



New York Berry News

Volume 13 Number 8

September 23, 2014

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**New YouTube Video:
[Strawberry Sunrise in Arizona](#)**

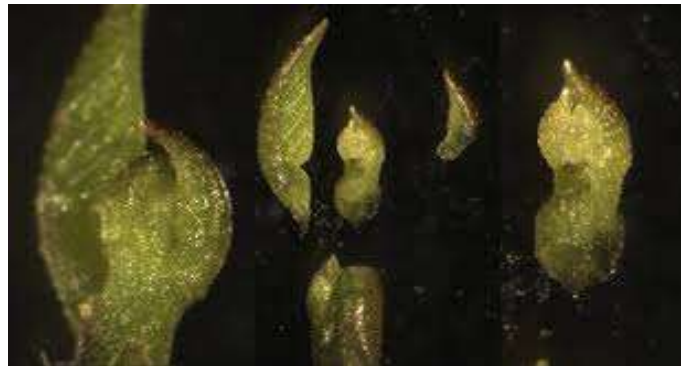
A Comment on Vigor in Strawberry Varieties

Mark Bolda, University of California Davis, Division of Agriculture and Natural Resources

August 28, 2014. A recent article referred to one of the reasons that growers need access to new strawberry varieties is that there is an inherent loss in vigor through the propagation process. That growers need access to new varieties to remain competitive is absolutely true, but that they need access to new varieties because the existing ones decline in vigor is not.

Plants do not invariably “lose their pep after years of cloning”. Indeed, reputable nurseries avoid a loss of vigor in a variety by periodically going back to meristem culture in order to keep their plant stock strong and productive. It does happen (especially in some formerly popular caneberry varieties - compare Ollalieberry in the field today to what was around in the early nineties) that older varieties of less demand don't have the meristem work done as frequently and subsequently become less vital over time.

What is meristem culture? Meristem culture is the excision of a cluster of actively dividing cells from the meristem (tip) of a newly formed strawberry runner, followed by surface sterilization, placement on a special medium, subsequent rooting, gradual acclimation of the new plant and transfer to a secure greenhouse. While some cases of genetic instability from repeatedly doing meristem culture have been noted in the literature, this cannot be described as a drift towards a loss in vigor of a variety. At any rate, programs for production of true to type (identical) plant stock using meristem culture have been used for a long time at any of the strawberry nurseries in business today.



Above: Strawberry meristem culture. Photo courtesy USDA-ARS.

A good example of how well and long a popular variety can be maintained through meristem culture would be the strawberry variety ‘Chandler’. Chandler continues to be widely planted by direct marketers because consumers just love its flavor and quality. Consider though that this variety was patented in 1984 by the University of California, and has had no apparent loss in vigor in all this time because the nurseries continue to go back to meristem culture to maintain it.

Growers have rumored that the variety ‘Albion’ has been losing its vigor, but work at the Pomology Field Station in Watsonville over several years shows that this was not at all true. The Albion grown at this field station has experienced NO loss in yield since it was first released. Rather the rumored “loss in vigor” of the very widely planted Albion is almost certainly because of the industry wide steady drift away from methyl bromide fumigation to less effective alternatives like 1,3-D and chloropicrin.

(Reprinted from the UCANR [Strawberries and Caneberries Blog](#))



SAVE THE DATE!

Agribusiness Economic Outlook Conference

Tuesday, December 9

Cornell University, Warren Hall

dyson.cornell.edu/outreach/ag_outlook_conference.php

Humid Weather Increases Botrytis Gray Mold Pressure in Fall Raspberries

*Annemiek Schilder, Michigan State University
Extension, Department of Plant, Soil and Microbial
Sciences*

*Botrytis gray mold is common in fall raspberries.
Alternate fungicides with different modes of action
and add protectants to the tank-mix.*

September 3, 2014. Continued humid conditions with moderate to warm temperatures are promoting Botrytis gray mold infection in fall raspberries. Frequent rains increase disease pressure as well as lead to wash-off of fungicides, which decreases fungicide efficacy when it is needed most. As a reminder, Botrytis gray mold is caused by the fungus *Botrytis cinerea* and is recognized by a fuzzy gray mold on ripening berries. The infection may be spreading from infected berries to adjacent healthy berries in a cluster. Moldy berries yield millions of infectious spores, which become airborne and may also be spread by pickers touching infected berries.

To the extent possible, practice sanitation by removing overripe and rotting berries from the field to limit inoculum availability. It is not advisable to throw them on the ground as they will continue to sporulate for some time. To minimize spores from being spread by air while removing rotting berries, you can throw them into a wide-mouthed bottle, like an orange juice bottle, or into a container with soapy water. Avoid touching healthy berries in the process.

Botrytis cinerea is favored by prolonged moisture and high humidity at temperatures of approximately 60-75 degrees Fahrenheit. The infection starts with a spore landing on the fruit. The spore germinates when the berry remains wet for more than eight to 12 hours from rain or dew. Fall weather promotes infection due to more frequent dew and rain events. However, high relative humidity greater than 93 percent over a period of several days may also be sufficient for infection to occur.

The presence of old flower petals or other source of nutrients, such as juice on the fruit surface, is known to stimulate spore germination and infection. Environment modification to decrease relative humidity and increase airflow, such as open canopies and wide rows, can help reduce disease pressure.

There are a number of excellent fungicide choices for gray mold control in raspberries (Table 1). However, under high disease pressure and frequent precipitation, even the best fungicides may not provide full control. Under those conditions, it may



*Botrytis gray mold on 'Heritage' red raspberry. Photo
Courtesy Cathy Heidenreich*

help to include protectant or contact fungicides in the tank-mix to kill fungal spores on contact before they have a chance to germinate as well as killing spores that are being produced on rotting fruit.

It is also important to alternate fungicides with different modes of action, as indicated by different Fungicide Resistance Action Committee (FRAC) codes, to reduce the risk of fungicide resistance development. Fungicide resistance is more likely with systemic fungicides, such as the strobilurins (FRAC code 11) and succinate dehydrogenase inhibitors (SDHI's) (FRAC code 7). Fungicide resistance is unlikely to develop to protectant fungicides like captan.

(Dr. Schilder's work is funded in part by [MSU's AgBioResearch](#). This article was published by [Michigan State University Extension](#).)

Gray Mold in Fall Raspberries *(continued)*

Table 1: Fungicides for Botrytis Control in Raspberries***

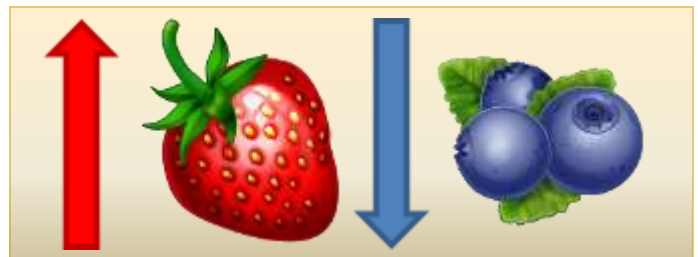
Product	Active ingredient	FRAC code*	Behavior	Risk of resistance	Efficacy rating	PHI (days)
Captan	captan	M4	Protectant	Low	Moderate	3
CaptEvate	captan + fenhexamid	M4 + 17	Protectant + locally systemic	Low	Good	3
Elevate	fenhexamid	17	Locally systemic	Low-Med	Mod-Good	0
Pristine	pyraclostrobin-bin + boscalid	11 + 7	Systemic and locally systemic	Med-High	Good to Excellent	0
Rovral**	iprodione	2	Contact/ locally systemic	Med-High	Good	0
Switch	cyprodinil + fludioxonil	9 + 12	Systemic, locally systemic	Low-Med	Excellent	0
Environmentally friendly/OMRI						
Fungastop	citric acid, etc.	NC	Contact	Low	Fair	0
Oxidate	hydrogen peroxide	NC*	Contact	Low	Fair	0
Regalia	giant knotweed extract	P5*	Induced resistance	Low	Fair	0
Serenade	<i>Bacillus subtilis</i>	F6	Contact	Low	Fair	0
Sil-Matrix	potassium silicate	NC	Contact	Low	Mod	0
*M4 = Multisite contact activity; NC= Not classified; P5 = Plant defense inducer; F6 = microbial disruptors of pathogen cell membranes.						
**Add surfactant to Rovral to improve efficacy.						
***Editor's note: Always check for current NY State label before using product.						

New York Strawberry Production Up, Blueberry Production Down, for 2013

September 16, 2014. Albany, NY – Strawberry production in New York was up 19 percent from 2012 to 3.80 million pounds, according to Blair Smith, State Statistician at the USDA National Agricultural Statistics Service New York Field Office. The value of the utilized production is estimated at \$7.73 million, up 12 percent from 2012.

New York ranks eighth in the country for strawberry production. Nationally, the strawberry crop for 2013 was placed at 3.00 billion pounds, down slightly from 2012.

Production of blueberries for the Empire State was at 1.11 million pounds, down 45 percent since 2012. The 2013 crop was valued at \$2.13 million, down 45 percent from the \$3.89 million last year. The U.S. estimate for blueberries is 531 million pounds, up 12



percent from 2012.

New York's 2013 berry crop had a combined value of \$9.86 million. This value is down 8 percent from \$10.8 million in 2012.

The information in this release is available free of charge by subscribing to the New York reports at www.nass.usda.gov/ny.

How Healthy is Your “Underground Livestock”?!

No matter what you grow, the health of your "underground livestock" determines the productivity of your farm. Learning to understand what's happening with your soil and to apply the right management tools at the right time is part art and part science is the key to growing successfully.

[BF 110: Soil Health - Building the Farm From the Ground Up](#) is a 6-week online course that will help you understand, measure, and improve the health of your soil. The course consists of weekly real-time

webinars followed by homework, readings, and discussions on your own time in an online setting.

The course runs Thurs. Oct 16 - Nov. 20, 2014, with webinars Thurs. evenings from 6:30-8pm EST. The cost is \$200, but multiple people from the same farm may participate without paying extra.

See [the course description page](#) for more on the course learning objectives, instructors, and outline.

[BF 110: Soil Health](#) is part of the

line-up of 12 online courses offered this Fall, Winter and Spring by the Cornell Small Farms Program.

[Learn which courses would be best for you](#), read about our [team of experienced instructors](#), see answers to [Frequently Asked Questions](#), and [view the calendar of course offerings](#) for 2013-2014.

Courses often fill very quickly, so don't miss your chance to sign up today!



New e-book: Cold Climate Strawberry Farming

The University of Minnesota has released *Cold Climate Strawberry Farming*, a free, interactive e-book that details innovative marketing techniques, comprehensive cultivar recommendations, insurance requirements, and other essential business information.

To access the book go to: <https://www.inkling.com/store/book/cold-climate-strawberry-farming-1st/>.

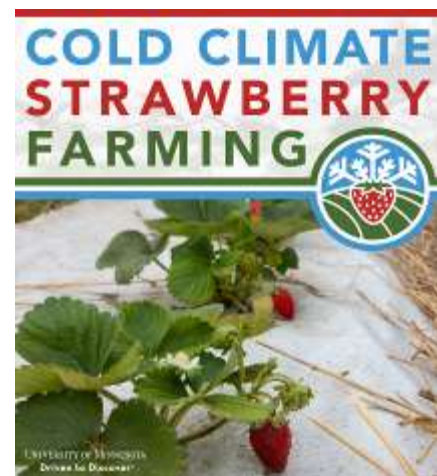
The e-book goes into detail on important topics such as choosing your market, innovative marketing techniques, comprehensive cultivar recommendations, insurance requirements and other essential business info, and of course best practices for growing strawberries. For those already experienced with commercial strawberries, Cold Climate Strawberry Farming introduces a new, season-extending method of growing

strawberries for cold climates using low tunnels and day-neutral cultivars. All content is based on years of research at the University of Minnesota and Minnesota Grown, and can be viewed online or downloaded for offline use to any iOS or Android mobile device. Now you can easily bring the information you need right to where you need it.

See the trailer for this e-book on [YouTube](#).

To connect with and join the cold climate strawberry community, join us on Facebook or Twitter. There you will be able to ask connect with and questions of other cold climate strawberry farmers, as well as staff within the Department of Horticultural Science at the University of Minnesota.

This project is funded by a grant from the Walmart Foundation and administered by the University of Arkansas System Division of



Agriculture Center for Agricultural and Rural Sustainability.

It was created by the Department of Horticultural Science at the University of Minnesota and is copyrighted under a Creative Commons License: BY-NC-ND 4.0

BERRY ORGANIZATION NEWS

NEW YORK BERRY GROWERS ASSOCIATION

SWD Media Buzz: Tips for Grower

Interviews [Penny Heritage](#), *Communications, NYS Berry Growers Association*

As numbers of Spotted Wing Drosophila continue to increase this fall, growers may receive media requests for interviews to highlight the damage to a farm's berry crop, its impact on the industry, and what this means to consumers.

While media coverage heightens awareness of a severe problem, it's also an opportunity to ensure consumer confidence in a quality product.

A successful interview experience starts with preparation, combines a few learned skills... and a little luck always helps!

PREPARE for Success

- Start by getting the reporter's contact info (mobile number, e-mail) for easy reference.
- Determine: article/broadcast deadline, and what information is needed. Ask who they may have already talked to, as well as what information they already have.
- Request some time to gather information, and be sure to reply promptly.
- Consider the best person from your farm, or industry (if a big issue) to do the interview.
- Brainstorm which questions may likely be asked, as well as supplemental questions.
- List key messages or talking points/sound bites—if speaking, around 10 seconds (25 words), if writing, about 15 words for print.
- Develop 2-3 support statements that prove or back up your message.
- Practice! Ask your business partner or a fellow grower to rehearse with you and pitch both simple and tough questions.

Key Messages/Sound Bites

- Identify with the public interest (you're really speaking via the reporter to his or her readers, listeners, or viewers). What is the listener's expectation?
- Tell the truth, using positive language
- Get to the point in 10-15 seconds

During the Interview



- Be welcoming and likeable. Relax!
- Speak clearly with compassion and intelligence; use concise and complete thoughts.
- First statement- answer "yes" or "no" if appropriate, then transition to key message.
- Support Statements- back up your key message with 2-3 facts or examples.
- Keep it positive and simple—don't use industry jargon or abbreviations.
- Stay on track, however, remember that recorded interviews allow for "do-overs".
- You can guide the interview with some transition statements such as:
 - “You'll be excited to learn what we found...”
 - “It's important to remember that...”
 - “Let me put that in perspective...”
 - “That's not my area of expertise, but what I can tell you is...”
 - “In fact, the opposite is true...”
- If you don't know the answer, don't be afraid to say so.
- Have something to say when asked, “Is there anything else you'd like to add?”
- Summarize the take-away. Include a call-to-action if appropriate, or website.

Follow-Up

- After the interview, ask what they are likely to use, as well as “What do you think are the negative points to the story?” and respond before they leave.
- Provide fact sheets with correct spelling, pronunciation and important statistics.
- Share resources, papers or websites for background material.
- After the story is published/broadcast, call and

BERRY ORGANIZATION NEWS

NEW YORK BERRY GROWERS ASSOCIATION *(continued)*

thank them for their accuracy.

- Self-evaluate and ask peers for feedback... so you can do even better next time!

Sources:

American Society for Associations, Cornell University & CALS Media Relations, Microsoft Business, North American Blueberry Council

NYS Berry Growers Association President, Dale Ila Riggs, shares some first-hand perspective: ... Keep in mind that the media and viewers are typically uninformed about agricultural production practices, but often have firm (and sometimes misguided) beliefs about what is acceptable to grow their food.

What NOT to say: It's imperative that growers avoid incendiary language—NEVER use the word 'maggot', and don't talk about 'spraying' ... remember what the Alar fallout did to the industry!

Below are some talking points she has used regarding spotted wing drosophila, and phrases growers can model in media interviews...

Economic impact of SWD on the NYS berry industry and on her farm:

"In 2012 the combined strawberry-raspberry-blueberry crop in NYS was worth \$15 million, and about \$5 million was lost to spotted wing drosophila."

"In 2012, our farm was devastated—we lost 40% of our blueberry crop and 20% of our raspberries. But this year, we have had less than a 1% loss from SWD."

Observations and practices:

"When the fruit fly makes a hole in the skin of the fruit, it makes the berry soft and it doesn't hold up well."

"We apply crop protection materials that can be used in both organic and non-organic production."

Progress and positive outlook:

"Although documented losses have been severe, we can show how much progress has been made to combat spotted wing drosophila in just 2 short years."

"We're going to beat this critter!"



Interested in Becoming a Member?

Renewing membership or becoming a member can only help you strengthen the voice of the berry industry in New York, plus support education and research specific to berry production and marketing.

To join, please fill out the [membership form](#) and mail to:

*Paul Baker
Executive Director
3568 Saunders Settlement Road
Sanborn, New York 14132*

Phone: 716-807-6827
Email: goodberries@roadrunner.com

Visit our Web site:
www.hort.cornell.edu/grower/nybga

BERRY ORGANIZATION NEWS

NASGA NEWS



VIII North American
Strawberry Symposium
February 3-6, 2015



SECOND ANNOUNCEMENT

**8th North American Strawberry Symposium and
North American Strawberry Growers Association (NASGA)
2015 Berry Conference**
Crowne Plaza Hotel, Ventura, CA

February 3-6, 2015

"Innovative Strategies for New Challenges"

All members of the strawberry community in N. America and across the globe are invited to attend the 2015 North American Strawberry Symposium in sunny California! **Subject areas for presentations will include:** Global and North American Overviews, Breeding, Genetics, Molecular Biology, Disease & Pest Management, Propagation & Nursery Management, Cultural Practices, Plant Nutrition and Water Management, Plant Physiology, Economics of Production Practices, Post-Harvest Technology, and Food Safety. This year's theme is reflected in the **workshop topics** of Water-Use Efficiency and Nutritional Management; Production Physiology: The Science behind Day-Neutral Plant Performance; Pesticide-Resistance Management; Expanding Variety Adaptation through Cooperative Breeding and Testing; Production without Fumigation, and Alternative Fumigant Use. The **tour** on Feb. 6 includes visits to nearby Univ. of California research facilities; commercial farms with conventional, organic, and tunneled substrate production of various berry crops; and an insectary that raises beneficial insects. The tour ends with a reception on the beach at our hotel.

Please submit presentation titles as soon as possible and before 29 September 2014, indicating whether your presentation will be **oral or a poster**, to Kim.Lewers@ars.usda.gov. Manuscripts of oral presentations are required, while submission of manuscripts for poster presentations is optional. Manuscripts should be submitted no later than one month after the symposium and will be peer-reviewed prior to their publication in a special issue of *The International Journal of Fruit Science*. Instructions to authors concerning manuscript preparation can be found on the Journal's web site.

Please reserve the dates of **February 3-6, 2015** for the **8th North American Strawberry Symposium (NASS)** – two and a half days of workshops, research presentations, poster sessions, and other special events. The Program Committee is committed to **making this a world-class research symposium for growers and scientists**, and we eagerly look forward to seeing you in Ventura.

See the NASGA website: <http://www.nasga.org/> for information on mail-in and online registrations, additional program details, opportunities for industry, organization and agency sponsorship, and information on many nearby attractions. On-line registration will become available in September.

BERRY ORGANIZATION NEWS



NARBA NEWS

NARBA in Savannah

NARBA is again responsible for organizing the caneberry sessions at the Southeast Regional Fruit and Vegetable Conference in Savannah, GA. This is an excellent conference which also includes a large trade show and sessions on blueberries, peaches, vegetables, and many other topics. Here are caneberry sessions in brief:

Thursday, January 8, 2015 1:00 pm – 5:00 pm

Understanding the Annual Growth Cycle of the Blackberry – Assessing and Managing Cold Damage – Trellising Systems for Caneberries: Options & economics – Using Shade Cloth on Blackberries – Pruning & Trellis Innovations at Hays Berry Farm

Friday, January 9, 2015 8:30 am – 4:00 pm

Breeding Innovations on Fruit Firmness in the Arkansas Blackberry Breeding Program – Where and When Do I Need to Manage SWD? – Caneberry Disease Update – Effects of in-row herbicide strip width on established blackberry growth, yield, berry quality, and winter hardiness – Grower Spotlight: Marvin Williams, Williams Farm, Enigma, GA – Bringing Global Perspectives and Research to the Southeast – Perspectives on the Status and Future of the SE Blackberry Industry: Panel discussion of growers, marketers, and buyers – New Initiatives from NARBA.

For hotel and more schedule information and to register, visit <http://www.seregionalconference.com>. We will also post full schedule and speakers on our website. Be sure to get your hotel reservations early, host hotels fill up quickly.

More information: <http://www.raspberryblackberry.com/local.cfm?doc=webdocs/2015Conference%20Overview.htm>

Mark your calendar and plan to attend!

Briefly Speaking... Marvin Williams NARBA Executive Council member for Region 5

Intrinsic Value – A term hated by accountants, but loved by stockbrokers. Accountants hate it because they need to be able to assign a numerical value to the product in question. Stockbrokers love it, because their point is that the product has greater unseen value than can be realized at this moment. In the Book of Proverbs, the wisest man, King Solomon gave us a great mental picture of intrinsic value. He spoke of the right words having the value of solid gold apples that were coated over with silver, meaning that the recipient of the words did not realize the full value of them at the moment they received them. That wisdom of your father that you only began to understand later in life? You cannot assign a numerical value to it.

The North America Raspberry & Blackberry Association is a work in the continual mode of progress, being shaped by its members and board. It is not possible to assign a true value to NARBA because it is foundationally building from the past, to the present, and for the future. Please allow me to give you a condensed list of what NARBA has done, is doing, and will be doing!

- Continual education to growers and consumers
- Contributing to research for pressing problems that face growers
- Compiling up-to-date materials (relating to the industry, marketing, and legislation)
- Organizing growers conferences and educational sessions
- Promoting research and promoting caneberry health benefits
- And more.....

BERRY ORGANIZATION NEWS

NARBA NEWS *(continued)*



I am one of several board members who donate their time and efforts to the building of this great organization. I have seen NARBA now from the inside and outside. There is no way to assign a dollar value to the association if you invest and receive all it offers. I, personally, desire to update NARBA website to make it more accessible and user-friendly for mobile users. I have acquired a QR code that could be placed as a sticker on all containers of berries. Consumers using a QR reader app on their phones can scan it, and it will take them to the page at NARBA website that contains the nutritional and health benefits of berries. I hope we can have this up and running by next harvest season. My dad planted trees on his farms that he knew he would never reap the benefit of. I will get some of the benefits but his grandchildren will reap most of them. Many would ask the question Why? My dad understood intrinsic value and he knew that it was impossible to put a price tag on the future. As growers of blackberries and raspberries, let us invest into the intrinsic value of the future with NARBA. You can't put a price tag on tomorrow!

AG NEWS

New Regulations Seek to Prevent the Spread of Invasive Species in New York State

DEC and Agriculture & Markets Issue Final Regulations to Address Damage Caused by Invasive Species

August 27, 2014. New state regulations will prevent the introduction and spread of invasive species and help to preserve New York's ecosystems, state Department of Environmental Conservation (DEC) Commissioner Joe Martens announced today. The regulations are the latest step in the state's efforts to combat invasive species and were developed by DEC in cooperation with the state Department of Agriculture and Markets (DAM).

"Invasive species can cause serious harm to other species and impair natural ecosystems," Commissioner Martens said. "These regulations will establish strict limits to better control the spread of invasive species and help to protect natural resources, habitats and biological diversity, including trees, crops and native species that are threatened by the presence of invasives."

State Agriculture Commissioner Richard A. Ball said, "Invasive species pose a serious threat to New York agriculture, which is why we dedicate so much time and energy to combat these non-native threats to our farms. We are pleased to actively partner with DEC in these efforts to protect our state's food supply, ecosystems and economy and will work to ensure that these rules provide maximum protection for

consumers and all affected industries."

In early July, Governor Cuomo urged all New Yorkers to take action to protect lands and waters from invasive species that can be harmful to human health, animal habitat, agriculture and tourism by designating New York's first-ever Invasive Species Awareness Week. Invasive species are harmful non-native species, including plants, insects, fish and mammals, that were imported or released - often accidentally - from other areas of the world. Many invasive species such as the Eurasian Boar, Asian Longhorned Beetle, Emerald Ash Borer, and Northern Snakehead fish can cause significant damage to natural communities in New York State. Since 2011, \$30 million in state funds has been allocated toward preventing the spread of invasive species.

Under the regulations, DEC and DAM created lists of prohibited and regulated species, and established measures to prevent their release in the state. The regulations make it unlawful to knowingly possess a prohibited species with the intent to sell, import, purchase, transport, or introduce. Regulated species are those that have been determined to have the potential to cause harm to New York's ecology, or human health but also have positive socio-economic benefits and which may be effectively contained through regulatory programs. Regulated species may be possessed, sold, purchased, propagated, and transported, but may not be knowingly introduced into a free-living state such as being released or planted in lands or waters in a manner that the individual introducing them should know would result in the

AG NEWS

species being introduced into a free-living state.

The regulations are required under a law signed in July 2012, and were developed with input from the New York Invasive Species Council, comprising representatives from nine state agencies, and the NY Invasive Species Advisory Committee, which includes representatives from 25 conservation organizations, trade and industry, and academia. In addition, in developing the final regulations, DEC considered the 264 unique comments that were received from 263 individuals and organizations during the 60-day public comment period on the draft regulations, which included four public hearings.

The Prohibited and Regulated Invasive Species regulations go into effect six months following the date of publication of the final regulations in the State Register, which will be September 10, 2014. The six month grace period before the regulations take effect provides the regulated community time to sell existing stocks, and to transition to alternatives. Also recognizing the commercial importance of specific species, the regulations provide for an additional one year grace period for the possession, sale, purchase, transportation or introduction of Japanese Barberry. Costs to industry also are mitigated by continuing to allow the sale of certain regulated species with conditions attached, rather than prohibiting their sale entirely.

The rule, including lists of prohibited and regulated species, may be viewed by visiting the [Division of Lands and Forests regulations](#) web site.

Coming Soon! The 2015 Empire State Producers EXPO!



January 20, 21, and 22 at the Oncenter Convention Center in Syracuse, NY.

This show combines the major fruit, flower, vegetable, and direct marketing associations of New York State in order to provide a comprehensive trade show and educational conference for the fruit and vegetable growers of this state, as well as the surrounding states and Eastern Canada.

Watch for the day-long commercial berry session program in the next issue of NY Berry News!

For more information or to register: <http://nysvga.org/expo/>



How Long Do I Keep All This Food Safety Paperwork? *Phil Tocco, Michigan State University Extension*

University Extension

With the amount of produce food safety paperwork generated by growers, it is easy to forget how long to keep something. Growers should know the standard minimum length to keep food safety records based on the Food Safety Modernization Act.

August 27, 2014. Food safety work on farms can generate a tremendous amount of paperwork and records. Keeping track of all the moving parts and recording compliance checks can get overwhelming very quickly. The new [Food Safety Modernization Act](#) (FSMA) provides a number of [guidelines](#) with regards to record retention and access that can be used to help guide growers.

The proposed FSMA rule stipulates that all records be on the premises for at least six months. There is no requirement that these records are maintained as hard copies, just that they are maintained. Even after the six month, on-site requirement, the records need to be accessible within 24 hours for up to two years.

The ability to maintain records digitally opens up a world of storage possibilities. An inexpensive, direct-feed, desktop document scanner can significantly aid in quickly converting paper records to digital scans. Once scanned, the files can be stored in a way that the grower can easily reference them.

Another option for those records that are made on the fly is importing the log or record sheet into [Google Docs](#) or another cloud-based computing program. The logs can be created in a spreadsheet program of your choice and imported into the cloud. Meanwhile, farm workers who have smartphones can input data into that same spreadsheet using the smartphone while still in the field. Most cloud-based systems have date stamp tracking, allowing everyone to verify when

the records were imported.

By using the cloud to store records, many of the issues of FSMA compliance with regards to access can largely be eliminated. (Reprinted from: [Michigan State University Extension](#))

FDA Announces Cooperative Agreement to Implement National Produce Safety Rule

September 16, 2014. The U.S. Food and Drug Administration announced today a new cooperative agreement with the National Association of State Departments of Agriculture (NASDA) related to the Food Safety Modernization Act (FSMA) to provide critical information to help plan and carry out implementation of a national produce safety rule, in partnership with state regulatory agencies.

The cooperative agreement will provide the funding and support necessary to determine the current foundation of state law, the resources needed by states to implement the produce safety rule, as well as develop a timeline for successful implementation once the rule is finalized.

NASDA will partner with the Association of Food and Drug Officials (AFDO), the International Food Protection Training Institute (IFPTI), and other public health partners in the development of a national produce safety plan.

“Our state partners have expertise in produce safety and unique knowledge of local food production activities, and thus have an essential role to play in helping to implement the FSMA produce safety rule,” said Michael R. Taylor, FDA’s Deputy Commissioner for Foods and Veterinary Medicine. “This cooperative agreement will provide critical information on state legal authorities and resources to address produce safety and lay the foundation for working with NASDA and other state partners to develop a realistic and workable plan for nationwide implementation of the

FOCUS ON FOOD SAFETY *(continued)*

produce safety rule.”

“The progress we have made in the past year towards a state-federal partnership with the FDA is incredible,” said Chuck Ross, outgoing NASDA President and current Vermont Secretary of Agriculture. “This agreement further confirms the critical need to make sure the produce safety rule gets implemented correctly. NASDA will help the FDA develop and implement a national produce safety plan in a way that makes sense to the producers and processors that feed American consumers. NASDA remains fully committed to food safety and the successful implementation of FSMA.”

“We are thrilled for the opportunity to further collaborate with the FDA on food safety. NASDA is committed to the sound and comprehensive execution of this cooperative agreement,” said NASDA CEO Dr. Barbara Glenn.

NASDA is a nonpartisan, nonprofit association which represents the elected and appointed commissioners, secretaries, and directors of the departments of agriculture in all fifty states and four U.S. territories. To learn more about NASDA, please visit <http://www.nasda.org>.

September 2014 Produce Safety Alliance Newsletter

September 19, 2014. Based on the large number of public comments and outreach efforts after the first open comment period, the FDA has released proposed revisions to the Produce Rule that are more flexible and less burdensome in a few key areas. Revisions were made to the water quality standards and testing requirements, manure and compost requirements, the definition of a 'covered' farm, withdrawal of qualified exemptions, and provisions related to wildlife.

A summary of the key revisions can be found on the [FDA's website](#) or you can download the pre-publication version of entire proposed rule supplement [here](#), which will be available until the final is published in the Federal Register on September 29th, 2014.

In addition to the Produce Rule revisions, the [FDA Press Release](#) also highlights revisions to other keys areas of the Food Safety Modernization Act (FSMA) including [Preventive Controls for Human Food](#),

[Current Good Manufacturing Practice \(CGMP\) and Hazard Analysis and Risk-Based Preventive Controls for Food for Animals](#), and [Foreign Supplier Verification Programs \(FSVP\) for Importers of Food for Humans and Animals](#).

The comment period will open on Monday, September 29, 2014 and the FDA will accept comments for 75 days after the publication date (Sept. 29). Stay tuned for more information related to the comment process as well as informational sessions to learn more about the Produce Rule supplement as we move forward.

If you have any questions or concerns in the meantime, please let us know. We will be sending out more information through this listserve as it becomes available.

Our general listserve reaches close to 1,000 growers, industry members, regulatory agents, and educators in the United States and around the globe. Signing up for the listserve is the best way to stay in touch with the PSA. To sign up, please visit our website at <http://producesafetyalliance.cornell.edu/> or use the link included at the bottom of this e-mail message.

As always, please do not hesitate to contact us if you have any questions, comments, or ideas.

Gretchen L. Wall, M.S.
Produce Safety Alliance Coordinator
Cornell University - Dept. of Food Science
186 Stocking Hall
Ithaca, NY 14853
Phone: 607.255.6806
Email: glw53@cornell.edu

Elizabeth A. Bihn, Ph.D.
Produce Safety Alliance Director
Hedrick Hall - NYSAES
630 W. North Street
Geneva, NY 14456
Phone: 315.787.2625
Email: eab38@cornell.edu

ON THE ORGANIC SIDE...

Whacking Weeds Organically [Jan Suszkiw](#), Agricultural Research Service Information Staff

July 21, 2014. It can take real grit to control tenacious weeds. Although determination is an important attribute in farmers, [Agricultural Research Service](#) agronomist Frank Forcella is counting on grit of another kind in his approach to battling weeds.

In collaboration with South Dakota State University (SDSU) researchers, Forcella has devised a tractor-mounted system that uses compressed air to shred small annual weeds, like common lambsquarters, with high-speed particles of grit made from dried corncobs. Ongoing field trials may foretell of the system's potential to help organic growers tackle within-row infestations of weeds that have sprouted around the bases of corn, soybean, and other row crops.

Dubbed "Propelled Abrasive Grit Management" (PAGMan), the system disperses 0.5-millimeter-sized grit particles in a cone-shaped pattern at the rate of about 300 pounds per acre, using 100 pounds per square inch of compressed air. An SDSU engineering team built the machine under a grant Forcella was awarded from the U.S. Department of Agriculture's National Institute of Food and Agriculture.

"For the first few weeks of the growing season, weeds are relatively small, and that's when we target them with the grit," says Forcella, at the ARS North Central Soil Conservation Research Laboratory in Morris, Minnesota. The crop plants escape harm because they are taller than the weeds, and their apical meristems (growing points) are protected beneath the soil or by thick plant parts.



Tractor-mounted system for spraying corn grit to shred the leaves of weeds growing between crop rows. (D3204-1)

Current organic weed control methods include flaming (or scorching), soil tillage, and hand-pulling, among others. Still, weeds remain a chief agronomic concern requiring new approaches, says Forcella.

This summer will mark a second round of field tests of PAGMan on multiple rows of silage corn grown on 10-acre plots of certified organic land in Minnesota. "Last year, in corn with its full complement of weeds, we were able to get season-long weed-control levels of 80 to 90 percent using two treatments of the abrasive grit—one at the first-leaf stage and the second at the three- or five-leaf stage of corn growth," Forcella says. Corn yields compared favorably to those in hand-weeded control plots.

Initially, PAGMan consisted of a hand-held nozzle and compression hose hitched to a grit-filled tank on the back of an all-terrain vehicle. The tractor-mounted version, built by SDSU professor Daniel Humburg and former graduate student Cory Lanoue, uses an air compressor to pump the grit through eight custom-made nozzles capable of covering a four-row area.



The tractor-mounted system uses compressed air to spray corn grit onto weeds growing between four rows of crops simultaneously. Nozzles work in pairs to control small weeds by shredding them. ARS scientists were able to control 80-90 percent of weeds with two grit applications at two crop growth stages. (D3203-1)

We use corncob grit for our tests, but other agricultural residues could also be used," Forcella says. Organic growers suggested using corn gluten meal as a way to fertilize crops and blast weeds simultaneously. "We tried corn gluten meal and found it just as effective. The amounts necessary for controlling weeds were similar to those used to supply nitrogen to organic crops."

ON THE ORGANIC SIDE...

Forcella has published results from earlier, small-plot studies in *Weed Technology* and other peer-reviewed journals.

Results from the 2013 field trials were presented this year at the Weed Science Society of America's annual meeting by SDSU graduate student Mauricio Erazo-Barradas and Professor Sharon Clay.



Ground corn grit that can be sprayed on weeds to shred their leaves. Each grit grain is about 0.5 millimeters in diameter. (D3206-1)

Further reading:

1. Forcella, Frank. 2012. Air-Propelled Abrasive Grit for Postemergence In-Row Weed Control in Field Corn. *Weed Technology* 26(1):161-164. <http://www.bioone.org/doi/pdf/10.1614/WT-D-11-00051.1>
2. Forcella, Frank. Soybean Seedlings tolerate Abrasion from Air-propelled Grit. *Weed Technology* 27(3):631-635. <http://dx.doi.org/10.1614/WT-D-12-00192.1>
3. Wortman, Sam E. 2009. Integrating Weed and Vegetable Crop management with Multi-functional Air-Propelled Abrasive Grits. *Weed Technology* 23(2):317-320. <http://www.bioone.org/doi/pdf/10.1614/WT-08-099.1>

This research is part of Crop Production, an ARS national program (#305) described at www.nps.ars.usda.gov. Frank Forcella is with the USDA-ARS [North Central Soil Conservation Research Laboratory](http://www.nps.ars.usda.gov), 803 Iowa Ave., Morris, MN 56267; (320) 589-3411, ext. 127.

"Whacking Weeds Organically" was published in the [July 2014](#) issue of *Agricultural Research* magazine.

New Cost Share Resources

September 5, 2014. The National Organic Program (NOP) is pleased to announce the availability of a revised Frequently Asked Questions document and a new fact sheet to support the Organic Certification Cost Share Programs.

Additionally, a USDA blog on the programs will post on Monday morning, September 8. Organic cost share programs reimburse individual organic operators up to 75 percent of their certification costs up to a maximum of \$750 per category of certification. These materials will help organic producers and handlers learn more about the programs and how to participate.

[Organic Cost Share Programs - Frequently Asked Questions](#)

[Organic Cost Share Fact Sheet](#)

If you have questions, contact the USDA Organic Cost Share staff at CostShare@ams.usda.gov.



\$ MONEY TALK \$

Consider a Food Bank as a Market Opportunity - *Roberta M. Severson, Extension Associate
Cornell University Charles H. Dyson School of Applied Economics and Management*

September 2013. The local food pantry was once considered a source of food to meet emergency nutrition needs of children, families, and adults. The Hunger in America 2010 study conducted by Feeding America (an organization of 200 food banks throughout the U.S.) indicates that families are not visiting pantries to meet temporary acute needs but now use food pantries as a long term strategy to supplement monthly shortfalls of food. Senior citizens living on fixed incomes are shown to be among the most consistent pantry clients. Historically food banks relied on donated products to meet the needs of their clients. The donation stream from individuals, businesses and organizations has tightened. Food banks go to the marketplace to access a consistent stream of goods to meet the increasing demand for food.

The Hunger in America 2010 study showed that within the United States, 45% of all food programs need for more fresh fruits and vegetables, 58% need more meat products, and 48% need more dairy products. Food banks serving New York State have funds available through the NYS Department of Health's Hunger Prevention Awareness Nutrition Program to purchase perishable produce and other food products at prevailing wholesale market prices.

A food bank is a warehouse in business to acquire, sort, store, and distribute food to community hunger prevention agencies, which include emergency food programs, soup kitchens, residence programs, day care, multi-service organizations, senior centers, rehabilitation centers, youth programs and other programs. Food banks manage networks and logistics to move food from areas of surplus to areas in need inside and outside their regular service area. New York State is served by 10 food banks. According to the Food Bank Association of New York, food banks fed over 3,000,000 people through nearly 5,000 agencies in 2011. According to Feeding America, 191 million pounds of food was procured resulting in almost 150 million meals consumed in one year's time in New York State.

Table 1. Food Banks Serving New York State

Food Bank	Area served	Phone number	Pounds distributed annually (millions)	Number of service agencies
Island Harvest	Nassau, Suffolk	516-294-8528	6.935	536
City Harvest	New York City	646-412-0600	39.573	406
Food Bank of New York City	Bronx, Kings, Queens, Richmond, New York	718-991-4300	67.787	694
Foodlink, Inc.	Orleans, Monroe, Wayne, Genesee, Livingston, Ontario, Wayne, Seneca, Yates, Wyoming, Allegany	585-358-3380	8.366	370
Food Bank of Central New York	St. Lawrence, Jefferson, Lewis, Herkimer, Oneida, Oswego, Cayuga, Onondaga, Madison, Cortland, Chenango	315-437-1899	11.724	395
Food Bank of Western NY	Chautauqua, Cattaraugus, Erie, Niagara	716-852-1305	10.861	312
Food Bank of the Southern Tier	Steuben, Schuyler, Tompkins, Chemung, Tioga, Broome	607-796-6028	7.497	158
Food Bank of Westchester	Westchester	914-923-1100	6.208	216
Long Island Cares, Inc.	Nassau, Suffolk	631-582-3663	5.288	592
Regional Food Bank of Northeastern NY	Clinton, Franklin, Essex, Hamilton, Warren, Washington, Fulton, Saratoga, Montgomery, Schenectady, Rensselaer, Otsego, Schoharie, Albany, Greene, Delaware, Columbia, Ulster, Sullivan, Orange, Dutchess, Putnam, Rockland	518-786-3691	26.942	1,084

\$ MONEY TALK \$ *(continued)*

To access this market channel, producers should:

- Determine what is available for sale.
- Be able to describe the quality (grade) and the quantity of the product for sale.
- Decide if you will transport the product or if the food bank will transport the product (expect the price to be discounted if the food bank provides transportation).
- Contact your local food bank and speak with the person who purchases food.
- Negotiate a purchase price. Know in advance current market prices for specific grades. Food banks purchase at wholesale prices.

Quality is important. Food banks are limited in the amount of highly perishable product that they can purchase and distribute at any given time. Most of the agencies receiving perishable products have limited refrigerated storage space. As a result the food bank purchases smaller quantities of perishable produce more frequently.

Packaging is important. There are two options. The producer can sell produce in bulk quantities. Staff at the food bank will pack the produce into smaller quantities desired by end users. Or, the producer can pack the produce in small quantities before it is delivered to the food bank. The sale price should include this value-added service.

The Food Bank Association of New York and Feeding America develop forecasts for the supply and demand for products within New York State and the United States, respectively. A surplus of product in one area may be purchased and moved to a deficit area. Producers located near a state boundary should investigate the food banks in the neighboring state.

Presently, food banks in New York State do not require Good Agricultural Practices certification; however, food pantry procurers do visit the farms from which they are interested in purchasing product. It is important that all facilities are neat and clean. Producers can expect payment within 14 days, but it is appropriate to ask when payment can be expected when the deal is struck.

Like any other account, a trusting relationship between

the buyer and seller is critical when conducting business. Good communication, knowledge of current market conditions, and reasonable expectations are all important when negotiating price. Food banks are interested in purchasing high quality product at wholesale prices and will pay for customer friendly packaging. Contact them today.

Reference

Mabli, James, Rhoda Cohen, Frank Potter, Zhanyun Zhao. 2010. Hunger in America 2010 National Report. Chicago. Feeding America (formerly America's Second Harvest) Mathematica Policy Research, Inc.
http://feedingamerica.issuelab.org/resource/hunger_in_america_2010_national_report

"Smart Marketing" is a marketing newsletter for extension publication in local newsletters and for placement in local media.

It reviews elements critical to the successful marketing in the food and agricultural industry.

Past articles are available at

<http://marketingpwt.dyson.cornell.edu/publications.html>.



FOCUS ON PEST MANAGEMENT

The Pesticide Safety Education Program Reaches a 50-Year Milestone

September 15, 2014. Today scientists with the Weed Science Society of America (WSSA) joined with the American Phytopathological Society (APS) and the Entomological Society of America (ESA) to recognize the 50-year anniversary of the national Land-Grant University Pesticide Safety Education Program. Although the program has evolved over the past [50 years](#), it remains the focal point for pesticide safety education throughout the United States.

The Pesticide Safety Education Program (PSEP) had its genesis in 1964 to enhance pesticide label compliance and to develop the first training manuals. In the early years, the program was under the direction of each Land-Grant University's Cooperative Extension Program and was supported by the U.S. Department of Agriculture (USDA). In 1970, USDA passed the safe-use education torch to the newly created U.S. Environmental Protection Agency (EPA), which concentrated especially on safety issues on the farm and in other occupations.

In 1978, EPA classified the first 12 restricted-use pesticides (RUPs). Applicators were required to demonstrate competency to apply RUPs, and Pesticide Applicator Training (as PSEP was then called) served as the primary developer and deliverer to inform and educate on safe pesticide use.

The reach of the Pesticide Safety Education Program has expanded greatly over the years. There are many more RUPs, and many states now require whole categories of users to be certified, even if they do not apply RUPs. Examples include certification of hired applicators, public employees and those treating schools or aquatic environments. In fact, an estimated 40% of certified applicators in the U.S. today do not apply RUPs.

Though it once focused predominantly on the education of applicators controlling agricultural pests, PSEP now teaches applicators working in urban, natural, industrial and other settings. It provides training to those who control weeds, insects, disease-causing organisms, rodents and other pests in forests, structures, turf, ornamentals, rights-of-way, aquatic areas, and other important and sometimes unique "sites." These include food manufacturing and processing establishments, interior plantscapes, pet grooming, pools, public health, seed treatment, sewers, water sanitation, wood preservation and more. In addition, PSEP impacts more than one million pesticide users in the general public who apply pesticides in their homes and on their lawns, gardens, ornamentals and pets.



Last year, approximately 900,000 certified applicators in the U.S. applied pesticides or supervised their use. Many more individuals who did not require certification sold, transported, stored, mixed, applied, disposed or were otherwise involved in the life-cycle management of pesticides. To reach all these audiences, PSEP and its not-for-profit partners provided in-person and on-line training sessions, distance education, manuals, brochures, presentations and videos. Today you can surf the web for pesticide safety education in any state to locate resources developed by PSEP. These resources promote safe handling of pesticides and protection of applicators, workers, the general public, beneficial organisms and the environment.

Everyone benefits from a strong national Pesticide Safety Education Program – the general public, the registrants whose products' availability depends on safe use, the applicators who must be competent in the safe use of pesticides, the expanded network of trainers educated by PSEP and the regulatory agencies that enforce the law.

The recognition this program deserves is often muted, due to the increasing number of organizations and initiatives that erroneously equate pesticide safety education with promoting pesticide use. On its 50th anniversary, the WSSA, APS and ESA salute the Pesticide Safety Education Program in the Land-Grant Universities and in the territories for its many efforts to protect human health and the environment, as society continues its ongoing battle against pests.

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 Society promotes research, education and extension outreach activities related to weeds, provides science-based information to the public and policy makers, fosters

FOCUS ON PEST MANAGEMENT *(continued)*

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 slightly less 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.

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

Stockton's Timorex Gold® Biofungicide Receives EPA Registration

(Editor's note: This product is not yet registered in NY state; stay tuned!)

September 2014. Stockton Israel, a leader in plant extract based crop protection innovation, announced today that its flagship product, Timorex Gold, has received US registration from the Environmental Protection Agency (EPA). Timorex Gold is a natural broad spectrum fungicide, which allows farmers to have a useful new tool for disease control in



PIMS
Product, Ingredient, and
Manufacturer System



Berry Diagnostic Tool

organic and conventional crops.

Timorex Gold is a proprietary multi-component natural fungicide based on a plant extract of the *Melaleuca alternifolia*. The product is registered and approved for use in organic and conventional agriculture in more than 25 countries in the world, including most countries in Central and South America, Australia, Philippines, Serbia, Canada and now in the USA.

"Timorex Gold® provides consistent efficacy in a variety of diseases and enables food to be produced with greater efficiency and safety than ever before", Explains Guy Cooper, EVP Strategy Commerce and Business Development for the Stockton Group. "Timorex Gold® can be used either in rotation or in a tank-mix and improves the effectiveness of Integrated Pest Management (IPM) spray programs. Timorex Gold® provides growers with an exciting new non residue tool, which reduces chemical loads and is better for the environment. Its unique multisite Mode of Action is also a valuable tools in the constant fight against resistance buildup", he adds.

"The acceptance of the EPA in the USA market is a huge milestone for us," explained Ziv Tirosh, CEO of Stockton. "Stockton continuously invests in research and development to bring new sustainable crop protection products for todays' modern agriculture. This is a significant confirmation of our product's platform, paving the way for the flow of our new and innovative products and for sustainable crop protection."

Timorex Gold® is easy to handle, reduces risk to workers consumers and non-target pests, and leaves no residues. It may be applied along the growing season of many crops and will provide control of a variety of diseases. Timorex Gold® is the smart way to grow.

(Source: <http://www.stockton-ag.com/stocktons-timorex-gold-biofungicide-receives-epa-registration/>)

USDA Researchers Identify Stink Bug Attractant

Dennis O'Brien, Public Affairs Specialist, USDA-ARS, Beltsville, MD

July 16, 2014. WASHINGTON—[U.S. Department of Agriculture](#) (USDA) researchers have deciphered the chemical signals the brown marmorated stink bug (BMSB) uses to attract other stink bugs, opening the door to development of traps and technologies that should help keep the invasive pest out of backyards, gardens, homes and agricultural operations.



The brown marmorated stink bug (Halyomorpha halys), a winged invader from Asia that is eating crops and infesting U.S. homes, is spreading and is expected to continue to do so. Adult (left) and fifth-instar nymph (right). Photo by Stephen Ausmus.

ARS scientists have synthesized an attractant pheromone of the brown marmorated stink bug, a serious threat to apples, soybeans and other crops and a nuisance for the home and garden, which opens the door for traps and lures to control this pest.

A study detailing the chemical structure of the stink bug's "aggregation pheromone," how this attractant can be synthesized, and results of field trials has been published in the [Journal of Natural](#)

[Products](#) by scientists with USDA's [Agricultural Research Service](#) (ARS) and their partners. ARS is USDA's chief intramural scientific research agency.

"The stink bug is a widespread nuisance and a serious threat to producers of apples, peaches, corn, soybeans and a number of other important agricultural products," said ARS Administrator [Chavonda Jacobs-Young](#). "This research demonstrates how the dedication, skill and commitment of ARS researchers are addressing the changing needs of society and the problems faced not only by the agricultural community, but the public at large."

The BMSB is native to Asia. Since its discovery in Allentown, Pennsylvania, in 2001, it has devastated orchards, crops and fields and become a terrible nuisance in gardens, backyards and homes. It has an appetite for up to 300 different plants.

Estimates of economic damage vary, but in 2010 it was blamed for causing an estimated \$37 million in losses in the Mid-Atlantic region to apples alone. It also has spread to more than 40 states and parts of Canada.

As part of the study, ARS researchers collected airborne extracts released by the BMSB to search for the pheromones the bug uses to attract its fellow stink bugs to feeding sites. They found two attractant chemicals produced exclusively by adult males, synthesized them and counted the number of stink bugs caught in traps supplied with those attractants as lures.

Results showed the compounds were effective throughout the summer at capturing males,

females and nymphs, and were three times more effective when combined in one trap than when used individually.

The identification and synthesis of the chemicals was led by [Ashot Khrimian](#), and the field trials were overseen by [Don Weber](#), both ARS scientists in the agency's [Invasive Insect Biocontrol and Behavior Laboratory](#) in Beltsville, Maryland.

Coauthors include ARS researchers [Aijun Zhang](#), [Karl E. Vermillion](#), Shyam Shirali, [Filadelfo Guzman](#), [Tracy C. Leskey](#) and Jeffrey Aldrich (ARS, retired).

Weber led another group that has published a companion paper in the [Journal of Economic Entomology](#) on the synergistic attraction of the newly discovered pheromone with another attractant. The combination attracted more stink bugs than either lure on its own, and it could be used in commercial lures and traps throughout the growing season.

Project partners included researchers at [Johns Hopkins University](#) and the [Institute of Cellular and Organismic Biology](#) in Taipei, Taiwan.

Protecting Irrigation Equipment from Winter Damage

Lyndon Kelley, Michigan State University Extension

Broken pipes from freeze damage and electrical equipment failure are results of poor winter preparation of irrigation equipment. Spending time now on your irrigation equipment can help avoid irrigation start up repairs and delays next spring.

November 15, 2013. Irrigation risers from underground lines often cost \$200-\$300. Z pipes, pivot elbows and center pipe can cost the farm more than \$600 each and all are common irrigation freeze damage repairs. Often next year's irrigation startup problems are winter damage that can be prevented. Time spent now will prevent damage and lead to a better start on next year's irrigation season. Inspection of the system now allows you to make improvements and repairs in the less costly off season and get irrigation problems out of the way for spring planting season when everyone is busy. Steel pipes up in the air may freeze solid days before we think of freezing weather on the ground.

Park pivots in a safe location

When choosing a location to park the system for the winter, consider the three most common potential sources of winter damage: Wire theft is less likely in a visible but inaccessible area of the field; Wind damage is less likely if pivot points into or away from the wind direction rather than perpendicular to wind direction; and squirrels and other rodent damage to span wire is rare when pivots are a few hundred feet from the tree line.

Get rid of the brush and branches near equipment

Squirrel and chipmunk damage to span-wire and gasket can be minimize by removing limbs near equipment parked for the winter preventing animals jumping between trees and the structure. Trimming trees and removing brush near control panels and disconnect boxes reduces the chance of rodent damage. Removing woodchucks from the vicinity of pivot and pumping plant pads or electrical box can also help prevent damage.

Drain pivots and solid set systems

Most of the currently designed pivots have automatic frost drains that drain the main overhead pipe. Solid set systems may have automatic drains but you should always inspect that water has been eliminated from the pump to the furthest ends of the system. Plugged automatic frost drains can lead to major repairs if not caught in a fall inspection. Rock traps need to be



cleaned and drained, some designs may accumulate water condensing in the pipe over the winter leading to freeze cracks in rock traps that are emptied and put back in place. To avoid this issue many producers install a piece of hardware cloth held in place by the lock ring to allow condensate to leave the system. Pivot supply lines, end gun supply and hydro control hoses are often installed to allow drainage but the hose may sag and trap water which can lead to damage. Remember to cap all large openings into the system to prevent bird nesting.

Lower water levels in underground piping systems

Few underground piping systems require complete draining to protect from freezing in most of Michigan and Indiana. Lowering the water within the system so that the water is two to three feet below soil surface will prevent freeze damage in most situations. Water can be pushed out of the system by compressed air pumps available from most irrigation dealers or may be pumped from the underground pipe system using a common fertilizer style transfer pump. As a Michigan State University Extension and Purdue Extension irrigation educator, I have found an easy way to do this is by using a gas powered transfer pump at the lowest access point in the underground piping system. A one and one fourth inch tube slid down inside a riser or two inch access in the manifold where air relief is, can be piped to the intake of the pump.

Drain travelers and big guns

Travelers and stationary big guns often have portions of their system that hold water. Drain and roll-up hoses, unhook and drain ends couplers and drain water drive piston and motors/impeller drive systems that may be

Protecting Irrigation Equipment *(continued)*

damaged by freezing.

Trickle and drip lines and tape

Trickle and drip lines and tape are designed to be self-draining but manifolds and supply systems need attention to make sure no water pockets remain to freeze. Winter rodent damage can turn usable drip tape and trickle line into junk rapidly. Lines that are to be moved for next year are best stored in the barn. Lines over wintering in the field stand less rodent damage if not covered by plastic, plant material or mulch.

Pump down or drain underground pipe lines

Most underground pipe lines are buried deep enough to prevent freeze damage but they often require pumping or draining enough water from them to empty the upper portion of Z-pipe risers and pump manifolds. This is typically done by purging the system with air or modifying a fertilizer transfer pump to pump system at its lowest outlet or inlet points. Remember to cap all pipe inlets and outlets to prevent animals from entering.

Drain the pumping plant

Drain pumps and manifolds to the lowest point they can hold water. Replace brass drain plugs if damaged. Good designed pumping installations will be easy to drain without stripping drain plug threads or the need for air purging. Inspect gauges, supply and control wires for needed repairs. Service the engine with attention to engine oil, bearing and seal lubrication. Check the cooling system for adequate anti-freeze level and concentration. Drain the fuel tank to reduce water accumulation in fuel tank and potential theft.

Inspect and lock down electrical power supplies

Inspect each electrical box in the system from power supply to the last pivot or disconnect on system line for damage and holes that may be accessible for rodents. Sealing small holes helps keep rodent damage to a minimum. Both snakes and mice have even been known to crawl into electrical boxes and control panels through small hole or underground conduit with unprotected ends resulting in electrical fire and damage. Locking down electrical power supplies helps prevent vandals from turning wells and pivots on midwinter and minimizes potential electrical system damage. Now is an excellent time to inspect grounding, system test resistance and make repairs.

Create a winter work list for each system

While it is fresh in your memory list the improvements and repairs needed for each system. As you are inspecting and winterizing your system, add any other areas needing attention to the list of repairs needed. Assign the repair to someone whether it is your people or the local irrigation dealer repair crew, the sooner it gets into the plan the better and more efficient it can be.

(This article was published by [Michigan State University Extension](#).)

Safe Lifting & Carrying



"I have to do a lot of lifting, but I try to be careful. If I hurt my back I won't be able to make money for my family."

Prevent Back Pain and Injuries

1. **Assess the job and get help with heavy objects.**
2. **Stand close to object and spread feet apart.**
3. **Kneel down and get a strong grip.**
4. **Slowly lift your legs by straightening them, remember to keep your back straight.**
5. **Carry objects close to your body and avoid twisting when carrying.**



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Funded in part by the
New York State
Department of Labor Hazard
Abatement Program

FARM SAFETY

“NATIONAL FARM SAFETY AND HEALTH WEEK” HIGHLIGHTS IMPORTANT HELP THAT IS AVAILABLE

September 19, 2014. New York Farm Bureau and the New York Center for Agricultural Medicine and Health (NYCAMH) are recognizing “National Farm Safety and Health Week” which runs Sept. 21-27. The theme this year is “Safety Counts: Protecting What Matters.” It serves as an important reminder for the nearly 36,000 farms in the state that strive to provide a safe workplace environment for their family members and employees.

“We encourage all of our farmer members who are especially busy with harvest this time of year to think of safety first. Farming can be a dangerous occupation, but great strides have been made in New York to reduce risks on the farm. It is important that our farms review their safety protocols and “protect what matters” this week and all year long,” said Dean Norton, New York Farm Bureau President.

This sentiment is also shared by Sam Parks, NYCAMH’s promotion coordinator who states, “There is no greater reward than to work with the people that help to feed us three times a day. Often their struggles go unnoticed as they work day to day. Although farm work comes with some risks, much has been done in the NY farm community to address workplace hazards. Despite the challenges in farming, agriculture is a great way of life and is filled with many rewards. During this week we salute our farmers and encourage them to take some time to celebrate their hard work, and think about ways to create a culture of safety on their farm.”

New York Farm Bureau is a strong supporter of NYCAMH, advocating for additional program funding at the state and federal level to assist in its life-saving work that happens every day in this state. NYCAMH’s outreach activities include safety training, outreach education, health screenings and use of personal protective equipment for agricultural and forestry workers. Safety trainings consist of on-farm consultations with farm managers, on-farm worker safety trainings, and off-farm educational presentations to youth, farm owners, and farm service organizations.

So far this year, NYCAMH and its work group have completed 78 on-farm consultations, 155 safety trainings in English for 1,309 workers, 202 safety trainings in Spanish for 2,017 workers, and 38



educational sessions reaching 1,609 students and farm professionals. A majority of this work has been concentrated on dairy farms in New York.

In addition, 125 tractors have been retrofitted with rollover protection structures (ROPS), farms have purchased 322 replacement powertrain operation shields to safeguard workers, and there is an increased awareness of creating better safety and chemical protocols on farms throughout the state.

NYCAMH is one of 10 U.S. Agricultural Centers funded by the National Institute for Occupational Safety and Health and is a part of the Bassett Healthcare Network in Cooperstown, NY. For more information, contact NYCAMH at 1-800-343-7527 or NY Farm Bureau at 1-800-342-4143.

Stay Prepared: Hurricane Season Doesn’t End with Summer

September 12, 2014. Eatontown, N.J. Hurricane season officially begins each year on June 1, but unlike firemen’s fairs, cookouts and fun at the beach, the season for hurricanes doesn’t end along with the summer.

As a new school year begins, now may be a good time to check your stock of batteries, bottled water and other emergency supplies that may be needed should New Jersey experience an autumn hurricane.

While storm frequency tends to peak in August and September, hurricane season in the United States extends to November 30, and while the risk of a Thanksgiving storm may seem remote, it could happen.

In 2012, Superstorm Sandy only missed it by a few weeks.

Sandy made landfall in New Jersey as a tropical cyclone on October 29, flooding coastal communities, taking down trees, tearing up infrastructure and demolishing homes and businesses throughout the state. Forty New Jersey residents lost their lives.

Two years later, the ongoing expenses of repair, rebuilding and recovery from Sandy have made it the second costliest storm in United States history after Katrina, an August 29 storm that devastated New Orleans and the Gulf Coast in 2005.

FARM SAFETY *(continued)*

Like Sandy, many of the most destructive storms in United States history have occurred after Labor Day, causing massive loss of life and property damage in the billions.

On September 8, 1900, a category 4 hurricane engulfed Galveston Island, Texas. Storm tides as high as 15 feet swept away homes and businesses, killing an estimated 8,000 people.

On September 18, 1920, a category 4 hurricane bearing the highest sustained winds ever recorded at that time slammed into Miami Beach and downtown Miami. Believing the storm was over, thousands of people emerged from their homes during a half-hour lull at the eye of the storm and were trapped without shelter as it regained its ferocity. Every building in downtown Miami was either damaged or destroyed and hundreds of people were killed. The storm then crossed into the Gulf of Mexico, where it destroyed virtually every pier, vessel and warehouse on the Pensacola coast.

In the end, more than 800 people were reported missing after the storm and though records are incomplete, the Red Cross recorded 373 deaths and 6,381 injuries as a result of the hurricane.

On September 20 and 21, 1938, a fast-moving hurricane struck the Mid-Atlantic and New England with such force that thousands of people were taken by surprise. On Long Island, some 20 people watching an afternoon movie at a local cinema were swept out to sea and drowned. One of the victims was the theater's projectionist. In downtown Providence, Rhode Island, flood waters rapidly flooded streets, submerging automobiles and street cars as their occupants fled to the high floors of office buildings to escape drowning. The record-breaking storm was responsible for 600 deaths, causing \$308 million in damage in the midst of the Great Depression.

On October 14, 1954, Hurricane Hazel made landfall as a Category 4 hurricane near Calabash, North Carolina, inundating the coastline with an 18-foot storm surge on a lunar high tide. When the storm passed, only 5 of 357 buildings in Long Beach, North Carolina were still standing. The Raleigh, North Carolina Weather reported that "all traces of civilization on the immediate waterfront between the state line and Cape Fear were practically annihilated." Nineteen people were killed in North Carolina, with several hundred more injured; 15,000 homes were destroyed and another 39,000 were damaged.

On September 11, 1960, Hurricane Donna barreled across Florida, then traveled east through North Carolina, the Mid-Atlantic states and New England, causing \$387 million in damage in the United States and \$13 million elsewhere along its path.

Accounts like the ones above illustrate the importance of making a plan to protect your family and property from the potentially devastating effects of a hurricane or tropical storm.

With that in mind, why not take a minute to inventory your emergency supplies and schedule a trip to the store to stock up on items that you may need in an emergency.

The Federal Emergency Management Agency's website, www.ready.gov, has a wealth of information on how to plan, prepare and protect your family should another disaster like Sandy occur in the coming months.

FEMA's mission is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards.

Follow FEMA online at www.twitter.com/FEMASandy, www.twitter.com/fema, www.facebook.com/FEMASandy, www.facebook.com/fema, www.fema.gov/blog, and www.youtube.com/fema. Also, follow Administrator Craig Fugate's activities at www.twitter.com/craigatfema.

The social media links provided are for reference only. FEMA does not endorse any non-government websites, companies or applications."

How EDEN can help YOU prepare for disasters - *Scott Elliott, USDA National Institute for Food and Agriculture*

September 18, 2014. With the annual hurricane season brewing and potential winter storms on the horizon – not to mention the ever-present tornadoes, earthquakes, drought and fire – federal agencies are joining forces this month to help Americans prepare for and survive disasters.

FARM SAFETY *(continued)*

September is [National Preparedness Month](#) and [America's PrepareAthon!](#) is a national awareness campaign to get families and communities thinking about how to respond in the event of a disaster or other emergency. Saluting the "Be Disaster Aware, Take Action to Prepare" theme, the month's events conclude on September 30 with National PrepareAthon! Day. Are you getting involved?

The [Extension Disaster Education Network](#) (EDEN), with its website managed by the [Louisiana State University Ag Center](#), is the nation's premier source for disaster preparedness information, a one-stop shop of research-based educational material for all. EDEN operates locally as part of the Cooperative Extension efforts at each state's land-grant university. USDA'S [National Institute of Food and Agriculture](#) (NIFA) contributes funding each year through Food and Agriculture Defense Initiative and Smith-Lever special needs grants.

"Disasters can happen any time, any place, so every family needs to be prepared," Abby Hostetler, EDEN communications specialist at Purdue University, said. "Creating a family emergency kit, or grab-and-go kit, is a great first step to ensure your family can be self-sufficient for at least 72 hours after a disaster strikes."

EDEN has developed a [Family Preparedness Course](#) that is available online. The course teaches a family not only how to make a kit, but also how to create a family plan and what a family can do to be more informed. The course also covers creating specialized emergency kits for infants, children, seniors, and even family pets.

Other personal disaster preparedness resources include a [Winter Survival Kit](#) phone app, developed by North Dakota State University Extension Service using NIFA funding, and apps that provide disaster preparedness information [in Spanish](#).

As critical as personal readiness is for your own survival, it's equally important that communities prepare.

"We know that most communities will likely be impacted by several types of hazards during a lifetime. Knowing what to do before, during, and after an emergency is critical and may make all the difference when seconds count," Keith Tidball, senior extension associate at Cornell University and New York's EDEN program leader, said. "How do we ensure that people's actions reflect the highest levels of preparedness? The answer is increased education and training."



Enter EDEN with its mission to reduce the impact of disasters through research-based education. "One of the strengths of EDEN has always been a multi-disciplinary approach to disaster preparedness education, mitigation, recovery and response," EDEN Chair Rick Atterberry said.

Information is available 24/7 on all types of disaster and survivability preparedness, and New York's response to 2012's Super Storm Sandy provides a recent example of EDEN's support.

During Sandy, New York's EDEN disaster response team created a statewide information network that provided disaster preparedness and recovery information via Facebook, Twitter, email lists, web sites, and the Cornell University press office. After determining that the state's agricultural sector would be spared from much of the storm's damage, the team was agile enough to shift its focus and tailor resources to meet the needs of New York City and other highly populated areas.

Stay tuned to #NatlPrep on social media to see what other agencies and departments are doing to help YOUR community prepare for disaster.

See more at: <http://blogs.usda.gov/2014/09/18/how-ed-en-can-help-you-prepare-for-disasters/#sthash.ND2nAF1x.dpuf>

Visit the NY EDEN web site for more disaster preparedness information:
<http://eden.cce.cornell.edu/>

Cornell University
Department of Horticulture

134 Plant Science Bldg.
Ithaca, NY 14853

PHONE:
607-255-4568/1789

FAX: 607-255-0599

E-MAIL:
hort@cornell.edu

We're on the Web!

See us at:

<http://hort.cals.cornell.edu/>

New York Berry News (NYBN) is a monthly commercial berry production newsletter provided by Cornell berry team members. It is designed to help promote and strengthen commercial berry crop production in New York State. NYBN is available free of charge in pdf format at:

<http://www.fruit.cornell.edu/nybn/> .

Visit the NYBN web site to view back issues or to subscribe to monthly e-mail notices with table of contents and a link to the most current issue.

More on individual team members and their areas of expertise may be found at: <http://www.fruit.cornell.edu/berry/berryteam.htm>.

Questions or comments about the New York Berry News?

Ms. Cathy Heidenreich
Cornell University Dept. of Horticulture – Geneva Campus
630 W. North Street, Geneva, NY 14456
315-787-2367
mcm4@cornell.edu

Editor's Note: We are happy to have you reprint from the NY Berry News. Please cite the source when reprinting. In addition, we request you send a courtesy [e-mail](#) indicating the NYBN volume, issue, and title, and reference citation for the reprint. Thank you.

***Cornell University provides equal program and employment opportunity.**

Upcoming Events

October 3, 2014. *Cornell Small Fruit Open House*, Ithaca, NY. More information: Cathy Heidenreich, mcm4@cornell.edu, 315-787-2367.

November 17-19, 2014 – Southeast Strawberry EXPO, Pinehurst, North Carolina. **For more information:** www.ncstrawberry.com.

December 9, 2014. – *Cornell Agribusiness Economic Outlook Conference*, Ithaca, NY. **More information:** www.dyson.cornell.edu/outreach/ag_outlook_conference.php

December 9-11, 2014. *Great Lakes Fruit, Vegetable, and Farm Market EXPO and Michigan Greenhouse Growers Expo*. More information: <http://www.glexpo.com/>.

January 8-11, 2014. *2015 OPGMA Congress*, Sandusky, OH. **More information:** www.opgma.org .

January 20-22, 2015. *Empire State Producers EXPO*. **More information:** <http://nysvga.org/expo/information/>

January 27-29, 2015. *Mid-Atlantic Fruit and Vegetable Convention*, Hershey, PA. More information: <http://www.raspberryblackberry.com/>.

February 3-6 2015. *NASGA Conference and Symposium*, Ventura, CA. **More information:** www.nasga.org.

February 24-27, 2015. *North American Raspberry and Blackberry Conference*, Chancellor Hotel, Fayetteville, Arkansas. For more information, www.raspberryblackberry.com or info@raspberryblackberry.com.

June 18-25, 2015 – 11th International Rubus & Ribes Symposium, in Asheville, NC, June 21-24, with preconference tour to farms and research sites June 18-21. More information: <http://www.newbeginningsmanagement.com/>