Cornell University
College of Agriculture and Life Sciences

New York Berry News

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Errata: The recent NYBN Fruit Rot Management Special Edition had the composition of Badge X2 listed in error. The components are copper oxychloride and copper hydroxide instead of copper octanoate.

Events Calendar

August 1, 2013 - *2013 Cornell Fruit Field Day*, NYSAES, Geneva, NY. Details follow below.

August 13-14, 2013 – *North American Strawberry Growers Association Annual Summer Tour.* Vermont. Save the dates! Details to follow.

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.

December 10-12, 2013. *Great Lakes Fruit, Vegetable and Farm Market EXPO and Michigan Greenhouse Growers Expo*. More information: http://www.glexpo.com/.

December 17-19, 2013. *New England Vegetable and Fruit Conference*. More Information: http://www.newenglandvfc.org/**.**

June 18-25, 2015 – 11th International Rubus & Ribes Symposium, in Asheville, NC, June 21-25, with preconference tour to farms and research sites June 18-20. More info to come. If you are interested in being a sponsor of this event, contact gina_fernandez@ncsu.edu.

Keep Tabs on Spotted Wing Drosophila at New SWD Blog – *Juliet Carroll, NYS IPM Program*

Damage to fruit by spotted wing drosophila (SWD) — an introduced pest from East Asia — is expected to increase this season. In response, Cornell researchers and extension educators have trap network covering some 30 counties around the state to keep tabs on the pest.

Growers and gardeners who want to stay up-to-date on the latest SWD monitoring, management options and more, can visit the new Spotted Wing Drosophila blog, managed by Juliet Carroll, Fruit IPM Coordinator for the New York State IPM Program. *Left: SWD male. Note spot on each wing.*

The crops at highest risk for SWD infestation include fall raspberries, blackberries, and blueberries. June-bearing strawberries may escape injury, but late summer fruit or day-neutral varieties may suffer damage. Cherries, both tart and sweet, elderberries, and peaches are also susceptible. Thin-skinned grapes can be infested directly, though cracked or damaged berries are more susceptible.

For more information:

- Cornell Fruit Resources SWD page
- Chemical Control of Spotted Wing Drosophila in Berry Crops – For commercial growers.
- How do I manage Spotted Wing Drosophila (SWD) in my garden? – For home gardeners

From the blog:

Orange County, NY first report – five SWD found

June, 17, 2013. 4 female and 1 male SWD were collected from two apple cider vinegar traps in Orange County, NY and identified by Peter Jentsch, entomologist, Hudson Valley Laboratory, Cornell University. The male was caught in the trap on the wooded edge, the females

were caught in traps placed in a raspberry planting with fruit starting to show color. Fruit will be collected on June 21 and assessed for SWD injury level. (Accumulated GDD 640, day length 15:05)

NY State first report – one SWD found in Ontario County

June 14, 2013. The first reported SWD has been found in the NY trap network – one female in Ontario County. The trap was collected June 11, 2013 and is part of Greg Loeb's trap network. The NY trap network consists of ~230 traps. As of today, no other trap locations have caught SWD, so this find represents ~0.4% of traps catching SWD. The trap consisted of a bait cup containing whole wheat fermenting dough floating in a drowning solution of (9 parts) apple cider vinegar, (1 part) ethanol, (drop) soap in a clear deli cup. The trap was set a few feet into the wooded edge of a blueberry field. Blueberries in Western NY are starting to color – green with a hint of pink/purple. (554 accumulated GDD, day length 15:14)

A female spotted wing drosophila (SWD), serrated ovipositor in the inset. This particular female was collected in 2011 and sent to USDA SEL for confirmation by Faruque Zaman and Dan Gilrein, Suffolk County Cornell Cooperative Extension, Long Island Horticultural Research and Extension Lab. She was the first officially confirmed SWD from NY in 2011.

Cornell Fruit Field Day to be held Aug 1st

June 4, 2013.GENEVA, NY: Cornell University will host the 2013 Fruit Field Day at the New York State Agricultural Experiment Station in Geneva, NY, on Thursday, August 1st, from 8:00 a.m. to 5:00 p.m. The field day will be composed of two concurrent day-long tours, one of tree fruit presentations and another tour of grapes, hops and small fruit presentations.

Fruit growers, consultants, and industry personnel are invited to tour field plots and learn about the latest research and extension efforts being carried out by Cornell researchers in Geneva and Ithaca and on commercial farms around the state. The event will focus on all commodities of key importance to New York's $350 million fruit industry: apples, grapes, cherries, raspberries, strawberries, blueberries and other berry crops.

During lunch, equipment dealers and representatives from various companies will showcase their latest products and technologies to improve fruit crop production and protection.

The list of presentations will include the following topics:

Berries/Grapes/Hops Tour
Soil and root factors in improved blueberry productivity; Mass trapping and exclusion tactics to control Spotted Wing Drosophila in organic blueberries; Limiting bird damage to small fruit crops; SWD trap network in NY; Day-neutral strawberries and low tunnel production; SWD, a new threat to strawberries and raspberries in NY; Enhancing pollination and biological control in strawberries; Training systems for

Arandell; New hops variety trial and pest management trials; Biology and control of sour rot in grapes; Precision spraying in the vineyard; High tunnel raspberry and blackberry production; A fixed-spray system for SWD control in high tunnel raspberries

Tree Fruit Tour
Apple breeding at Cornell and new varieties in the pipeline; Precision apple thinning; Apple mechanization; Tall Spindle management in years 1-6; Spray volume for Tall Spindles; Precision spraying in the orchard; Fruit russet control on NY1; CG rootstocks; Nutrient removal by fruit harvest and maintenance application of fertilizers; Impacts of glyphosate on apple tree health; Evaluation of bactericide programs for fire blight management; Persistent NY nematodes for plum curculio biocontrol; Peach rootstocks; Rain protection in cherries; Pear systems and rootstocks; Organic apple production trials; Apple scab management in a fungicide-resistant orchard

The event will be held on the Experiment Station's Fruit and Vegetable Research Farm South, 1097 County Road No. 4, one mile west of Pre-emption Road in Geneva, NY. Signs will be posted. Attendees will travel by bus to the research plots to hear presentations by researchers on the work being conducted. The cost of registration is $30 per person ($40 for walk-ins) for all-day attendance. Lunch will be provided.

For more information: http://cornell.localist.com/event/fruit_field_day. Pre-registration is required for the $30 rate, register on-line at: http://is.gd/ffd2013. For sponsorship and exhibitor information, contact Debbie Breth at 585-798-4265 or dib1@cornell.edu.

National Strawberry Sustainability Initiative Grant Awards

Division of Agriculture awards grants to projects for strawberry sustainability, seeks to expand and improve production

May 29, 2013. Fayetteville, Ark. – Projects from several states and $2.64 million in grants will add up to more sustainable strawberries for U.S. consumers, the University of Arkansas System Division of Agriculture's Center for Agricultural and Rural Sustainability (CARS) announced Wednesday, May 29, during the last week of National Strawberry Month.

The grant awards are part of a $3 million donation made in February by the Walmart Foundation to the Division of Agriculture. The competitive grants program, administered by CARS, attracted 56 proposals from agricultural research and extension personnel at land-grant public universities in 29 states.

As part of the National Strawberry Sustainability Initiative grant recipients will have 12 months to complete their projects. CARS will release the project reports in September 2014.

"This grant project seeks to move the science and technology for alternative strawberry production systems and areas away from laboratories and experiment farms into the producers' fields," said Curt Rom, professor of horticulture in the Division of Agriculture and member of the CARS leadership team.

"The goal is to increase local and regional production of strawberries, to reduce the environmental impact of production, to reduce transportation distances between farms and markets or consumers, to reduce product loss in the supply-value chain and improve the environmental and economic sustainability of the production system. It will make significant local and regional impacts," Rom said. "Upon completion of these projects, we will have a foundation for improving the sustainability of the U.S. strawberry production system through the supply chain, from growers to consumers."

The following projects and team leaders were selected for grant funding support:

• Brian Whipker, North Carolina State University, "Strawberry Diagnostics: A Problem Solving Tool." The project will create a web-based interactive diagnostic key that strawberry growers can access via their computer, tablet or smart phone. This key will be useful for growers of outdoor and indoor strawberries and will have application for all parts of the United States.

• Michelle Schroeder-Moreno, North Carolina State University, "Sustainable Soil Management Practices for Strawberries: Evaluation of Individual and Integrated Approaches." The project will generate information regarding the impact of compost, cover crops, and soil inoculants on strawberry production. How these additions influence marketable fruit yield will lead to improved soil management recommendations for how strawberries can be produced sustainably.

• Chieri Kubota, University of Arizona, "Sustainable Off-Season Production of High-Quality Hydroponic Strawberry in Desert Southwest." The project's goal is to establish sustainable off-season hydroponic strawberry production in the desert Southwest where there is practically no commercial production of strawberries, but there are strong greenhouse industries. This greenhouse industry is experiencing increasing pressure for product diversification due to the aggressive price competition for tomatoes.

• Ganti Murthy, Oregon State University, “Creating Life Cycle Inventory Datasets to Support Meaningful and Constructive Strawberry Production Sustainability Metrics.” The project’s results will have lasting impacts on the industry by disseminating environmental data and metrics that can be used for continuous improvement in strawberry production and ensuring international market access for strawberry products with information that fairly and accurately represents United States agriculture.

• Ruijun Qin, University of California, “Optimizing Fumigation Rate, Application Depth, and Plastic Mulch Use for Strawberry Production in Raised-Bed Systems.” The goal of the project is to develop effective field fumigation strategies including application depths and rates under three films for increased fumigation efficiency, improved pest control, high strawberry yield and reduced fumigant input.

• Ellen Paparozzi, University of Nebraska-Lincoln, “Winter Production of Nebraska Strawberries: An Idea Whose Time Has Come.” The university’s strawberry team has developed low cost, sustainable methods for growers to produce strawberries in a winter greenhouse. The team is proposing an experimental project to develop and compare a real-time, commercial strawberry production system with a scientifically monitored prototype production system.

• Suping Zhou, Tennessee State University, “Developing the Logistics for Producing Human Pathogen-free Organic Strawberries in the State of Tennessee.” Outcomes of this project include promoting organic strawberry production by setting up demonstration farms in four major strawberry counties in Middle Tennessee, developing a safe production and consumption environment for fresh strawberries by defining the status of potential human pathogen contamination, and developing an easy-to-use tool to detect human pathogens on fresh strawberries.

• Cary Rivard, Kansas State University, “Development and Adoption of Annual, Plasticulture Strawberry Production in the Great Plains.” The project’s goal is to design a production system that is less prone to crop failures, provides a more stable income stream, and encourages new growers to enter the industry. It will also develop knowledge related to frost protection and provide an alternative to overhead irrigation for frost protection, which is costly and uses valuable water and fuel resources.

• Jeffrey Brecht, University of Florida, “Reducing Strawberry Waste and Losses in the Postharvest Supply Chain via Intelligent Distribution Management.” The team will conduct in-store consumer evaluations to document how likely consumers will be to purchase strawberries from various lot and handling scenarios. The team expects to show that a distribution system based on quality and projected shelf life compared to current practice will lead to less post-harvest loss and greater customer satisfaction.

• Oleg Daugovish, University of California Cooperative Extension, “Placement of Additional Drip Lines to Enhance Soil Fumigation and Irrigation Efficiency and Minimize Environmental Impacts.” Previous research has shown that doubling the number of drip lines with proper placement can significantly improve fumigation efficacy, establish plants with less water use and eliminate runoff and associated environmental pollution. The team will demonstrate how drip line management can save water, reduce fumigant use, prevent runoff, decrease pollution, and improve pathogen and weed management.

• Thomas Gordon, University of California at Davis, “Sustainable Strawberry Production in the Absence of Soil Fumigation.” The purpose of this project is to evaluate a wide range of strawberry cultivars and the use of compost in non-fumigated soil in three different California geographic regions. The performance of strawberry cultivars will be evaluated by measuring yield and fungal damage. The results of this project will help to guide growers in selection of cultivars and the use of compost to optimize production.

• Emily Hoover, University of Minnesota, “Development of a Comprehensive, Engaging E-Learning Tool for Strawberry Farmers.” The team plans to develop an e-learning tool that will expand strawberry production using interactive multimedia to educate farmers on season extension and the use of June-bearing cultivars. The team will introduce innovative marketing techniques and resources to ensure locally-grown strawberries reach as many consumers as possible. This tool will be optimized for desktop and mobile devices, using some of the latest techniques in easy-to-use, engaging web-based educational programming.

• Elena Garcia, University of Arkansas System Division of Agriculture Cooperative Extension Service, “Revitalizing Strawberry Production in Arkansas and the Surrounding Region via Extended Season Production Systems.” The project team will demonstrate the practical application of technologies and methods in three Arkansas locations and conduct outreach activities for commercial and potential growers, county extension agents, agricultural professionals and Master Gardeners. Participation in these activities will provide a greater awareness of sustainable practices, risks associated with food safety and the economics of different season extension systems and cultural practices.

• Peter Nitzsche, Rutgers Cooperative Extension, “Improved Variety Selection and Sustainability of Strawberries for the Eastern United States.” This project has the potential to expedite the evaluation of strawberry breeding selections by utilizing farmer and consumer input to provide for a more rapid release and commercialization of improved cultivars for eastern U.S. growers and consumers. This project will test larger scale propagation and distribution of advanced selections, with goals of increasing production, improving profitability of local farms, and increasing the availability of high quality fruit.

• Jeremy Pattison, North Carolina State University, "Strawberry Grower Education and Adoption of Research Innovations: Technology Transfer of Production Recommendations." The team has developed a fall growing degree day (GDD) model that is ready for industry transfer to be used by strawberry growers to maximize yields and stabilize variation across years and locations. It plans to launch a technology transfer phase to engage growers and extension agents across North Carolina, South Carolina and Virginia to test and validate the GDD model.

• Carlene Chase, University of Florida, "Organic Open-field and High Tunnel Strawberry Cropping Systems for Long-term Viability of the Southeastern Industry." The project will develop open-field and high tunnel organic strawberry cropping systems that are more environmentally and economically sustainable and are resilient to weeds, pests, and diseases. The team will select and promote strawberry cultivars specifically for organic systems and determine consumer preference and willingness to pay for strawberries with different sustainability attributes.

• Russell Wallace, Texas A&M AgriLife Extension, "Revitalization of Texas Strawberry Industry Through Identification of Production Constraints and Introduction of New Technologies." The project will launch a statewide collaborative effort to address grower, retailer and consumer concerns through extension programming and a series of surveys and research. The team will coalesce these efforts into a sustainable production booklet to enhance production within Texas. This project will provide opportunities for multiple, regionally-based strawberry production conferences and trainings that will inform and demonstrate sustainable production techniques.

• Leonard Githinji, University of Arkansas at Pine Bluff, "Establishing and Expanding Sustainable Strawberry Production in Eastern Arkansas and Surrounding Areas." Extensive outreach and education including hands-on exercises and demonstrations on sustainable strawberry production will be conducted across the Delta region of Arkansas . Project activities will include five sustainable strawberry production workshops and the creation of three demonstration sites with high tunnels, row covers, plastic mulch, and drip irrigation systems.

Strawberries rank as the fifth most popular consumed fresh fruit product in the U.S., which produces 27 percent of the world supply. California and Florida currently account for 98 percent of the nation's strawberry production.

CARS is composed of Division of Agriculture faculty from multiple disciplines and focuses on enhancing economic, social and ecological prosperity for rural communities around the world. Established in 2007, CARS's work includes developing tools for farmers in the U.S. and around the world that can predict greenhouse gas impacts in livestock operations, researching and teaching production methods that improve water quality and quantity, and enabling farms to provide healthy and safe produce.

Additional information about the projects is available at the National Strawberry Sustainability Initiative website at http://strawberry.uark.edu.

AG NEWS

Learn How to Sell Fruits and Vegetables to the USDA

June 27, 2013, 2:00 – 3:00 p.m. Eastern Time

On Thursday, June 27, 2013 at 2:00 p.m. Eastern Time, the U.S. Department of Agriculture will present a free interactive webinar, "How to Sell Fruits and Vegetables to the USDA."

Each year, USDA's Agricultural Marketing Service (AMS) buys over $530 million and 1.1 billion pounds of frozen, processed, and fresh fruits and vegetables. This healthy, American grown and processed product helps feed millions of school children and is also distributed to food banks, disaster areas, and elsewhere it is needed.

Visit the Commodity Procurement website, www.ams.usda.gov/commoditypurchasing to see what products AMS buys. Then tune in to this webinar to learn everything you need to get started selling your products to USDA.

Sara Hernandez of the AMS's Commodity Procurement Staff will:

- introduce you to the USDA Commodity Procurement program,
- discuss the types of products USDA buys,
- outline the requirements for selling to USDA, as well as the solicitation and awards processes,
- provide information about contracting opportunities for small, socially disadvantaged, women- and veteran-owned businesses, and
- give you all of the tools and resources you need to do business with USDA.

Following Sara's formal presentation, the webinar will conclude with an interactive question and answer session.

This informative webinar is designed for fruit and vegetable growers, processors and distributors of all sizes. The webinar is free and available to anyone with Internet access. However, registration is required and space is limited. Visit http://bit.ly/145Arm2 to register today!

We will host webinars on more AMS programs and services throughout the year. To view previous webinars online, visit our Webinar Archive. If you have any questions about AMS or our webinars, please contact Christopher Purdy at (202) 720-3209 or christopher.purdy@ams.usda.gov.

Vilsack Outlines Vision for Agricultural Solutions to Environmental Challenges

Regional Climate Hubs, New Research Tools, Uniform Policy Guidelines Will Help Producers Mitigate Threats, Adapt for the Future

WASHINGTON, June 5, 2013-Agriculture Secretary Tom Vilsack today said that the Federal government must increase collaboration with producers, researchers and industry to develop the next generation of solutions that will help agriculture mitigate and adapt to modern climate challenges.

"Our farmers, ranchers and forest landowners are the most innovative on earth, and they're up to the task of meeting environmental challenges that lay ahead," Vilsack said. "We know what we're seeing on the ground - more intense weather events, and a greater number of them. USDA will be there to support the efforts of our farmers and ranchers to adapt to these new challenges, just as we have been for decades."

Vilsack noted that under the Obama Administration, the U.S. Department of Agriculture (USDA) has taken a wide variety of proactive steps to prepare for climate challenges projected in the years ahead. This includes the development of Climate Adaptation Plans by USDA agencies to continue delivering quality service in the years and decades to come. Additionally, earlier this year, USDA released two Climate Assessments - one focused on the climate impacts to agriculture in the coming years, and a second focused on U.S. forests.

Vilsack stressed the need to work closely with farmers and ranchers who stand "on the front line" of risk adaptation - and he pledged that USDA will take steps to help producers adapt to new threats. He announced a number of new measures that USDA will take to help producers create new climate solutions:

Regional Climate Hubs: USDA will establish seven "Regional Climate Hubs" to work in partnership with producers and foresters. The Secretary called them "Service centers for science-based risk management." Working with other agencies, the hubs will serve as a source of regional data and information for hazard and adaptation planning in the agriculture and forest sectors. The hubs will provide outreach and extension to farmers, ranchers, and forest landowners on science-based risk management and will seek to partner with the land grant universities, Extension, and the private sector.

The seven regional hubs will be established for the Northeast, Midwest, Southeast, Northern Plains, Southern Plains, Pacific Northwest, and Southwest. Each hub will be the center of a network of connected activities and services and will be located in a USDA facility within its region.

Natural Resources Conservation Service (NRCS) Tools Customized for Producers: NRCS will leverage technology and provide technical assistance to agriculture - both by providing new technical tools for researchers, and new tools for farmers and ranchers themselves.

- Vilsack announced the release of the "Carbon Management and Evaluation Tool," also known as COMET-FARM, a free online tool that will help producers calculate how much carbon their conservation actions can remove from the atmosphere. Created by USDA's Natural Resources Conservation Service and Colorado State University, in cooperation with USDA's Climate Change Program Office, COMET-FARM will also help producers calculate and understand how land management decisions impact energy use and carbon emissions. COMET-FARM allows producers to input information about their land using a secure online interface - including location, soil characteristics, tillage and nutrient use. The tool then estimates carbon sequestration and greenhouse gas emission reductions associated with conservation practices for cropland, pasture, rangeland, livestock operations and energy. COMET-FARM is applicable to all agricultural lands in the lower 48 states. The tool is available for use at http://www.comet-farm.com/.

- The Secretary also announced the online release of data collected under the Rapid Carbon Assessment, which will be especially useful for technical experts. This assessment was carried out by NRCS beginning in 2010 to develop statistically reliable quantitative estimates of amounts and distribution of carbon stocks for U.S. soils under various land covers and, to the extent possible, differing agricultural management. Over the course of three years, NRCS collected almost 145,000 samples from 6,000 randomly selected locations.

Uniform, Science-Based Cover Crop Guidelines: USDA agencies have worked together to provide new cover cropping guidelines. In the past, some producers have encountered conflicting cover crop management issues when working with multiple USDA agencies. NRCS, Risk Management Agency (RMA) and Farm Service Agency (FSA) worked together this spring to establish common, science-based guidance on when cover crops should be terminated. The agencies engaged stakeholders, partner universities, and the crop insurance industry to figure out how to make cover crop guidelines straightforward and sensible. Secretary Vilsack announced new guidance for USDA Agencies dealing

with cover crops, using a new model based on local climate data, tillage management and soil information to account for daily crop growth and use of soil moisture. With this information, experts determined the latest possible time to terminate a cover crop to minimize risk to the cash crop yield. RMA, NRCS and FSA will all uniformly refer producers to these guidelines, and will use them to administer programs.

Vilsack noted that the steps being announced today build on previous Obama Administration efforts, including an agreement with the U.S. dairy industry to create anaerobic digesters to create energy and reduce greenhouse gases and pollution, promotion of advanced biofuels development, and projects to increase renewable energy and energy efficiency across rural America.

"By taking collaborative, regionally-appropriate steps today to adapt to threats, USDA can help American agriculture continue its tremendous productivity in the years to come," he said. "We've already worked hard to be proactive and ensure that USDA is prepared for modern environmental challenges - but we can't let up in our efforts."

USDA Seeks Applications for Grants to Support Small-Socially Disadvantaged Producers

WASHINGTON, June 12, 2013 – Agriculture Secretary Tom Vilsack today announced that USDA is seeking applications from cooperatives to provide technical assistance to small, socially disadvantaged agricultural producers in rural areas. The United States Department of Agriculture (USDA) remains focused on carrying out its mission, despite a time of significant budget uncertainty. Today's announcement is one part of the Department's efforts to strengthen the rural economy.

"These grants will jump start small business hiring and help producers in areas facing economic challenges get the tools they need to succeed," Vilsack said. "Small businesses are the engines of job growth and innovation in America."

Funding will be made available through USDA Rural Development's Small, Socially Disadvantaged Producer Grant program (SSDPG). The maximum grant award is $200,000.

The grants assist producers like Frank Taylor who returned home after college and established the Winston County Self-Help Cooperative in Mississippi, a consortium of local farmers that pool their resources to receive training in business development, conservation and health. The Cooperative also has a youth program, which teaches skills to the next generation of Winston County farmers. The Winston County Self-Help Cooperative, whose motto is "Saving Rural America," has received USDA funding to expand operations into the surrounding counties of central Mississippi.

The SSDPG and other USDA business and cooperative development programs have had a significant impact on rural communities. In 2012 alone, they helped almost 10,000 rural small business owners or farmers improve their enterprises. Business and cooperative program funding created or saved an estimated 53,000 rural jobs in 2012.

Eligible applicants include cooperatives, groups of cooperatives, and cooperative development centers where a majority of the governing board or board of directors is comprised of individuals who are members of socially disadvantaged groups. Small, socially disadvantaged producers include farmers, ranchers, loggers, agricultural harvesters, and fishermen that have averaged $250,000 or less in annual gross sales of agricultural products in the last three years. Producers will be able to conduct market research, product and/or service improvement, feasibility studies, training, and implement business plans.

The application deadline for Small, Socially Disadvantaged Producer Grants is July 15, 2013 for paper applications and July 10, 2013 for electronic applications. For additional information on how to apply, see the June 12 Federal Register, page 35239, or visit http://www.rurdev.usda.gov/BCP_SSDPG.html.

President Obama's plan for rural America has brought about historic investment and resulted in stronger rural communities. Under the President's leadership, these investments in housing, community facilities, businesses and infrastructure have empowered rural America to continue leading the way – strengthening America's economy, small towns and rural communities. USDA's investments in rural communities support the rural way of life that stands as the backbone of our American values. President Obama and Agriculture Secretary Vilsack are committed to a smarter use of Federal resources to foster sustainable economic prosperity and ensure the government is a strong partner for businesses, entrepreneurs and working families in rural communities.

USDA, through its Rural Development mission area, has a portfolio of programs designed to improve the economic stability of rural communities, businesses, residents, farmers and ranchers and improve the quality of life in rural America.

USDA has made a concerted effort to deliver results for the American people, even as USDA implements sequestration – the across-the-board budget reductions mandated under terms of the Budget Control Act. USDA has already undertaken historic efforts since 2009 to save more than $828 million in taxpayer funds through targeted, common-sense budget reductions. These reductions have put USDA in a better position to carry out its mission, while implementing sequester budget reductions in a fair manner that causes as little disruption as possible.

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Join Us at the 2013 NASGA Summer Tour

The 2013 NASGA Summer Tour will be based of the Burlington, Vermont. The tour dates will be August 13th and the 14th.

There are two hotels that will be hosting our stays for the tour. For the night before the tour begins; Monday, August 12th, the Courtyard Marriot Williston will be the host hotel. It is located in the Hillside East Office Park, providing easy access to the main activities and points of interest in Burlington. The rooms have sitting areas, mini-refrigerators and free high-speed internet access. The hotel offers a full, hot buffet breakfast daily. There is also a heated indoor pool & whirlpool, as well as a gym to be used at your leisure. The bus will pick you up from the Courtyard Marriot Williston the morning of the first day of the tour. Reservations can be made by calling 802-879-0100, and all guests must reference the group name "**North American Strawberry Growers Association"** to receive the discounted group rate of $135.00. The cut-off date for making reservations at this hotel is July 22, 2013.

On Tuesday August 13th, the Lake Morey Resort will be the host hotel for the night. It is located between the Green and White Mountains about the Connecticut River. It is a beautiful year-round resort, over 100 years old. Lake Morey Resort offers visitors rooms equipped with satellite television, high-speed wireless internet and individual climate control. The bus will pick you up from the Lake Morey Resort the morning of the second day of the tour. Reservations can be made by calling 802-333-4311, and all guests must reference the group name "**North American Strawberry Growers Association"** to receive the discounted group rate of $139.00. The cut-off date for making reservations at this hotel is July 30, 2013.

Day 1 Tuesday August 13th
The first stop on the tour on August 13th will be **River Berry Farm.** River Berry Farm is an organic vegetable and small-fruit family farm located on the Lamoille River in Fairfax, Vermont since 1992. They grow 40 acres of organic vegetables, 3 acres of strawberries, 1 ½ acres of organic raspberries and grow in18,000 square feet of greenhouse.

Pete's Greens is the next stop on day 1 of the tour, and it is a certified organic, four season, vegetable farm. It is located on the edge of Vermont's Northeast Kingdom in Craftsbury, Vermont. Pete's Greens grows a wide range of organic produce and raise pastured meats. They try to push the limits of what crops can be started earlier, extended longer or held through the winter, as they grow in a colder climate.

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The final stop of the day for the tour is at **4 Corners Farm** which is located in the luscious Connecticut River Valley of Northern Vermont. Longtime NASGA members, the Gray's continue to push the limits of season extension on not only strawberries but on many of their vegetable crops. 4 Corners grow a variety of small fruit crops as well as a full line of vegetable crops. In addition to quality fruits and vegetables, they also sell fresh farm milk.

Day 2 Wednesday August 14th

On the second day of the tour, August 14th, the first stop will be at **Pierson Farm**. It is a family farm, currently run by David and Sara Pierson. David is the third generation of the Pierson family to continue the family tradition of farming. Today, the farm is known for growing strawberries, and standard vegetable crops. They also have 4 greenhouses growing fresh tomatoes.

Crossroad Farm is the second stop on day 2 of the tour. It is a 60 acre vegetable farm in Post Mills, Vermont. For over 30 years, the extended family and crew have been practicing sustainable agriculture. At Crossroad Farm, they specialize in greens, tomatoes, strawberries, melons, flowers and bedding plants.

The third stop on day 2 of the tour will be at **Killdeer Farm**. Killdeer Farm have been a certified organic farm for over 25 years. They have a passion for flavor and quality, and for creating an atmosphere that is approachable and a haven for people who love food and plants. They grow over 140 varieties of produce during the growing season.

The final stop of the 20113 NASGA Summer Tour is at **Edgewater Farm.** It is a family farm located on the plains of the Connecticut River in Plainfield, New Hampshire. The farm is 170 acres in size, with 60 acres of tillable land on which small fruit and vegetables are grown. In addition, Edgewater farm has 60,000 square feet of greenhouses in which they grow bedding plants and greenhouse vegetables.

For more information visit the NASGA website at www.nasga.org or call Kevin Schooley at 613-258-4587

FOCUS ON FOOD SAFETY

Produce Safety Alliance Update June 3, 2013 - *Gretchen Wall, Produce Safety Alliance Coordinator*

We've had a very productive spring, hosting eight question and answer teleconferences with the FDA and working feverishly to finalize the PSA's curriculum content. In this newsletter, we'd like to update you on upcoming PSA events, share some valuable resources, and encourage you to stay active in the comment process for the proposed Produce Rule.

Center for Produce Safety Produce Research Symposium

The Center for Produce Safety (CPS) will be hosting its fourth annual Produce Research Symposium in upstate New York on June 25-26, 2013 at the Wegmans Conference Center in Rochester. The conference has been expanded to 2 days this year to include several keynote speakers as well as sixteen new research program reports.

For more information on the symposium or to register visit:
https://cps.ucdavis.edu/event/15/CPS_2013_Produce_Research_Symposium.html

PSA at CPS: Opportunity for Input – Monday June 24, 2013 5-7 PM, Wegmans Facility

On Monday June 24, 2013, the PSA will be hosting a focused discussion on trainer qualifications for the Produce Safety Alliance training curriculum. We are interested in talking with those who may want to become trainers. We have drafted a document to outline necessary prerequisite knowledge and are looking for feedback to ensure the document adequately addresses the varying levels of education and experience potential trainers may have. Space at the meeting facility is limited to 30 people, so please register in advance. There is no cost to attend and the goal will be to have a focused discussion on what prerequisite knowledge is important for produce safety trainers. Food and drinks will be provided during the discussion. If you are interested in attending, please contact Gretchen Wall at glw53@cornell.edufor more information and to register.

Question and Answer Sessions with FDA

If you were not able to attend any of the eight Q & A sessions, the audio recordings from each session with the FDA Produce Safety Staff are now available for listening online. These sessions were unscripted and driven by actual situations and questions from farmers, packers, retailers, educators, and industry members.

The Q & A series covered key areas of the proposed Produce Rule including:

- Understanding Exemptions
- Agricultural Water
- Soil Amendments
- Domestic and Wild Animals
- Growing, Harvesting, Packing, & Holding
- Equipment, Tools, Buildings, & Sanitation
- Health, Hygiene and Training for Workers
- Recordkeeping, Compliance, & Enforcement

The recordings are available to listen at: http://producesafetyalliance.cornell.edu/news.html

We would especially like to thank Dr. Jim Gorny, Dr. Erick Snellman, Dr. Mike Mahovic, Ms. Scarlett Salem, Dr. Crystal McKenna, Ms. Fazila Shakir, Dr. David Ingram, and Ms. Joy Johanson for their expertise in answering questions and commitment to the series. We hope to continue this great partnership to provide informative and convenient presentations in the future.

Comment on the Proposed Produce Rule

Those Q & A calls highlighted many areas where FDA could use some comments and information. The comment period has been extended until **September 16, 2013**, so there is still time to offer your suggestions on the Standards for the Growing, Harvesting, Packing, and Holding of Produce for Human Consumption(the Produce Safety proposed rule). We cannot stress enough how important it is for comments to be submitted to the docket. The FDA recognizes that there are many situations and practices that they may be unaware of and may affect how the regulation should be revised. Comments that are thoughtful and substantive, containing real examples and data that support your position are encouraged and will have the most impact.

How to submit your comment:

1. Comment electronically at http://www.regulations.gov/#!docketDetail;D=FDA-2011-N-0921

2. Written comments may be faxed to the FDA at 301-827-6870 or you may mail them to:
   Division of Dockets Management (HFA-305)
   Food and Drug Administration
   5630 Fishers Lane, Room 1061
   Rockville, MD 20852

New Resources Available!

In the wake of the 2011 *Listeria* outbreak in cantaloupe, more resources are available now than ever before to help growers assess potential food safety risks on their farm from the field to the packinghouse and beyond. The University of Florida has put together a great site for information related to food safety concerns with cantaloupes and the new FDA inspection program for cantaloupe packinghouses.

For more information visit the University of Florida/IFAS Produce Safety Center at:

http://fshn.ifas.ufl.edu/foodsafety/

PSA Curriculum Progress & Training Opportunities

The curriculum content is coming together very nicely using our learning objectivesas the guide. Our goal is to create a day long (7 hours of dedicated instruction) produce safety training course for growers. With so many important topics to cover, keeping the content concise and relevant has been a major priority. Once the content has been reviewed and approved by our committee members, we plan to schedule Train-the-Trainer workshops in late summer/early fall across the country to make sure there are enough trainers to meet training needs. As we prepare to launch Train-the-Trainer programs in the next few months, keep an eye out for announcements of opportunities in your region and details on how to attend the training programs.

Produce Safety Alliance Website Update

Our website has become a great repository for all types of information regarding food safety at the farm level, from University GAPs contactsto useful links to FSMA documents. With so much information to share, we plan to update the organization of the site to make it more user-friendly and to make space for additional information related to training opportunities and curriculum materials. We are always open to suggestions for resources or additional information you'd like to see available from our site. Don't be shy. Let us know how the website could be improved to better meet your needs.

Join Us!

Our listserve provides 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 us if you have any questions, comments, or ideas.

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MONEY TALK

Editor's note: *Money Talk is a new column that provides news briefs and feature articles on business management and marketing topics of interest to commercial berry growers.*

Affordable Health Care Act Will Effect ALL Farms - *Alison De Marree, Lake Ontario Fruit Team*

You have probably heard that if you have less than 50 employees, the Affordable Health Care Act (ObamaCare) will not affect you – **NOT TRUE!** The act is complex and confusing in many arenas (one example: in how it calculates FTE's -full time equivalents) – growers need to pay attention. This article is only to raise your general awareness and to encourage you take advantage of ANY webinars or workshops offered by health insurance companies to help you better understand the act and how it will impact your business.

All employers will need to provide specific written notice about the Health Exchanges between October 1, 2013 and March 30, 2014 and at the time of hiring. All employers also need to be concerned about the **discrimination** portions of the Act – you will not be able to offer different levels of health care coverage to different classes of employees. Unfortunately the IRS, US Dept. of Labor and Health & Human Services are still writing the rules! This will affect small farms which currently offer health insurance to any of their employees – you may need to reconsider offering health insurance – what impact it will have on you, as an owner and your employees.

All employers need to know how to calculate their FTEs. The calculations must be done on a monthly basis with separate calculations for full time employees (130 hrs./mo.) and part-time employees (total all hours of employees under 130 hrs./mo. – then divide by 120 to arrive at part-time FTEs). Leave fractions for each month. Below is an example from a 165 acre farm with 151,000 bushels of fruit in 2011 (normal to big crop year for some farms);

2011	# of Employees working 130 hrs./mo.	Employees working < 130 hrs/mo. Monthly Total Hrs	Part-time Tot/120 hrs	Total FTE's
Jan	6	85.00	0.71	6.71
Feb	7		0.00	7.00
Mar	5		0.00	5.00
Apr	2	284.50	2.37	4.37
May	8	161.50	1.35	9.35
June	8	234.75	1.96	9.96
July	8	87.25	0.73	8.73
Aug	8	462.50	3.85	11.85
Sept	27	156.50	1.30	28.30
Oct	29	32.75	0.27	29.27
Nov	2	3,144.00	26.20	28.20
Dec	2	377.65	3.15	5.15
		Total of all months>		153.89
		Avg. Annual FTE's >		12.82

This example is provided for informational purposes only, please do not assume another 165 acre farm would have the same annual FTE's. Each farm will be different based on the types of fruit & labor intensity involved. For 2014 there are some special rules that allow employers to choose which 2013 months you may use to calculate your FTE's.

Most fruit farms will have 25 employees or less. Employees of these farms could go to the Exchanges for insurance, have many choices and be subsidized by the government. Employers with 25 workers or less may decide not to offer any health insurance to allow their employees to have more choice and avoid having to provide insurance for all employees working (more than 130 hrs./mo.) after 90 days – including H-2A workers.

Should a law be passed allowing overtime pay after an 8 hour day, FTE's would likely go up. Growers need to be aware of the implications of this act in planning for future costs and strategies to increase labor efficiency.

This article has covered only a very small fraction of the complexity of the Affordable Health Care Act – some of the rules are still being written (ex. Discrimination sections). If your health insurance carrier offers any educational sessions concerning this act – I encourage you to become informed – **it affects EVERYONE!**

Considering H-2A Workers for the 1st Time? Apply SOON for Harvest Workers - *Alison De Marree, Lake Ontario Fruit Team*

Contrary to a rumor currently circulating, growers cannot share H-2A workers. Each grower must be certified for a specific number of workers. Workers are issued visas for a specific time period and cannot move back and forth between farms. There are special circumstances where a worker can be transferred from one farm to another, but not without meeting specific requirements.

Here is a brief outline of requirements (for BOTH H-2A & domestic workers) when employing H-2A workers;

1. The NYS adverse effect wage rate that you must pay is at least $10.91/hr. Piece rates: $0.85/bu. dwarf fresh, $0.90/bu. standard fresh, $0.60/bu. process and $0.60/bu. for drops
2. You must submit a carefully constructed work order that describes your need for skilled labor, first to NYS DOL in Albany, then Chicago USDOL for certification with a start and end date. *Do not be afraid to require 1 to 6 months experience for crop workers or up to 12 months experience for an ag. equipment operator. Don't ask for workers without requiring a reasonable level of experience. You can view other growers work orders by going to the NYS DOL website and typing in "H-2A Clearance Orders" in the search box. Many growers are including worker expectations in the form of "work rules" in their work orders this year.*
3. If your work order is conditionally accepted, you must meet the requirements of the USDOL within a certain timeframe (ex. advertise for domestic workers and hire any qualified domestic workers who respond to your ad or your work order which is posted on the internet through the US DOL, etc.) to continue to progress towards permanent certification.

4. You must keep a log of all persons inquiring about the job, interview and hire any qualified domestic workers and be prepared to explain why some persons were not hired (keep copies of rejection letters). We recommend having ALL job inquirers complete a job application form to allow you to **verify experience** with former employers. We have sample job application forms available.
5. If you receive final approval, you must complete another set of paperwork to the US Customs & Immigration Service in California.
6. You must pay the transportation costs to & from your work site along with meals during travel.
7. You must keep detailed records of hours of work offered and actual hours worked and include this on the H-2A worker pay stub, as well as the domestic workers pay stub (doing the same work as in the work order).
8. You must provide housing, including bedding and either meals or a kitchen with cooking utensils which has been permitted and then inspected & approved by either the NYS DOL or the NYS Department of Health.
9. You must GUARANTEE ¾ of the hours in the work contract. So if your work contract says you will employ the workers for 10 weeks at 40 hours per week (400 hours) – you must guarantee a minimum of 300 hours, even if your yield falls short of what you had anticipated for crop.
10. You MUST hire any qualified domestic workers who apply for the job up to half way through the time period the work contract is in effect (ex. first 5 weeks of a 10 week contract). As long as H-2A workers are on your premises in the first half of the work contract, you need to **keep hiring** ANY qualified domestic workers who apply, no matter how many people are listed on your work order.
11. There are provisions for making changes in the work order up to a few days before the workers leave to travel to your farm. ANY changes require notification and official approval by specific labor department personnel.

If you are considering H-2A workers for the first time, I strongly recommend that you use an agency with an excellent track record to assist you in the process. But first, you need to do some homework by reading the resources provided by the US DOL! The H-2A Employers Handbook is available to download at: http://www.foreigncert.doleta.gov/h-2a.cfm This publication walks you through applying for H-2A workers and the regulations governing the employment of H-2A workers.

I also recommend that you download all **six** *Frequently Asked Questions* fact sheets on this website and review them. Finally, H-2A workers earning more than the standard allowance will have an income tax liability. The following website may be useful: http://www.irs.gov/businesses/small/international/article/0,,id=96422,00.html Be sure to read the Voluntary Federal Income Tax Withholding section.

The NYS Department of Labor has ag. specialists who can assist you in constructing your work order. You can construct a work order and use the NYS DOL for domestic workers even if you do not want to use H-2A workers. It is important that you have a detailed job description for the positions in question before starting the process.

FOCUS ON PEST MANAGEMENT

New Tool - Mobile Device, Desktop Computer Web App Search Tool for Pesticide Products - *Mike Helms, Pesticide Management Education Program (PMEP)*

The National Pesticide Information Center (NPIC) at Oregon State University has developed the Mobile Access to Pesticides & Labels (MAPL) web app. (The app is available at http://npic.orst.edu/mapl.) Based on EPA pesticide registration data, this app allows you to search for pesticide products using several criteria including product name, site, pest, EPA Registration Number, registrant name, or a combination of these. To assist you in using the app, NPIC has provided a short, 3-minute video tutorial at http://bit.ly/12gvoyW. In addition to mobile devices, the app also works on desktop computers. Pesticide information is updated weekly.

PLEASE NOTE that since the results are based on EPA registration information, you will need to confirm first that the pesticide is registered (legal) for use in your state or locale. Secondly, since labels may contain a subset of sites and/or pests approved by EPA, you will need to review the actual product label to confirm that it is labeled for your intended use. New York State applicators can use PIMS (http://pims.psur.cornell.edu) to determine a product's registration status and to review DEC-approved label(s). For users in other areas, MAPL provides links to where you can search for product registration information for your area.

WSSA Pesticide Stewardship Series #9- Preparation and Oversight are Vital When Storing a Pesticide

May 1, 2013. A landscaping and irrigation company was recently fined for storing pesticides in the same area as combustible materials – a decision that could have led to an explosion and fire.

"Improper pesticide storage can expose both individuals and the environment to unintended harm," says Fred Whitford, Ph.D., coordinator of the Purdue Pesticide Program, Purdue University. "A properly designed storage area and regular inspections are well worth the time and investment."

Always follow government regulations and label requirements when storing pesticides. In the absence of more specific laws and label directions, here are some core principles:

1. **Location.** A separate building is preferred – away from people, animals and sensitive areas. If a separate building is not possible, specify one area on the ground floor for pesticide storage. Select a location that is not prone to flooding and not on the upslope from water sources that could be affected by a spill or leak.

2. **Security.** Keep the building, storage area or cabinet locked, and limit access to properly trained individuals. Post required signs – at minimum, "Pesticides – Keep Out" and "No Smoking Allowed."

3. **Environment.** The storage area must be well-lit, adequately ventilated and dry. The temperature range for liquid pesticides is usually 40° to 100°F, but there are many exceptions. The Storage and Disposal section of the label will provide important information about storage temperatures. Pesticides should always be stored off the floor, with liquid and "Danger – Poison" formulations on the lowest shelves and with large bags on pallets.

4. **Isolation.** Do not keep food, feed, seed, personal protective equipment (PPE) or anything other than a pesticide in the pesticide storage facility. Seal any floor drains; in some cases, removable caps can be used when sealing drains is impractical.

5. **Containers.** Pesticides must be stored tightly closed in their original container. Consider putting a tray under liquid pesticides that can provide containment. A pesticide in a leaking container must be transferred promptly to a new container and affixed with the original label or with key identifying information. If the label becomes illegible for any reason, obtain a replacement label immediately from the dealer, retailer or manufacturer. Mark containers with the date of purchase, and use older inventory first.

6. **Inspection**. Check regularly for any problems with the facility, product containers or labels, and take all necessary steps to correct them promptly. Maintain a storage inspection log. "Astute inventory awareness can prevent over-purchase, lengthy storage, container deterioration and the need to locate suitable disposal sites," notes Whitford. Purchase only product quantities that you plan to use in a 12-month period.

7. **Protection.** Have personal protective equipment, a first aid kit, an eyewash dispenser, soap and clean water immediately accessible to workers and emergency personnel, but protected from possible pesticide contamination.

8. **Preparedness.** Maintain an up-to-date inventory, material safety data sheets and emergency phone numbers — all essential in the event of a fire, flood, spill or leak. A fire extinguisher approved for all types of fires must be easily accessible and inspected annually. A spill cleanup kit, absorbent material and written procedures must be readily available to control, contain and clean up a spill. The floor, shelves and pallets must be nonporous and easy to clean.

9. **Assistance.** Numerous resources exist to assist you in proper storage of pesticides. Your Cooperative Extension Service, state Pesticide Safety Education Program, and state regulatory agency can help. Use one of the various pesticide storage checklists that have been developed to help you review basic needs.

"Exact pesticide storage requirements will depend on government regulations, pesticide labels, climate and other factors," explains Whitford. "Be diligent, seek advice and never cut corners, regardless of how little or how much pesticide you will store."

Some Resources on Pesticide Storage:

http://www.clemson.edu/extension/pest_ed/pdfs/pipsheets/pip37sto.pdf Clemson University

http://pubs.cas.psu.edu/freepubs/pdfs/ee0002.pdf Penn State University

http://www.ppp.purdue.edu/Pubs/PPP-21.pdf Purdue University

http://www.ppp.purdue.edu/Pubs/PPP-61.pdf Purdue University

http://extension.missouri.edu/publications/DisplayPub.aspx?P=IPM1013 University of Missouri

This is the ninth in a series on pesticide stewardship sponsored by the Weed Science Society of America. Next month: Preventing Pesticide Drift.

WSSA Pesticide Stewardship Series #10- The Applicator Must Ensure that Pesticide Spray Drift Does No Harm

June 4, 2013. Recently, pesticide spray drift from different pesticide applications caused damage to field corn on a bordering farm, vegetables in an adjacent backyard, trees and bushes in a nearby state park and vegetation on an adjoining campus. In all cases, the applicators were fined because they had not taken the necessary precautions to avoid drift.

Pesticide spray drift is the physical movement of spray droplets from the intended target to any non-target site. Drift is not just about crop injury; it can negatively impact workers, organic crops, the general public, beehives, gardens, aquatic areas and other sensitive habitats, even if the effects are not immediate or obvious.

Pesticide labels vary with regard to information on spray drift management. Some labels provide a detailed list of required drift management techniques. Labels may specify a maximum wind speed in which to spray, or simply indicate not to apply under windy conditions. Labels may also require an "adequate" or specific size buffer zone between the target site and sensitive sites, such as areas occupied by humans, animals or susceptible vegetation.

"No portion of the label stands alone – it is critical that spray drift-specific requirements be considered concurrently with all other label requirements," notes Don Renchie, Ph.D., Pesticide Safety Education Program Coordinator, Texas A&M AgriLife Extension Service. "For example, the agricultural label requirement to protect workers will override any maximum wind speed allowed on the label if workers are in close proximity downwind of a planned application."

Research, education and debate continue on how best to avoid spray drift. A growing number of registries in certain states enable applicators to determine the location of sensitive crops in close proximity to their planned treatments. Application technology and buffer size calculations are also becoming more sophisticated, but ultimately it is the applicator who must take every necessary precaution.

There is no one technique that can minimize spray drift. The applicator must consider the non-target sites downwind of the application, location of buffers, weather conditions and application equipment. Follow all government regulations and label directions and carefully assess the following:

Non-Target Sites. Know what is downwind of your application – not only on your land, but on neighboring land as well. A small amount of spray drift to a tolerant, labeled crop on your land is very different than drift to a sensitive crop or to anything on someone else's property. If possible, make the application when the wind is blowing away from any non-target site of concern.

Buffers. Establish buffers, which are areas or strips of land intended to intercept spray drift. At times, a specific buffer size will be required by the Environmental Protection Agency (EPA) when it approves the label; in other instances, the need for buffers will be assessed by the applicator based on professional judgment and local conditions. Tolerant fast-growing trees, grassed buffer strips and uncropped field borders are examples of buffers that can be positioned downwind of areas that will be treated. Know the effectiveness of the buffer as well. For example, a tall, continuous buffer of tolerant trees will provide much better protection from drift than a narrow strip of low-growing grass. Never use someone else's land as your buffer.

When no buffer exists (or an existing buffer is insufficient under the particular application conditions), create the needed buffer by leaving a portion of the target site untreated. The size and location of this "flexible" buffer is determined on an application-by-application basis by considering all the factors influencing spray drift potential.

Weather. Wind is the most important weather factor affecting spray drift. Apply pesticides only when winds are light and blowing away from sensitive areas. A general rule is to spray when the wind speed is 3-10 mph, *but* the upper limit must be modified based on all application-specific factors influencing drift. Accurately measure wind speed and direction before and during the application. If a change in wind speed or direction results in unacceptable drift, immediately adjust the buffer size or location as necessary, or stop the application.

Calm conditions or variable winds can actually increase the chance of spray drift. Calm conditions might indicate the presence of a temperature inversion (a trapped layer of air). Inversions, which are most common during the early morning or evening, favor horizontal movement of pesticides.

High temperatures and low relative humidity during the application may also increase the chance of spray drift by increasing evaporation, which reduces the size of spray droplets. Keep accurate records of wind speed and direction, air temperature and relative humidity.

Application Equipment. Spray pressure and volume, droplet size, nozzle type, boom height and additives can all influence spray drift. Within the constraints of the label:

- Reduce spray pressure to produce larger spray droplets, which are less likely to drift.
- Increase spray volume, which allows the use of nozzles that produce larger droplets.
- Use low-drift nozzles, such as those with air-induction technology. Replace *all* worn nozzles.
- Keep the spray boom as low as possible without detrimentally affecting spray coverage. Consider boom shields and windscreens.
- Include a drift control agent in the spray tank.

Some of these spray drift-reducing tactics cannot be used for every pesticide application because pest control will be reduced. But, if you cannot follow the label AND avoid drift, select a different product or formulation. Granules (such as weed-and-feed products) are sometimes available alternatives to the use of liquid sprays to eliminate drift.

"Flexibility is a key component in minimizing spray drift," says Renchie. "There are so many factors that influence drift that can be modified by the applicator in response to particular circumstances. Communicating with neighbors will also help prevent potential problems by identifying sensitive crops or beehives in the area."

Applicators are legally responsible for problems that are caused by spray drift, regardless of what particular factor(s) was the culprit. Be a good steward and do everything necessary to prevent problems caused by drift.

Some Resources on Pesticide Spray Drift:
http://www.pesticides.montana.edu/reference/drift.htm Montana State University

http://www.pesticidestewardship.org/drift/Pages/default.aspx Pesticide Environmental Stewardship (PES)

http://edis.ifas.ufl.edu/pi232 University of Florida

This is the tenth in a series on pesticide stewardship sponsored by the Weed Science Society of America. Next month: Pesticide Disposal.

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.*

Fact Sheet: Survey of Bee Losses During Winter of 2012/2013 - Kim Kaplan, USDA ARS

Total losses of managed honey bee colonies nationwide were 31.1 percent from all causes for the 2012/2013 winter, according to the annual survey conducted by the Bee Informed Partnership and the Apiary Inspectors of America (AIA) and funded by the U.S. Department of Agriculture (USDA).

- Bee losses for the 2011/2012 winter were 22 percent. This past winter's losses are slightly higher than the previous 6-year average loss of 30.5 percent.

- The survey, which covered from October 2012 through April 2013, was conducted by University of Maryland research scientist Dennis vanEngelsdorp, who is also director of the Bee Informed Partnership, in collaboration with Jeff Pettis, research leader of the USDA Agricultural Research Service (ARS) Bee Research Laboratory in Beltsville, Md., and others. More information about the Bee Informed Partnership is available online at http://beeinformed.org.

- One difference noted this winter was that there were more colonies that dwindled away, rather than suffering from the onset of Colony Collapse Disorder (CCD), where colony populations are lost suddenly.

- One major difference in this survey is that beekeepers who later took honey bees to California to pollinate almonds reported higher losses than beekeepers who did not take their bees to pollinate almonds. Nearly 20 percent of the beekeepers who pollinated almonds lost 50 percent or more of their colonies, according to vanEngelsdorp.

- More than two-thirds of responding beekeepers (70 percent) reported losses greater than 14 percent, the level of loss that beekeepers stated as allowing them to remain economically viable as a business.

- Beekeepers did not report CCD as a major cause of colony loss this past winter, which follows the previous year's trend.

- More than 6,000 U.S. beekeepers responded to the survey. Those beekeepers manage about 600,000 colonies, which represent nearly 22 percent of the country's estimated 2.62 million colonies.

- The abstract for the survey can be found at http://beeinformed.org/2013/05/winter-loss-survey-2012-2013. A complete analysis of the survey data will be published later this year.

- Funding for the survey came from the Agriculture and Food Research Initiative of USDA's National Institute of Food and Agriculture.

- More information about honey bee health and CCD can be found at www.ars.usda.gov/ccd.

Questions or comments about the New York Berry News?
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