.

SPOT has four key functions. The first feature is activated by pressing the "911" button. This should be used for actual emergencies and will dispatch emergency responders to your GPS coordinates as determined by the contained GPS receiver. The signal is sent to the GEOS International Emergency Response Center which notifies the appropriate emergency responders (GEOS Alliance is a worldwide organization dedicated to the provision of safety and security services to travelers). The emergency message is sent every 5 minutes until cancelled or the battery becomes too weak to transmit.

The second feature is activated by the "Help" button. If you require assistance of a non-emergency nature, this function text messages or sends an email to your designated contacts showing the GPS location, if available. This message will be sent every 5 minutes for 1 hour or until cancelled.

The third feature is called "Check in" and is activated by pressing the "OK" button. It simply sends a text message or email to your designated contacts with your location and a message to let them know where you are and that you are okay. This allows them to keep track of your progress while traveling.

The last feature is called "Track Progress" which sends your location and posts it on Google Maps™ allowing any of your contacts in possession of the password to visually track your progress. The location message is sent every 10 minutes for 24 hours or until the unit is powered off. This produces a continuous track of the SPOT's positions throughout the time period during which the position is sought. There is an extra subscription charge for this service.

According to the company's web site, the SPOT unit retails for $169.99 but watch for rebates and show specials at the various aviation events. There is an annual service fee of $99.99 per year for the basic service which includes use of the first three features

SPOT Satellite Messenger's "Track Progress" feature allows your contacts to visually track your location.

listed above – Emergency Service, Check In and Ask for Help. There is an additional charge of $49.99 per year for the tracking option which sends your location to the Google Maps.

Thanks to the SPOT unit, Bill Lockwood's loader can check on his progress, allowing him to plan the order of spray jobs more efficiently. Bill adds that he sometimes changes his plans after he departs depending on the wind conditions. With this technology if he is not back when planned, his crew can check on the internet to see where he is at, even if he's in a different place than originally planned. Bill stated tongue-in-cheek that his wife also knows when he will be back home to have dinner ready.

Remember that this unit is not an ELT (Emergency Locator Transmitter) and does not activate on impact – in fact, in a severe crash, the unit may be disabled. Use of the emergency features requires that it be manually activated. However, if the tracking feature is activated, the position will be transmitted every 10 minutes so that rescuers will have a point from which to commence a search even if the unit is destroyed.

The tragic loss of an ag pilot in Mississippi ferrying in poor weather is an example of the potential usefulness of the tracking feature. The airplane was reported missing but the wreckage was not located for several days. Unfortunately, that pilot's injuries were fatal. In the case of serious, but non fatal injuries, a life may be saved by quickly locating the accident site. With the tracking feature engaged, even if the pilot was unable to activate "911", the contacts could trace the flight path to within 10 minutes flying time of the crash site. Pilots should ensure that the tracking feature is enabled prior to flying.

MicroFix™ 406 GPS Personal Locator Beacon

The use of this technology brings to mind the incident that happened to Cody Murphree, son of and pilot for Randy Murphree of Murphree Flying Service, Inc. in Rotan, Texas. In July of 2007, Cody was to spray a field about 50 miles from their spray operation. The job was pushing the limits of daylight and he would probably be landing after dark. The expected return time of the flight passed by with no word from Cody but it was obvious the fuel endurance of the airplane had been exceeded. Randy's stress level was at an all time high; all he knew for sure was that the airplane was somewhere in the 50 miles between the home airport and the field and it was now fully dark.

Cody did sustain serious injuries in the crash but was able to crawl out in spite of two broken legs. We rely on cell phones for communications but we know that there are many rural areas that don't have adequate cell coverage. In this case, Cody's cell phone was damaged and thrown clear of the wreckage where it was not accessible.

After several anxious hours, Cody's story had a happy ending. He was found about 11:30 pm, near the field that he was spraying, by searchers riding on 4-wheelers. It has been a long road to recovery but Cody is almost back to normal.

When asked if he thought that there was a need for the personal satellite emergency units, Cody's dad Randy said that there is - without a doubt. In fact, he stated that at that terrible time, he would have given anything, or paid any amount for information on Cody's location. Randy went in search of some type of emergency locator and decided on the MicroFix™ 406 GPS Personal Locator Beacon (PLB) made by ACR Electronics.

For information on the MicroFix™ 406, consult ACR's website at http://www.acrelectronics.com. The 406 is a satellite signaling device to be used only in an emergency, when all other means of self-rescue have failed. When activated, the unit's internal GPS receiver finds your latitude/ longitude location and then transmits this information on 406 Mhz via the COSPAS-SARSAT satellite system. Cospas-Sarsat is a satellite system designed to provide distress alert and location data to assist search and rescue. The unit must be registered before use so that rescue personnel will be able to decode the unique identifier which tells them who the pilot is. At the same time, the 406 transmits on 121.5 Mhz to allow search and rescue services to home in on the beacon.

The MicroFix is advertised as the smallest and most functional PLB available. It is waterproof and measures 1.4 x 5.85 x 2.21 inches and weighs only 10 ounces. The batteries have a 5-year replacement life and must be replaced any time the unit is activated, thus guaranteeing a fully charged battery state when the PLB is needed. For aviation use as a crash rescue tool, one possible drawback is that it must be manually activated since it has no impact activation switch.

The MicroFix is available at many dealers throughout the country. The price may vary but one retailer well know to the aviation community is Sporty's Pilot Shop in Batavia, Ohio. Sporty's lists the 406 on their web site for $599.99. Be sure to check the ACR web site for a possible rebates. The 406 does not require a subscription but, as opposed to the SPOT, it can be used only for an emergency.

The NAAA Safety/FAR committee believes that the use of these units has the potential to save lives and help searchers find crash sites to administer timely first aid to the victims.

STRESS:
MANAGING OUR INVISIBLE ENEMY

Don't let stress catch you with your guard down.

By NAAA Manager of Communications John Aaron Blanchette

We all have to cope with stress in our lives, but is it an important issue for ag pilots? You'd better believe it is! The long-term impact of stress can be debilitating, and stress in the moment can be more than irritating – it can be life threatening. A recent article in AOPA Magazine (January 2009, Pg.110) tells the emotional story of a pilot who had to part with a beloved pet. He loaded the cherished animal, along with its blanket and some other odds and ends into his plane and flew the dog to its new home. After a tearful goodbye, the pilot got back in his plane and headed out for his return trip. Along the way, the pilot did a good job of "talking himself down" from his intense emotional state and focusing on the task at hand. *But stress was stealthy*. As the pilot approached his destination and prepared to land, he noticed that the dog's blanket was still on the seat of the plane. Emotions came rushing back, and though the pilot was confident that he had prepared for landing, an urgent call from the controller informed him that he had not lowered his landing gear. Stress "in the moment" jeopardized this pilot's safety, if not his life.

Phrases like "managing stress" and "coping with stress" have been everywhere lately – so much so that many of us have begun to forget how important the message really is. In truth, stress is more than just a nuisance. It can be deadly. When we feel stressed, we tend to crave less healthy foods, we tend to sleep less (and get poorer quality rest when we do sleep), and we tend to increase our intake of substances like caffeine and alcohol. Poor decisions in reaction to stressors can lead to long term issues that can have a deep negative impact on our productivity, our outlook, and the quality of our lives in general.

According to a recent Professional Aerial Applicator's Support System (PAASS) module on stress and stress prevention, stress is the sum of biological reactions to any adverse stimulus – be it physical, mental, emotional, internal, or external – that tends to disturb the "Body's Natural Balance."

The causes of stress are many and varied. Stress stems from our perceptions of the occurrences in our lives. It can be caused by something as simple as a traffic jam or as cataclysmic as the death of a loved one. It is important to remember that what is stressful to one person may not be stressful to someone else. In light of this, there is no "magic formula" for understanding and coping with stress.

Stress is woven into our lives in so many complex ways that it can be difficult to target specific stress causers, and it is impossible to eliminate or avoid everything that may cause us stress. However, there are some target areas that can help us with a general regimen to control stress.

Exercise

According to the Mayo Clinic, a healthy exercise program can play a vital role in helping most of us deal with daily stress and can lead to an overall more healthy life. Exercise can elevate your mood, combat chronic disease, help you manage your weight, strengthen your body, and help you get better sleep. When tailoring the exercise program that's right for you, be mindful that some exercise might actually cause stress. Competitive sports are a good example of possibly stressful exercise. While running around the football field taking out aggressions and getting cardiovascular exercise might seem obvious stress reducers, it might *cause* stress when the other team wins, or when our performance does not meet our personal goals or expectations. Choose the exercise program that's right for you. Non-competitive cardiovascular activities like running or aerobics are always a good bet.

Diet

Diet plays an important role in our overall health, which in turn impacts our stress levels. People who feel stressed often crave foods which are higher in fat content. An increase in body fat often follows, which then can cause more stress as the individual reacts to weight gain and possible loss of energy. To reduce stress, avoid large quantities of any food and in particular, avoid foods which are higher in fat content. Instead of crash dieting, try reducing your portion sizes. Smaller food portions, coupled with a good exercise program will lead to reduced stress and a healthier self-image. Drinking plenty of water can also play a role in stress management. Water helps us to stay hydrated, get energized, and be alert.

Exercise, a healty diet, and adequate sleep can all reduce the negative impact of stress in our lives.

Many of us don't realize that even minor dehydration can cause impaired concentration, headaches, irritability, and fatigue – all of which can add to stress. To stay healthy, drink plenty of water, in addition to other drinks.

Sleep

According to the Franklin Institute, one of the nation's oldest centers of science education and development, adequate sleep is crucial to proper brain function – no less so than air, water, and food. Stress can modify sleep-wakefulness cycles, which can decrease the quality of our sleep. Furthermore, according to Mark Mahowald, a professor of neurology at the University of Minnesota Medical School, one complete night of sleep deprivation is as impairing in simulated driving tests as a legally intoxicating blood-alcohol level. Getting the right amount of high quality sleep is an important component of stress management, and most folks find that a good diet and proper exercise help them to get higher quality sleep. The relationship between sleep and stress again illustrates the importance of remembering that we are all unique and that stress affects us differently. For example, at Tel Aviv University, Dr. Avi Sadeh conducted a study of students. He found that those who tended to focus on their emotions and anxiety during the high-stress period were more likely to shorten their sleep, while those who tended to ignore emotions and focus on tasks extended their sleep and shut themselves off from stress. That's some good news; sometimes it really is best to just focus on your work! Many folks turn to alcohol as a sleep aid. Remember that, while a glass of wine before bed might make us feel drowsy, alcohol actually interferes with the body's ability to transition from light to deep sleep, thereby decreasing the full restorative value of our sleep.

Physical symptoms of stress include tiredness, high blood pressure, stomach pain and sleep difficulties.

The consumption of alcohol is a popular stress reduction method. Because alcohol has an immediately depressant effect, many people "self medicate" to reduce stress through alcohol consumption. What most fail to realize is that consumption of alcohol can actually increase stress. According to the National Institute on Alcohol Abuse, much research demonstrates that alcohol actually induces the stress response by stimulating hormone release by the hypothalamus, pituitary, and adrenal glands. In addition to stimulating the hormonal stress response, chronic exposure to alcohol also results in an increase in adrenaline. So while alcohol might alleviate stress in the moment, it can cause anxiousness and irritability – actually making us more stressed (and more likely to crave more alcohol).

The PAASS program points out some warning signs of stress that might indicate a long term issue with stress. Some of these are:

Tiredness
High blood pressure
Compulsive eating
Frequent stomach aches
IBS (Irritable Bowel Syndrome)
Constipation
Constant worry
Loss of sense of humor
Loneliness, crying, anxiety
Sleep difficulties

While managing the "general" or long term impact of stress in our lives is critical to our overall health and quality of life, we also must be mindful of the impact that stress can have right now – in this moment.

Take a look at your routines and habits. How can you modify your behavior to reduce stress? Be mindful of the importance of stress in your life moment-to-moment.

What causes you stress? How do you respond to stress? Asking yourself these questions is a good starting point for understanding personal relationship with stress, how it impacts your life, and what steps might be helpful in alleviating the impact of stress in your life.

According to a survey by the National Agricultural Aviation Research and Education Foundation (NAAREF), one of the major causes of stress

for operators and pilots is customer relations and, in particular, learning to say "No". Many times operators feel that they cannot say "No" to their clients. Often pilots feel that they cannot say "No" to the operators that they fly for. However, keeping a business profitable means more than just saying yes and getting up in the air. One mistake in the air can eliminate years of profits, or even take your life. To ensure your investments in equipment, training, and time it is crucial that you learn to assess your emotional state. Every pilot should develop a mental checklist of stressors. If you can't do a "walk around" of your mental state and find a green panel, you aren't ready to fly.

It is also vital that operators learn to listen to their pilots, and respect their mental state. You need to get your pilots up in the air to get the job done, but just as they shouldn't fly with a leaking fuel-line, they shouldn't fly when they are under stress. Encourage your pilots to know when they aren't ready to fly, and respect their call.

According to the PAASS stress module, some warning signs that you might be suffering the effects of stress in the moment are:

- Faintness
- Feeling out of breath
- Tiredness
- Feeling like your heart is racing
- Nervousness, sweaty palms
- Indigestion
- An aching or nervous stomach
- Feeling worried or "edgy"
- Having trouble thinking clearly

Just say "No". We've all heard the line. It is never a good idea to fly when you cannot devote yourself fully to the task. If you are feeling overly emotional or overly stressed or fatigued, or any of the symptoms

Evaluating hazards prior to applications will make any job less stressful.

above, ask yourself honestly whether or not you should be flying. If you need to, say "No" to the flight today and live to fly again tomorrow.

As part of the recent PAASS module on stress, several operators were asked to share their ideas about combating stress in the workplace. Here's what a few of them had to say:

- Always take one day of rest during the work week to get your mind off the job, relax a bit, and get some restorative rest. You'll then be able to come back with greater enthusiasm and a clear head.
- Focus on what you can control and be realistic about what you cannot control. The weather is beyond your control. Remember to be direct with growers who want you to fly in unfavorable weather conditions. Bad weather can not only effect the efficacy of the job, it can be dangerous. Remind growers that better weather equals a better application.
- Prepare everything that you can ahead of time so that you can approach each new day and new job with ease and efficiency.
- Scout fields ahead of time and turn down dangerous jobs.
- Always work to improve communication. Never assume that the boss, employees, or the customer truly understand each other's perspectives. Ask questions, be direct and always make sure that all parties actually understand one another.

According to HELPGUIDE.org, relaxation techniques such as deep breathing, visualization, progressive muscle relaxation, meditation, and yoga can help us counteract the ill effects of stress. Developing a routine that includes these activities will reduce long term stress and can also help us to regain control when we find ourselves in unexpectedly stressful situations. For an in depth look at how to master theses simple stress reducing exercises, visit HELPGUIDE.org (http://www.helpguide.org/mental/stress_relief_meditation_yoga_relaxation.htm)

Stress management is highly individualized. We all need to look at our particular situation and address the issue of stress from a personal, internal standpoint. While it is obviously difficult to completely understand stress and its impact in our lives, it is imperative that we recognize stress as a real threat to our work efficacy, to our relationships, and to our overall health. While this article offers some good starting points, it is impossible to offer a comprehensive stress awareness and reduction routine that will be right for everyone. Use this article as a starting point to develop the routine that's right for you. Fly better, fly safer: take personal responsibility for managing the stress in your life TODAY.

HELICOPTERS

A Bell 206 LIII "Long Ranger" spraying BASF – Headline on soybeans in Iowa

AG AVIATION AND BEYOND

By NAAA Manager of Communications, John Aaron Blanchette

Rotor craft, in the form of helicopters, account for 12 percent of the agricultural aircraft spraying today. In the early years this industry even had a few gyrocopters working as well.

Across the nation, helicopters are hard at work in the ag aviation industry. Bell, Hiller, Hughes, Enstrom and various other makes of helicopters are applying herbicides and insecticides to a wide variety of crops. They are being used to treat blueberries and to control grass and woody plants in Maine. In Florida, rotorcraft are treating citrus orchards, potatoes are treated by helicopters in Minnesota, and in the central valley of California small vegetable plots of approx 11 acres, are uniquely suited to helicopter applications because one spray load will treat one plot, which in turn produces one truckload of produce.

Rotorcraft are capable of delivering the same high quality, precision driven application as their fixed wing

A Bell OH-58A+ spraying Rice in south Louisiana

counterparts and are proving that concept daily by delivering seed, fertilizers, and fungicides to crops all across America. What distinguishes rotorcraft from planes is their extreme versatility. When a job calls for slow air-speeds, a high degree of maneuverability, the ability to stop in mid-air and turn on a dime, nothing beats a helicopter. Because of this, helicopters are perfect for applying treatments to smaller areas with varied terrain, while still retaining the capability to economically treat large fields as well.

In addition to wide-ranging agricultural based work, helicopters provide their owners and the pilots who fly them with many other interesting opportunities. Beyond spraying thousands of acres of crops, including potatoes, grain, and corn, NAAA operator member and past president Rod Thomas has used helicopters in such diverse areas as the mining industry, the construction industry, heli-skiing, aerial hunting, and the movie and television industries. When it comes to ag-specific endeavors, Rod (who has operated both helicopters and planes) sees planes and helicopters as different tools to do the same job. When comparing the two, Rod uses the analogy of painting a room. The average room has some broad, open, flat spaces and it also has more constrained places like corners and areas bordered with trim. A smaller, direct application with a brush works great around doors and windows, while a roller works more efficiently on the larger surfaces. A good painter comes to work with several different types of paint applicators and uses the tool best suited to the area even though he or she could paint it with one brush.

In Florida, operator member Lee Turnquist has used a fleet of Tomcat Mark VI and Bell helicopters to treat smaller citrus groves. He has also used helicopters to control grass and aquatic weeds along hundreds of miles of drainage and irrigation canals. Many years doing this type of work convinced Lee he had the right tool for the job.

Leonard Felix, of Olathe Spray Service in Olathe, Colorado, uses his Bell 47 G3-B1 to apply herbicides on row crop fields that lie adjacent to sensitive

Ron Wolf in his Bell OH-58A+ doing forestry spraying in eastern Oklahoma. This valuable service controls invasive vegetation, allowing pine trees to flourish.

crops such as onions and seed crops. Felix explains "we can work so close to the crop that we call it our flying ground rig." In addition, Felix uses his rotorcraft to spray irrigation ditch banks for broad leaf control and grass suppression. The meandering ditches are uniquely suited for applications by helicopter. It is also used for spot spraying noxious weeds on native range land. Leonard is also one of those operators that uses both fixed and rotary wing in his fleet. He knows the value of each and uses them to their best potential.

On Long Island, John Sondergoth, whose fleet includes Bell 47's and a Robinson R-44, treats orchards and potato fields for blight and potato beetles. He also applies larvicides to marshes to control mosquito populations.

Operator member Ron Wolf of T & M Aviation in Abbeville, LA has a fleet of 3 Bell OH58s. These are military surplus helicopters fitted for ag work. Ron's copters treat row crops and rice in Louisiana. He also uses them to apply fungicide to corn crops in the mid-west, particularly in Iowa. When his fleet isn't focusing on farm work, they are kept busy with contract work for the Department of the Interior. According to Ron, his helicopters have flown up and down the east coast for the United States Fish and Wildlife Service, treating wetlands to prevent the spread of fragmites, which are highly invasive non-native plants. Without applications by folks like Ron, these aggressive plants would completely overtake naturally occurring vegetation and effectively starve native duck populations which cannot eat the fragmite vegetation. Ron also has contracts to create "prescribed burns" in forested areas to prevent the spread of hardwoods in pine forests. Burning

the vegetation provides a "green" alternative to control growth without the use of chemicals.

Rick Watts, husband of NAAA operator member Brenda Watts finds that many of the herbicides he applies in his timber work actually specify application by rotorcraft which can use specialized booms and deliver larger droplet sizes. When treating tracks of cleared timber in preparation for new plantings, Rick will bring in helicopters to apply herbicides which will knock back the growth of undesirable plants that might otherwise compete with the emerging tree seedlings. Rick needs to be able to access tracts of land all across the state of Arkansas, many of which are far removed from agricultural or otherwise populated areas. He finds that helicopters provide greater accessibility to these remote areas because of their ability to work without an airstrip

In the Pacific Northwest, Ron Cline of Central Valley Helicopters has found unique applications for his fleet of two Enstrom helicopters and one UH-1H helicopter. Ron's aircraft are flown slowly over cherry crops to dry the cherries and prevent them from splitting after rains. He uses his helicopters to harvest cut Christmas trees and load them onto trucks, and he also is active in fire suppression. Ron has also brought helicopters to the Annual NAAA convention. Most recently, Ron and his team made it possible to showcase an Enstron 480 Turbine at the 2008 NAAA convention in Las Vegas, NV The helicopter was part of the Isolair Helicopter System's exhibit which featured a new spray gear system for the craft, which will be the first of it's kind to have such a system in the United States. Isolair Helicopter Systems, located in Troutdale, OR has been equipping fire fighting, forestry and aerial application industries with certified and custom helicopter equipment for over twenty years.

In addition to wide-ranging agricultural based work, helicopters provide their owners and the pilots who fly them with many other interesting opportunities.

In Richvale, CA, NAAA operator member Craig Compton does a lot of orchard work, treating almonds, prunes, and walnuts. The larger surface area to be covered on a given tree, coupled with the need for greater penetration through a more voluminous canopy, makes this work perfect for Craig's larger Hueys. Flying at low speeds, these aircraft sometimes deliver 20 to 40 gallons of liquid material per acre. In addition to his ag work, Craig has had some very interesting jobs indeed. He's delivered air conditioning units to the tops of buildings, dropped power poles in remote areas which for other vehicles would be inaccessible, and has even installed "bat houses" (large, vented structures designed to act as simulated caves) for bat populations threatened by construction. What's more, Craig has contracts with the Department of Justice to fly in remote areas looking for illegal marijuana plantations. When he finds them, he uses his helicopters to drop men onto

Ron Cline's Enstron 480 Turbine at the 2008 NAAA convention in Las Vegas, NV sporting Isolair Helicopter's latest spray gear system

the site. They clear the field and then Craig delivers the "crop" to the proper authorities. Craig remembers a time not so long ago when his helicopter fleet was almost unique, but recently he says that he sees more and more helicopters flying in his area. The vast amount of "tree work" in his area is now done by helicopter while he and others continue to use their airplanes for the rice crops they support.

It is important to remember that ag planes can do specialized work as well, including fire fighting, and fire rehab. Many an ag plane in years back was equipped to tow banners or gliders to help their owner extend his season and make a few extra bucks.

In conclusion it must be noted that even though a smaller percentage of the total fleet, helicopters play a vital role in ag aviation. They are more expensive to operate than your average airplane, but on similar fields they can fly for the same cost per acre. To operate helicopters one needs to be efficient and have a great ground crew, but the benefits of having another tool to use in an application business can make the ownership of one of these unique flying machines an enjoyable venture. Also, for those of you that only spray part of the year, having a helicopter in your operation might allow you some flying variety in the off season.

Insuring New Ag Pilots

By NAAA Insurance Committee Member Doug Davidson

It's the same old dilemma that has confronted all of us who ever desired to fly for a living. How do I get insured without enough hours and how do I get enough hours unless I can get insured. I don't profess to be smart enough to solve this age old enigma in one short article, but I can give you some ideas on how to get the upper hand.

Get Educated

There are a number of ways to make yourself a more attractive risk to an underwriter. Proper training is always a good start. I've never met an underwriter yet who didn't love training. Just for kicks, I logged on to the NAAA website and found an article that showcased four ag aviation schools. Although there's nothing like actual experience, these schools offer great simulated ag training. Many utilize ag aircraft with a dual cockpit. These schools can take a beginner with no experience all the way to a prospective ag pilot with 250 hours. They also offer abbreviated courses that teach ag aviation to private or commercial pilots without ag or tail-wheel experience.

Attend a PAASS or a Compaass Rose Program at one of the state or regional conventions. Both programs were designed to offer training and support to our industry ag pilots. PAASS is designed for the experienced ag pilot / operator and Compass Rose is designed for first year or beginning ag pilots. Compaass Rose was originated in 2002 with the specific purpose of allowing new pilots a forum to ask questions and discuss issues in a "safe" setting where no questions are considered too basic or too easy. Most underwriters will insist on PAASS Program attendance, but will also reward your efforts by taking this training into account in their premium calculation.

Get Connected

Don't be a "lone ranger". Join your state ag aviation association. Join the NAAA. As of 2009, if the ag school you attend is an NAAA member, you will receive a complimentary NAAA pilot membership upon your successful completion of the course. Attend your state or regional annual convention and trade show. Attend the NAAA convention. Take time to work the exhibit hall and get to know the vendors that provide services and sell products to the ag aviation industry. Learn how we all work together to form the greatest agricultural production team in the world! Get acquainted with operators in your area. Get acquainted with other pilots.

This section is possibly the most important to gain insurability. I'm safe to say that an underwriter will rarely take a chance on a "lone ranger" 250 hour commercial pilot in an ag plane. However, given the proper set of circumstances, that same underwriter will frequently take a chance on that same 250 hour commercial pilot when working under the direct supervision of an operator/mentor who has proven himself to be a good manager and a good risk over many years. There's a lot more to being a good ag pilot than pushing the stick forward and pulling it back. Find an operator who is willing to pour his knowledge into a new ag pilot and who is willing to invest in your future. Keep in mind, it's entirely reasonable to expect this to come with some commitment from the new pilot to stay around for a

while and give the operator a chance to re-coup some of his investment.

Get a Plan

When I finished my flight training, I had the mistaken notion that Delta was somehow going to seek me out and hire me on the spot as a new Captain. Never happened, THANK GOD! Don't expect to start flying a $1.2 million dollar Air Tractor AT-802 as soon as you exit ag school with your 250 total hours. I don't care what it is you're trying to do, you need a plan. Insurance Underwriters and agents love detailed plans. Keep it simple and reasonable. Crawl before you walk. Don't get impatient. Begin flying a lower valued aircraft and the underwriter and your boss will be more comfortable in sharing the risk. Where it is possible, begin applying seeds and fertilizer. Create a plan to advance from seeds and fertilizer to insecticides and fungicides before progressing to 2-4d or Round-up. Create a plan to move from a recip or a radial to a turbine. Get a plan that makes sense and provides enough time at each step to allow for a safe progression to the next phase.

Conclusion

I recently obtained a seaplane rating at Jack Brown's Seaplane Base in Florida. Prior to my checkride, I learned that Jon Brown (Jack's son) had given more than 17,000 seaplane ratings over the last 33 years. I comforted myself in the probability that I was a better pilot than at least one of those 17,000 pilots who achieved their seaplane rating. And if so, I was sure I would pass the checkride. I DID!

At the next state or national convention you attend, observe a room full of ag pilots. All of these guys started out in the very same place you are standing. This should be an encouragement to you that your dream of being an ag pilot can be realized. They did it and so can you!

Final Note

Consult with an insurance agent that specializes in ag aviation. Better still, confer with the agent of the operator/mentor you plan to work for to help create the best insurability plan for your particular location.

2009 WNAAA 27th Annual

The Women of the National Agricultural Aviation Association are sponsoring their 27th Annual Essay competition for a $2,000 scholarship and Covington Aircraft Engines has generously agreed to sponsor a $1,000 scholarship. The WNAAA reserves the right not to award a scholarship if entries lack merit.

If you are a NAAA member (or become one by June 15, 2009), WNAAA invites you to sponsor an application for the 2009 WNAAA Scholarship. The scholarship is not restricted to use for a "flying career." Any educational pursuit beyond high school (at any age) is eligible.

2009 WNAAA Scholarship Guidelines:

2009 Essay Theme: The Future of Agricultural Aviation: Bright or Bleak

The competition is open to all NAAA members and the children, grandchildren, sons-in-law, daughters-in-law, or spouse of any NAAA operator, pilot member, retired operator or pilot who maintains an active membership with the NAAA. The contest is also open to allied industry members and the children, grandchildren, sons in-law, daughters-in-law or spouse of an allied industry member. Each allied industry company is allowed only one eligible family member, drawn from those listed in the industry in the 2008 NAAA Membership Directory. To qualify, dues must be paid by the organization or individual member on or before June 15, 2009.

Entrants must have graduated from high school prior to the deadline date for entry (August 15, 2009) and be enrolled in continuing education during the year of entry. Previous winners are not eligible to compete.

Deadline is August 15, 2009. Essays must be 1,500 words or less. Topic deviation and/or modification will not be accepted. Papers submitted will be judged on

Scholarship Essay Contest

content, theme development, clarity, originality, and proper grammar. All sources used must be cited. Plagiarism will result in immediate disqualification. Entries must be typewritten and double-spaced.

To ensure that the judges will not know the identities of the writer, keep any reference to the author's name, sponsoring company and company location out of the essay itself.

However, a title page should be attached, with the entrant's name, address, e-mail, address, telephone number, relationship to sponsor, sponsor's company name, address, and telephone number. A photograph of the entrant and short biography should be attached.

One copy of the manuscript should be sent by mail (postmarked by August 15, 2009) to WNAAA Scholarship Chairman, Pat Stamps at PO Box 249, Panhandle, TX 79068. Also send an electronic submission of the essay, either by e-mail attachment or disk, to pastamps@amaonline.com. Questions should be directed to Pat at the email address or by phone at (806) 537-5144.

The winners will be notified by phone and letter and recognized at the 2009 NAAA Convention.

Selected essays will be published on the NAAA website at www.agaviation.org and may be published in Agricultural Aviation magazine, the official publication of the NAAA, based on spacing. All essays become the property of the WNAAA. The judges' decision is final.

In the event the entries received lack outstanding merit, the WNAAA reserves the right not to award the scholarship(s).

Attend NAAA's 43rd Annual Convention & Exposition

Monday December 7th, thru Thursday December 10th, 2009 in Reno NV

Mark Your Calendar!

100+ Industry Exhibits
Aircraft of all kinds
Educational Sessions
Networking Opportunities
Live & Silent Auction
Entertainment

NAAA 2009 Convention Schedule

Sunday, 12/06
4:00 pm – 6:00 pm
NAAA/WNAAA Board Meetings

Monday, 12/7
8:00 am – 9:45 am
Kick-Off Breakfast
Dennis E. Fitch, Sr. Captain Fitch has been commended by President George Bush and is the recipient of Senate Resolution 174, 101st Congress for his outstanding effort, poise and courage in assisting the crew in attempting a difficult emergency landing of United Flight 232 at Sioux City, Iowa

10:00 am – 2:30 pm
ASABE Sessions

2:45 pm – 6:00 pm
Concurrent Sessions

6:30 pm – 7:30 pm
Welcome Reception

Tuesday, 12/8
8:45 am – 9:30 am
NAAA Business Meeting

9:45 am – Noon
NAAA General Session
Cultivating Our Future" - Mentoring Viewpoints from: Operators, Pilots & Insurance

Noon – 6:00 pm
NAAA Trade Show

5:30 pm – 7:00 pm
Live Auction & Reception

Wednesday, 12/9
8:00 am – 9:30 am
Concurrent Sessions

10:00 am – 4:00 pm
Exhibit Hours

4:00 pm – 5:30 pm
Concurrent Sessions

Thursday, 12/10
8:00 am – 4.30 pm
Concurrent Sessions

5:30 pm – 6:30 pm
Farewell Reception

6:30 pm
Farewell/ Awards Banquet

Keep checking **www.agaviation.org** – new programs will be added to the schedule as they are developed.

Silver Legacy Hotel, Reno, NV
Hotel Rates $79 per night
800-687-8733
Group ID NAAA9

NAAA on-line registration will be available in early July. Schedule subject to change.

Children's Books Recognizing Ag Aviation's Contribution to Agriculture

"*Lift the Flap Farm*," an interactive children's book about farm life, includes recognition of agricultural aviation's contribution to farm production. The book includes 8 different spreads about farm life and 20 different flaps that the young reader may lift to discover a new world of words and pictures about farming. The book is for baby-preschool age and published by Hinkler Books (http://www.hinklerbooks.com/). It is for sale at Amazon.com at the following URL: http://www.amazon.com/Farm-Lift-Flap-Hinkler-Books/dp/1741579325/ref=sr_1_2?ie=UTF8&s=books&qid=1237212642&sr=8-2.

Another children's book about ag aviation is "*Flying an Agricultural Plane with Mr. Miller*" about the late ag pilot and NAAA Board member from Illinois Harold Miller. The book was published in 1999, is 32 pages in length and provides details about various aspects of the work of an ag pilot who sprays farmers' crops with crop protection products. "*Flying…*" is recommended for children ages 4-8. It is also on sale at Amazon.com, with limited quantities available, at the following URL: http://www.amazon.com/Flying-Agricultural-Plane-Mr-Miller-Neighborhood/dp/0516264680.

The children's book "Lift the Flap Farm" recognizes ag aviation in agricultural production in a fun, interactive way for a young child to learn.

A handsome youngster enjoying a cookie and the classic children's book "Flying an Agricultural Plane with Mr. Miller" (1999).

Founding Fathers Know Best

When in doubt, quote the Founding Fathers on the importance of agriculture to society:

"Agriculture is our wisest pursuit, because it will in the end contribute most to real wealth, good morals and happiness." **Letter from Thomas Jefferson to General George Washington 1787**.

"I know of no pursuit in which more real and important service can be rendered to any country than by improving its agriculture." **President George Washington, 1794**.

Mount Vernon, Virginia. George Washington's estate just outside of Washington D.C. was a working farm which produced wheat, corn, potatoes and several other crops. Washington and Jefferson were leaders in the development of American agriculture.

Air Tractor Fire Retardant Delivery System Generation II

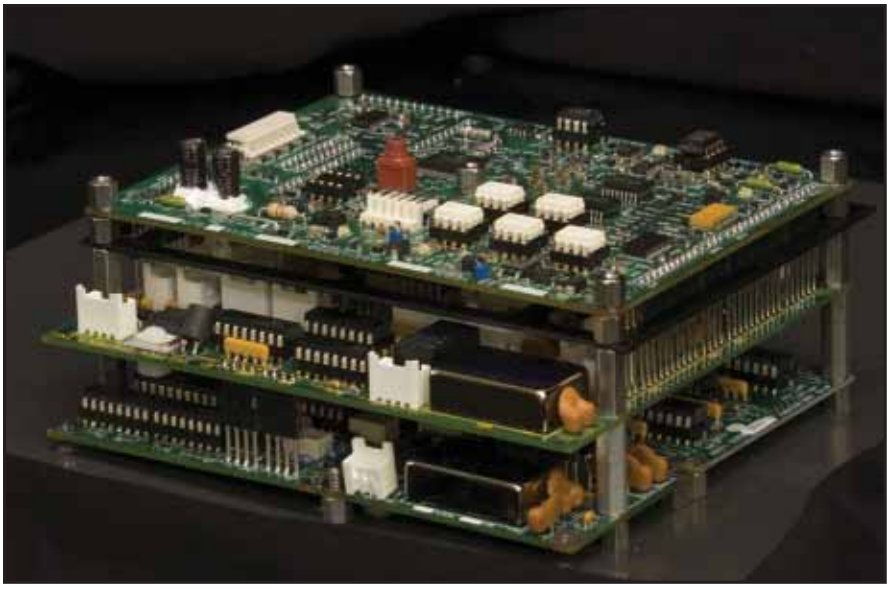
The Air Tractor AT-802F and the Fire Retardant Delivery System (FRDS) have grown up together. Proven to be a formidable firefighting system since its introduction in 1993, the AT-802F aircraft and the Generation II FRDS are now set to move single engine air tanker firefighting into a new era of improved control, reliability and overall effectiveness.

The original Air Tractor FRDS represented a leap forward in fire gate control technology for aerial firefighting applications. With its computerized fire gate technology, air tanker pilots could simply and quickly dial-in coverage level, drop amount and ground speed. Calculations were then handled by the system's on-board computer, making it possible for the pilot to deliver a consistent and controlled amount of fire retardant to the specified drop zone. Now the system has been improved with the latest computer technology and self-diagnostics. It's the next logical step in the evolution of this computerized fire gate.

The new Air Tractor FRDS pilot interface.

Numerous reliability enhancements have been designed-in throughout the new Air Tractor FRDS system. Furthermore, improved delivery accuracy, improved door speed and new advanced leakage compensation algorithms are among the second generation FRDS enhancements.

Computer processing advances make the FRDS pilot interface more user friendly. An easy-to-read display allows pilots to assess system status at a glance.



Gen. II FRDS features the latest computerized hardware & software advances.

Field service and maintenance has been simplified with a "black box" or cable swap-out program and self-diagnostic and alert message features that indicate possible malfunctions and help isolate problems in the system.

In total, all these improvements work together to make the Generation II FRDS easier for operators to use and even more reliable and simple to maintain. The minimal initial training that is required for system maintenance further improves the operational economics of the new system.

For more information about Air Tractor Products, visit the Air Tractor Website at www.airtractor.com, or call (940) 564-5616.

NAAA Releases New Educational Video

The National Agricultural Aviation Association is pleased to announce the release of its new educational DVD titled "Aerial Application's Growing Role." NAAA worked several years and invested considerable resources to produce this video highlighting the important services aerial application provides to agriculture, forestry, and to society in general through public health spraying.

The video is intended to help aerial applicators in educating their community about the many important services our industry provides. The video is being distributed widely throughout our industry and to public and government officials, media representatives and flight schools nationwide to help recruit a new generation of aerial applicators.

Membership Application

"Aerial Application's Growing Role" will be made available to NAAA members. We hope you enjoy this video and actively show it to folks in your community.

Additional copies of "Aerial Application's Growing Role" are available through the NAAA office for $20.00 plus shipping and handling. To purchase additional copies please, contact the NAAA office at 202-546-5722 or email us at information@agaviation.org.

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

Membership Categories: (please select one)

Dues amounts are subject to change by NAAA Board. Operators & Pilots who do not belong to a State Aerial Application Association must pay Participating Operator & Pilot dues.

$450	___ **Operator**	$850	___ **Allied (51-100 employees)**
	___ $10 each aircraft over 3	$1000	___ **Allied (101-500 employees)**
$170	___ **Affiliated Operator**	$1700	___ **Allied (500+ employees)**
$900	___ **Participating Operator**	$170	___ **Affiliated Allied**
$170	___ **Pilot**	$85	___ **Associate**
$340	___ **Participating Pilot**	$225	___ **International**
$450	___ **Allied (1-10 employees)**	$680	___ **State/Regional Association**
$680	___ **Allied (11-50 employees)**	$170	___ **WNAAA**

Allied Industry: ***(indicate 1)***

___ Airframe ___ Application Technology ___ Chemical
___ Dealer ___ Insurance ___ Propulsion ___ Support

Membership Year That You're Paying _____

Name: _____

Company: _____

Address: _____

City, State, Zip: _____

Bus (____)_____ Home (____)_____

Fax (____)_____ Email _____

Website: _____ Spouse _____

Please consider a donation to support NAAA programs.

NAAA Dues $_____ NAAREF Donation $_____
(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 via:_____ Check Enclosed _____ Credit Card

Card # _____ Exp Date _____

Signature _____

(signature authorizes billing credit card)

Card holder Name _____

Cardholder Address _____

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 2009 as 17%. ***Agricultural Aviation*** **subscription cost ($30 for domestic, $45 for international) is included in membership dues for all membership categories.**

Welcome to New Members

AFFILIATED ALLIED

Bill Bagley
Wilbur-Ellis Company
San Antonio, TX

Michael Jones
Syngenta Crop Protection
Anamosa, IA

AFFILIATED-OPERATOR

Zane K Jensen
Jensen Aviation LLC
Pingree, ID

ASSOCIATE

Christopher Pratt
Dallas Airmotive
Grapevine, TX

Louisa Millar
Grand Forks, ND

Willard Chastain
Lawrenceville, GA

Nathan Hickenbottom
Syngenta
Avon, IL

Randall Miller
Montgomery, MI

Michael Rivenbark
Morehead City, NC

OPERATOR

Mark Stewart
Orting, WA

Kirk A Barlow
Barlow Aerial Spraying
Eads, CO

David Stewart
Ag Care By Air, Inc.
Smith Center, KS

Lynn Cary
Hunter Flying Service LLC
Hunter, AR

Tex Edwards
Flying E Spraying SVC., LLC
Big Spring, TX

Jacob A Roth
Jake's Custom Aerial Application LLC
Grand Forks, ND

Sidney Nelson
Nelson Air Spray
Morris, IL

David Songer
Swing Wing Inc.
Veedersburg, IN

John Ellis
Ellis Aviation, LLC
Wynne, AR

Preston Johnson
Quinn, SD

Curtis Kracke
Kracke Spraying Service, Inc.
Fargo, ND

Chris Jensen
Jensen Aviation LLC
Pingree, ID

Mark Aufderheide
AufderHeide Flying Service, Inc.
DeWitt, AR

Mark E Summers
M & K Flying Service
West Memphis, AR

Swede Johnson
Midwest Helicopter, LLC.
Audubon, IA

Mark Retterath
Retterath AG Force
Osage, IA

Michael Schwabauer
Mike's Air Service Inc.
Cisco, IL

PILOT

Carl Ermeti
Mishawaka, IN

Don Stuart
Stuart Aviation
Tallahassee, FL

Robert J Spencer
Boynton Beach, FL

Jay Hooper
West Terre Haute, IN

Mark Vaughn
Farm Air Inc.
Barnhill, IL

Kelly Schindler
Wiley Bird Aviation
Hardin, MT

Monty C. Foret
Hoppe Air Spraying, Inc.
Pineville, LA

Robert Baker
Kifer Flying Service Inc.
Newellton, LA

Dean Unterreiner
Mooresville, NC

Bill Walker
Crawfordville, FL

Garry Joe Girdley
Girdley Flying Service
Keiser, AR

John J. Kamburoff
Palm Desert, CA

Stacy Timmons
Wolfforth, TX

Bruce D Van Beek
R & M Spraying
Sioux Center, IA

Rod Weeding
Plu's Flying Service Inc.
Jordon, MT

Terry Lockwood
AgriJet, Inc.
Aberdeen, ID

Jerome Bauer
Air Inc.
Ord, NE

David Glasscock
K & P Flying Service
Watson, AR

Chad VandenBerg
Beaufort, SC

Bill Baker
Devil Dusters
Artesia, NM

Dan Farmer
Colorado Springs, CO

Michael G Rutledge
Reed's Fly-On Farming
Tumwater, WA

Mike Albertson
Central Alabama Flying Service
Slocomb, AL

William Beech
Truckee, CA

Edward "Ed" Smith
Lecompton, KS

Douglas Abbott
Scottsdale, AZ

Patrick Bourke
Beaumont, TX

Kevin Glick
Creston, IA

Keith Hardee
Mt. Pleasant, SC

Luke C Heaton
Ohio, IL

Eli Herbison
Cleveland, MS

Lee A Inboden
Bono, AR

Darby W Sabo
Holzwarth Flying Service
Springfield, IL

Jedd B. Sprunger
Dalton, OH

Michael E. Steelman
Cheriton, VA

STATE/REGIONAL

Ben Baker
Tennessee Aerial Applicators Association
Covington, TN

WNAAA

Allison Donner
Mid State Aviation, Inc.
Yuma, AZ

Welcome New Staff Member: Keeley Mullis

Keeley Mullis

Keeley Mullis joined the NAAA staff in March of 2009 as the coordinator of government and public relations. Keeley, who is from Heber Springs, Arkansas, has a unique family connection to the agricultural aviation industry. Her father, Marc Mullis, is an aerial applicator, as was her grandfather, Johnny Mullis. Marc has been a devoted member of NAAA for several years, has served on the board of directors, and has served as Treasurer of the association.

Keeley graduated from the University of Arkansas in May of 2008, where she earned a degree in political science with an emphasis in public relations. Keeley has always been interested in politics and government. She attended Arkansas Student Congress for three years and actively volunteered during the 2004 and 2008 presidential elections.

After graduating from college, Keeley worked for Arkansas Congressman John Boozman in his district office before coming to Washington, D.C. to work for Congressman Tim Walberg of Michigan. Once she got a taste of fast-paced life on Capitol Hill, Keeley knew she wanted to stay in D.C.

She is excited to be working in the NAAA's Washington office as an advocate for agricultural aviation, since she has close family ties to the industry, and she is looking forward to contributing her background in government and politics.

In her spare time, Keeley likes to travel, play tennis and explore the restaurants, museums and culture Washington has to offer. When in Arkansas, she enjoys attending Arkansas Razorback football games and boating on Greers Ferry Lake.

A younger version of Keeley with her father, aerial applicator Marc Mullis.

Date	City	State	Aircraft Type	N #	Injury	Description of Accident
2008						
07/21/08	Petersburg	TX	PA 36-285	57601	None	Lost power on TO
09/08/08	Eutaw	AL	Bell 206B	206WA	None	Lifted off with hose connected
12/15/08	Osceola County	FL	OH-58C	659HA	None	No depth perception over glassy water
12/16/08	Dinuba	CA	AT-502	1035F	None	Power loss due to loose line to fuel control
2009						
01/15/09	Beaver	UT	AT-301	3170C	Minor	Power loss
02/01/09	Ferriday	LA	G-164B	3628T	Minor	Hit birds on final-penetrated windshield-pilot temporarily blinded-hit runway
02/12/09	Buttonwillow	CA	G-164B	3626T	None	Power loss-cylinder base nuts backed off

PAC Contribution Form

Make a difference in our nation's capital. Make a difference to the industry.

AgAv PAC was formed to strengthen the agricultural aviation industry's presence in Washington, DC. AgAv PAC works by collecting funds from individuals involved in the aerial application industry and using those funds to contribute to candidates running for national office that support issues pertaining to the agricultural aviation industry.

Many of the issues in Washington that will affect NAAA members, such as exemption from the federal fuel tax and user fees, additional security and environmental regulations and seeking additional federal dollars for agricultural research, will be significantly influenced by congressional participation.

The more dollars that can be generated for AgAv PAC, the more effective our industry's lobbying efforts can be in protecting your business. Contribute to AgAv PAC.

Read issues of Agricultural Aviation, NAAA's newsletters and website for information about AgAv PAC events to be held at the annual convention and trade show, in conjunction with meetings of the NAAA Board of Directors or at other times during the year.

We appreciate any contribution you can give to the AgAv PAC. If you have not contributed to AgAv PAC and would like to, or if you would like to make an additional contribution, here's how:

FILL OUT THE INFORMATION BELOW AND SEND IT WITH YOUR PERSONAL CHECK TO 1005 E STREET SE, WASHINGTON D.C. 20003. CHECKS SHOULD BE MADE OUT TO AG AV PAC.

Full Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Contribution Amount: _____$50 _____$100 _____$200 _____Other Amount

IMPORTANT NOTE: Federal law requires all PAC donations to be personal contributions only. Company/corporate contributions are prohibited. Do not use company or corporate checks to make donations. PAC donations are not tax deductible.

28th Annual National Agricultural Aviation Museum & Hall Of Fame Golf Tournament

It's time again to plan for the annual National Agricultural Aviation Museum & Hall of Fame golf tournament. This year's event will kick off with a Gumbo Cook-Off on Friday evening. Saturday evening will be a Bar-B-Q picnic with ribs, pulled pork and the trimmings. The tournament will be held at the Whispering Woods Hotel, Olive Branch, MS. Friday and Saturday nights' events will be held in the gazebo at Whispering Woods and golf Saturday and Sunday will be played at Cherokee Valley, Olive Branch.

Tentative Schedule of Events:

Friday, Oct. 16	5:00 p.m.	Gumbo Cook-Off Putting Contest
Saturday, Oct. 17	9:08 A.M. 5:00 P.M.	First Tee Time Picnic, Fun & Calcutta
Sunday , Oct. 18	9:00 A.M. shot gun start	Golf Scramble Luncheon after golf Cherokee Golf Club

Golf fees $185.00
Social only $85.00
Room rate $92.00 *(includes continental breakfast each morning)*
*rate will go up after October 1st

To register for any or all events and to make room reservations, contact the event organizer: Lou Stokes: 870-792-7474 or lsmimi@hotmail.com

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[In this jungle, it's survival of the smartest.]

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PAINTING A PICTURE OF EFFICIENCY

At Air Tractor we strive to make our airplanes more efficient to help increase your bottom line. Case in point: the new Ram Air Engine Inlet, now available on all turbine models. With increased horsepower or reduced ITT at the same horsepower, your engine and operation can run more efficiently. Constant innovation and product improvement is our hallmark. Get the picture.

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