

NATIONAL AGRICULTURAL AVIATION ASSOCIATION

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PRIMED FOR GROWTH

Crop Protection Products are Invaluable Resources in a Growing World

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- Agricultural Innovations in the Chemical Pipeline
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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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ON THE COVER

Due in no small part to crop protection products, consumers have an abundant array of fruits and vegetables from which to choose

ALSO INSIDE:

The future looks bright thanks to the R&D NAAA's allied chemical companies have in the pipeline



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President's Message Doug Chanay

Good Things Happen to Those Who Plan Ahead

The flying season is winding down for most operations in the Midwest. It has been an interesting year in this neck of the woods, highlighted by some of the most unusual weather in years. The season began with a nearly crop-killing drought, but we had more than adequate moisture in the end. As a result, wheat crop yields were up and test weights well above average. The fall crops are looking well.

We are entering the time of year when we assess the good and bad parts of the recently concluded season. Use this period to establish any adjustments that need to be made as you plan for next year. At our operation, we are determining if we need to make major equipment changes or upgrades in the aircraft, engine, GPS system, nozzles and spray plumbing (valves, spray booms, etc.). Last year my company purchased two new M3 GPS and flow controls to upgrade my equipment. We did it to get more features and for expansion possibilities.

As you assess your equipment needs, I offer this simple piece of advice: *Make your purchases early*. Give yourself enough time so that anything that needs to be installed will be ready before you need it. Heeding this advice will alleviate some of the stress of not being prepared for the next season.

Another item to consider is whether you need more pilots and/or ground crew. This is a good time to look for the type of personnel needed. It might also be a good time to consider mentoring anyone who is interested in being an aerial applicator. Quite a few pilots are looking for an opportunity to get started in our industry. We just have to provide the chance to see that they get the best start possible.

The more plans you make in the fall the better prepared and less stressed you'll be next season.

Safety First

There are several safety issues to consider. Here are a few of the biggies in my book:

- Get all of the maintenance done on all aircraft and components.
- Check to see if any new AD's have been issued since the last scheduled maintenance was performed.
- Clean the aircraft inside and out. This is one of the most important maintenance items you can do from a safety standpoint.

During normal aircraft use, dirt and grime build up and can cause costly problems if left alone. Corrosion of the aircraft and its attached equipment is one of those silent, costly and safety-compromising things that occur if left untreated. It also makes detecting cracks hard to see during inspections in side panels and on the airframe. It can be controlled by eliminating the dirt and grime that has built up. Dirt and grime can hide most corrosion. It takes some effort to conduct a thorough cleaning, but this simple maintenance practice pays off big in the end when corrosion and cracks are found before they cause problems.

Some other safety issues to consider in the offseason are the growing installations of wind energy systems. We have to have good communications with the companies and developers of the wind energy systems and are making every effort to explain the hazards that they create for our industry. If we don't have input into their development then no one will know about the hazards they create for the aerial application industry in the protection of all of our food, fiber and bio-fuel that we help produce. Wind towers have been developing en masse over the last few years and that will continue. We all support the development of domestic renewable energy, but not at the cost of farmers losing our services or us compromising our safety. We might not be able to eliminate all of the hazards that towers pose, but if we work on communications and develop some standards for tower installations, we may alleviate some of these hazards.



Executive Director's Message Andrew Moore



Is the Tide Turning Toward Conventional Agriculture?

The other day one of my colleagues emailed me two articles critical of the organic agriculture movement from two different, widely circulated North American newspapers. Both papers—the Los Angeles Times (daily circulation 739,000) and Toronto's Globe and Mail (daily circulation 330,145)—are reputed as having a more liberal tilt. "I dare say the tide may be turning ever so slightly," my colleague wrote in the email, indicating that perhaps public opinion of organic farming may have reached its apex and may be waxing for conventional agriculture. The articles questioned claims that organic agriculture advocates make about organic being more nutritional and sustainable.

The *Globe and Mail* piece was written by a highly respected columnist. The writer included a statement from the Mayo Clinic that "No conclusive evidence shows that organic food is more nutritious than is conventionally grown food." The Mayo Clinic is one of, if not the leading cancer center in the world. She also cites the American Cancer Society, which states there is "no evidence that residues of pesticides and herbicides at the low doses found in foods increase the risk of cancer."

More importantly, the writer raises the question of organic agriculture's ability to sustain our growing global population. The *Globe and Mail* referenced Dr. John Emsley, a British scientist, who it quotes as having written in *Nature* journal, "The greatest catastrophe that the human race could face this century is not global warming but a global conversion to 'organic farming.'" If we produced organically on a global scale, Emsley speculates, two billion people would starve to death.

The *Los Angeles Times* article, meanwhile, presented facts that the size and ownership of organic and conventional farms are not all that different—85 percent of all farms in California (organic or conventional) are owned by individuals or families and 75 percent are smaller than 100 acres in size. The article alluded to a myth that organic

farms are pure, small local businesses by pointing out that Earthbound Farm, which grows organic produce, cultivates more than 40,000 acres distributing its food globally.

U.S. Organic Sector Feeling the Squeeze

A little negative press notwithstanding, the poor economy appears to be a bigger problem for the U.S. organic sector. USDA's Economic Research Service released a study in May ("Emerging Issues in the U.S. Organic Industry") reporting that the weakened economy and significantly higher costs for organic operations have combined to adversely affect organic agriculture in recent years. Occasional buyers of organic are limiting their purchases, hence declining "the rate of gain for new organic consumers."

There are other indications a change in trends may be occurring. As reported in the last issue of *Agricultural Aviation* (see "Sustainable Agriculture = Conventional Agriculture" July/August 2009, pg. 5-6), the American National Standards Institute (ANSI), in a first stab at attempting to define sustainable agriculture, included a preliminary definition favoring "biological, mechanical and cultural methods to control pest and disease vectors" and to "phase out agrochemicals."

Last May the Leonardo Academy, which is developing the standard for ANSI, moved more toward conventional production methods by reporting that its working committee agreed that the sustainable agriculture standard should "encourage the widespread adoption of agricultural production and handling practices that are ecologically responsible, equitable, economically viable, science-based, meet global demand for a full range of agricultural products and ensure that future generations are able to meet their own needs."

These are all promising developments for conventional agriculture and for the preservation of agricultural methods that will be responsible for clothing, feeding and fueling our

Executive Director's Message Continued



planet's nine billion inhabitants in 40 years. This advocacy for conventional agriculture must continue to further affect change in its favor.

Tools You Can Use

NAAA has been actively producing tools for the aerial application industry to promote sustainable agriculture. This issue's cover story (see pg. 11) includes great information for aerial operators to use with citizens, government officials and schoolchildren about the important role crop protection products play in ensuring an abundant, safe and affordable supply of agricultural commodities. We have also distributed the new DVD "Aerial Application's Growing Role" to aerial operators, ag pilots, ag media, flight schools, policymakers and agricultural organizations nationwide to spread the word about the important role our industry plays in aiding agricultural production.

These efforts will continue with our soon-to-be unveiled website redesign of www.agaviation.org, which will feature a more comprehensive section for the public to learn about the important role aerial application plays in agriculture, forestry and public health. In addition, the revamped site

will include access to our new video via the World Wide Web along with a number of new services for the aerial application industry as a whole, especially members.

I invite all of you, whether you are in the aerial application community or a proponent of conventional agricultural practices, to play an active role in spreading the word about its importance at the local, national and global level. These aforementioned tools are at your disposal.

CORRECTION: The July/August 2009 Executive Director's Message contained an incorrect figure for total acres of corn, cotton, soybeans and wheat grown in the U.S. in 2007. Approximately 235 million acres of U.S. cropland were planted with these crops in 2007, according to USDA data (92.9 million acres of corn; 10.85 million acres of cotton; 71 million acres of soybeans; and 60.5 million acres of wheat).





WNAAA President's Message

Mostly by "Bindi Gustafson," subbing for Elaine Gustafson



Finding a Respite During the Dog Days of Summer



The spray season is winding down for a good share of us, but it is not the time to become less vigilant. That is when accidents seem to happen.

What to write? That is always the question when I sit down to write one of these columns. I have a hard time

focusing on just one subject. So I thought I would let my dog, Bindi, give you an idea of what has gone on lately.

I would like to introduce myself. I am Bindi Sue Gustafson, Elaine's puppy companion. My mom has been so busy and stressed out that I offered to write this article for her. And she was right, it is hard to get an idea of what to write about. Maybe I could just tell you about a day in her life as seen through my eyes.

A normal day starts before the sun comes up when dad leaves for work. Mom and I sleep in a little while and then it's time to get out and go for a short walk around town before we head to the office. I love the smells in the morning. I find something different to smell every time. Mom doesn't let me dally too much because she is in a rush to get to work. I usually hear airplanes flying by the edge of town and I wonder if it could be daddy out there. Sometimes we go to town to get breakfast for the boys or just go to work and mom makes sandwiches for them. I like it when we go to town so I can smell the bags of food. But I don't think it is fair that I can smell all the good burritos or breakfast biscuits and not get to taste any of it. I guess I am talking about smelling a lot, but after all, I am a dog. Sometimes mom lets me share, but not very often. When she cooks breakfast sandwiches at the office, I always get to share for sure. I enjoy those days the most.

Once we get breakfast taken care of mom settles down at her desk to work. Before sitting down at the computer, mom makes sure I have water and something to snack on. I hang out under her desk most of the day. I sometimes get to sit on her lap and watch, but not very often. There are times when she seems to be a little stressed out. If I could talk her into going for another walk, I think she would feel better. I know I would. Oh, well, maybe later. I will just go outside and check the yard for critters. Oh! There goes another yellow airplane.

Dad usually comes in around noon and has lunch. I get to share that with him. Other than my walk, that is the best time of day for me. (I think about walks a lot too. Like I said, I am a dog.) That is when he gives mom the paperwork for the day. After lunch there is more work for mom to do and more naps for me. Sometimes mom and I go for a walk up to the hangars so I can chase rabbits, but only on days when she isn't so busy and when it is not so hot. I am a black dog after all and I can get pretty hot in the sunshine. I am not allowed to get very close to the airplanes. I'm not sure why.

There always seems to be people coming and going around the office. I always let mom know when someone comes in. I think she already knows they are there, because she just tells me to pipe down. But she has to know I am just doing my job.

Mom sometimes leaves me at the office when she goes to town to run errands, so I ride home with dad instead. That's fun because he lets me ride on his lap and hang out the window. Mom makes me ride in the back of her car, but that is all right too. At least I get to go.

I enjoy my days with mom. We have a good time. And as mom would say, "Fly safe!" ■





Washington Report

First Phase of EPA's Pesticide Container and Containment Rule Takes Effect

Key requirements of the Environmental Protection
Agency's (EPA) pesticide containment regulations took effect Aug. 17. This has implications for the agricultural aviation industry, since commercial applicators with containers and dispensing areas for agricultural pesticides must comply. The requirements can be complicated.

Nevertheless, it is imperative that all aerial applicators understand and fully comply with these regulations.

The requirements stem from an EPA Final Rule, the Pesticide Container and Containment (PCC) Rule, which was first published in August 2006. The rule establishes national standards for the packaging, safe storage, containment and disposal of pesticides in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). Minor amendments to the rule were made last October, the most significant being an extension of the labeling requirements until Aug. 17, 2010.

The goals of the rule, as stated by EPA, are as follows:

- 1. Minimize human exposure to pesticides while handling containers.
- 2. Facilitate disposal and recycling of pesticide containers.
- 3. Protect the environment from

pesticide releases at bulk storage sites and from spills and leaks when refilling and/or dispensing pesticides.

These requirements may affect you if you are a pesticide registrant, retailer, distributor, commercial applicator, custom blender or user. The framework of the new requirements is outlined as follows:

Secondary Containment Units

- Tanks with capacities of 500 gallons (liquids) or 4,000 pounds (dry) or greater and that are stationary (fixed or in place for at least 30 days) must be in secondary containment.
- Tanks for liquids must be anchored or elevated to prevent flotation.
- Tanks must have capacity of 100 percent if protected from precipitation or if it existed before November 2006, OR a capacity of 110 percent if not protected from precipitation and built after November 2006.

Containment Pads

- Containment pads are required for:
 - ~ Emptying, cleaning or rinsing refillable containers.
 - ~ Dispensing pesticides from a stationary container with a capacity of 500 gallons or 4,000 pounds or greater.

- Dispensing pesticides from a transport vehicle to fill a refillable container.
- ~ Dispensing pesticides from any other container to fill a refillable container for sale or distribution.
- Pads must have a capacity of at least 750 gallons or 100 percent of the volume of the largest container (including transport vehicles) used on the pad, whichever is less (if no container or equipment on the pad exceeds 750 gallons).

Both Secondary and Containment Pads

- Must be liquid-tight and constructed of impervious, rigid materials compatible with the agricultural pesticides being stored.
- Must have sufficient freeboard to contain precipitation and prevent liquids from entering.
- Must be inspected monthly and repaired when necessary.
- Facilities must keep records on maintenance and monthly inspections.

These guidelines outline the key elements, but do not cover every aspect of the PCC rule. Refer to the final regulations for the full details.

Do You Have More Questions About the EPA Pesticide Container and Containment Rule? NAAA Has Answers

These regulations are complex. After reading them, you may need more clarification as to whether they apply to your operation. Specific information from the final rule has been broken down to answer some of the most frequently asked questions.

Does my facility need to comply with the Pesticide Container and Containment regulations?

Yes, if agricultural pesticides are handled at your facility, or if you are a retailer that refills containers, a commercial applicator and/or a blender.

How do I know if I fit into one of those categories?

The rule defines the specific categories as follows:

- Retailers that refill are refilling establishments that repackage agricultural pesticides and whose principal business is retail sale (more than 50 percent of annual revenue comes from retail operations).
- Commercial applicators are businesses that apply an agricultural pesticide for compensation.
- <u>Custom blenders</u> include any establishment that provides the service of mixing pesticides to a customer's specifications.

What are the structural requirements for secondary containment units and pads?

The containment structure must be constructed of steel and reinforced with concrete or another rigid material capable of withstanding the full hydrostatic head, load and impact of any pesticides, precipitation and other substances. The structure must be liquid-tight with cracks, seams and joints appropriately sealed.

I'm not sure if my containers are affected by the rule.

Stationary containers greater than 500 gallons or 4,000 pounds are exempt from secondary containment requirements if they are empty, only hold rinsates or washwater, only hold gaseous pesticides or are for non-pesticide use only. Dispensing areas are exempt from containment pad requirements if they only have gaseous pesticides, only have stationary containers already protected



These requirements may affect you if you are a pesticide registrant, retailer, distributor, commercial applicator, custom blender or user.



Washington Report



by a secondary containment unit or are dispensed from a rail car (which has been in place for less than 30 days).

Is my structure considered "new" or "existing"?

Containment structures are considered "new" if physical installation began after Nov. 16, 2006. A structure is considered an "existing" structure if installation began on or prior to Nov. 16, 2006.

How often should my containment structures be inspected?

Any containment structures where pesticides are being stored or dispensed must be inspected monthly.

I've noticed signs of damage on my containment structure. When should I have it repaired?

Your facility must initiate repair to any area showing visible signs of damage no later than the end of the day on which the damage is noticed.

What kind of recordkeeping is required?

A facility must keep records of the construction date of the facility, all inspections and maintenance and any non-stationary pesticide containers that are at least 500 gallons or 4,000 pounds.

Another point to keep in mind is that if your state had sufficient containment regulations in place by August 2006, you may have the option of continuing to implement the state's regulations in lieu of the federal requirements. Consult your state or tribal pesticide management agency, or visit the "For More Information" section of EPA's container/containment website at www. epa.pesticides/regulating/containers.htm to find information relating specifically to your state.

It is important to note that your state's regulations may be more stringent than those promulgated by EPA. The implementation of EPA's regulations will

have the greatest effect in states where no pesticide containment laws were in place.

Other regulations established by the PCC rule will be phased in over the next two years. The key labeling requirements outlined in the rule will come into effect Aug. 17, 2010, and the refillable container and repackaging requirements will take effect Aug. 17, 2011. For more information on these forthcoming requirements, refer to the EPA's container/containment website.

NAAA cannot emphasize the message enough—in order to protect the environment, as well as the health and safety of all applicators and their crews, complying with these regulations is of the upmost importance. NAAA encourages members to visit the EPA's container and containment website, www.epa.gov/pesticides/regulating/containers.htm, to gain more information on this important rule.



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Crop Protection Products

Invaluable Resources in a Growing World

By Keeley Mullis Coordinator of Government & Public Relations

countries are accustomed to finding a wealth of safe, affordable and fresh produce each time they enter the supermarket. The majority of Americans have high standards when it comes to the quality and appearance of their food and take for

granted the variety and abundance of fresh fruits and vegetables available year-round in thousands of stores from coast to coast. Most American grocery shoppers can't imagine walking into a store and being told that, due to a bad harvest, there won't be any tomatoes or corn available for months.



The abundance of fresh, safe and affordable foods consumers are able to enjoy is largely due to crop protection products. Pesticides—which include insecticides, fungicides, herbicides and rodenticides—help farmers and growers increase crop yields by up

Pesticides have played a major role in fighting malnutrition and starvation in developing countries, and they have helped low-income families provide nourishment for themselves and their communities. Human life expectancy in developing countries

In developing countries that do not have access to crop protection tools, crops are at greater risk to diseases, pests and weeds that diminish the food supply.

to 50 percent. Despite these truths, pesticides don't get nearly the credit they deserve and receive much of the blame when concerns about food quality and safety crop up.

Consider the alternative, an agriculture industry operating completely free of pesticides. Many experts agree that without the use of crop protection products, wide-scale production of fresh goods would be unsustainable, and the food demands of the world's growing population would go unmet. As the population of the United States and the world continues to grow exponentially each year, the demand for fresh, healthy and affordable produce will continue to skyrocket. This demand can only be met with the help of crop protection products.

The Plight of Poor Nations

Pesticides have helped raise the standard of living for people all over the world. On a daily basis, most people eat food that has been treated by pesticides. Not only do pesticides improve the quality and amount of food, but by removing the need for backbreaking hand weeding, farmers and their families are able to move away from manual labor and pursue educational and other opportunities.

continues to rise as fresh, healthy fruits and vegetables become a daily dietary staple.

Many of the world's poorest people rely on agriculture as a way of life. The World Health Organization estimates that 1.2 billion people live on less that \$1 a day, and about 75 percent of those people live and work in rural areas that rely directly on agriculture.

In the Western world, the average family spends 12 percent of its income on food, according to the U.S. Department of Agriculture. A study by the Natural Resources Institute cited that in Africa and much of the developing world where healthy crops cannot be produced abundantly, buying food dominates personal expenditure. In Tanzania, the average family spends 71 percent of its income on food. In developing countries that do not have access to crop protection tools, crops are at

greater risk to diseases, pests and weeds

that diminish the food supply. The

harvested yield is often chronically low due to pest damage. For the produce that does make it to the consumer, quality is usually very poor.

Prior to the 20th century, pests consumed or destroyed a great deal of America's crops because the necessary pest control tools were not available. Presently, 50 percent of crops grown in developing countries never make it to the consumer, according to California's Department of Agriculture. This is largely due to intrusions by pests, fungi or disease that can devastate a crop yield. Pests cost developing countries billions of dollars in national income. According to the United Nations Children's Fund (UNICEF), malnutrition kills between 12 and 15 million children annually. Developing countries desperately need increased access to water, fertilizer, pesticides, energy and other technologies in order to provide for their citizens.

Dr. Norman Borlaug, an
American agricultural
scientist, Nobel laureate and
humanitarian, emphasized
the impact
agricultural

technology can
have on poverty and
hunger. He argued, "I
now say that the world
has the technology—
either available or well

advanced in the research pipeline—to feed on a sustainable basis a population of 10 billion people. The more pertinent question today is whether farmers and ranchers will be permitted to use this new technology. While the affluent nations can certainly afford to adopt ultra low-risk positions, and pay more for food produced by the so-called 'organic' methods, the



Lost in Translation

Ag Industry's message about pesticides doesn't always compute with the public

By Jay Calleja Manager of Communications

hat do you get when you cross the need to feed an insatiable 24-hour news cycle with Americans' 24-second attention span? Conditions ripe for misunderstanding.

An interesting paradox exists. On one hand, the media has never had more time to report on less news. (Think about the coverage after Michael Jackson died.) On the other, reporters have never had *less time* to generate more content for more media outlets.

Is it any wonder then that the media does an insufficient job of reporting on chemical studies, something an overwhelming majority of toxicologists believes to be the case?

After surveying more than 1,000 toxicologists, the Statistical Assessment Service (STATS) and the Center for Health and Risk Communication at George Mason University concluded that toxicologists don't always share the concerns of activists and government officials when it comes to particular controversial substances. The survey also reflects the beliefs of many toxicologists that pesticides are less hazardous than mainstream media coverage reflects.

Sounding the alarm about an issue of "grave importance" is a great way for the media to feed the beast that is the 24-hour news cycle. Imagine a prominent paper declaring, "CDC Fearful of Flu Vaccine Shortage."

That's considered newsworthy, whereas a story such as "Flu Vaccine in Abundant Supply" would get considerably less ink.

WMD: Weapons of Mass Distraction

Failure to communicate isn't always the fault of the messenger. The public bears responsibility as well. In an age when Americans are on Twitter and Facebook and glued to their iPhone or BlackBerry, we'd rather gulp down bits and pieces of news than digest the full story. In many ways, we have become prisoners to these Weapons of Mass Distraction, not empowered by them.

Given our short attention spans, it's easy to see how even fair and accurate information can become garbled to the point where well-intentioned but misinformed consumers overreact to the health and environmental risks associated with crop protection products.

The Los Angeles Times' Russ Parsons noted the fallacy of this logic in a July 1 piece about organic versus conventional farming. "Certainly, there is a problem with chemicals, pesticides, herbicides and fertilizers when they are used incorrectly," Parsons wrote. "But it's quite a leap to suggest that because something is harmful when misused, it mustn't be used at all.

"The hard-line organic-or-nothing crowd refuses to recognize this. As a result, as with any other zero-tolerance program, that can lead to some awfully dumb decisions.

"Walking through the Santa Monica farmers market the other day, I again heard it repeatedly: Customers asking farmers 'Are you organic?' as if it were some kind of litmus test for quality or safety."

Toxicologist Survey Reveals Additional Insights

Toxicologists generally take a more measured view, as the survey administered on behalf of the Society of Toxicology shows. For example, on a scale of one to seven—with seven being the most toxic—respondents rated Chlorpyrifos, Atrazine and DDT in the "moderate" risk range. Survey participants overwhelmingly agreed that exposure to the smallest traces of these chemicals found on foods is in no way dangerous. Those weighing in at the highest end of the scale included smoking tobacco, chewing tobacco and second-hand smoke.

When rating media sources, only 15 percent of toxicologist respondents considered the *New York Times*, *Washington Post* and *Wall Street Journal* to be accurate in their reports of chemical risk studies. A majority surveyed toxicologists (56 percent) considered WebMD to be the most reliable source of chemical information.

Approximately 32 percent of the Society of Toxicology's 3,600 members participated in the survey. The toxicologists come from a variety of backgrounds in academics, industry, government and environmental groups.

one billion chronically undernourished people of the low income, food-deficit nations cannot." This year, late blight has appeared in the eastern United States. The disease is killing tomato and potato plants in

Bjorn Lomborg, former director of the Environmental Assessment Institute, has stated that if pesticide use were eliminated, the lives saved would be outnumbered by a factor of 1,000 lives lost due to poorer diets.

Pesticides' Growing Role

Pesticides have had a key role in improving productivity to such an extent that India, a country once plagued by famine, has quadrupled grain production since 1951. Chemical products helped pull Ireland out of its catastrophic potato famine that began in 1845, but not before it reduced the Irish population by 25 percent. The near total devastation of Ireland's potato crop, which was a basic staple in the Irish diet, was the result of blight, a fungus that had

been carried over to Ireland from Mexico. The blight caused the country's potatoes to turn into black, rotten messes of slime. Ten years went by before a chemical solution to the problem emerged. By that time, approximately one million people had died and hundreds of thousands more had fled Ireland. Even today, without the use of fungicides, potato production in Ireland would be

nearly impossible.

gardens and commercial farms. Meg McGrath, an associate professor of plant pathology and plant-microbe biology at Cornell University, said that blight has never appeared this early in the season and this widespread. McGrath has urged growers to preventatively spray fungicides and continue spraying crops

Not only do pesticides prevent losses of existing crops, but they also broaden the range of crop options farmers have during particular times of the year. For example, the National Resources Institute reports that tomatoes can only be grown in the rainy season in Zimbabwe if a fungicide is used to prevent blight. Without this measure there is usually total crop failure.

As harvestable yields increase, so do farm revenues. The U.S. agricultural industry spends \$6.6 billion each year on crop protection. In return, that investment generates \$21 billion per year, according to the CropLife Foundation. CropLife also reports that for every dollar spent on insecticides, growers gain \$19 in increased commodity value. This results in wealthier farmers with more disposable income to stimulate local economy. In turn, regional and national agricultural economies become more buoyant and revenues from exports of high quality produce bring in much needed foreign exchange. Higher yields mean less pressure to cultivate new land, which helps the environment.

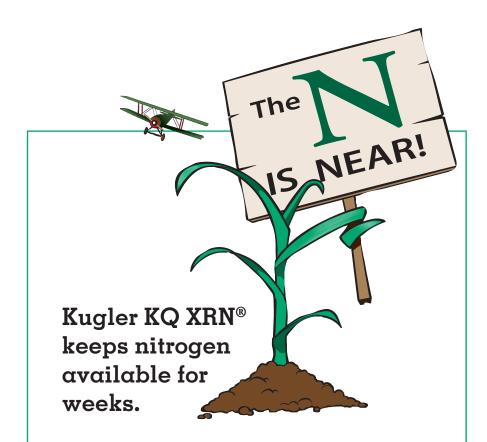
Perception vs. Reality

Despite the overwhelming benefits these products offer farmers and consumers across the globe, the use of chemical products has come under fire in recent years. Media reports on the successful use and safe benefits of crop protection products are few and far between. A George Mason University survey of American media trends found that only one out of every 40 pesticide-related articles presented the products in a positive light. Pesticide use is rarely a news item until a problem results from misuse. The risks associated with accidental, massive

regularly in order to prevent this destructive disease from appearing or spreading. exposure are simply not the same risks associated with small amounts of a properly used chemical. While there are risks associated with improper use of crop protection products, their benefits and advantages should far, far outweigh these risks.

Pesticides are some of the most scrupulously regulated chemicals. The rigorous processes involved in the approval and re-regulation of these chemicals ensure that they are safe for use, and their effects are regularly assessed through a range of tests based on sound science. In recent years, researchers have made incredible progress in their quest to develop even safer pesticides.

Environmental groups, as well as those in the media, often completely disregard the benefits of pesticides while overstating the hazards. A survey of toxicologists, developed by the Statistical Assessment Service (STATS) and the Center for Health and Risk Communication at George Mason University, revealed that an overwhelming majority of respondents agree that environmental groups overstate the risks of chemicals, and the media do not competently report chemical studies. The survey reflects the beliefs of many toxicologists that controversial materials, such as pesticides, are less hazardous than mainstream media coverage reflects. Yet members of the media and environmental groups continue to exaggerate the health risks associated with certain chemicals and products. This slanted information promotes hysteria among consumers at the expense of proper context. One of the missions of NAAA's comprehensive website redesign will be to provide the public with information that allows them to weigh the risks and benefits of pesticides appropriately.



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"The world has the technology—either available or well advanced in the research pipeline—to feed on a sustainable basis a population of **10 billion people**. The more pertinent question today is whether farmers and ranchers will be permitted to use [it]. While the affluent nations can certainly afford to adopt ultra low-risk positions, and pay more for food produced by the so-called 'organic' methods, the one billion **chronically undernourished people** of the low income, food-deficit nations cannot."

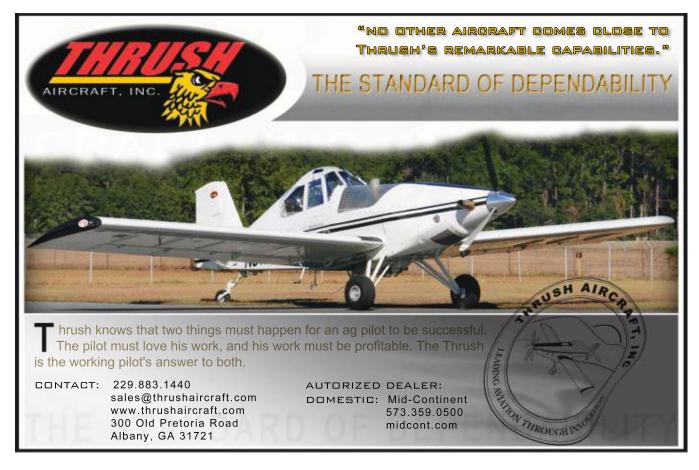
— Agricultural scientist, Nobel laureate and humanitarian Dr. Norman Borlaug

Spreading sensationalized information about pesticides is dangerous, especially in a time when their use is needed more than ever. The world's population continues to expand rapidly. Today, approximately 6.6

billion people inhabit the world, and that number is expected to jump to more than 9 billion by 2050. The demand on America's farmers, growers and agriculture industry will nearly double by this time.

Statistician Bjorn Lomborg of the Copenhagen Business School, and a former director of the Environmental Assessment Institute, has argued repeatedly that the health benefits from a diet containing fresh fruits and vegetables far outweigh the potential risks that come from consuming miniscule amounts of pesticides on crops. Lomborg said that if pesticide use were eliminated, the lives saved by reducing chemical exposure would be outnumbered by a factor of around 1,000 lives lost due to poorer diets. Secondary consequences would be massive environmental damage due to the mass cultivation of new farmland and a significant economic loss of more than \$20 billion.

Banning pesticides would reduce the availability and affordability of several of the world's most highly consumed crops. For example, without pesticides, apple production would



not be economically feasible; farmers would be better off using their land for other crops. Carrot farming would prove unsustainable. Michigan State University researchers estimate that without insecticides there would be no quality, commercially viable apples or cherries produced in the eastern United States. Researchers at Washington State University concluded that without an effective insecticide for the asparagus aphid, there would be a total collapse of the California and Washington asparagus crop.

Several studies conducted by the U.S. Department of Agriculture estimated that without insecticide use, the following reductions* in U.S. commodity production would occur:

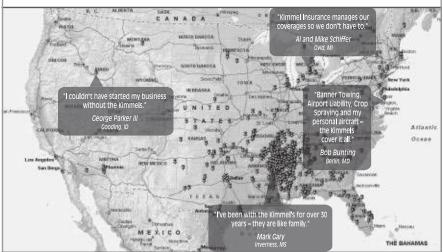
- Cranberries, 15-50 percent
- Strawberries, 53 percent
- Carrots, 12 percent
- · Cotton, 28 percent
- Tomatoes, 64 percent

*This is not an inclusive list of crop losses.





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A recent study by the Natural Resources Institute outlined some of the obvious and not so obvious benefits of pesticide use. One of the most under-reported, yet noteworthy benefits of pesticide use is the reduced mortality from malaria, which is achieved by controlling anopheline mosquitoes.

What About Organic Agriculture?

The negative twist the media places on pesticide information has led to a consumer shift toward organically grown produce. The demand for organic products has doubled in the past decade, and the organic food sector has skyrocketed into a \$23 billion industry. A study completed by the Harvard School of Public Health found that more than half of U.S. consumers purchase organic products occasionally, and 28 percent buy organic products on a weekly basis. At times, consumers pay more than

twice as much for organic products, but they're not always getting what they expect. Many "organic" products are still treated with certain chemicals, including non-synthetic and synthetic forms of insecticides and fertilizers. Mintel, a Chicagobased consumer and market research firm, has predicted that due to recent economic trends, the organic food industry will decline by \$5.07 billion this year, causing some farmers to shift back to more profitable agriculture practices. Consumers are becoming less willing to pay the high premiums



for organic products, which in reality,

are no safer than non-organic products.

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While still a major trend, some are beginning to question the authenticity of the organic industry. Buying "organic" is not as environmentally friendly as customers are led to believe; organic farmers need to cultivate nearly three times the farm land to produce the same yields as conventional farmers.

According to Professor Lomborg, not only would a large-scale shift to organic agriculture require the cultivation of more agricultural lands, but the price of food would see a marked increase. People would have less affordable access to fresh food and vegetables, which are essential to preventing cancer. Decreasing consumption of fruit and vegetables by up to 10 percent will lead to another 25,000 cancer deaths in the U.S. each year. According to the aforementioned

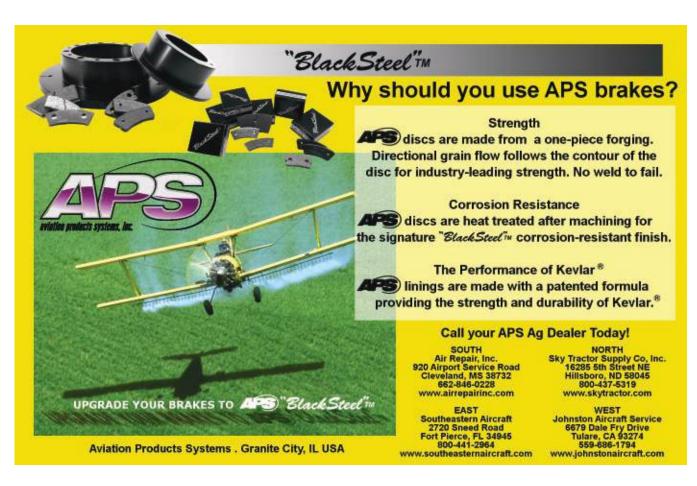
STATS survey, only 10 percent of surveyed toxicologists believe that organic products are inherently safer.

While the virtues of organic agriculture remain debatable, the sector does offer special opportunities for aerial applicators. Organic crops may be treated with pesticides, but they have to be "organically approved" pesticides. Treating organic crops is constant work for some applicators because they require spraying almost daily. Organic crops require preventative treatment, so fields need to be sprayed early and often to prevent intrusion from insects, weeds, diseases and fungi. If an infestation takes place, the organic farmer's options are limited, and the entire crop may be in jeopardy.

Rapid, effective and reliable application of organic crop protection products is essential to sustaining the success of the organic industry. The benefits of aerial application—speed, non-obtrusiveness to the crop, no compaction of topsoil, etc.—apply whether the crop is conventionally or organically grown.

Pesticides are an important, if not always appreciated part of daily life. They contribute to the basic quality of life of people everywhere. Let's not ignore or diminish that fact.





What Aerial Applicators Need To Know About Workers' Compensation Insurance

By Tim Bonnell Jr.
NAAA Insurance Committee

A erial applicators purchase a number of insurance policies to protect their various assets and exposures. One of these exposures is bodily injury and lost compensation for employees injured on the job. Workers' compensation insurance is designed to cover this exposure. Each state has its own workers' compensation laws and requirements, so it is critical to know what the state in which employees are paid and/or domiciled.

the employer over the injury. In certain situations an employee may sue an employer related to employee bodily injury loss where coverage does not exist. That is why most workers' compensation policies include employers liability coverage. This coverage provides protection for situations such as third-party-over actions, consequential injuries (such as loss of consortium and loss of services) to the injured employee's family members, intentional tort claims, and

where there is not a voluntary private insurer willing to provide a policy), and a state monopolistic state fund. Most (non-monopolistic) states will not insure an operation in the state assigned-risk program if there is a voluntary private insurer willing to provide coverage for that operation, even when the premium would be higher with the private insurer.

North Dakota, Ohio, Washington and Wyoming are monopolistic states that require purchasing coverage through their state fund if a company has employees/payroll based in their state. In these monopolistic states employers liability protection is not included in the policy so most insurers will provide stop gap coverage for this exposure.

There are many situations where an operator will hire another operator as an **independent contractor** to perform work on his/her behalf. Workers' compensation laws provide that if the independent contractor performing work on behalf of the operator does not have **workers' compensation coverage**, then the operator will inherit that exposure.

What is Workers' Compensation?

Workers' compensation coverage is designed to pay medical bills and compensation *regardless of fault* to an employee injured during the course of his employment. In exchange, employees forfeit their right to sue

claims for injury or disease not covered under workers compensation laws.

Employers can purchase coverage through a number of venues, including private insurance companies, state assigned-risk programs (for risks

How Policies Get Underwritten

The underwriting process is based on common elements regardless of the avenue used to purchase coverage. Each type of occupation in the operation has an assigned class and code. For most aerial applicators those classes would consist of pilots (fixed- or rotor-wing), clerical staff and ground crew. It is important to explain the various job duties fully to your agent so that the appropriate class code is used. There are separate classes and rates for fixed-wing verses rotor-wing pilots so it is important to keep clear records of the hours flown (and payroll breakdown) for



each of your aircraft and pilots to demonstrate the distinction. In some states if an employee performs multiple occupational duties the state will require using the class with the highest rate. The operator reports the estimated payroll separately for each class code in each of its locations. Each state has set rates for each class that insurers must use to base their rates. Insurers apply the state rates to the payroll of each class code to determine the base premium.

Depending on the type and size of the operation other factors may apply to the rating, including a premium modifier (which provides a credit or debit based on loss history, premium level and classification rates), premium discounts and other credit/debit variables. If an operation's employees travel outside of the country, it would be advisable to have foreign voluntary coverage on the policy. It is important to provide accurate information and estimations when reporting class codes and payrolls because all workers' compensation policies are audited on at least an annual basis. If the audit shows that the payrolls were underestimated the additional premium will be assessed; conversely, if the premium is overestimated a credit will be issued.

Not all operators carry workers' compensation coverage. Most

states allow owners and officers of a company to exclude themselves from coverage. In the case of a oneplane, one-owner pilot operation, coverage may not be required. Furthermore, some states may provide other accommodations for agricultural businesses.

More often than not, workers' compensation insurance isn't optional; most businesses with employees have to carry it. If your company isn't carrying the required workers' compensation coverage it could be hit with stiff penalties and fines. Be sure to check with an insurance agent to determine which laws apply to your operation.

There are many situations where an operator will hire another operator as an independent contractor to perform work on his/her behalf.

Workers' compensation laws provide that if the independent contractor performing work on behalf of the operator does not have workers' compensation coverage, then the operator will inherit that exposure. Anytime an independent contractor is hired, the operator should obtain a certificate of insurance showing that proper coverage is currently in effect. If an aerial applicator's workers'

compensation policy has class codes

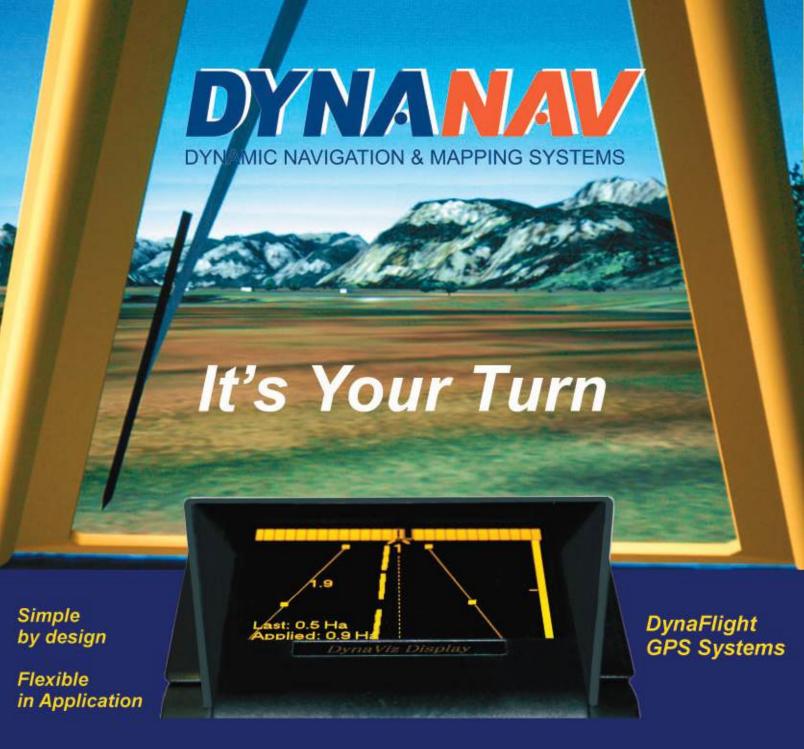
crew but not pilots, then it would be

for clerical employees or ground

advisable to add the pilot class code (and estimate \$0 payroll if necessary) so that the coverage is there just in case something would happen with an uninsured independent contractor. If an operator doesn't have a workers' compensation policy, but does hire independent contractors, it would be prudent to purchase coverage on a similar basis.

Workers' compensation insurance can be difficult to understand because of the different rules and regulations of each state. There are numerous issues to evaluate when it comes to this exposure. That is why it is important to consult with a knowledgeable insurance agent about your various exposures and fully communicate the type of employees you have in your operation. Being properly insured today will save money, time and possibly headaches down the road.

CORRECTION: The insurance article byline in the July/August issue was incorrect. Bill Clark authored the piece on "Contractual Liability" for the NAAA Insurance Committee.



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2009–2010 PAASS Program Too Good to Pass Up

It's often said you can't escape the past so you may as well deal with it. In a sense, we did.

Feedback from previous PAASS attendees factored heavily into the curriculum for the 2009–2010 PAASS Season. The new season begins in October and is the 12th consecutive for PAASS (Professional Aerial Applicators Support System). PAASS' purpose—to enhance ag aviation safety, security and drift mitigation through entertaining and educational programming—is the same as it was when NAAREF created it in 1996. What changes from year to year is how we go about achieving this.

Thanks to the useful suggestions of former PAASS attendees, the 2009–2010 program will captivate PAASS audiences and augment ag aviators' professionalism. The following is an overview of the subject areas PAASS will cover. We think you'll agree this season's slate is too good to pass up!

The program begins with the Ag Airfield Watch security module.

With the able assistance of an FBI intelligence analyst whose focus is civil aviation security, the program will lead attendees through the sequence of events set into motion when an agricultural aircraft is reported as missing and possibly stolen. The importance of proper notification to local law enforcement and to the government will be stressed. If you are witness to a suspicious aviation occurrence call the TSA's Transportation Security Operations Center (TSOC) hotline at 1-866-GA

SECURE (866-427-3287). Trained personnel at this number will notify the proper agencies and the proper actions will be taken.

This season's PAASS aviation safety curriculum will investigate the importance of proper equipment maintenance, whether it is for the aircraft, engine, spray system or ground handling equipment. Production on the Human Factors in Agricultural Aviation module began with videotaping interviews at the 2008 NAAA Convention in Las Vegas. Various manufactures, service centers, retailers and operators were asked to share their thoughts on maintenance problems they see regularly with equipment they service.

The Spray Drift Mitigation module is titled, "Equipment Setup & Use for Variable Rate Controllers." The field of agricultural application is becoming increasingly complex. New equipment and methods of application are developed all the time. This season's PAASS curriculum helps applicators understand the principles of variable rate application equipment. With a better understanding of its benefits, participants will be able to determine if it fits into their operations' services.

We'll also go over GPS technology in a step-by-step manner in this module. Using GPS technology correctly is essential to the precision application of liquid and dry materials. Our presenters will explain precision mapping, illustrate the equipment used for both liquid and dry precision application, and explain how the pieces

of equipment all function together. A consideration as to pressure and droplet characteristics created during the changing parameters of variable rate application will also be discussed, as will a thorough understanding of flow controllers' use even when they are not used for variable rate application.

The Hangar Ag Flying module will include an analysis of ag accidents that happened during the 2009 spray year so that we can learn from our peers and improve our safety. Topics such as the increasing problem of working around wind sampling (met) towers and wind turbines will be addressed. Also explored will be the problem caused by poor ethics in the daily operation of some ag operations. Suggestions will be made available to help with the recognition and correction of this problem.

Ag accident analysis indicates that certain loss-of-control accidents continue to happen year after year. This year's PAASS Program will revisit stall/spin accidents covered in previous PAASS programs. It will also present a short preview of the upcoming 2010–2011 module on this subject as illustrated by the "Turn Smart" PAASS video, featuring Wayne Handley, a well-known aerobatic pilot and former ag operator.

There is sure to be something of interest for each attendee at the 2009–2010 PAASS programs. Be sure to mark your calendar and attend at least one state/regional ag aviation convention to catch this year's full PAASS program. ■



Chemical Pipeline Boasts Exciting

New Crop Protection Products

NAAA's Allied Chemical Companies Preview Their Latest Innovations

By Keeley Mullis Coordinator of Government & Public Relations

NAAA's allied chemical members are busy preparing for future seasons by testing and advancing new products and technologies. With significant new developments in the pipeline, aerial applicators, farmers and growers should expect to see a range of new products in the coming months. NAAA reached out to each of its allied chemical members for insight into some of the new products that will be available for aerial use in the near future. What follows is what we heard back in response.

BASF Generating Headlines

Dr. Rick Chamblee, manager of the U.S. Crop Technical Service Group at BASF, and Pat Morrow, communications manager at BASF, shared some information with NAAA regarding the advances BASF is making that pertain to aerial application.

BASF is continuing to enhance the fungicide *Headline*® by making it more effective and easy to use, Chamblee said. *Headline*, BASF's top-selling crop protection product, will undergo a label extension in the near future, as BASF looks to treat new crops, including sugar cane, grain sorghum and alfalfa, with the fungicide.

Last January, Headline received approval from the Environmental Protection Agency (EPA) for a "Plant Health" label. According to BASF, Headline improves plant health through improved growth efficiency, excellent disease control and enhanced tolerance to stress conditions such as drought, heat, cold temperatures and ozone damage. The company states that Headline has been proven to increase yields by 12-16 bushels per acre in corn, 4-8 bushels per acre in soybeans, 65 lbs/lint acre in cotton and 6-10 bushels per acre in wheat. Currently the product is registered for use on more than 90 crops to control over 50 diseases.

Chamblee said that new uses for *Headline* will benefit everyone by allowing for "additional yields, additional profits and more out of every acre."

BASF is scheduled to release a new fungicide product for corn plant health by early next year, according to Chamblee. This product, which

should be unveiled in the next six months, includes Triazole, which BASF states will benefit plants in high-stress environments and expand the product's effectiveness to combat existing diseases, as compared to current *Headline* products that are largely preventative. BASF anticipates it will be used for row crops, specialty crops, corn, cereals, rice and other crops. The finished product will be unique to the U.S. market.

At the time this interview was conducted, EPA registration was expected to be forthcoming for *Sharpen*, a new herbicide. *Sharpen* has tested very well on a number of crops, including wheat and corn, and has demonstrated excellent burn-down qualities in cotton and soybeans, Chamblee said.

BASF is rolling out other innovations as well, such as *AgSync*, an online precision-mapping program for aerially applied crop protection products. In February, BASF and Ag Sync, Inc. announced they had reached an exclusive multi-year agreement to market the system.

The *AgSync* software system makes the application of crop protection products more efficient by closing the communication gap between the retailer of crop protection products and the aerial applicator, BASF representatives told NAAA.

According to BASF, the intuitive, easy-to-use *AgSync* software "does everything necessary to make the aerial applicator and retail ag facility more efficient, from creating and exporting shape files, to placing orders, tracking, viewing, scheduling and mission planning with the pilot."

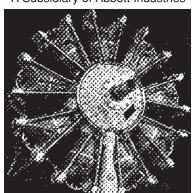
Last but not least, BASF is adding an aerial application-specific section to its website.

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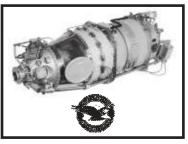
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"As a supporter of aerial applicators, BASF is working to continue to improve aerial application of key crop protection products," Dr. Jim Gaffney, BASF's agricultural aviation market manager, said.

DuPont's Crop Protection Pipeline 'Paying Off'

James Collins Jr., vice president and general manager of DuPont
Crop Protection, said the company has marked the beginning of a new horizon in pest control with its products *Altacor®* and *Coragen®*. *Rynaxypyr®*, the active ingredient used in these products, provides long lasting, broad spectrum chewing insect control for fruits, vegetables, other specialty crops, field crops and turf, according to DuPont.

Chlorantraniliprole is a component of Rynaxypyr, as well as the DuPont product Calteryx®. Chlorantraniliprole floods insects' cells with calcium by activating their ryanodine receptors. George Lahm, a developer of insecticides for DuPont, noted that chlorantraniliprole is one of the least toxic and most potent synthetic insecticides ever discovered. The chemical has demonstrated low toxicity to mammals. "Just 35 grams can protect a hectare of potatoes against the Colorado potato beetle," Lahm said. "Ten grams keeps a hectare of cabbages safe from its principle predators."

"The investments we have been making in the crop protection pipeline are paying off," Collins said. "The benefits DuPont and our customers have been experiencing from recent introductions of products like *Rynaxypyr* are just the start of new answers that will help our customers improve their productivity and profitability."

Three new herbicide blends from DuPont received federal registration approval from the EPA in April of this year. Representatives from DuPont said the products were developed to deliver a new level of convenience and effectiveness in vegetation management and forestry weed control. The line of *Lineage* herbicides includes *Lineage Prep* for forestry site preparation, *Lineage HWC* for forestry herbaceous weed control and *Lineage ClearStand* for forestry woody release and brush control.

According to DuPont, the three *Lineage* herbicides were formulated using propriety DuPont blend technology that combines several proven sulfonylurea-based active ingredients to achieve excellent biological weed control. *Lineage Prep* herbicide is specifically blended for the control and residual activity necessary for successful forestry site preparation, a spokesperson for the company said.

DuPont will also be unveiling new insect control products, such as $Cyazpyr^{TM}$, which Collins predicted could be as significant as Rynaxypyr. Tests of Cyazpyr, DuPont reported, have demonstrated improved crop yields and proven effectiveness in combating key insects, including whitefly and fruit flies in grapes, fruiting vegetables and a number of other crops. Other research has shown the product has potential for potato, leafy vegetable and citrus uses. Although *Cyazpyr* is still a couple of years away from making it to the market, DuPont believes the product has a bright future.

DuPont will be launching new herbicides for vegetation management in 2011, as well as new fungicide compounds.

Monsanto Bringing Drought-Tolerant Corn to Market

Pre-Serve, the system that communicates mitigation instructions as part of the Glyphosate Endangered Species Initiative, has been upgraded to version 2.0, according to Monsanto's Dave Gustafson.

Pre-Serve is an online tool that describes areas where use limitations are necessary to protect threatened and endangered species (TES). A four-step process allows farmers and applicators to determine if their fields are within a Use Limitation Area (ULA), or an area where threatened or endangered plants may be present near agriculture. The tool can be found at www.pre-serve.org.

The 2.0 upgrade includes several mapping updates and useful simplifications to the mitigation instructions. Gustafson said this means all impacted users of glyphosate products should re-check the website.

As explained in Monsanto's 2009 Technology Use Guide (TUG), impacted individuals include all *Roundup Ready*® licensees that are planning aerial applications of glyphosate or planning to apply more that 3.5 lb a.e. per acre of a glyphosate-based herbicide as a single ground application (equivalent to 3.1 quarts or 100 fl. oz. per acre of *Roundup PowerMAX*® or *Roundup WeatherMAX*®).

Fewer states have mitigation specified in *Pre-Serve* now (33, down from 38). Impacted aerial applicators are no longer limited to a 0.92 lb a.e. per acre use rate for glyphosate-based herbicides when using medium spray droplets. New buffer distances are now in place for impacted aerial applicators, allowing greater flexibility on application rates of glyphosate-



based herbicides. Several changes to ULAs have been made, meaning that all impacted users should check the website for updates.

This update to version 2.0 is part of Monsanto's plan to make regular annual updates to the system, as the underlying information on the occurrence of endangered plant species continues to be updated.

Monsanto's drought-tolerant corn, *Genuity*TM *SmartStax*TM, has moved into Phase 4—the final step prior to the product's planned 2010 commercial launch. This phase includes development and testing of the best trait and germplasm combinations for commercial launch.

According to Monsanto, *Genuity SmartStax* combines a trait package of herbicide tolerance and insect protection traits in a single multistacked corn trait product. It is designed to offer farmers eight different genes for herbicide tolerance and insect-protection in top-performing hybrids, providing the most comprehensive control system available.

In a press release, Monsanto noted that the different trait platforms are designed to work together to offer superior performance throughout the growing season, protection against a broader spectrum of insects and the most comprehensive protection against established and emerging secondary pests.

Genuity SmartStax is expected to be the platform on which future corn traits will be stacked and introduced to the market, said a Monsanto representative. The company expects to reach 34–35 million U.S. acres with a triple-stack corn offering in 2009, setting the stage for the broadest possible launch of Genuity SmartStax in 2010.



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Syngenta's New Crop Stress Protection Product

Syngenta is set to release an exciting new product, *Invinsa*TM, within the next year, according to Rex Martin, Syngenta's head of industry relations. *Invinsa* offers crop stress protection through drought tolerance. It has proven to be effective for use with corn, sorghum, soybean, wheat, cotton and rice.

Invinsa, a sprayable formulation of 1-methylcyclopropene (1-MCP), will be an innovative product introduced into field crop markets to protect crop yield specifically during extended periods of high temperature, mild-to-moderate drought and other crop stresses, Martin said.

Syngenta has high hopes for *Invinsa*. According to the company's website, the market for the new product is "provisionally estimated to be in excess of \$500 million."

The active ingredient in *Invinsa* technology, 1-MCP, works by binding to ethylene receptors and preventing the ethylene signal from triggering

stress responses in field crops. *Invinsa* technology enables crops to maintain active photosynthesis and healthy leaf function, which allows them to optimize growth during periods of stress, thus offering potential yield increases, Martin said.

GarrCo Products Inc. is in Control

Agricultural Aviation spoke with John Garr of GarrCo Products Inc. about Control^{TIM}, a concentrated drift-reducing agent. Garr noted that it is easy to use and mixes extremely well with water, lowering the chance of plugging screens and nozzles.

"Control enhances pesticide performance by increasing the size of the smaller droplets," he said. "The product lowers the rate of evaporation of the spray solution, thus increasing the time available for the pesticide to be taken up by the plant. Also, because of the thickening effect Control can provide, there is a lessened chance of rain washing away the deposited product."

Control is undergoing new research, and new uses are being developed. Research has shown it has excellent retention on the leaf surface, as well as deeper canopy penetration, Garr said. When used with other additives, *Control* increases the droplet size, thus mitigating drift.

"Control mixes well with water, it's inexpensive to use, costing farmers less money per acre, [and it's] extremely beneficial," Garr said.

GarrCo is also working with several new experimental compounds, and Garr says he foresees some very promising product candidates in GarrCo's future.

Precision Laboratories' Protyx Aerial Pleasing Pilots

Late last season, Precision
Laboratories introduced *Protyx Aerial*TM, a formulation of its
proven *Protyx* technology for
aerial application. *Protyx Aerial* is
an activator adjuvant specifically
formulated to enhance a wide range
of fungicides and their tank mixes
when applied aerially, said Danny
Ori, marketing specialist for Precision
Labs. According to Precision Labs,
the product combines the proven
fungicide activation technology of *Protyx* with phytobland oils, enhances

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the deposition of fungicide and insecticide applications, improves tank-mix compatibility, and prevents downtime for plugged nozzles.

Ori told *Agricultural Aviation* the company expected *Protyx* to improve compatibility, but they were impressed with the feedback they received from aerial applicators like NAAA member John Larson of Friesenborg & Larson Custom Spraying in Buffalo Center, Iowa. Larson said the product laid down much better than crop oil and that it could be applied at any time of the day because it didn't linger in the air.

Larson used *Protyx Aerial* instead of crop oil for this season's applications. The difference has been "like night and day," he said.

Wilbur-Ellis Providing Coverage

William Bagley, Manager of Technical Services and Application Technology



at Wilbur-Ellis, discussed one of the company's recent product developments, *Coverage*TM *G-20*.

Coverage G-20 was developed specifically for enhanced glyphosate deposition. According to Bagley, the adjuvant has shown a 20 percent increase in on-target product delivery, thus reducing spray drift.

"This product is very user-friendly, requiring no special mixing," Bagley said. "Only two to four ounces in the tank is sufficient, and it will be quick and easy to prepare for aerial application."

Wilbur-Ellis anticipates a large market for *Coverage G-20* in the Northern Tier states.

This pipeline of new products speaks to the tremendous strides companies have made to develop agricultural technologies that are safer, more effective and more environmentally friendly. The future looks bright thanks to the tremendous research and development that NAAA's allied chemical members are conducting.

Editor's Note: The mention of any company or its products in this article does not constitute an endorsement by NAAA. Conversely, non-mention of companies of a similar nature should not be seen as a negative reflection on such companies or their products.



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NAAA'S 2009 CONVENTION



With more than 100 exhibitors each year, NAAA's Convention & Expo exposes attendees to the latest products and advances in aerial application.

Offers Thrills, Chills & Plenty of Frills

There's something for everybody at NAAA's 2009 **Convention & Exposition.** Whether you are a newcomer to the industry or have been attending for years, you need to get to Reno, Nev., for NAAA's 43rd annual convention Dec. 7-10. The four-day festival is loaded with events and exhibits designed to help your aerial application business and you as an ag pilot.

Between the educational sessions, networking opportunities and exposure to the latest products, research and technological advancements in aerial application, this is a golden opportunity you won't want to miss. The information covered over the next few pages is just the tip of the iceberg. We'll have much more on the show in the next issue of Agricultural Aviation.



By Jay Calleja Manager of Communications



From the Passenger to the Pilot's Seat



NAAA's 43rd convention promises to get off to a stirring start at its Kickoff Breakfast Dec. 7 when Captain

Dennis Fitch Sr. recounts the harrowing ordeal of United Flight 232, which crashed in Sioux City, Iowa, 20 years ago.

The DC-10 instructor pilot was a passenger aboard United Flight 232 on July 19, 1989, when one of the plane's engines failed, destroying all three of the DC-10's hydraulic systems. At the flight crew's request, Fitch took over the controls as they prepared for an emergency landing. The plane broke up on impact, killing more than 100 passengers. However, the death toll would have been even higher had it not been for Fitch. Due to his heroism and the skill of the United crew, 175 passengers and 10 crewmembers survived.

Captain Fitch received a commendation from President George H.W. Bush and a Senate resolution "for his outstanding effort, poise and courage in assisting the crew in attempting a difficult emergency landing" of United Flight 232. Aerial applicators should take away several lessons from Captain Fitch's experience. You don't want to miss his inspiring account.



General Session Speakers Tackle Important Issues

As current operators retire, everyone recognizes that a major concern for the aerial application industry is helping new pilots enter the industry and eventually become successful aerial applicators. That's one of the main reasons why NAAA chose the theme "Cultivating our Future" for the 2009 Convention.

The General Session on Dec. 8 will address problems facing pilots in our industry. The NAAA Insurance Committee has put together a panel to facilitate this discussion from the viewpoints of a new pilot, the operator trying to hire a new pilot and of the insurer. Every aerial applicator should have an interest in this discussion. The aerial application industry needs solutions that will help guarantee a strong future for everyone. Attend NAAA's General Session to weigh in with your input on this important issue.

Lawrence Elworth, Chief Agricultural Counselor at the EPA, has been invited to speak as well. NAAA asked Elworth to discuss the recent decision by the U.S. Court of Appeals, 6th Circuit, and EPA's involvement in writing a new rule requiring permits for pesticide applications made over or near water. This is one of the most important issues facing agriculture today. A costly and cumbersome system requiring water permits for applications would be detrimental to agriculture. This section of the General Session will focus on EPA's policy direction and allow our industry to comment to the Agency directly about this direction.

In addition to the General Session, concurrent sessions in a variety of areas will be held each day throughout the convention.



Attendees gather around the Air Tractor plane on display at NAAA's 2008 Convention & Expo.

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Book Today at NAAA's Headquarters Hotel

Want to make the most of your time in Reno? Then stay where the action is—at the Silver Legacy Resort & Casino. NAAA's headquarters hotel is *the* place to see and be seen if you work in the aerial application industry. NAAA and the Silver Legacy have enjoyed a longstanding relationship, so the decision to team up again was easy.

Between its prime location, luxurious rooms, fabulous amenities and enough entertainment options to keep you partying well into the night, the Silver Legacy really does have it all. Guests of NAAA will receive a special welcome package when they arrive. The room rate is \$79 per night, but don't delay. NAAA's room block is going fast!

To reserve your room, call 1-800-687-8733 or book online at www.silverlegacyreno.com. Use the group ID NAAA9 to obtain NAAA's special group rate.



Ag Flight School

Are you a new pilot or feel like you have more to learn about the industry?

Then NAAA's convention is for you! There are educational sessions to attend, networking events to introduce you to people in the industry and you can earn possible CEUs at several of the sessions. Participate in the

session titled Compaass Rose, which is designed to provide professional support and direction for ag pilots who want to learn more about the industry or other aerial application opportunities, such as aerial firefighting.

If you want to know more about aerial application and how it relates to production agriculture; if you wish you had more flying hours; if you want to know more about technologies, such as GPS, Compaass Rose is for you.



The Compass Rose first appeared on ships' navigational charts around 1300. The Compasss Rose Series helps people identify their needs and goals and then navigate agricultural aviation.



Former NAAA President Bob Bailey bids on an auction item at the 2008 convention.



Exhibit Space Going Fast

Every company involved in the aerial application industry should consider exhibiting at the NAAA Convention.

The NAAA Trade Show gives exhibitors 12 dedicated hours to interact directly with convention attendees. It's the perfect opportunity to do business with hundreds of operators and aerial application pilots. Attendees come looking for cutting-edge technology, as well as great products and services for their businesses. Take advantage of this opportunity and showcase your products and services!

If you are interested in exhibiting, contact NAAA as soon as possible. Premium booth spaces go quickly! Contact Peggy Knizner at 202-546-5722 or piknizner@agaviation.org.

NAAA CONVENTION EXHIBITORS (as of August 11, 2009) See the current exhibitor list online at www.agaviation.org.

ı					
	Aero-Engines Inc.	Cascade Aircraft	Frost Flying	Nufarm Americas Inc.	Starr Aviation
	Aero Flow	Conversions	Garrco Products Inc.	Nutra-Flo Company	Syngenta
	Ag Air Turbines Inc.	Compton's Flying Service	GE Aviation	Pickett Equipment	Teledyne Battery Products
	Ag Air Update	Covington Aircraft Engines	Genuine Aircraft Hardware	Pratt & Whitney Canada	Tennessee Aircraft
	Ag-Nav	Curtis Agri-Line	Hardy Aviation Ins.	Precision Aviation Group	Thrush Aircraft
	AgriData Inc.	Davidon Inc.	Hatfield/Turbine Conversion	Precision Labs	Timken Aftermarket
	AgriSmart	Desser Tire & Rubber Co.	Hemisphere GPS	Prime Turbines	Solutions
	Information Systems	DuPont	Junge Control Inc.	Proair	Transland LLC
	Air Repair Inc.	Dynanav Systems Inc.	Kansas Aviation of	Queen Bee	Turbine Dromader
	Air Tractor	Executive Aircraft	Independence	Rocky Mountain Propellers	Turbine Engine
l	Application MGMT.com	Maintenance	Kawak Aviation		Consultants Inc.
l	Avenger Aircraft & Services	Falcon Insurance Agency	Technologies	RT Turbines	Turbines Inc.
		Farm Air Inc.	Lane Aviation Inc.	S & T Aircraft Accessories	Valley Air Crafts
l	BASF		Micronair Sales & Service	Sky Tractor Inc.	Western Petroleum
l	Bayer CropScience	First Pryority Bank	Mid-Continent Aircraft	Southwest Turbine Inc.	Company
l	Blue Stripe Distributing	Flight Grip LLC	NationAir Aviation	Spectrum Electrostatic	Western Skyways
	C P Products	FMC Corporation	Insurance	Spectrum Electrostatic Sprayers	WESIGIII ONYWAYS
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SPONSOR	EVENT		
Silver Legacy Resort & Casino	Welcome Reception		
DIAMOND SPONSORS (\$10,000+)			
BASF	Kickoff Breakfast		
Bayer Crop Science	Attendee Breakfast Bags and Email Kiosks at Convention Center		
Syngenta	Auction Reception		
GOLD SPONSORS (\$5,000)			
Air Tractor Inc.	Convention Program Guide		
DuPont Crop Protection	Farewell Banquet		
SILVER SPO	NSORS (\$2,500)		
Allianz Aviation Managers	TBD		
FMC	Attendee Lounge		
BRONZE SPO	BRONZE SPONSORS (\$1,000)		
Ag-Nav Inc.	Lobby Signage		
Tulsa Aircraft Engines	NAAA Museum Booth		



Sponsorship Opportunities Available

To each of the companies sponsoring an event at the 2009 Convention & Expo, NAAA thanks you.

Additional sponsorship opportunities remain, including the general session program, coffee breaks and several other options. The earlier you sponsor, the more advertising you'll receive! Get your company's name and logo in front of the attendees' eyes on signs, banners and in convention materials. Sponsorships are listed in the Convention Program Guide, Jan./Feb. 2010 Agricultural Aviation and on NAAA's website. For more information, please call the NAAA office at 202-546-5722 or visit the NAAA website at www.agaviation.org and click the Convention link.



Going Once, Going Twice...Sold!

Live and Silent Auctions Need Donations

NAAA and WNAAA are holding live and silent auctions at the convention. Support the aerial application industry by donating an item to either or both of these auctions. The live auction and a reception take place from 5:30 to 7 p.m. December 8. The silent auction ends at 3 p.m. December 9. To donate an item, contact NAAA at 202-546-5722 or information@agaviation.org.



And the Agrinaut Award Goes to...

One of the highlights of every convention is NAAA's awards ceremony. The NAAA Awards Committee is accepting nominations for the 2009 NAAA Awards now. There are 10 categories. If there's someone you'd like to single out for praise and positive recognition, please respond by Sept. 15. Nominees don't have to be known nationwide; they can be an outstanding individual in your area.

Nominating a colleague or business is easier than ever now that the Awards Committee no longer requires three letters of recommendation with each nomination. Nominees must be NAAA members (contact NAAA if you are unsure of someone's membership status).

To make a nomination or view past winners, check out the awards page of NAAA's website at www.agaviation.org/awards.htm.

Fax or email completed entries by Sept. 15 to NAAA at 202-546-5726 or information@agaviation.org.

NAAA will announce the winners at the Farewell Banquet on Dec. 10.

SAMPLING OF AVAILABLE AUCTION ITEMS		
COMPANY	AUCTION ITEM	
Ag-Nav Inc.	Two \$500 Gift Certificates	
Air Tractor Inc.	4 Amsafe Air bag retrofit kits	
Pratt & Whitney Canada	\$20,000 Certificate	
S & T Aircraft Accessories Inc.	Aux. Fuel Boost Pump & Motor Assembly	
Thrush Aircraft	Thrush Aircraft Leather Jacket	

NAAA Award Categories

Agrinaut Award:

Honors the agricultural aircraft operator or operating organization that has made an outstanding contribution in the field of ag aircraft operations. The recipient for the award must be or have been actively engaged in commercial agricultural application with an agricultural aircraft and the achievement cited should be a "state of the art" contribution for the benefit of the agricultural aircraft industry as a whole.

Allied Industry Individual Award:

Recognizes the NAAA members or staff and/or an allied industry individual who has significantly contributed to the allied industry and their exhibit efforts.

Delta Air Lines "Puffer" Award:

Recognizes the individual who has made an outstanding contribution to the design of agricultural aircraft and/or related equipment.

John Robert Horne Memorial Award:

Honors a pilot with five years or less experience in the agricultural aviation industry that has an exemplary safety record and/or has contributed to safety in ag aviation.

Larsen-Miller Community Service Award:

Recognizes outstanding contributions by a member to his community.

Most Active Woman Award:

Recognizes an outstanding contribution by a woman who is active in the affairs of the industry or the association.

Opal & Bill Binnion Memorial Award:

Acknowledges those who contribute to the WNAAA in their efforts to educate the public about aerial application.

Outstanding Service Award:

Awards outstanding service to the commercial agricultural aviation industry or to its association.

Related Industry Award:

Recognizes outstanding contributions by an allied industry member and his company.

William O. Marsh Safety Award:

Recognizes significant achievements in safety, safety education or an outstanding operational safety program.





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EVENT SCHEDULE



2009 NAAA Convention & Expo

Sunday, Dec. 6				
9 a.m.–4 p.m.	Pratt & Whitney Canada PT6 Seminar			
10:30 a.m.– 6 p.m.	Registration			
12–4 p.m.	PAASS Program Development Committee			
4–6 p.m.	NAAA Board Meetings			
4–6 p.m.	WNAAA Board Meeting			
6–7 p.m.	Operation S.A.F.E. Analysts			
Monday, De	c. 7			
7:30 a.m.– 6:30 p.m.	Registration Open			
8–9:45 a.m.	Kick-Off Breakfast			
10–11 a.m.	WNAAA Welcome & Karen Gilmore Presentation			
10 a.m.–5 p.m.	Canadian Aerial Applicators Board Meeting			
10 a.m.– 2:30 p.m.	ASABE Sessions			
1–3 p.m.	WNAAA President's Open House			
1–8 p.m.	Exhibitor Setup			
2:45-4:15 p.m.	Concurrent Sessions			
4–5 p.m.	ASABE Presenters Meeting			
4:30–6 p.m.	Concurrent Sessions			
6:30-7:30 p.m.	Welcome Reception			
Tuesday, De	c. 8			
7–8:30 a.m.	CP Products Breakfast			
7:30 a.m.– 6 p.m.	Registration Open			
8–11:30 a.m.	Exhibitor Setup			
8:45-9:30 a.m.	NAAA Business Meeting			
9:30-9:45 a.m.	Coffee Break			
9:30– 11:30 a.m.	WNAAA Program—Athena			
9:45 a.m.–	General Session			
12 p.m.	1) Lawrence Elworth, Chief Agricultural Counselor at EPA			
	2) Mentoring, Operators,			

Pilots, Insurance

	1		
Tuesday, Do	ec. 8 (cont'd)		
10:30– 11:30 a.m.	Allied Industry Meeting		
11:30 a.m.	WNAAA Ladies Lunch		
12–6 p.m.	NAAA Trade Show Hours		
3–5 p.m. NAAREF Board of Directo			
5:30-7 p.m.	Live Auction & Reception		
Wednesday	y, Dec. 9		
7–8 a.m.	Hall of Fame Breakfast		
7–9 a.m.	PAASS Presenters Meeting		
7:30 a.m.– 3 p.m.	Registration Open		
8–9:30 a.m.	Concurrent Sessions		
9–10 a.m.	WNAAA Breakfast, Awards & New Officers		
10–11 a.m.	WNAAA Program—Bruce Vincent, Providers Pals		
10 a.m.–4 p.m.	NAAA Trade Show		
12–1 p.m.	Past President's Lunch		
3 p.m.	Silent Auction Closes		
4–5:30 p.m.	Concurrent Sessions		
Thursday, [Dec. 10		
8 a.m.–6 p.m.	Registration Open		
8–9:30 a.m.	Concurrent Sessions		
9:45– 11:15 a.m.	Concurrent Sessions		
11:30 a.m.– 1 p.m.	Concurrent Sessions		
1:15–2:45 p.m.	Concurrent Sessions		
1:15–2:45 p.m.	Officer Transition Meeting		
3–4:30 p.m.	Concurrent Sessions		
5:30–6:30 p.m.	Farewell Reception		
6:30 p.m.	Farewell/Awards Banquet		
This schedule is subject to change. Check the convention page on NAAA's website at www. agaviation.org/conventionpage.htm for the most up-to-date listings.			

Attrition What it is and How it Affects Your Association

By Peggy Knizner NAAA Assistant Executive Director



Thless you have been involved with booking a block of hotel rooms, you probably aren't familiar with attrition. But those of us who organize state/regional shows and the NAAA Convention & Exposition have gotten a crash course in attrition management over the past few years.

Most hotel contracts include some form of "attrition clause." An example contract states, "The hotel should hold 400 room nights, but if only 300 are used, the organization must pay for the unused rooms or some pre-determined penalty." Attrition clauses are nothing new in hotel contracts. Over the last 20 years they have become standard, though often in the past they were not strictly enforced by hotels.

NAAA and most of the state/regional ag associations that put on yearly meetings have not had major attrition problems. However, the availability of online hotel searches on websites like hotels.com, expedia.com. and travelocity.com are changing this situation. It has become common for attendees to book hotel rooms outside the block of rooms reserved by the association. Rooms may be available at the headquarters hotel from these and other online sites at lower rates than the association's contracted group rate. Regardless, we strongly encourage members to stay at the host association's hotel in its official



Do yourself and NAAA a favor by staying at its convention hotel, the Silver Legacy in Reno, Nev.

room block. There are many valid reasons for doing so, as the following Q&A explains.

Q. Why isn't the negotiated group rate the lowest available rate?

A. Are the association representatives who negotiate these rates really bad negotiators? Is there something going on that you don't know about? No and Yes! When comparing the price for one hotel room for one night without prior registration (this is known as the Rack Rate) to the price for a convention hotel room (this is known as the Group Rate) you are comparing two distinctly different items.

"Group Rates" include the cost to the hotel of all the space, staffing and incidentals the group will require divided by the number of rooms the group wants held out of the hotel sales inventory for its use. A hotel's "Rack Rate" is based on the use of one sleeping room only and is based on the availability at the time of reservation. In general, the greater the occupancy of the hotel when you reserve it, the more expensive the room will be, and a hotel with a low occupancy will most likely have a low room rate.

Q. So, what happens when I stay across the street to save a few bucks?

A. You save a few bucks in the short term. However, if enough people choose to "save a few bucks" and the contracted room block does not fill up sufficiently, the hotel has the right to enforce the "Attrition Clause." Then the association could face several problems. Depending on the contract, the association may have to pay

thousands of dollars to the hotel for the unused space, as well as lose all or part of the meeting space—putting our meeting on the street. Many associations, NAAA included, depend on the revenue generated at the annual convention to pay for its operating costs throughout the year.

Q. Why doesn't NAAA insist on taking the attrition clause out of the contract?

A. For a hotel to do this would be the equivalent of an aerial applicator agreeing with a farmer/client to hold his airplane exclusively for the farmer's needs for the month of July.

The aerial operator hires a pilot, pays the insurance for the month, contracts for the chemicals, etc. Then the farmer says, "Sorry, it turns out I don't need you. Anyhow, I'm real sorry that it's too late for you to find another client. Oh, well."

Legally, even without an "Attrition Clause" the courts hold that there is an implied promise of usage in the contract and groups still have to pay. At least with an "Attrition Clause" the penalty is pre-defined.

Some organizations are trying to find alternate ways to contract for meetings. One approach is not to book any sleeping room blocks. The organization rents meeting space from the hotel or convention

center and expects each attendee to manage his or her own housing. There may not be a "headquarters hotel" and attendees lose out on the camaraderie and networking advantages found by those in the headquarters hotel. The organization also has to find a way to offset the cost of the meeting space and ends up raising the registration rates to all attendees. Hotel meeting spaces typically rent from several hundred dollars per day for a small meeting room to several thousand dollars per day for a room to house several hundred people or a large meal.

It's an issue of fairness!

Currently attendees staying at the headquarters hotel are absorbing a higher portion of the convention costs than those attendees who are not.

Q. I understand why NAAA has a vested interest in attendees staying at its headquarters hotel, but what about me? What kind of perks do I get by staying at the Silver Legacy?

A. One of the best reasons for staying at NAAA's headquarters hotel is it maximizes your ability to network and socialize with aerial applicators from all over the country. Oftentimes NAAA's convention is the only time each year you'll see these folks, so make the most of it!

Many attendees have forged lasting relationships this way. This is even more important for Allied Industry company representatives. Many deals and relationships have been cemented over a meal or drink in the bar. If you aren't at the headquarters hotel then you aren't where the applicators are.

OTHER DIRECT BENEFITS INCLUDE:

Free shuttle bus service between the Silver Legacy and the Convention Center for hotel guests.

10 percent off any retail purchase at any of the Silver Legacy's retail shops. **2 for 1 tickets** to the Catch A Rising Star Comedy Club.

2 for 1 cocktails at the Silver Legacy's casino bar.

Complimentary cocktails on the floor of the hotel's casino.

And much, much more!

Help us make NAAA's 43rd Annual Convention & Exposition successful for you, the attendee, and for the association. Contact the Silver Legacy Resort & Casino at 1-800-687-8733 to book your room for the 2009 NAAA Convention. The rate is \$79 per night when you mention our group ID, NAAA9. You can also book your hotel reservations on NAAA's website at http://www.agaviation.org/conventionpage.htm.

See you in Reno Dec. 7–10 at the Silver Legacy! ■



ln a nutshell,

Hotels provide:

- · Guaranteed use of sleeping rooms
- Guaranteed use of meeting space
- Tables, chairs, risers
- Audio visual equipment
- Staff to set up meetings
- Availability of food service

- Availability of parking
- Concierge service
- Security personnel
- Staffing for anything a guest might need

In return, they expect:

- Sleeping rooms used, which are held for the group
- Meeting space used, which is held for the group
- Attendees to utilize hotel restaurants, gift shops, spas, bars, vending, etc.

And if contracted room block is not filled?

- The group asking for these facilities and services is liable for the loss of hotel income, which could result in...
- A loss of needed revenues for NAAA to provide educational services, communication services (www. agaviation.org, Agricultural Aviation magazine, NAAA e-newsletters) and to protect the industry with government and public relations services.



NAAA Convention & Expo

Reno, Nev. - Dec. 7-10, 2009

Pre-registration must be received by Tuesday, Dec. 1, 2009. Use this form and register today!

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

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

	Registration	Registration		
NAAA Members	With Banquets	Without Banquets		
Member	\$320	\$220		
Spouse	\$265	\$165		
Child (under 12)	\$170	Free		
	Registration	Registration		
Non-NAAA Member	With Banquets	Without Banquets		
Non-member	\$440	\$340		
Spouse	\$380	\$280		
Child (under 12)	\$170	Free		
Banquets: Kickoff Breakfast and Farewell/Awards Banquet				

EXTRA BANQUET/RECEPTION TICKET FEES:

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

Farewell Reception	tickets only for guests wit	h no registration package.				
	Monday, Dec. 7	Kickoff Breakfast	\$40/each	# needed		
	Monday, Dec. 7	Welcome Reception	\$40/each	# needed		
	Thursday, Dec. 10	Farewell Reception	\$30/each	# needed		
	Thursday, Dec. 10	Farewell Banquet/Awards	\$75/each	# needed		
REGISTRANT: Fire	t Name	MI	Last Name			_
(Please print your name	e as you would like it to appear or	n your convention badge.)				
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Spouse Fee	\$	Card#				
Add'l Registrants	\$	Exp Date:	Phone _			
NAAA Dues	\$	Address				_
Banquet Tickets	\$	City		State	Zip	
TOTAL DUE	\$					
	Ψ accompany registration)	"Signature is permission to bill Cred	dit Card."			

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

Golfing Around

Tournament Benefiting Agricultural Aviation Museum Tees Off Oct. 16–18

The 28th annual National Agricultural Aviation Museum & Hall of Fame Golf Tournament is approaching fast, golf fans! The tournament tees off Oct. 16-18 at the Cherokee Valley Golf Club in Olive Branch, Miss. Proceeds benefit the National Agricultural Aviation Museum, a museum dedicated to preserving the history of the aerial application industry. The museum is affiliated with the Agriculture & Forestry Museum in Jackson, Miss.

In addition to hitting the links, a number of non-golf activities will occur at the Whispering Woods Hotel. The festivities kick off Friday, Oct. 16, with a gumbo cook-off at the hotel, followed by more down-home cooking the next day. Saturday evening's menu includes a barbecue picnic with ribs, pulled pork and all the trimmings.

To register for any or all of these events and make room reservations, contact Lou Stokes, the event's organizer, at 870-792-7474 or lsmimi@hotmail.com. ■



Hall of Fame Golf Tournament Schedule*

Date	Time	Event [◊]
Friday, Oct. 16	5 p.m.	Gumbo Cook-Off Putting Contest
Saturday, Oct. 17	9:08 a.m.	First Tee Time Picnic, Fun & Calcutta
Sunday , Oct. 18	9 a.m.	Golf Scramble (Cherokee Valley Golf Club)
	shotgun start	Luncheon after golf

*Event schedule subject to change

Each golf event held at the Cherokee Valley Golf Club

Golf Fees \$185 Social only \$85

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*Rate increases after October 1



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Do You Belong?



Membership in NAAA is Important

Here's Why



There is strength in numbers. The more members NAAA has, the more clout it has when speaking to Congress and government agencies on your behalf.

If you've been reading Agricultural Aviation for any length of time, you should have a pretty good sense of the work the National Agricultural Aviation Association does on behalf of the aerial application industry. If you aren't a member of NAAA we'd like to reiterate the association's importance to the industry. This article is for anyone who would like to learn more about what NAAA is all about.

. What does NAAA do for the aerial application industry?

 A_{ullet} NAAA provides the aerial application industry with:

1. National Representation: NAAA works closely with the Department of Homeland Security (DHS), Federal Aviation Administration (FAA), the Environmental Protection Agency (EPA), Congress, and state and local agencies to stop unnecessary, burdensome regulations and protect industry tax exemptions. This is critically important now with a number of new faces on Capitol Hill and at the White House.

- **Brand Protection:** NAAA uses a variety of means to foster a positive image and promote the aerial application industry, including Agricultural Aviation magazine, NAAA's website, e-newsletters, outreach to national newspapers, radio and television and in the new video "Aerial Application's Growing Role."
- **Industry Representation:** NAAA works with the manufacturers of crop protection products to register products with aerial labels.
- Continuing Education and Safety Programs: PAASS, Compaass Rose, Operation S.A.F.E. Fly-Ins, the Leadership Training Program—all of these programs offer operators and pilots new ways to improve their knowledge and skills, as well as CEUs for licenses.
- 5. **Funds for Technology:** Over the past four years, NAAA has successfully lobbied Congress for an additional \$4.5 million in federal funds for the USDA-ARS Aerial Application Technology

Program to develop new technologies to mitigate drift and make applications more effective.

NAAA Convention & Expo: NAAA's convention, the world's largest agricultural aviation trade show, features seminars and forums to address current industry events and issues, and great networking opportunities.

. Why is MY membership important?

A. Every member is vital in

Besides the obvious fact that your yearly dues help provide staff to develop and maintain all the programs and services listed above, NAAA and the industry's credibility with Congress, DHS, FAA, EPA, state regulatory agencies and grower and commodity groups increase when we show that we represent an ever-larger portion of the aerial application industry. The more members we have, the more important our issues become. The more involved our members become, the more we are heard.

Beyond that, each NAAA member is valuable because of the ideas, knowledge and enthusiasm you bring to NAAA. Your involvement and recommendations determine the focus of the NAAA. Members set the tone and determine the policies on a national level to secure the future of the aerial application industry for you.



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140	5.41	14.6	28.8
135	4.37	11.9	23.9
130	3.51	9.6	19.8
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120	2.27	6.1	13.6

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*Based on Spray Nozzle Models, USDA ARS AH-726, I. W. Kirk



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Our greatest strength lies in our membership. We need each and every one of you!

What do I get with my membership? What's in it for ME?

A. When you join NAAA, you get instant access to wealth of information, resources and exclusive benefits, including:

 A copy of the DVD "Aerial Application's Growing Role"



- Bi-monthly copy of Agricultural Aviation magazine
- Annual NAAA
 Membership Directory
- Access to Members Only section of NAAA's website
- Professional Operating Standards Guide
- Free listing on NAAA's Pilot
 Database, which match operators
 and pilots
- Discounted convention fees
- Membership certificate/plaque recognizing your professionalism
- Opportunity to participate in the Leadership Training Program
- Eligibility for WNAAA
 Scholarship Programs for you and your family

- Networking opportunities (members looking for help tend to hire members)
- Potential insurance discounts
- Materials to use with your local officials or media
- Handouts and videos for use with school and community groups
- Compaass Rose, a mentoring program for new pilots
- Someone to call when you are having problems

L'm a pilot and I'm not sure of what NAAA does for me individually. Why should I join?

A. NAAA supports pilots and operators! NAAA's government relations services keep costly regulations at bay so aerial application businesses and employee pilots can thrive. NAAA also serves as an excellent way for pilots to market their services to potential operator-employers via the membership directory and the Ag Aviation Job Listings section of the NAAA website.

Join Today!

As a member of NAAA, you not only receive great services and programs, but you also receive the recognition and credentials of being a member of the association. Perhaps the most important benefit of your support is that you ensure the future of your business and aerial application. And remember, a large portion of NAAA's membership dues are tax deductible!

Sign up to become a member at www. agaviation.org, NAAA's website, or by returning the membership application on pg. 43 of this issue.

Welcome to New Members As of July 23, 2009

Membership Application

OPERATORS	Tony Hulse	Mail to: NAAA, 1005 E Street St., Washington, DC 20003		
Keith Chase	Gardenville, NV	Ph: (202) 546-5722 Fax to: (202) 546-5726		
Aerial Crop		Ph: (202) 546-5722 Fax to: (202) 546-5726 Join Online – www.agaviation.org		
Care Co.	Richard H. Long III			
Hebron, ND	Havana, FL	Mambayahin Catagorica, (places calcut and)		
·		Membership Categories: (please select one) Dues amounts are subject to change by NAAA Board. Operators & Pilots who do not belong to a State		
David Winkler	Justin Marshall	Aerial Application Association must pay Participating Operator & Pilot dues.		
H & W Ag	Newalla, OK	\$450 Operator \$850 Allied (51-100 employees)		
Services, Inc.	D 1	\$10 each aircraft over 3 \$1000 Allied (101-500 employees)		
Ballinger, TX	Derek	\$170 Affiliated Operator \$1700 Allied (500+ employees)		
	Middlesworth	\$900 Participating Operator \$170 Affiliated Allied		
PILOTS	Marion, IN	\$170 Pilot		
Jim A. Behrens	Varne Miltimara	\$340 Participating Pilot \$225 International \$450 Allied (1-10 employees) \$680 State/Regional Association		
Behrens Ag	Kerry Miltimore Nekoosa, Wl	\$680Allied (11-50 employees) \$170WNAAA		
Mandan, ND	INEKUUSA, VVI			
,	Justin R. Pate	Allied Industry: (indicate 1)		
Everette Brown Jr.	Cleveland, MS	Airframe Application Technology Chemical		
Vero Beach, FL	Olevelana, Ivio	Dealer Insurance Propulsion Support		
	Lucas Peterson			
J T Capers	Alliance, NE	Mancharakin Vasu That Vaulus Davinu		
Curless Flying	/ Illianoo, IVL	Membership Year That You're Paying		
Service	Glen Priddy	Name:		
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	,	Company:		
Curtis Carpenter	Brent Prior	•		
Fishers Ag	Peru, IN	Address:		
Service Inc.		City, State, Zip:		
Akron, OH	Steven Przybysz	3-7, 5-1, 5-1, 5-1, 5-1, 5-1, 5-1, 5-1, 5-1		
D D	Grand Rapids, MI	Bus () Home ()		
Brett Dance				
Stone Mountain, GA	Nick Richter	Fax () Email		
Troov Douglar	Richter Aviation	Website: Spouse		
Tracy Dowler Paragould, AR	Maxwell, CA			
r arayuulu, An		Please consider a donation to support NAAA programs.		
Robert Dueck	Fred Roark	NAAAD A NAADEED A A		
Waterloo, ON	Boyle Flying Service	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.,		
Canada	Cleveland, MS	Fly Safe and Athena. PAASS attendance fees do not completely offset program costs. Your additional donation, made out to		
Januar	Billy D. Sharp	NAAREF, is greatly appreciated and is tax deductible.)		
Greg Ellis	Payne's Flying	Total \$		
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•	Pelahatchie, MS	Payment via: Check Enclosed Credit Card		
Hale Ellis	r cianatemo, mo			
Dacula, GA	Travis C. Smith	Card # Exp Date		
	Air Ag	Signature		
Gary Ewert	Warden, WA			
Liberty, MO		(signature authorizes billing credit card)		
	Vesilin Velikov	Card holder Name		
Bradley Ferrell	San Jose, CA			
Oak Grove, LA		Cardholder Address		
I/ 1 O'' 1	Brian Whitmore	Dues, contributions or gifts to the NAAA are not tax deductible as charitable contributions for income tax		
Kyle Gibbs	Pro-Air LLC	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		
Delray Beach, FL	Morreauvile, LA	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.		



Air Tractor Makes Headlines with AT-802U Attack Plane

Newspapers across the country clamored to report on Air Tractor Inc.'s new AT-802U, a small tactical attack plane that made a big impact at the 2009 Paris Air Show in Le Bourget, France, in June. Leland Snow, founder and president of Air Tractor, has been quoted as saying of the air show, "What I think is very funny is, here is Boeing, here's Airbus. The company that steals the show [makes] a converted crop-duster."

The plane, which *The Wall Street Journal* called "a two-seat combat-ready crop-duster with weapons and advanced electronics," is low-tech in comparison with most military aircraft and is gaining attention as a cost-efficient alternative to its more traditional military cousins. Featuring an armored engine, cockpit and belly, the AT-802U comes with a price tag of under \$5,000,000, which brings it in at less than half the cost of the dedicated turboprop-driven counter-insurgency aircraft that the military typically purchases.

In the past, Air Tractor sold about 16 planes to the U.S. State Department. The AT-802U follows in the footsteps of those armored ag planes, which have been used successfully in international drug crop eradication. Some planes have come back from these missions riddled with bullet holes, but with the pilots sustaining no serious injuries. Experience with these counter-drug missions led Air Tractor to design a plane for military combat zones specifically.

The AT-802U can haul up to 8,000 pounds of payload, including bombs, rockets, minigun pods and other guided weapons. The plane's pilot can monitor surveillance video

in the cockpit and relay it to the ground or to other aircraft. Additionally, the plane has a specialized oxygen system which can allow for crew survival at high altitudes. What's more, the plane's wings employ a self-sealing material that prevents hazardous leaks. The cockpit has a roll cage and features an airbag-equipped safety harness. Rounding out a slew of safety features is a flexible mount component of the landing gear. The component is supposed to absorb much of the shock of rough landings.

Lee Jackson, a design engineer at Air Tractor, says the plane can be tailored to serve the individual needs of different customers. For example, the AT-802U currently has three hardpoints (special areas for the connection of guided weapons or other external loads) on each wing and three hardpoints under its fuselage but can easily be configured to have six hardpoints on each wing. That kind of versatility is one of the reasons the AT-802U is generating interest from multiple "major players," including the U.S. Special Operations Command, Jackson said.

Another selling point for the AT-802U is its converted hopper, which serves as a secondary fuel tank. This second tank can hold 800 gallons of additional fuel. With that fuel capacity, the AT-802U has such a long range that it could cross the Atlantic Ocean or spend as much as 10 hours above a potential target zone.

Perhaps one of the most compelling considerations when "valuing" the AT-802U is the issue of accidental civilian casualties caused by U.S. planes—an issue of major concern for the military. According to Stephen Biddle, a



Air Tractor's AT-802U turned heads at the Paris Air Show.

People and Products

counterinsurgency expert and senior fellow for Defense Policy at the Council on Foreign Relations, "Somebody roaring by at 500 miles per hour has a harder time distinguishing between civilians and insurgents." The hope of the military is that in addition to such perks as requiring less maintenance, being able to take off and land closer to combat forces and costing less than other combat craft, the low altitudes and slower flying speeds of the AT-802U will translate into fewer accidental deaths.



The AT-802U can haul up to 8,000 pounds of payload, including bombs, rockets, minigun pods and other guided weapons.

The list of benefits Air Tractor's converted ag plane will offer the U.S. military seems a mile long and the story of the ag plane turned combat vehicle has generated so much buzz that it even garnered air time on the popular Public Radio program "Marketplace." Other noteworthy media outlets that have followed the story of this remarkable plane include *The Wall Street Journal, Fort Worth Star-Telegram* and *Los Angeles Times*.

The fully equipped AT-802U will not be available for crop spraying. ■

The Associated Press, Fort Worth Star-Telegram and other media outlets contributed to this report.



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NTSB Accident Report

Date	City	State	Aircraft Type	N #	Injury	Description of Accident
05/14/09	Monroe	LA	S2R	223SB	Serious	Hit power line
05/15/09	Charlestown	МО	AT-602	85115	Serious	Unable to get airborne on TO
05/21/09	Bald Eagle	PA	S2R-G1	6134T	Serious	Hit power line while spraying trees
05/22/09	DeWitt	AR	M-18A	7056U	Minor	Hit standpipe on take-off
05/23/09	Robbins	CA	S2R-T34	3094L	None	Lost control on rough strip on TO
05/30/09	Kyle	TX	Bell 47G-2	4823	Serious	Caught fire on ground during refueling
05/31/09	Rock Springs	MT	Ce T188C	9955J	None	Ground looped on TO with strong crosswind
06/03/09	Kingstree	SC	Ce A188B	9364R	None	Stall during spray turn
06/05/09	San Marcos	TX	Bell 47G	8420E	Serious	Hit wire while landing
06/11/09	Stringtown	OK	UH-12E	34SD	None	Hit wire with tail rotor
06/12/09	Cordova	IL	S2R	1734S	FATAL	Hit terrain during spray operation
06/14/09	McGee	MS	AT-602	5202U	None	Power loss on take-off
06/19/09	Saint Anthony	ID	S2R	3089K	None	Power loss
06/29/09	Knobel	AR	AT-602	5192T	None	Power loss
07/01/09	Airnsworth	IA	S2R-G6	60015	Serious	Power loss
07/10/09	Beaman	IA	G-164B	6683K	None	Power loss

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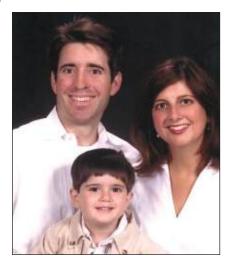
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Jay Calleja Joins NAAA Staff



Jay Calleja, with his wife Khatereh and three-year-old son Alexander.

NAAA is pleased to welcome Jay Calleja as its new Manager of Communications. He joined the staff in July. Jay is an experienced communicator with strong association credentials. As the Director of Communications for the Drycleaning & Laundry Institute, he managed the association's magazine and performed a variety of public relations functions that will serve

NAAA well. Jay is also a member of Toastmasters International, an organization dedicated to honing communication and leadership skills. He earned Toastmasters' Competent Communicator Award earlier this year.

Although Jay is new to the agriculture and aviation industries, a passion for food is encoded in his DNA. His grandfather and great-grandfathers on his father's side were grocers in Key West, Fla. A great-grandfather on his mother's side was a farmer in South Carolina.

Food has always played an important role in Jay's life. When he was growing up 12-15 family members would gather around his grandparents' dining room table every Sunday to share a meal and spend time with each other. Although he hasn't been able to carry on that tradition on an every-week basis, Jay enjoys cooking for family and friends on special occasions. Paella is his specialty.

Agricultural aviation may be new terrain for Jay, but he arrives at NAAA with a certain appreciation for aerial application and its impact. Key West, his hometown, would be virtually uninhabitable if aerial applicators at the Florida Keys Mosquito Control District didn't keep the mosquito population in check. Even with regular treatments, the mosquitoes can be a nuisance, but residents consider it the price of paradise. The tropical island is renowned for its sunny weather, laidback lifestyle and luminary residents, including Ernest Hemingway and Jimmy Buffet.

Today Jay lives in Arlington, Va., with his wife Khatereh and three-year-old son Alexander. Jay has hit the ground running at NAAA. He produced this issue of Agricultural Aviation, is busy developing the November/December issue and is actively involved in the redesign of NAAA's website, www.agaviation.org.

When he isn't working, Jay enjoys reading, grilling, playing fantasy football with his high school buddies, Belgian beer and shopping at his favorite store, Trader Joe's. Naturally, it is a grocery store.





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