



New York Berry News

Volume 11, Number 11

December 13, 2012

Events Calendar

Jan 15-16, 2013. *GAPS for Berry Growers*, NYSAES, Geneva, NY. More information follows below.

January 22-24, 2013. *Empire State Producers EXPO*, OnCenter, Syracuse NY. Day-long berry session Tuesday 1/22/13 and blueberry intensive Wednesday morning 1/23/13. More information follows below. To register: <http://nysvga.org/expo/info>.

January 27-30, 2013. *North American Strawberry Growers Association Annual Meeting*, Portland OR. More information follows below. : Kevin Schooley, 613-258-4587, info@nasga.org or www.nasga.org.

January 28-30, 2013. *North American Raspberry and Blackberry/Strawberry Growers Association Annual Meeting*, Portland OR. More information: 919-542-4037, info@raspberryblackberry.com.

January 29-31, 2013. *Mid-Atlantic Fruit and Vegetable Convention*, Hershey, PA. More information: William Troxell, 717-694-3596, pvga@pvga.org or www.mafvc.com.

February 27 – March 1, 2013 – *US Highbush Blueberry Council Spring Meeting*, in Savannah, GA. More information: 916-983-0111 or www.blueberry.org.

March 13, 2013 – *Cape Cod Cranberry Growers' Association Winter Meeting*, in Hyannis, MA. More information: 508-866-7878, info@cranberries.org, or www.cranberries.org.

June 17-19, 2013 – *Berry Health Benefits Symposium*, in Concord, NC. Join leading researchers and industry leaders to learn about the newest research in this field. Held biennially; this fourth Symposium will be the first time the event has been held on the East Coast. For more information, contact catmc@peak.org. Info about the 2011 Symposium may be found at www.berryhealth.org.

December 4-7, 2013 – *Joint North Carolina Strawberry Growers Association and North American Strawberry Growers Association Conference*, Sheraton Imperial Hotel, Durham, North Carolina. More information: info@ncstrawberry.com or www.ncstrawberry.com.

An Unprecedented Challenge - Dale-Ila M. Riggs, President, NYS Berry Growers Association

2012 was a year to remember for a lot of reasons. Nothing on my list are items that I care to remember, but they are things I won't easily forget. An early warm-up that led to wide spread freezes. We had a summer drought, and then, in Eastern NY at least, rain that wouldn't stop in the fall. Add in a hurricane as well. There was probably an earthquake in there somewhere too. But two things top my list for making 2012 a year to forget – Spotted Wing Drosophila (SWD) and labor hassles.

Spotted Wing Drosophila wreaked havoc throughout New York State. Blueberries turned soft and dropped from infestations of this invasive insect. Raspberries turned into the consistency of Jell-O overnight. Extra labor was needed to clean harvest crops, and essentially, start the season over with a rigorous control program aimed at preventing this pest from laying eggs in yet to ripen fruit. For many growers, it was a losing battle. Some have already plowed under plantings and moved on to other crops to grow, others have turned their plantings into parking lots. The optimists among us, of whom I count myself, are looking towards research that will help us understand this pest and learn how to deal with it. But we don't have forever



to come up with answers before we must decide if it's worth it to invest more labor and more capital to keep trying to grow a crop that is susceptible to this pest.

Spotted Wing Drosophila is the biggest threat to the small fruit industry in New York State. For those who understood what was happening in their plantings this summer, the threat is crystal clear. It could mean the end of growing later season blueberries, fall raspberries, and day-neutral strawberries in NYS. For those who didn't know why their fruit turned soft and mushy, get educated, and as the saying goes, get with the program!

The small fruits research and Extension team has stepped up to the plate to address this issue. Paul Baker, our Executive Secretary and myself attended a one day working group meeting in early November to help identify the highest priority needs to address this issue. The Berry Growers Association has written letters of support for grant proposals that will address the most pressing issues. As I write this, it was announced that Greg Loeb received one of the specialty crops grants from Ag and Markets to help address questions concerning this pest. Today I met with Jackie Moody-Czub, the Governor's Assistant for Agricultural Affairs to discuss our needs. And at the fall Board of Directors meeting, we had a conference call with Senator Schumer's Ag staffer to discuss this issue.

But the Berry Growers Association can't do this by ourselves. One funded grant proposal will not solve the problem. Every single berry grower in this state needs to make their state and federal legislators aware of the problems this pest is causing for the industry. Each berry farmer that stops growing raspberries or blueberries means lost jobs for New Yorkers; lost opportunities for 19 million New York consumers to benefit from the well documented health benefits of berries; and lost opportunities for farms to flourish and contribute to the economic and environmental benefits that all New Yorkers enjoy.

Realistically, the berry industry needs \$200,000 a year for the next three years to get answers to immediate needs on how to deal with this pest. That should allow researchers and Extension to get a handle on how to deal with this in the short term, and get the educational programs out to the growers. Then we can focus on a long-term plan.

Please join with the Berry Growers Association to make our needs known. This is truly a situation where we can all hang together or hang separately. If you want to be growing blueberries, raspberries, or day-neutral strawberries five years from now, make your voice heard today.

Growers License New Raspberries - *Kate Frazer, Agricultural Experiment Stations Communications Officer, Cornell College of Agriculture and Life Sciences*

Berry Different: Growers turn to new Cornell raspberries for better flavor, disease-resistance and a colorful fall crop

December 4, 2012. Two new raspberry varieties developed at Cornell's College of Agriculture and Life Sciences — 'Double Gold' and 'Crimson Night'—were licensed this fall by two nurseries seeking flavorful, vigorous and disease-resistant raspberry varieties that can thrive in cold and unpredictable climates.

Designed for pick-your-own farms, farm stands and home gardeners by Associate Professor of Horticulture Courtney Weber at the New York State Agricultural Experiment Station (NYSAES), the berries have attracted interest from nurseries seeking varieties with intense flavor and a different look.

'Double Gold' and 'Crimson Night' are the fourth and fifth new berry varieties introduced by Associate Professor of Horticulture Courtney Weber in the past year. Other recent releases include Purple Wonder™, the darkest strawberry variety available, and the 'Crimson Giant' raspberry, suitable for high tunnel cropping systems with harvest into November. Photo: Robin Wishna

"I have been told by vendors at farmers markets that having several colors on display is a good way to draw in customers and distinguish yourself from other sellers," said Weber. "I'm hoping these berries fit that niche."

'Double Gold' produces a deeply blushed, golden champagne-colored fruit with a distinctive conical shape. It earned the "double" in its name because it produces a summer crop and a fall crop. In striking contrast to its blushing cousin, 'Crimson Night' caught Weber's eye for its glossy, burgundy colored fruit.

But what first attracted Sam Erwin, owner and operator of [Indiana Berry and Plant Co.](#), to the berries wasn't their color or shape but the legacy of their breeder.



"Courtney is one of the only people breeding raspberries for the Midwest and Northeast. Anything he comes out with is exciting," Erwin said.

"What I'm looking for is a bigger fruit, good yield and excellent flavor. I mostly sell for the u-pick market and home gardeners. My customers include many smaller growers who like to avoid pesticides so disease resistance is also key."

When seeking nurseries to propagate the raspberries Weber also reached out to Ed Awald, owner of [Awald Farms](#) in North Collins, N.Y. because he wanted to find a nursery to propagate them in the region in which they were developed.

"What's important to me is taste, productivity and resistance to disease," said Awald. "It will be an experiment; I'll see how well they are accepted by consumers."

Weber acknowledges that his new creations appeal to a particular audience. "They taste great but they're also conversation pieces," he said. "When you serve them at a dinner parties, there's a story to tell."

Still, 'Double Gold' and 'Crimson Night' have a lot more going for them than their curb appeal. Unlike the vast majority of berries on the market today, these varieties were built for the Northeast's unique climate and production schemes.

Approximately 90 percent of U.S. raspberries are produced in Washington, California and Oregon, and Weber's raspberry breeding program is one of just two programs east of the Mississippi.

"Growers know my varieties have been tested for disease tolerance and have been through the harsh winter," said Weber. "Over eight years of testing, they've been consistently vigorous and resistant to Phytophthora root rot as well as most of the common leaf diseases."

Grown in a commercial high tunnel system that offers protection from the elements, 'Crimson Night' is vigorous and productive, and 'Double Gold' is the only golden raspberry on the market that bears two crops. Both varieties also provide growers with berries well into the fall. "They did not stop producing fruit until well into November," said Weber.

"At a time in which many farmers markets are down to potatoes, root vegetables and greens, it's a special surprise for customers to find this color and sweetness they associate with summer." (Reprinted from: *Chronicle Online*: [http://www.news.cornell.edu/.](http://www.news.cornell.edu/))

2013 Cornell Pest Management Guidelines for Berry Crops Now Available

The 2013 edition of the *Cornell Pest Management Guidelines for Berry Crops* is now available. This annual publication provides up-to-date pest management and crop production information for blueberry, bramble (raspberry and blackberry), strawberry, ribes (currant and gooseberry), cranberry, elderberry, and Juneberry (Saskatoon) production in New York State. Supplemental information on wildlife management and harvesting, handling, and transporting berry crops is also included. This publication has been designed as a practical guide for berry crop producers, crop consultants, Ag chemical dealers, and others who advise berry crop producers.

In addition to the annually revised pesticide and crop production information, two new significant items have been added to the 2013 edition of the *Berry Guidelines* that will benefit berry producers:

- Revised management information for spotted wing drosophila and
- Addition of currant cane blight and white pine blister rust to the list of diseases of concern.

The 2013 *Cornell Pest Management Guidelines for Berry Crops* can be obtained through your local Cornell Cooperative Extension office or directly from the Pesticide Management Education Program (PMEP) Educational Resources Distribution Center at Cornell University. To

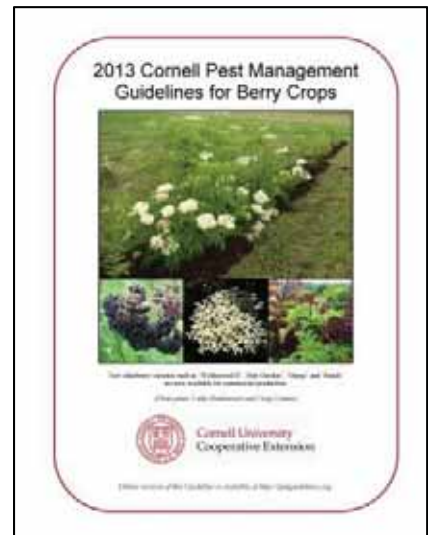
More Info

Plant patents for 'Double Gold' and 'Crimson Night' have been filed by Cornell.

For information on licensing the varieties, contact Jessica Lyga at the Cornell Center for Technology Enterprise and Commercialization at jml73@cornell.edu or 607.255.0270.

Growers interested in trying 'Double Gold' or 'Crimson Night' will be able to purchase plants from the licensed nurseries in smaller lots for spring 2013.

For larger lots, growers should contact our first licensee, North American Plants in Lafayette, Oregon at www.naplants.com or 877.627.4636.



order from PMEP, call (607) 255-7282, send an email to patorder@cornell.edu, or order on-line at <http://psep.cce.cornell.edu/store/guidelines>. Cost for the *Guide* is \$26, shipping included.

New! Collaborative Marketing for Small Farms: Selling and Working Together for Profitability

As interest in local food sourcing increases at restaurants, institutions, and schools, small farms often have to combine forces to move enough products to satisfy the larger-scale buyer's expectations. The new bulletin, "Collaborative Marketing for Small Farms" provides guidelines for farm owners who are looking to work jointly with other farms to access these new markets.

Collaborative marketing is most beneficial when the farms deal effectively with legal and business considerations from start to finish. This bulletin explains the business structure options and success factors of joint ventures, partnerships, and corporations. It highlights potential obstacles and suggests practical solutions to them. After reading this bulletin, a small farm owner will be much more familiar with the ways a collaborative marketing opportunity can positively or negatively affect their farm's bottom line. Produce by CCE of Ontario County. **Download the Guide** http://rvpadmin.cce.cornell.edu/pdf/submission/pdf98_pdf.pdf.



2013 Empire State Producers EXPO Berry Sessions – Something for Everyone...

Join commercial berry growers from across the state on Tuesday, January 22nd and Wednesday January 23rd for berry education sessions at the Empire State Producers EXPO held at the OnCenter in Syracuse, NY.

Special Joint Spotted Wing Drosophila Session

Day one of the day and a half long program begins with a special joint fruit and vegetable session on the new invasive pest Spotted Wing Drosophila (SWD). This pest was first detected in NY at the end of the 2011 growing season and caused significant damage and crop loss to berries across the state and region in 2012. SWD causes damage to late season summer raspberries and blueberries; fall raspberries and blackberries, and day neutral strawberries. In addition, reports of SWD infested fruit were also verified in stone fruit (peaches, plums, and nectarines), grapes, as well as multiple species of wild hosts. Verification of SWD in grape tomato has yet to be confirmed.

Dr. Greg Loeb, grape and small fruit entomologist at Cornell University will recap SWD infestation for the 2012 season including results from a damage assessment survey. Dr. Hannah Burrack, small fruit entomologist from North Carolina State University is a featured speaker who will discuss the biology and life cycle of Spotted Wing Drosophila to help growers gain a better understanding of the pest. Drs. Andrew Landers and Arthur Agnello from Cornell University's Department of Entomology will instruct growers on modernizing their sprayers for optimal control of SWD and progress made using fixed spraying systems for high-density fruit plantings.



Location	Presentation time (min)	Topic/Title	Speaker
West Ballroom	8:45 AM	DEC credits sign-up/Welcome/Announcements	Laura McDermott, CCE CDVSFP
West Ballroom	9:00 AM (20 min)	Spotted Wing Drosophila in NY: Where we are and where we are heading	Greg Loeb, Cornell
West Ballroom	9:20 AM (40 Min)	Understanding Spotted Wing Drosophila	Hannah Burrack, NCSU
West Ballroom	10:00 AM (30 min)	Modernizing sprayers for optimal control of SWD	Andrew Landers, Cornell
West Ballroom	10:30 AM (30 min)	Progress in the development of an in-canopy fixed spraying system for high-density orchards	Art Agnello, Cornell
	11:00 AM to 1:00 PM	Lunch/Trade show	--

Mid-Day Berry Session

The mid-day session includes Ms. Sarah Johnson from the NYS Department of Ag and Markets speaking on crop insurance for specialty crop growers. Also featured in this session is a talk by Dr. Kerik Cox, Cornell University tree fruit and small fruit pathologist, on a no frills approach to managing berry fruit rots, and a discussion by Ms. Dale Riggs, president of the NYS Berry Growers Association (NYSBGA), on a new cooperative agreement between Cornell University's Small Fruit Breeding program and NYSBGA along with its benefits for NYSBGA members.

Location	Presentation time (min)	Topic/Title	Speaker
West Ballroom	1:00 PM	DEC credit sign-up/Announcements	Jim O'Connell, CCE Ulster
West Ballroom	1:05 PM (30 min)	Crop Insurance for Specialty Crop Growers	Sarah Johnston, NYS Dept. of Ag and Markets
West Ballroom	1:35 PM (25 min)	NYSBGA Annual Meeting Cooperative agreement Lobbying discussion	Dale Ila Riggs, NYSBGA president
West Ballroom	2:00 PM (30 min)	Fruit Rots of Berries: A No Frills Approach to Management	Kerik Cox, Cornell
	2:30 PM	Break/Trade show	--

Afternoon Berry Session

The final session for day one features Dr. Kimberly Lewers from the USDA Henry A. Wallace Beltsville Agricultural Research Center (BARC). Dr. Lewers has been with the BARC fruit lab since 2001, conducting research on strawberry, blackberry, and raspberry. She serves as a Research Geneticist developing improved cultivars of these valuable fruit crops while studying inheritance of important traits and developing molecular markers and genetic maps to help track these traits in breeding populations. Dr. Lewers will be speaking on low tunnel strawberry production. This strawberry production system, used commercially in the Middle East and Northern Europe for winter production as well as in Brazil as a rain shield during summer production, is now being modified by Dr. Lewers to extend day-neutral strawberry production along the northern and mid-Atlantic seaboard of the US.

The low tunnel talk will be followed by grower Tim Stanton of Stanton's Fuera Farms and Laura McDermott of the Capital District Fruit and Vegetable program discussing their work with zone tillage in June-bearing strawberries.

Cornell University's Dr. Marvin Pritts will present preliminary results from a Northeast Sustainable Agriculture Research and Extension (NE SARE) project looking at improving berry soil and nutrient management using the Cornell Soil Health test.

The day will close with highlights from the 2012 berry pricing survey presented by Cathy Heidenreich, Cornell Berry Extension Support Specialist.

Location	Presentation time (min)	Topic/Title	Speaker
West Ballroom	3:30 PM	DEC credit sign-up/Announcements	Sandra Menasha, CCE Suffolk
West Ballroom	3:35 PM (30 min)	Zone tillage in June bearing strawberries	Tim Stanton, Stanton's Fuera Farm and Markets and Laura McDermott, CCE CDVSFP
West Ballroom	4:05 PM (10 min)	Industry Update	TBA
West Ballroom	4:15 PM (40 min)	Low Tunnel Strawberries	Kim Lewers, USDA
West Ballroom	4:55 PM (20 min)	Cornell Soil Health Test for Berry Crops – What We Have Learned So Far	Marvin Pritts, Cornell
West Ballroom	5:15 PM (15 min)	2012 Berry Pricing Survey – What Do the Results Tell Us?	Cathy Heidenreich, Cornell

Blueberry Intensive Workshop

A new feature included as part of the 2013 EXPO berry sessions occurs on day 2 of the program. Dr. Gary Pavlis from Rutgers University will present a 2 hour blueberry intensive workshop focusing on maximizing production.

Cultivated blueberry production in New Jersey ranks second in the nation behind Michigan. Atlantic county, where he is located, is the center of production with almost 80% of the total crop produced in NJ. Dr. Pavlis has changed the methodology of fertilizing commercial blueberries. His research has changed the timing of application, computerized fertilizer recommendations and introduced fertilizing

through trickle systems (fertigation) to blueberry growers. The result has been higher yields, better fruit quality and healthier plants. Benefit from his expertise during this workshop, which also includes a 15 minute Q&A session with the speaker at the end of the workshop.

Location	Presentation time (min)	Topic/Title	Speaker
Rooms 1-2	8:15 AM	DEC credits sign-up/Welcome/Announcements	Laura McDermott, CCE CDVSFP
Rooms 1-2	8:30 AM – 10:00 AM	Blueberry Intensive – Maximizing Production	Dr. Gary Pavlis, Rutgers

Marketing for Profit: Tools for Success

Marketing Webinars for Direct Marketing Farmers

The Farmers Market Federation of NY and the NY Farm Viability Institute have partnered with USDA Northeast SARE to present a series of webinars on marketing, *“Marketing for Profits: Tools for Success”*. These webinars have been designed with the assistance of regional and national marketing experts to provide critical marketing insights for farmers and farm markets throughout the northeast. The webinars are free, are approximately an hour and a half long, and easy to access with a basic internet connection. This winter, 6 webinars will be held and interested participants are encouraged to register TODAY for the webinars they think they will attend.

The Marketing for Profit: Tools for Success webinar series will give farmers the information and tools they need to excel at direct marketing their farm products. It will also provide curriculum, presentations and handouts to Cooperative Extension Educators and other farm service educators to help their farmers master key marketing concepts that will bring greater success and more profits to their farms than ever before.

As producers, farmers are well-equipped with the knowledge to produce quality farm products. They determine the best methods of farming, and the crop mix that will help them to achieve their production goals and revenue requirements. They understand and follow all statutory regulations impacting their operation, comply with labor law and file mounds of paperwork. But when it comes to marketing, many producers believe the Field of Dreams version of *“Build it and they will come.”* Marketing is a concept that must be learned to achieve maximum profits from chosen marketing channels, whether it is farmers markets, CSAs, direct to restaurant sales, or another other venue.

Marketing encompasses a broad array of efforts all aimed at identifying your market and customers, satisfying your customers and maintaining your customers long term. It includes all marketing channel selections and business decisions, what to grow or produce and how it will be produced; i.e. conventional, organic, bio-dynamic or some amalgam of these; how you choose to make products available, how product is presented to the public, how you present your business, advertising and promotions, signage, pricing strategy, and so on. Marketing is complex and is often the most misunderstood and least successful part of many farm businesses.

The series will include coverage of 5 categories of marketing concepts spanning three years: Self-Assessment, Market Assessment, Customer Assessment, Communications Assessment and Business Assessment. Each Assessment will be a series of 3 webinars. The winter season, 2012-13, will focus on Market Assessment and Customer Assessment. Learn how to understand the current marketplace, understand your competition, find the right fit for you and your products and build your marketing plan. In the Customer Assessment series you will learn to identify your ideal customer and how to attract them, understand customer service, gain knowledge of marketing tactics to reach your ideal customers and use a SWOT analysis to understand trends that can impact your business. These are just a sample of the skills and knowledge to be gained through this season’s Marketing for Profit: Tools for Success webinar series. Each webinar will be repeated twice to maximize opportunity to participate.

These webinars are free to participate. To register for the webinars, email Diane Eggert at deggert@nyfarmersmarket.com.

For more information, detailed descriptions of the sessions or a full, 3 year curriculum, please contact Diane Eggert at deggert@nyfarmersmarket.com or David Grusenmeyer, dgrusenmeyer@nyfvi.org.

NEW YORK STATE NEWS

Census Countdown Begins for New York’s Farmers and Ranchers

New York, December 3, 2012—Farmers and ranchers in New York will soon have the opportunity to make a positive impact on their communities by taking part in the 2012 Census of Agriculture. Conducted every five years by the U.S. Department of Agriculture’s (USDA) National Agricultural Statistics Service (NASS), the Census is a complete count of all U.S. farms, ranches and those who operate them.

“The Census remains the only source of uniform, comprehensive agricultural data for every county in the nation,” said King Whetstone, Director of the New York Field Office “It’s a critical tool that gives farmers a voice to influence decisions that will shape the future of their community, industry and operation.”

The Census looks at land use and ownership, operator characteristics, production practices, income, expenditures and other topics. This information is used by all those who serve farmers and rural communities from federal, state and local governments to agribusinesses and trade associations. For example, legislators use the data when shaping farm policy and agribusinesses factor it into their planning efforts.

“Your answers to the Census impact farm programs and rural services that support your community,” Whetstone said. “So do your part and be counted when you receive your form, because there’s strength in numbers that only the Census can reveal.”

In 2007, farmers reported a total of 36,352 farms, spanning across 7.17 million acres. This shows a 2.4 percent decrease in the number of New York farms from the previous Census in 2002. New York’s farms accounted for \$4.42 billion worth of farm products sold in 2007. The leading counties for cash receipts in 2007 were Suffolk and Wyoming with \$243 million and \$225 million, respectively. This telling information and thousands of statistics are only available every five years as a direct result of farmer responses to the Census.

NASS will mail out Census forms in late December, to collect data for the 2012 calendar year. Completed forms are due by February 4, 2013. Producers can fill out the Census online via a secure website, www.agcensus.usda.gov, or return their form by mail. Federal law requires all agricultural producers to participate in the Census and requires NASS to keep all individual information confidential.

For more information, visit www.agcensus.usda.gov. The Census of Agriculture is your voice, your future, your responsibility.

COMMISSIONER REMINDS FARMERS TO ONLY SELL TO LICENSED DEALERS

Agricultural Producers Security Law Protects Farmers from Nonpayment

New York State Agriculture Commissioner Darrel J. Aubertine reminds farmers to only sell to licensed farm product dealers. Article 20 of the New York State Agriculture and Markets Law, more commonly known as the Agricultural Producers Security Law, requires dealers to be licensed and contribute to a security fund in order to offer protection to farmers in the event of a defaulted payment.

“The Agricultural Producers Security Law has been effective for many years in ensuring that our farmers receive the payment they are owed for the products they produce,” the Commissioner said. “In order for farmers to be protected under this important and effective law, they must make sure they are selling to a licensed dealer, and they must notify the Department immediately in the event of nonpayment. It is critical that farmers become familiar with the details of the Agricultural Producers Security Law so they can be protected financially in a swift and effective manner.”

Farm product dealers are required to be licensed with the Department of Agriculture and Markets. Dealers’ licenses expire on April 30 of each year and must be renewed for the license year beginning May 1. The Department maintains a current list of licensed dealers on the [Department’s website](#) and will provide a hard copy upon request.

Article 20 of the New York State Agriculture and Markets Law provides financial protection for farmers against nonpayment for their products sold to licensed dealers. This financial protection consists of security in the form of a bond or letter of credit furnished by the dealer, and supplemental financial coverage from the Agricultural Producers Security Fund, which is funded by licensed dealers. In order to preserve a producer’s eligibility for the financial protections available under the Agricultural Producers Security Law, producers must:

1. Sell only to licensed dealers. Only sales to licensed dealers are covered under Article 20. The dealer must be licensed at the time of the transaction.
2. Ensure that the sale of farm products between the producer and dealer, for which a claim is made, has occurred within 120 days from the earliest unpaid transaction date at the time the claim is filed. Unpaid transactions that occur after the 120 day period will not be eligible.
3. Claims of nonpayment must be filed with the Department no later than 365 days after the sale and delivery of the farm products. In the event the Department has issued a notice to file claims, claims must be submitted by the date specified in the published notice.

A producer can also take advantage of Article 20’s trust provision, a legal mechanism that holds a dealer responsible for the full amount owed to a producer. The “Article 20 Trust” is established upon delivery of the producer’s farm products to a dealer and ends once the amount due is fully paid. The trust assets are the farm products and the proceeds from the sale of those farm products. To take advantage of the Article 20 Trust, a producer must provide a written notice to the dealer within 60 days from the date when payment is due informing the dealer that the producer is electing the trust benefit. The written notice must provide details of the transaction, including the dealer’s name, transaction date, product sold, quantity, price per unit, amount owed and the date payment is due. As a practical matter, a producer may wish to provide written notice to a dealer on the invoice itself. The Department recommends that producers consult with their attorney concerning matters involving preservation of their trust benefit, or to enforce the trust.

For up-to-date information about the law, a copy of the brochure or a list of licensed dealers, please visit the [Department’s website](#) or call the Department at 1-800-554-4501.

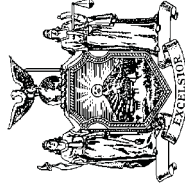
TIPS ON SELLING



- ✓ Sell to licensed dealers who make prompt payment.
- ✓ Adhere to the prompt payment provision of the law. The law requires dealers to pay producers within 30 days of sale and delivery, unless you have a written agreement to extend the payment terms. Payment terms cannot exceed 120 days from the sale and delivery.
- ✓ Good business requires good records with clear terms of sale. Keep copies of receipts, invoices, delivery and/or weight tickets with a complete description of the terms of sale.
- ✓ Be conscious of the time limits to be eligible for financial protection under the Agricultural Producers Security Program.
- ✓ Discuss issues of nonpayment immediately with the dealer to resolve any problems.
- ✓ Discontinue selling until your account is current. If you are unsuccessful in resolving the payment problem, notify the Department immediately and file a complaint by calling 1-800-554-4501.

AGRICULTURAL PRODUCERS SECURITY PROGRAM

Article 20 of the New York State Agriculture and Markets Law (AML) requires farm product dealers to be licensed. The law provides financial protection for producers against nonpayment for their products sold to licensed dealers from the dealer's security and the Agricultural Producers Security Fund.



The Agricultural Producers Security Program is administered by the New York State Department of Agriculture and Markets

For more information, call
1-800-554-4501
or call direct at **518-457-8861**

Visit the Department's Website at
www.agriculture.ny.gov

AGRICULTURAL PRODUCERS SECURITY PROGRAM



As it relates to the
New York State
Agriculture & Markets Law
Article 20 - Licensing & Sale
of Farm Products

Learn about your
financial rights as an
agricultural producer
and how to sell your products
only to licensed dealers who
make prompt payment

AGRICULTURAL PRODUCERS SECURITY LAW

PURPOSE OF THE LAW

- To help ensure that producers are paid fully and promptly
- To ensure payment to producers in the event a farm products dealer defaults in payment
- To suppress and prevent any unfair and fraudulent marketing practices

ELIGIBLE PRODUCERS

Typically, any person who grows or sells farm products or livestock in New York is eligible to participate.

STATE PRODUCTS COVERED

All agricultural products grown or raised in New York State are generally covered by the law with the exception of dairy, eggs and timber.

WHO'S SUBJECT TO A LICENSE

Dealers, including commission merchants, net-return dealers, brokers and processors who buy or receive New York farm products from New York State producers for resale.



YOUR RESPONSIBILITIES AS A PRODUCER

1. Do business with a licensed dealer.

Only transactions involving the sale of farm products to a licensed dealer are covered under the law. Before selling your products to a dealer, make sure they are licensed by calling the Department at 1-800-554-4501 or consulting the Department's website at: www.agriculture.ny.gov/programs/apsf.html

2. Do not continue to sell products to a dealer who has failed to make timely payments.

The law covers only transactions where the sale of farm products occurred within 120 days after the earliest transaction between you and the dealer, which remains unpaid at the time you file a claim, regardless of whether that earliest unpaid transaction is included in your claim.

The law requires dealers to pay you within 30 days of the sale and delivery of your products, unless a written agreement exists between you and the dealer that extends the term for payment up to a maximum of 120 days.

3. File a claim when a dealer has failed to make timely payments.

If a dealer has failed to pay you in a timely way for farm products you sold and delivered to the dealer, you should file a complaint with the Department. If the matter is not resolved or the Commissioner has reason to believe that there has been a default by a licensed dealer in making payment to producers, the Department will provide notice for producers to file claims within 30 days.

To be eligible for coverage, all claims must be filed no later than 365 days after the sale and delivery of the farm product, but in no event, beyond the expiration of the 30-day period provided in the notice published by the Department.

Claim forms may be obtained by contacting the Department at 1-800-554-4501 or by downloading the forms from the Department's website at: www.agriculture.ny.gov/programs/apsf.html

*****This pamphlet only highlights the requirements of the Agricultural Producers Security Law (Article 20). It is recommended that you or your attorney review the law in detail to fully understand what you must do to maximize its benefits for you, including additional protections like providing the dealer with notice that you have chosen to preserve the trust benefit provided by AML section 250-a.***

USDA News

New Publication Available: “Your Guide to FSA Farm Loans” - John Flocke, Outreach Coordinator, USDA-Farm Service Agency
The Farm Service Agency (FSA) is committed to providing clear and concise explanation of its farm loan process, and is pleased to announce the online publication titled “Your guide to FSA Farm Loans.”

The guide is designed to serve as an informational tool and resource to help you in providing outreach and technical assistance to farmers and ranchers. The guide, written in “plain language”, provides information about FSA’s farm loans and loan servicing options. A list of additional resources is also included in the guide.

The guide is available online at <https://www.fsa.usda.gov/dafi>. I encourage you to download and share it with the farmers and ranchers in your community who may require assistance in understanding FSA’s loan process. I also invite you to contact me to discuss partnering opportunities. Through effective tools and partnerships, together we can improve outreach efforts to successfully deliver program and services information to FSA’s customers.

NASGA/NARBA NEWS

North American Berry Conference 2013 – Still Time to Register!

Our 2013 conference is a joint conference of the North American Raspberry & Blackberry Association (NARBA) and the North American Strawberry Growers Association (NASGA). We are joined as well on January 29 by the Oregon Blueberry Conference.

The conference is really getting close. An exciting program of speakers and topics is scheduled, and the tour will surely be a highlight as well.

The conference program and a registration form are included in this newsletter. The registration form is printed so you can easily pull that page out of the newsletter to send it in. Or go to the NASGA or NARBA home page to register on line.

Deadlines: Be sure to make your hotel reservations promptly – January 6 is the cut-off date through which the very low conference rate is guaranteed. For the conference itself, rates go up after January 20. Space on the tour is limited, so register soon! The DoubleTree Hilton Portland in downtown Portland, with an excellent room rate of \$79/night (plus taxes/fees) is our hotel for the conference. Parking is free for conference registrants. Portland International Airport is about nine miles from the hotel. Besides taxi, shuttles, or rental car, an easy way to get to the hotel is by the Max Line light rail. It takes 35-40 minutes, with one transfer, at a cost of only \$2.50. **To make hotel reservations:** Call 503-281-6111 or 800-996-0510. Ask for the room block with the code “NAFDMA”.

Membership: Conference fees are significantly lower for members. You can register at member rates based on your 2012 membership, but things will go smoother if you go ahead and renew before the conference rather than on site.

Program Update

Setting the program for any conference tends to be a long process. On page 9, you’ll find a detailed program, including most presenters. Take a moment to read all that fine print and you’ll it’s going to be a great program. Here are a few additions of note since last newsletter:

- Ayers Creek Farm, operated by Anthony Boutard and his wife, Carol, has been added to the tour. The Boutards are certified organic growers of berries and other crops. Those who read NARBA E-Forum posts already know how articulate and observant a grower Anthony is.!
- Columbia Empire Farms, an integrated grower/processor, has dropped off the tour, but we’re looking to find another processing operation to visit, as processing is such an important part of the Oregon berry industry.
- Harvey Hall, raspberry breeder from New Zealand, has been added to the program and will give his special perspective on the global raspberry industry.
- Elaine Ingham, a highly regarded soil scientist associated with the Rodale Institute, will talk about Ecology of the Soil Food Web.

Several more NARBA member growers will now be telling about their farms, including Randy Honcoop (Linden, WA) and Henry & David Mutz (Abbotsford, BC), joining Carolyn Vouligny of Les Productions Horticoles Demers, scheduled earlier.

If you have any questions, or issues with registration, feel free to contact the NARBA office. See you there!



2013 North American Berry Conference

January 27-30 – Portland, Oregon

Registration Form



Membership status: Member of NARBA Member of NASGA Joining one or both with this registration Non-member

Name (primary registrant)* _____

Farm/Company/institution* _____

Additional farm/company members on this registration* _____

Mailing address _____

City* _____ State/Province* _____ Zip/Postal code _____ Country _____

Phone _____ E-mail _____

** this information will be used on nametags. Please note if nametags should be different.*

CONFERENCE REGISTRATION All registrations are per-person. If members of your group are registering for different options, please note who is signing up for which options (eg tours). Tours have limited registration and are on a first-come basis.	MEMBERS (NASGA/NARBA)		NON-MEMBERS		# persons	\$ amount
	Received by Jan 20	After Jan 20	Received by Jan 20	After Jan 20		
FULL CONFERENCE PACKAGE						
Full conference (Jan 27 reception, Jan 28 tour, Jan 29-30 sessions & lunches)	\$295	\$325	\$380	\$410		
BY-THE-DAY REGISTRATION						
Jan 28 tour (includes lunch and dinner)	\$95	\$115	\$115	\$125		
Jan 29 sessions and lunch	\$125	\$140	\$165	\$180		
Jan 30 sessions and lunch	\$125	\$140	\$165	\$180		
Jan 29 & 30 sessions and lunch	\$230	\$250	\$310	\$330		
TOTAL REGISTRATION FEES						
MEMBERSHIP FEES (from membership page) NARBA \$ _____ NASGA \$ _____						
TOTAL DUE						

PAYMENT Mastercard Visa Check (make out to "NASGA" – U.S. Funds only) Check Number _____

Card number _____ Expiration date _____

Name on card _____ Signature _____

Billing address _____

Send registrations to: North American Strawberry Growers Association
30 Harmony Way, Kemptville, ON K0G 1J0 Canada
Fax to 613-258-9129 or E-mail scans to info@nasga.org

Hotel Reservations: To make your reservations at the DoubleTree Portland, call 503-281-6111 or 800-996-0510. Be sure to identify yourself as part of the block "NAFDMA" and make your reservation by . Room rate: \$79/night.

Questions? NASGA: info@nasga.org, 613-258-4587 NARBA: info@raspberryblackberry.com, 919-542-4037

2013 North American Berry Conference

NARBA/NASGA Membership Application

Join the North American Raspberry & Blackberry Association and/or the North American Strawberry Growers Association in advance of your registration for the 2013 North American Berry Conference and take advantage of the lower conference fees member benefit right away.



The North American Raspberry & Blackberry Association (NARBA) provides resources and information to growers, speaks out for the raspberry and blackberry industry, and informs the public and the media. It holds educational conferences and meetings, such as this conference, and supports raspberry and blackberry research

through its North American Bramble Growers Research Foundation. Benefits of membership include *The Bramble*, NARBA's quarterly newsletter, Proceedings of the annual conference, an annual membership directory, discount conference registration and publications, and special "Members Only" resources, including recipe brochures, consumer handouts, and an E-Forum for sharing queries, and comments. Learn more at www.raspberrylblackberry.com.

NARBA MEMBERSHIP FEES

1/4 of grower dues goes directly to the North American Bramble Growers Research Foundation.

Grower membership:

New members: \$50 Returning members: \$85
Plus Acreage Charge (all growers): \$5 per acre of raspberries/blackberries, maximum \$100 \$5 x _____ = _____

Researchers, extension, students: \$40

Industry (suppliers, processors, marketers, etc.): \$150
Please send newsletters by mail by email (pdf file)

MEMBERSHIP INFORMATION

Name(s) _____ Date _____

Farm/Company/Institution _____

Address _____

City _____ State _____ Zip Code _____ Country _____

Phone #1 _____ (home work farm cell toll-free)

Phone #2 _____ (home work farm cell toll-free)

E-mail _____

Fax _____ Website _____

PAYMENT Amount to NARBA \$ _____ Amount to NASGA \$ _____ Total Amount \$ _____

Check Credit card # _____ Exp. Date _____ CVV number _____

Name on card _____ Signature _____

Send to: For conference registration, NASGA membership or both NASGA & NARBA membership: NASGA, 30 Harmony Way, Kemptville, ON K0G 1J0 Canada, fax 613-258-9129. For NARBA membership only: NARBA, 1138 Rock Rest Rd., Pittsboro, NC 27312 USA, fax 866-511-6660.



The North American Strawberry Growers Association offers access to the top strawberry researchers and horticulturists in the United States and Canada. It serves as a

lobby for berry growers on the national level and provides over \$50,000 annually toward research. It holds both an annual conference and a summer tour. NASGA membership benefits includes: a quarterly newsletter subscription, reduced registration fees for NASGA events, a website listing, and a Membership Resource Directory. The NASGA website provides members with current and past newsletters as well as presentations from previous meetings. NASGA is a proud sponsor of many research projects and these reports are also available to NASGA members on its website. Learn more at www.nasga.org.com.

NASGA MEMBERSHIP FEES

Business Membership (growers, nurseries, suppliers)
Rejoining (member 2010-2012)

\$175 USA, Canada and Mexico \$190 other countries

New Member:

\$85 USA, Canada and Mexico \$95 other countries

Individual Membership (Research, Extension, Student)

\$55 USA, Canada & Mexico \$65 other countries

Corporate Membership (includes up to \$400 in newsletter advertising annually) \$500 (all countries)

ON THE ORGANIC SIDE

NOP Releases New Guides for Organic Certification

Beginning farmers and existing organic operations can find detailed information about organic certification in a series of new guides. The guides were written by sustainable-agriculture experts at the National Center for Appropriate Technology (NCAT) in partnership with the USDA National Organic Program (NOP). They are part of the USDA's Organic Literacy Initiative. The new guides help prospective organic operations learn more about their specific type of organic production. They also are helpful for current organic operations looking to adopt new management approaches and better understand NOP standards. The four guides provide detailed information about the relevant organic requirements, provide best practices, and further explain the certification process. Titles are [Guide to Organic Crop Production](#); [Guide to Organic Livestock Production](#); [Guide to Organic Processing](#); [Organic Certification of Farms and Businesses Producing Agricultural Products](#).



Attitudes to Organic Labels Depend on Consumers' Values - Krishna Ramanujan

December 6, 2012. Labeling food as "organic" may not always lead to a positive impression, according to a recent Cornell study.

The research, published Nov. 27 online in the journal *Appetite*, flips the notion of a "halo" effect for ethical food labels. A halo effect refers to a phenomenon where a label leads consumers to have a positive opinion -- and in the case of an organic label, a healthful impression -- of those foods.

This research finds that such positive impressions are partly based on the personal values of a consumer. The two-part study found that some conditions can produce a negative impression of organic labels among consumers, due to the consumer's values.



In the first part, Jonathon Schuldt, Cornell assistant professor of communication, and Mary Hannahan, a student at the University of Michigan, asked 215 students whether they thought organic food was healthier and also tastier than conventional food. While most agreed that organics were a healthy choice compared with conventional food, fewer expected organic food to taste good by comparison. This latter finding was especially true for participants who had low concern for the environment.



USDA organic label. Organic labels can lead to positive or negative impressions, in part based on a consumer's personal values.

"The personal values of the rater mattered," said Schuldt. "Our data suggests when organic practices do not appeal to a consumer's values they expect organic food to taste worse."

In part two of the study, the researchers explored whether there were contexts in which people who were pro-environment might have a negative impression of organic labels. Here, 156 participants read one of two versions of a fake news article that discussed the development of "a highly engineered drink product designed to relieve the symptoms of African children suffering from severe malnutrition," according to the study. To convey the artificial, engineered aspect of the beverage, the article described the drink -- named "Relief drink 1.1" -- as a "formula" that resulted from collaboration between "scientists and the food industry." In one version of the news article, the engineered drink was described as organic every time the drink was mentioned. The other version never mentioned the word organic. Participants were randomly assigned one version of the news story or the other.

The results showed that participants who were highly pro-environment judged the organic version of the drink to be less effective compared with the non-organic version.

"It's a reminder that the halo effect hinges on the values of the perceiver," said Schuldt. "It's not the case that you can label a food organic and expect that everyone will perceive it more positively. Under certain circumstances, ethical labels could have an unintended backfire effect."

Future research may involve taste tests of organic and conventional foods to see if personal values influence a taster's perceptions when actually eating a food, Schuldt added. (Reprinted from: *Chronicle Online*: <http://www.news.cornell.edu/>.)

Video Features Organic Berry Grower

[Goodfood World](#) recently posted a 4-minute video featuring Terry Carkner of Terry's Berries talking about her organic berry business in Washington State. Carkner discusses what motivated her and her husband to pursue organic certification for their 25-acre farm in 1989, how they use season extension and crop rotation, why they diversified their business into vegetable production, and how their 300-member CSA is structured. She also touches on her hopes for farm transition. To view the video go to: <http://www.goodfoodworld.com/2012/11/terry-carkner-terrys-berries-on-growing-organic-berries/>

FOCUS ON FOOD SAFETY

Mark Your Calendars for 2013 GAPs Trainings

There are 5 planned 2-day Good Agricultural Practices (GAPs) workshops scheduled for this winter and spring. This is for those farmers who are being required by buyers to provide third party verification of their food safety practices and for farmers thinking about moving in this direction. With the Food Safety Modernization Act draft FDA regulations to be released in the very near future, the timing of these workshops is paramount. Although the 2-day workshops will cover the vast majority of what most 3rd-party audit companies require, it will be geared towards the new Harmonized GAPs standards that Wegman's and many other retailers are requiring. These are sponsored by Genesee Valley Regional Market Authority (except the Long island training), Cornell Cooperative Extension, Cornell University, the Produce Safety Alliance, and the New York State Department of Ag & Mkts.

1. January 15-16, Food Science Room 251, NYSAES, Geneva. The focus is on berries, but all fresh produce growers are invited.
2. January 30-31, Focus on Potatoes, location: Mt. Morris. The focus is on potatoes, but all fresh produce growers are invited
3. February 7-8, General GAPs training for all fresh produce growers, location: Batavia.
4. March 6-7, General GAPs training for all fresh produce growers, location: CCE-Yates, Penn Yan.
5. March 13-14, General GAPs training for all fresh produce growers, host CCE-Suffolk, Riverhead.

For more information and updates, see: <http://www.gaps.cornell.edu/eventscalendar.html> Registration info will be up approximately 4-6 weeks before the workshops. For more info, contact Craig Kahlke at cjk37@cornell.edu or 585-735-5448.

Standard Operating Procedures Ensure Farm Workers Do Something the Same Way Every Time - Phil Tocco, Michigan State University Extension

It's Important for Sanitary Procedures to be Performed Consistently from Worker to Worker and Written in the Food Safety Manual. Keep the Following Ideas in Mind When Crafting Standard Operating Procedures.

November 14, 2012. The backbone of a good food safety manual is a set of repeatable Standard Operating Procedures. Not only are these essential for a food safety manual, but they can help different employees perform the same task in a more routine and predictable way. Standardization among employees can lead to a more productive farming operation, too.

When creating Standard Operating Procedures, it's best to watch another person perform the task and write it up based on what you see the person doing. After you get a draft, have another worker who performs the task review it for inaccuracies. The goal is to create a working document that specifies all the steps to a particular job from start to finish that a new employee could pick up and perform and be about the same as an existing employee. Also, Michigan State University Extension recommends reviewing all Standard Operating Procedures annually to ensure they have not changed appreciably.

The auditor is looking for evidence of a system written in the food safety manual to minimize incidence of produce contamination, visual evidence that it is taking place and documentation that it has been taking place in the past. If you are able to show evidence of these three components in place in all aspects of your farm, you will pass an audit.

If you have specific questions about writing a Standard Operating Procedure or have difficulty tailoring GAPs to your NY farm, contact Gretchen Wall, glw53@cornell.edu or Betsy Bihn, eab38@cornell.edu. To obtain a guidance document explaining how to craft a Standard Operating Procedure, ask for "Standard Operating Procedures: A Writing Guide" from [Penn State University Press](http://www.psu.edu/extension/food-safety/standard-operating-procedures).

(This article was published by [Michigan State University Extension](http://www.msue.msu.edu). For more information, visit <http://www.msue.msu.edu>.)

December Produce Safety Alliance Update - Gretchen L. Wall, Produce Safety Alliance Program Coordinator

December 11, 2012. The New Year is approaching just in time for the Produce Safety Alliance to start shifting gears in the curriculum development process. Read on to hear about our progress and future goals as we move into the PSA's third year.

PSA Curriculum Learning Objective Development

In the September newsletter, we outlined the basic steps in the development of the Produce Safety Alliance's educational curriculum with specific focus on completing the learning objectives. We are happy to report that the process is now complete and we are moving onto content development. The learning objectives are reflective of the working committee process, farmer focus groups, and identified educational needs based on collaborator programs from around the country. It has certainly been a challenging task to arrive at such succinct, finite learning objectives; however, focusing on the most critical educational areas and needs will enable us to effectively provide

growers with the information they need to understand food safety risks on the farm, identify risks in their own operations, and implement strategies to address those risks.

One noteworthy addition to the learning objectives is the inclusion of the term *preventive controls*. The Food Safety Modernization Act (FSMA) places emphasis on the prevention, rather than the detection, of food safety issues and it is anticipated that the Produce Safety Rule will refer to these preventive measures as *preventive controls*.

In the PSA curriculum materials, you will see preventive controls terminology introduced to complement the traditional Good Agricultural Practices (GAPs) principles. As educators, we strive to ensure that farmers and packers understand and are prepared for future regulations as well as able to understand the basic principles of reducing on-farm food safety risks. Familiarity with new terminology will prepare farmers not only for proposed regulations, but future buyer and market requirements that will likely incorporate this terminology directly from the regulation.

Farmer Focus Group Summary: Now Available

One of the most critical areas the Produce Safety Alliance has sought to address is the issue of educational program delivery and farmer preferences for learning about fresh produce safety. From January to April of this year, we conducted eight focus groups with fruit and vegetable growers from across the country. Hosting the focus groups enabled the PSA to engage farmers in a dialogue that included a variety of important topics related to on-farm food safety practices and educational expectations. Throughout focus groups, several key themes emerged that were common across the groups, while others reflected regional, commodity, or market specific variations. A brief summary can be found online at <http://producesafetyalliance.cornell.edu/newsletters/FocusGroupSummary.pdf>, but keep an eye out in coming months for a more detailed, peer-reviewed journal article.

Publications of Interest

The body of fresh produce safety research has been expanding rapidly in the past decade, and as we strive to create science-based recommendations, this research is more important now than ever before. In order to provide the best guidance to growers and build a credible and useful curriculum, incorporating the newest research is key. To highlight this, we have decided to add this new section to our newsletter. We hope our reference list will always continue to grow, so if you have read a recent article or know of one to be published soon which might be applicable to the PSA or readers of this newsletter, please let us know. These publications are also available on the [National GAPs Program Research and Extension Database](#), a great resource for fresh produce and on-farm food safety publications. Happy reading!

- Becot, F. A., Nickerson, V., Conner, D. S., & Kolodinsky, J. M. (2012). Costs of Food Safety Certification on Fresh Produce Farms in Vermont. *HortTechnology*, 22(5), 705-714.
- Harris, L., Bender, J., Bihn, E., Blessington, T., Danyluk, M., Delaquis, P., Goodridge, L., Ibekwe, M., Ilic, S., Kniel, K., LeJeune, J., Schaffner, D., Stoeckel, D., & Suslow, T. (2012). A Framework for Developing Research Protocols for Evaluation of Microbial Hazards and Controls during Production That Pertain to the Quality of Agricultural Water Contacting Fresh Produce That May Be Consumed Raw. *Journal of Food Protection*, 75(12), 2251-2273.
- Ngwa, G. A., Schop, R., Weir, S., León-Velarde, C. G., & Odumeru, J. A. (2012). Detection and Enumeration of *E. coli* O157: H7 in water samples by culture and molecular methods. *Journal of Microbiological Methods*.
- Strawn, L. K., Fortes, E. D., Bihn, E. A., Nightingale, K. K., Gröhn, Y. T., Worobo, R. W., Wiedmann, M., Bergholz, P. W. (2012). Landscape and Meteorological Factors Affecting Prevalence of Three Foodborne Pathogens in Fruit and Vegetable Farms. *Applied and Environmental Microbiology*.

Into 2013!

The New Year will bring full focus on the curriculum's content development and review, with outreach efforts and Train-the-Trainer programs to come in the Spring and Fall of 2013. Stay tuned! There are lots of great opportunities ahead, so we hope you will stay engaged with us as we continue our education and outreach efforts.

Join Us!

Our listserv is always expanding and a great way to stay in touch with the PSA. To sign up, please visit our website at <http://producesafetyalliance.cornell.edu/psa.html>. Already signed up? Please share this newsletter with friends and colleagues who might also be interested in produce safety. As always, please do not hesitate to contact myself or Betsy Bihn (eab38@cornell.edu) if you have any questions, comments, or ideas.

FARM FOOD SAFETY TRAINING WITH GAPs

(Berry focus but all fresh produce growers invited to attend)

Register Now – Space is Limited! This is the first of 5 trainings state-wide this season

Two Day Training - January 15-16, 2013

Registration/Coffee @ 8:30, Program runs 9-3:30 both days, Lunch included

Location: The New York State Agricultural Experiment Station,

Food Research Lab Room 251, 630 W. North St., Geneva, NY 14456

Cornell Cooperative Extension, the Cornell Vegetable Team, the Cornell Lake Ontario Fruit Team, and the Cornell National GAPs Program along with assistance from NY Dept. Ag & Mkts, will be presenting trainings for farm food safety - GAPs (including Harmonized GAPs).

Over the past few years and especially the last 18 months, media coverage of several high profile food borne illness outbreaks in produce have made national news. Both the produce industry and the federal government have stepped up demands for fruit and vegetable farms to meet food safety practice standards. Commonly, the reference to farm food safety is termed GAPs (Good Agricultural Practices).

While we are still awaiting the FDA to post the draft of federal standards as directed by the Food Modernization Safety Act, industry has been pushing farmers to follow a food safety program. In NY, the program of choice has been GAPs with Cornell National GAPs program and Cooperative Extension leading the way with trainings.

The major players in the produce industry have been trying to unify many of the various certification food safety programs into one standard. This is called Harmonized GAPs. In NY, Wegman's and other retail produce buyers have started asking their growers to move to this new program.

In response, multiple organizations have teamed up to present trainings on farm food safety. These workshops are funded through a grant by the Genesee Valley Regional Marketing Authority.

The first day will focus on the details of what GAPs is, how it works, and what it means for your farming operation. The second day will be devoted to helping you write a food safety plan as required for audit certification or if you just want to have one for yourself to implement on your farm. A laptop computer is required for the second day. If you need to borrow one, please let us know ahead of time (check off on registration form below) so we can have one available. In addition, if you have a person or two from your farm who has better computer skills, you can bring them one or both days. It is strongly recommended that you attend day 1 in order to begin writing your food safety plan on day 2. Pre-registration is advisable because space is limited for the second day.

Cost: \$60 for two days for one farm member \$10 per additional member for both days.

Note: This is a **3-day training** - the first 2 days on January 15 & 16, and the third is TBA, attendance optional during the growing season on a participant's farm (mock audit).

To see the full list of trainings scheduled for this winter, see :

<http://www.gaps.cornell.edu/eventscalendar.html> Registration info will be up approximately 6 weeks before the workshops. For more info, contact Craig Kahlke at cjk37@cornell.edu or 585-735-5448.

Pre-registration is recommended by January 9. If your registration is not received by our office by Jan 9 and you still are interested in attending the trainings, please call Craig Kahlke. The reduced registration fee of \$60 for the two days is to cover educational materials and food. A private consultation at your farm costs \$100/hour, so this is a huge value. If you are bringing 1-2 additional people from your farm on either or both days, please add \$10 for each total to cover the cost of lunch and refreshments.

Call or email Cathy Heidenreich (Cornell) at 315-787-2367, mcm4@cornell.edu, or Stephanie Mehlenbacher (CCE-Steuben) at 607-664-2300, sms64@cornell.edu, for questions or for more information.

Please send registration form and check payable to: "Cornell Cooperative Extension"
Attn: Debra Leskovic, CCE of Monroe, 249 Highland Ave, Rochester, NY 14620.

<p>\$60.00 - 2 day total 1 person \$70.00 - 2 day total to add another person from your farm for Days 1 & 2 \$80.00 – 2 day total to add 2 more people from your farm.</p>
--

Registration Form for the Geneva Food Safety Training with GAPS –January 15-16

Laptops required for day 2 (Jan 16) only, it is recommended you bring a computer-savvy person from your farm on day 2.

Check here **if you need a laptop** _____ - there are loaners available. A portable USB flash drive will be provided loaded with all the necessary forms and information to continue to complete the food safety plan started at the training.

Name(s) _____

Business Name _____

Address _____

Phone _____ Fax _____ Email _____

Space is limited, so mail your forms and payment in today.

FDA UPDATE

Guidance for Food Facility Registration

[Guidance for Industry: What You Need to Know About the Registration of Food Facilities – Small Entity Compliance Guide](#) was updated to reflect the FSMA amendments to the FD&C Act, and contains information regarding: who is required to register and who may be exempt; how often facilities must register and renew registrations; when FDA may suspend a registration, and how facilities may submit their registrations and registration renewals to FDA. Some additional registration information that must be provided in a facility's registration, as provided by FSMA, include: the email address of the U.S. agent for the foreign facility, and an assurance that FDA will be permitted to inspect the facility at the times and in the manner permitted by the FD&C Act.

[Guidance for Industry: Questions and Answers Regarding Food Facility Registration \(Fifth Edition\)](#) contains helpful questions and answers regarding food facility registration. Updates to questions in this edition are based on the FSMA amendments.

These documents supersede previously released versions.

See the [FSMA Registration page](#) for more detail. For more information on FDA's Food Safety Modernization Act, visit <http://www.fda.gov/fsma>.

FOCUS ON PEST MANAGEMENT

CALS Faculty and Extension Staff Team Up to Help Farmers Manage Invasive Fruit Fly

Spotted wing drosophila, an invasive fruit fly originating in Asia, can destroy intact berries, cherries, and possibly peaches and some grape varieties. It first appeared in the northeastern U.S. in 2011 and by 2012 was widely distributed over the entire region. Populations in NY exploded in early August, forcing many berry growers to close their fields and abandon the crop. The insect is similar in appearance to common vinegar flies, except spotted wing drosophila (SWD) females lay eggs in unripe fruit and larvae may be found in fruit that is just ripening. Significant problems occurred where populations went undetected and untreated. The pest is poorly understood, a fact that a new consortium, led by Cornell faculty and Extension educators, is hoping to change.

This consortium, The Northeast Spotted Wing Drosophila (SWD) IPM Working Group, sponsored by the Northeastern Integrated Pest Management Center, met in Geneva, NY on November 1st, 2012. The 50-member working group comprises research scientists, extension educators, industry consultants, and growers from ten states in the northeastern U.S. and from three Canadian provinces. "We were very gratified by the level of interest in attending our first meeting, but not surprised, given the economic threat posed by this new fruit pest" commented Dr. Greg Loeb, entomology professor at Cornell University and co-organizer.

The Highbush Blueberry council and surveyed fruit growers say the loss of product and jobs may exceed one billion dollars this year and could grow if effective means for managing the pest are not developed and adopted by growers. Dennis Doyle, representing the U.S. Highbush Blueberry Council, was emphatic in his plea to researchers to "find a solution to this problem." Mr. Doyle stated that in his more than 30 years in the blueberry business this is the worst problem he has seen for growers. Dale Ila Riggs, President of the NY State Berry Growers' Association, stated that this problem desperately requires financial support for research.

Right: Members of Northeast IPM Spotted Wing Drosophila Working Group discuss research, extension and educational priorities for this devastating pest at a recent meeting at the NYS Agriculture Experiment Station in Geneva, NY.



During the meeting, attendees reported on details of their insect monitoring protocol, levels of SWD infestation, crops affected, merit of control strategies, and on-going research. Rich Cowles (Connecticut Agricultural Experiment Station), Cesar Rodriguez-Saona (Rutgers University), and Greg Loeb (Cornell University) presented summaries of their ongoing SWD research in the Northeast. Hannah Burrack, North Carolina State University, and Peter Shearer, Oregon State University, shared research findings from states that have been dealing with SWD for several years.

Through these updates, the Working Group gained a better understanding of SWD biology, potential methods of control, and gaps in knowledge and education. This set the stage for the Working Group to develop and rank research, education, regulatory, and extension priorities for dealing with this invasive fruit fly—published at www.northeastipm.org/working-groups/spotted-wing-drosophila/priorities/. The Northeast IPM Spotted Wing Drosophila Working Group has taken a first step toward finding sustainable and effective IPM strategies against spotted wing drosophila—a step that is critical for the future of the berry industry.

African Fig Fly: Another Invasive Drosophilid Fly Discovered in Pennsylvania - Drs. David Biddinger and Neelendra Joshi, Penn State Department of Entomology; Kathy Demchak, Penn State Department of Plant Science

November 16, 2012. *Zaprionus indianus* Gupta (Diptera: Drosophilidae), commonly known in Brazil as the African Fig Fly (AFF), is an invasive species recently found in Pennsylvania for the first time. First discovered by the Pennsylvania Department of Agriculture in early October in Grape and Tomato Pest Survey traps, it was found immediately after by Dr. David Biddinger at the Penn State Fruit Research and Extension Center in Biglerville. Adult flies were found in apple cider vinegar traps used for the seasonal monitoring of Spotted Wing Drosophila (SWD), another recently introduced invasive pest of small fruit crops in Pennsylvania that Dr. Biddinger first detected in Pennsylvania and Maryland in July of 2012.



A. Spotted Wing Drosophila (SWD) male in comparison with the African Fig Fly (AFF). B. African Fig Fly (AFF) and its black-bordered, white "racing stripes".

Reviewing SWD samples from 2011, Dr. Biddinger also found it had been present in Adams county in the fall of 2011, so it has been here for at least two seasons. For what is considered to be a tropical pest, this is important because they not only survive the extremely mild winter of 2011-12, but also the more typical previous winter. Of note, however, is that while SWD trap catches have greatly increased in the last two weeks despite heavy frosts, the same vinegar traps are no longer catching AFF. AFF is now recorded from Adams, York, Dauphin, and Clearfield counties according to the Pennsylvania Department of Agriculture.

Z. indianus adults are easily distinguished from all other fruit flies in our region because of a pair of silvery-white stripes from antennae to thorax tip that are outlined along both sides by black stripes. A humorous nick-name given to the fly by PDA has been the "Speed Racer Fly" since it has prominent "racing stripes." Adults of this species are slightly larger in size than the Spotted Wing Drosophila and the background color of the body is lighter than most other drosophilid flies we commonly find in our SWD vinegar monitoring traps.

Native to Africa, the Middle East, and Eurasia, it is now found in much of South and Central America where it is mainly a pest of figs. It was first found in Florida in 2005, where it quickly spread and out-competed other fruit flies. New records were found for Michigan, North Carolina and Connecticut in September of this year and it appears to be spreading throughout the South as far west as Texas. *Z. indianus* is considered as a generalist insect feeding on various tropical fruits, but it has potential to damage small fruits (cherries, blueberries, blackberries, strawberries, and raspberries). In Pennsylvania, so far it has been found later in the season and mostly in grapes, but has also been found in SWD monitoring traps in cherry, raspberry and blackberry plantings. Its presence and damage potential in grapes and other crops is under investigation by Dr. Biddinger's lab and Penn State small fruit specialist, Kathy Demchak. Monitoring effort throughout the state will continue next season by PDA and Penn State and records for new hosts and new county records should be forwarded to either institution.

Since it does not have a large, sharp ovipositor like SWD females, AFF appears to only attack damaged and over-ripe fruit and the harsher winters of Pennsylvania may prevent it from establishing as aggressively here as it did in Florida. Indeed, so far numbers of adults collected in vinegar traps have been only a fraction the number of SWD collected. An exception, however, has been from net collected samples in a grape vineyard where numbers of AFF greatly outnumbered SWD. While it appears from our samples that grape is not a preferred host of SWD, it may be that grape is preferred by this new fruit fly. There is also concern in the South that it will become a pest of blueberries.

(Reprinted from: [http://extension.psu.edu/fruit-production/news/2012/.](http://extension.psu.edu/fruit-production/news/2012/))

Disease Snapshot: Spur Blight of Raspberries and Blackberries - Zachary Frederick, Graduate Student and Dr. Kerik D. Cox, Assistant Professor Plant-Pathology & Plant-Microbe Biology, Cornell University

Causes: *Didymella applanata*

When to watch for it: Ascospores infect in April-May, and symptoms begin to appear in June.

First line of defense: Plant resistant cultivars.

Summary: *D. applanata* overwinters within infected canes, and discharges ascospores from these canes in the following spring to infect the leaves of developing primocanes. Ascospore discharge occurs from April through August, and peaks in May. Foliar lesions only occur on mature leaves, and begin to develop in June. Younger leaves appear to be resistant to infection, which restricts *D. applanata* infections to the lower half to third of the cane. Foliar infections advance toward the midvein of the leaf, which results in the development of a brown, V-shaped lesion with a yellow margin. Infections progress through the leaf petiole and into the node, which usually results in the defoliation of infected leaves. Brown to purple lesions on nodes are also symptomatic of the disease. Foliar infections can be differentiated from *Botrytis* infections by the diagnostic brown discoloration of *D. applanata* lesions.

Spur blight caused by *D. applanata* can be reduced by pruning rows to facilitate rapid drying to decrease the length of wetting periods. This pruning practice also ensures uniform fungicide application coverage and may facilitate the removal of weeds in and between rows. The use of biennial cropping varieties has also reduced the severity of spur blight, as well as removal or burning of older canes that might potentially be harboring *D. applanata*. A lime sulfur application prior to bud break in spring is strongly recommended. In season applications of azoxystrobin (Abound) and pyraclostrobin (Cabrio) are effective control options, but no more than two sequential applications should be applied to avoid the development of a QoI resistant population. A premix product of pyraclostrobin and a boscalid (Pristine) would also provide effective control.



Above, **A:** Infected node showing purple lesion development. **B:** Node infections are more severe on the lower portion of the cane, and can reduce the number of leaves per cane the incidence of *D. applanata* is high enough. Photo Credit: Cathy Heidenreich

EPA Pesticide Program Update - Soil Fumigant Phase 2 Labels Take Effect

December 3, 2012. As of December 1, 2012, a final set of soil fumigant product label changes went into effect, fully implementing important new protections for workers and bystanders. The amended product labels incorporate the second and final phase of mitigation measures required by the EPA's 2009 Reregistration Eligibility Decisions (REDs) for the soil fumigants methyl bromide, chloropicrin, metam sodium/metam potassium, and dazomet. Fully implementing the new risk mitigation measures represents a sea change in worker and public protection. These measures will help protect workers, handlers and bystanders from exposure to potentially harmful airborne concentrations of the fumigant pesticides.

The new measures appearing on soil fumigant Phase 2 labels include buffer zones and posting, emergency preparedness and response measures, training for certified applicators supervising applications, Fumigant Management Plans, and notice to State Lead Agencies who wish to be informed of applications in their states. Measures added to labels in the first phase of implementation included Phase 1 Fumigant Management Plans, good agricultural practice requirements, and new worker protection measures among other things. Phase 1 labels were approved in 2010.

After December 1, 2012, only soil fumigant products bearing the Phase 2 measures may be sold and distributed by registrants. Distributors and retailers who are not registrants may sell and distribute existing stocks of products bearing Phase 1 labels until their supplies are exhausted. Likewise, growers and applicators may apply products bearing old labels until those supplies have been exhausted.

The newly approved labels are available through the Pesticide Product Label System (PPLS) at www.epa.gov/pesticides/ppls. Visit the Office of Pesticide Programs' Soil Fumigant Toolbox at www.epa.gov/pesticides/reregistration/soil_fumigants/ for more information about soil fumigants and new requirements for their safe use.

A Treatise on Botrytis Diseases of Strawberry and Caneberry - Mark Bolda and Steven Koike, UCCE

November 20, 2012. The following article is a review of a very important disease affecting the strawberry and caneberry industries: gray mold caused by *Botrytis cinerea*.

Causal Organism: *Botrytis cinerea* belongs to the fungal phylum Deuteromycota (sometimes also known as fungi imperfecti) and reproduces by forming asexual spores (conidia). The sexually reproducing stage has not been seen on strawberry or caneberry. The young mycelium of this fungus is septate, branched, and basically colorless. When this fungus is grown on potato dextrose agar, a common medium used to culture fungi, *Botrytis cinerea* is at first white and later turns gray as spores form. The spore producing structures are branched, up to 5 mm tall, and light to dark gray in color. Even under the low magnification of a dissecting microscope, one can readily see the distinctive "botryose" (Greek for bunch of grapes) clusters of spores at the ends of the spore-bearing branches (see sixth picture below).

Symptoms on Fruit: The rot from *Botrytis* is fairly simple to distinguish from the other fruit rots occurring in strawberries and caneberries. Generally, Botrytis rot will start as a light brown to gray spot (see third photo below) without any distinct margin around the affected area. This spot remains firm as it spreads and even a fruit completely rotten with *Botrytis* will retain its original shape. After a few days, if conditions are favorable (temperatures between 59°- 77°F), a brown to gray velvety growth will appear on the surface of the infected fruit.

Disease Cycle: Botrytis fruit infections on the Central Coast generally begin when the spore lands on the strawberry or caneberry flower. Given cooler temperatures and the presence of water, the spore germinates and infects the flower. If conditions are really favorable, the disease will progress in flower tissues and result in blighted blossoms that will no longer develop into fruit. Partial flower infections can cause brown lesions to form on the fruit receptacle; such flowers will not produce normal, fully developed fruit. In other cases the flower-invading *Botrytis* can become dormant and will not resume growing until fruit sugar content is more amenable for growth, at which point the disease will become evident from the brown lesion and subsequent gray velvety growth that occurs on the ripening fruit. If conditions become unfavorable for further disease development, *Botrytis* growth will stop and the lesion will become dry and leathery.

Because *Botrytis* is an aggressive colonizer of plant wounds, direct infection of the fruit can also occur if the fruit is injured from physical abrasion (rubbing caused by winds, for example), insect feeding, environmental extremes, other diseases, and other factors. Mature, ripe fruit are especially susceptible to infection because of their high sugar content and sensitive tissues. For this reason, *Botrytis* is an important component of post-harvest fruit losses.

Epidemiology: *Botrytis* spores (primary inoculum) are everywhere. The fungus grows well on senescent, dead tissues (old, dead strawberry stems and leaves; crop residues of other adjacent crops). Spores are blown by winds or splashed by rains onto flower and fruit tissues. It is important to note that the presence of free moisture for several consecutive hours is necessary for spore germination. Therefore, development of gray mold disease is greatest in cool and wet conditions, such as rain and the fog commonly experienced here on the Central Coast.

Control: Growers and managers should take a threefold approach to managing Botrytis gray mold in the field.

Fungicides: There is a substantial universe of fungicides available for the management of gray mold in strawberries and caneberries and a decent listing of these materials is available at the UC IPM website (<http://www.ipm.ucdavis.edu/PMG/crops-agriculture.html>). The key point for disease managers is to apply fungicides BEFORE major moisture events. As emphasized above, *Botrytis* spores need free moisture to germinate; therefore fungicides, which mostly act as protectants, should be in place before the occurrence of humidity and free moisture from rain or heavy fog. It is worth noting that the use of surfactants, which serve to better distribute fungicides over the plant surface as well as stabilize them, is strongly recommended with fungicide applications.

Sanitation: Removal of infected fruit from around the plant during the harvest season is helpful in reducing Botrytis gray mold potential, since each infected fruit produces millions of spores that can move onto nearby flowers and fruit. It is not necessary to remove fruit

completely from the field; deposition of diseased fruit into the furrow and its periodic destruction by foot or machine traffic is sufficient. Additionally, removal of dead leaves on occasion can be of benefit because it removes another potential source of inoculum while at the same time maintaining more air circulation around the plant and keeping it drier.

Moisture management: Knowing that free moisture is critical to development of *Botrytis* grey mold gives managers a key tool in limiting development of this disease. For strawberries, planting so as to account for expected plant size and allowing for more air circulation is one step. It is worth noting that transplants can be chilled with an eye to managing plant size; short day varieties such as Chandler and Camarosa should not be chilled more than three days for most situations, and day neutral varieties such as Albion, San Andreas or Monterey generally should not be chilled more than 18 days. The use of drip irrigation, a universal practice in California, is essential for preventing irrigation water from contributing to favorable conditions for gray mold disease.

The use of macro-tunnels (also called high tunnels or Spanish tunnels) in caneberries results in a tremendous reduction of free moisture from rain or dew and a very real drop in the amount of gray mold disease to the extent that fungicide applications for *Botrytis* might be dispensed with entirely. There is no bigger step a caneberry grower can take to reduce *Botrytis* gray mold in their crop than to construct a macro-tunnel over it.

Before using any fungicide products, check with your local Agricultural Commissioner's Office and consult product labels for current status of product registration, restrictions, and use information.



Botrytis cultures grown with light (left) and in complete darkness (right). Photo courtesy Steven Koike, UCCE



Gray mold lesions on calyces of developing fruit. Photo courtesy Steven Koike, UCCE.



Early gray mold lesion on strawberry fruit. Photo courtesy Steven Koike, UCCE.



Extensive Botrytis sporulation on advanced gray mold of strawberry fruit. Photo courtesy Steven Koike, UCCE.



Botrytis infection on blackberry fruit. Fruit is desiccated and dried out. Photo Mark Bolda, UCCE Santa Cruz County.



Clustered spores of *Botrytis cinerea*. Photo courtesy Steven Koike, UCCE.

(Reprinted from: http://ucanr.edu/blogs/strawberries_caneberries/)

Spraying Insecticide? There's an App for That!



Two new apps developed by ARS scientists in College Station, Texas, are now available to provide aerial and ground-based crews with specifics on best choices—from airspeed to type of sprayer to nozzle type—for applying pesticides. The apps can be used on smartphones or tablets. (D2697-1)

Applying pesticides is no simple task. With dozens of manufacturers producing dozens of different types of spray technology—each with its own nozzle type, flow rate, and pressure setting range—the equipment can get pretty complicated. Adjusting equipment to the right settings can involve factoring in wind speed, air temperature, flight speed, and humidity.

[Agricultural Research Service](#) scientists in Texas have released two new applications, or “apps,” to make things easier. The apps, developed by Brad Fritz and Clint Hoffmann, who are with the Areawide Pest Management Research Unit’s Aerial Application Technology group in College Station, will ensure that aerial and ground-based crews that spray pesticides have the best guidance possible before they spray. Users key in specifics on the type of equipment and pesticide they are using. The app displays the droplet size that will result from that setup and allows users to tweak settings to generate the desired droplet size.

The apps are designed to tap into the increasing use of smartphones and tablets. The National Agricultural Aviation Association found that more than half of the aerial applicators who responded to a recent survey reported using smartphones as their primary mobile device. The survey found an even split between Androids and iPhones, and the apps can be used on either device, Fritz says. “We have all this good data available, and we wanted to provide a convenient, easy-to-use platform that provides the data to the applicators that need it,” he says.

The apps incorporate the latest science of spray technology, including “spray nozzle atomization” models developed by ARS at College Station. The apps can be accessed from the field or from the cabin of a small aircraft, and they allow users to save data for later use or e-mail it to colleagues.

One app is designed for ground-based spraying for mosquitoes and other threats to public health. It covers 60 different sprayers made by 19 manufacturers and was developed jointly with the U.S. Department of Defense’s Navy Entomology Center of Excellence in Jacksonville, Florida. The ultra-low-volume sprayers and foggers range from hand-held and backpack types to ones mounted on all-terrain vehicles and trucks.

This public-health project was funded by the Deployed War-Fighter Protection program, which is administered by the Armed Forces Pest Management Board. The board funds ARS efforts to develop methods to protect military personnel from insect-transmitted diseases. (See story on "[DWFP: A Battle Plan To Protect U.S. Troops From Harmful Insects](#)" in this issue.)

The aerial spray app walks users through the process of adjusting nozzles and settings. The user specifies the nozzle manufacturer from a menu and is then steered through a series of screens and prompts. Based on the specific operating conditions, the app helps the user select the right size nozzle opening, spray pressure, nozzle orientation, and airspeed so that pesticides are delivered at the desired droplet sizes. Droplet size is critical in aerial operations to ensure accuracy, minimize pesticide drift, and ensure product label compliance with many agrochemical products. The app includes data on 10 fixed-wing spray nozzles and 8 rotary-wing nozzles. Fixed-wing models cover airspeeds from 100 to 160 mph, while rotary-wing models cover 30 to 100 mph.

The apps are available online through the Apple iTunes App Store and the Android Market by searching for "Aerial Sprays" for the aerial application app and "Vector Sprays" for the ground-based sprayer app.—By [Dennis O'Brien](#), Agricultural Research Service Information Staff.

This research is part of Crop Protection and Quarantine (#304) and Crop Production (#305), two ARS national programs described at www.nps.ars.usda.gov.

The Importance of Reading the Pesticide Label

December 12, 2012. A person applying a pesticide to their land was recently fined for spray drift that damaged desirable shrubs and garden crops on a neighboring property. In two other recent cases, individuals were fined for improper pesticide storage and illegal disposal of pesticide containers. Each of these cases had one thing in common: a failure to follow the pesticide label.

"The pesticide label is not something you can glance through or read once and commit to memory," says Jack Peterson, associate director, Environmental Services Division, Arizona Department of Agriculture. "It is a legal document, and any use inconsistent with the label is a federal and state offense."

There are countless good reasons for reading and following the label and having it immediately accessible. Here are some of the unfortunate (and illegal) consequences that can happen when you don't:

1. **You may apply the wrong product...or the right product at the wrong rate.** Various brands and packaging can look similar, but the products may be very different – containing different active ingredients or concentrations. Make sure the product contains the desired active ingredient(s), and use the application rate the label specifies. The rate will vary based on the specific concentration(s) of the active ingredient(s) found in the product.
2. **You won't know if the label has changed since the last time you purchased the product.** Labels can change at any time, so read the label each time you buy a product, and every time you use it, even if you think you know the product well.
3. **The site you are treating might not be on the label.** "Sites" include everything from specific crops, turf species and ornamentals to foundations, indoor surfaces, and pets. There are important reasons a product cannot be applied on certain sites – for example, it may injure certain plants, pose toxicity concerns to people, result in unacceptable pesticide residues on food or feed crops, or lack sufficient research data.
4. **You might apply a product that doesn't control your pest(s).** It is not enough to know the product type (herbicide, insecticide, fungicide, etc.); you must also look at what weeds, insects, diseases or other pests are on the label, and know what pests you have.
5. **You might mix products that are incompatible.** The label may tell you if certain products can or cannot be mixed, and how to test for compatibility of products that are not listed on the label.
6. **You might make the application at the wrong time, in the wrong place, or too often.** Many herbicides, for example, will not control weeds that are too large. Pests that are in the soil may require different product placement than pests on leaves. Insecticides and fungicides often indicate a maximum number of applications and minimum interval between applications.
7. **You won't understand the toxicity concerns associated with the product.** The label contains a Caution, Warning or Danger signal word, which is based on the acute (single exposure) toxicity of the formulated product. The signal word reflects the most toxic category resulting from dermal, oral, inhalation or eye contact. Caution indicates that the pesticide formulation is slightly toxic by any of these four ways of contact. Warning indicates that at least one of the ways of contact is moderately toxic. Danger indicates that at least one of the ways of contact is highly toxic.
8. **You will not know the required personal protective equipment (PPE).** If the label states that certain PPE is required (for example, a particular respirator or glove type), you are breaking the law and putting yourself at risk if you don't wear the PPE for the specified task. If you are an employer and your employees are applying pesticides as part of their job, you must follow all appropriate laws concerning their use of PPE as well.
9. **If you are accidentally exposed to the product, you won't know what to do and might not have the needed supplies on hand.** The First Aid section of the label (found under the heading Statement of Practical Treatment) indicates what to do for different types of exposure. You also need the label readily available so you can answer questions from emergency personnel. Do not wait until you have symptoms if the label indicates that immediate medical attention is required.

10. **You won't understand the possible hazards to people, pets and the environment (air, water, soil or wildlife), and whether the pesticide may pose any fire, explosion or chemical hazards.** If any of these hazards exist, they will be clearly indicated in the Precautionary Statements on the label.
11. **You will be unaware of other critical information.** The label contains a wealth of information, which varies depending on the product. Some examples are: when not to treat (wet surfaces, presence of pollinators); what to avoid (spray drift, surface runoff); and how long to wait (before entering the treated area, planting certain species into treated soil, or harvesting a crop for food or feed).
12. **You won't know how to store and dispose of the product.** Pesticide labels will often indicate temperature requirements, security needs and what should not be stored with the product (food, feed, seed, etc.) The Disposal section of the label will often address how to clean an "empty" container, and disposal options for containers, unwanted product and anything contaminated by the pesticide.

If you still have questions after reading the label, call the pesticide manufacturer, your [Cooperative Extension Service](#) or your [State Pesticide Regulatory Agency](#). Some web resources are listed below.

This is the fourth in a series on pesticide stewardship sponsored by the Weed Science Society of America.

Some Resources on Reading the Pesticide Label

- <http://www.clemson.edu/extension/hgic/pests/pesticide/hgic2750.html>, Clemson University
- http://www.msue.msu.edu/objects/content_revision/download.cfm/revision_id.498920/workspace_id.-4/01500584.html/, Michigan State University
- <http://www.pesticidestewardship.org/HowToReadTheLabel/Pages/default.aspx>, The Pesticide Environmental Stewardship (PES) website
- http://www.pesticide.umd.edu/products/leaflet_series/leaflets/pil28.pdf, University of Maryland
- <http://pep.wsu.edu/factsheet/understanding.htm>, Washington State University

Three Leading Scientific Societies take an Objective Look at the Issues Associated with "Least Toxic Pesticides Applied as a "Last Resort"

Recommendations and decisions to use "least toxic pesticides" and "pesticides as a last resort" have flourished in the last decade, but according to three scientific organizations – the Weed Science Society of America (WSSA), the American Phytopathological Society (APS) and the Plant-Insect Ecosystems Section of the Entomological Society of America (P-IE ESA) – these are not the correct approaches to the pesticide component of an Integrated Pest Management (IPM) program.

The three organizations have joined to take an objective look at the problems associated with "least toxic pesticides" applied as a "last resort" and today issued the following statement:

IPM is Fundamental Wherever Pests Must Be Controlled

It is essential to practice IPM, whether managing weeds, insect pests or plant diseases — on the farm, on commercial sites, on public lands, or in or around the home. Key components of IPM include making the habitat unfavorable for pests, excluding pests where feasible, using proper sanitation practices, monitoring the infestation level, knowing the pest tolerance level for the specific situation and implementing the necessary management practices.

Judicious use of pesticides is a critical component of many IPM programs. Judicious (careful) use refers to various practices — following all label directions and making all appropriate stewardship decisions required in the particular situation. This includes applying a product registered for the target pest(s) *after* accurate pest identification, and consideration of the level of infestation and the potential for economic, health or other negative pest impacts. Careful use extends beyond pesticides to household chemicals, automobiles, medicines, alcoholic beverages, and countless other products that are part of our daily lives.

The Problem with Selecting Only "Least Toxic Pesticides"

- "Least toxic" implies there are pesticides available for every pest spectrum that are least toxic to everything else. This is not true. The toxicity of a pesticide depends on what is being evaluated — short-term or long-term toxicity — and who or what may be affected (e.g. applicators, farmworkers, livestock, wildlife, pets, birds, fish, beneficial insects, earthworms, sediment-dwelling organisms, crops). It is also important to remember that toxicity is not the same as risk, which is dependent on both toxicity and exposure.
- The risk associated with the use of pesticides and other chemicals is managed by establishing safe exposure levels based on the toxicity specific to each product. Assigning a "most" or "least" toxic rating does not equate to actual risk when the product is **properly** applied. For example, the label of a pesticide product that may cause skin irritation will also contain requirements for personal protective equipment that safeguards the skin, while a product that may affect fish will contain use directions, precautions and possibly even restrictions intended to protect fish. This is why the EPA-approved label instructions **must** be followed.

- All pesticides — including those referred to as "least toxic," "organic" and "natural" — are toxic to one or more pests and possibly humans and other organisms as well. Use of these terms can lead to false security regarding the need for careful handling of pesticides and proper environmental stewardship.
- Over-reliance on a "least toxic" pesticide can cause new problems. For example, glyphosate is considered a "least toxic" herbicide choice, but overreliance on it has led to significant weed resistance problems. Over-use or misuse of **any** pest management tactic can cause problems — for example, cultivation to control weeds on hilly land can cause soil erosion, and excessive hand-hoeing can cause back injuries and increase the risk of skin cancer.
- Often, "least toxic" products do not work as well on the pest(s), leading to the need for re-treatment with another pesticide on larger and/or harder-to-control pest infestations. This can result in higher costs, reduced control and undesirable environmental effects attributable to the pest.

The Problem with Using Pesticides Only "As a Last Resort"

- "Last resort" implies that pesticides will work as well when every non-chemical control technique is attempted first. However, delaying application of a pesticide can cause buildup of the pest(s) in crops, gardens, buildings and other sites, with negative impacts on yield, quality and/or health. In fact, delaying treatment can significantly increase the ecological and economic damage to crop and non-crop areas.
- Using pesticides as the last line of defense can result in a more limited choice of pesticides, as well as reduced crop tolerance, the need for higher rates, and less effective control because of higher infestation levels and/or more tolerant pest stages. For example, seedling weeds and early-stage insect larvae and diseases are usually more easily controlled than later pest stages.
- Effective pesticide choices, when they are applied as a "last resort," means fewer options to rotate pesticides, which is a critical step in preventing a pest from becoming resistant to a pesticide. "Last resort" pesticide strategies may also increase the need for multiple products and higher application rates to control the pest effectively.
- "Last resort" suggests pesticides are always the worst choice, which is not true. First using non-chemical techniques that are ineffective or inefficient has the potential to add to the cost of pest management, intensify the pest problem or create new problems.
- Branding pesticides as the "last resort" choice certainly does not stimulate a strong public interest in funding education on their proper use. Pesticides are widely used, but discretionary federal funding of the [U.S. Pesticide Safety Education Program](#) has been eliminated in 2011 and 2012. This program is vital to educate pesticide users and dealers who must be certified to apply or sell pesticides, and to teach the public how to use pesticides safely.

There is no benefit or scientific basis to simplistic messages like "use least toxic pesticides as a last resort" for the large number of pesticide users who apply pesticides according to the label and practice good stewardship. Nor are these messages beneficial for those who neither seek training nor adequately read the label — believing instead that it is safe, practical, and effective to simply choose a product considered a "least toxic pesticide" and apply it only as a "last resort." These messages hinder pesticide safety and stewardship education and practices that are in the best interest of the pesticide user, our food supply, public health and ecosystem preservation.

The WSSA, APS and P-IE ESA do not promote the use of pesticides above other pest management techniques. Pesticides should ONLY be used when needed, when risks to non-target organisms and habitats have been carefully considered, and when diligent attention will be given to following all label directions and other applicable laws. In addition, general and product-specific stewardship must always be practiced to prevent undesired effects under the particular application conditions.

Pesticides are an important component of many IPM programs for a variety of reasons. A fungicide, for example, may prevent disease, have curative effects, induce plant resistance to disease or promote plant health and yield. The most important message is to follow the label — the entire label, including all safety and other precautions — and practice good stewardship. Suggesting that only "least toxic pesticides" be used, as a "last resort," ignores the extensive research, regulatory, educational and stewardship efforts that make important pesticide tools available and define their proper and safe use in Integrated Pest Management programs.

Societies Renew Their Endorsement of IPM Definition in USDA "National Road Map for Integrated Pest Management"

No pest management-related term has been defined in so many different ways as "Integrated Pest Management." WSSA, APS and P-IE ESA strongly oppose a non-scientific approach to IPM and re-endorse the USDA National Road Map definition:

"Integrated Pest Management, or IPM, is a long-standing, science-based, decision-making process that identifies and reduces risks from pests and pest management related strategies. It coordinates the use of pest biology, environmental information and available technology to prevent unacceptable levels of pest damage by the most economical means, while posing the least possible risk to people, property, resources and the environment. IPM provides an effective strategy for managing pests in all arenas, from developed agricultural, residential, and public areas to wild lands. IPM serves as an umbrella to provide an effective, all encompassing, low-risk approach to protect resources and people from pests." [USDA National Road Map for Integrated Pest Management](#)

[Real examples](#) of the risks when pesticides are used only as a "last resort" and the benefits of using appropriately timed pesticides as part of an integrated pest management program, as well as [common questions and answers](#), are available online.

About the Weed Science Society of America:

The Weed Science Society of America, a nonprofit scientific society, was founded in 1956 to encourage and promote the development of knowledge concerning weeds and their impact on the environment. The Weed Science Society of America promotes research, education and extension outreach activities related to weeds, provides science-based information to the public and policy makers, fosters awareness of weeds and their impact on managed and natural ecosystems, and promotes cooperation among weed science organizations across the nation and around the world. For more information, visit www.wssa.net



About the American Phytopathological Society:

The American Phytopathological Society (APS) is a nonprofit, professional scientific organization. The research of the organization's more than 5,000 worldwide members advances the understanding of the science of plant pathology and its application to plant health. For more information, visit www.apsnet.org.



Healthy Plants • Healthy World

About the Entomological Society of America

The Entomological Society of America (ESA) is the largest organization in the world serving the professional and scientific needs of entomologists and people in related disciplines. Founded in 1889, ESA today has more than 6,000 members affiliated with educational institutions, health agencies, private industry and government. Members are researchers, teachers, extension service personnel, administrators, marketing representatives, research technicians, consultants, students and hobbyists. For more information, visit www.entsoc.org.



Questions or comments about the New York Berry News?

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