



New York Berry News

Volume 13 Number 9

October 30, 2014

Berry Bytes...

Features:

- Ag News.
- Berry Organization News
- Focus on Food Safety
- On the Organic Side...
- \$ Money Talk \$
- Focus on Pest Management
- Farm Safety
- Articles
- Upcoming Events

How to Build a Better Fly Swatter (Fruit fly, that is...) Plan to attend one of three SWD Regional Winter Workshops, Wednesdays, 12/17/14, 1/14/15, 3/4/15, *THE PLACE* to learn up-to-date SWD management practices based on 2 ½ years research funded by legislative allocations. [Read more on page 2.](#)

Getting Your Berry Business Ready for the Big Ring...The 2015 EXPO Berry Session. Thursday, January 22, 2015. "Going Bigger" can be very profitable, but challenging – hear how at the 2015 EXPO berry session! [Read more on page 3.](#)

I See...I See...Pawpaws and Grapes?! Perhaps one of these small fruits might be a part of your future. Explore the possibilities at these educational events. [Read more on page 5.](#)

EEK! A...Vole !?! Voles, also known as meadow or field mice, can do a lot of damage to bushberry and caneberry plants during winter months. Population monitoring and management can help reduce losses. [Read more on page 6.](#)

Cranberry Growers – Take a Bow! The most comprehensive study to date reveals North American Cranberry Industry's multi-billion dollar economic impact in value-added output and jobs. [Read more on page 10.](#)

New to Berry Growing – or Want to Be? Cornell Small Farms Program is offering a 6-week online course that will help you determine whether you want to add berries to your farm, and make a plan for doing so. [Read more on page 11.](#)

Awald Farms at 100 This year, NARBA member Awald Farms, North Collins, NY, marks a major milestone, the farm's 100th anniversary. [Read more on page 12.](#)

Who You Gonna Call? FarmNet – the help you need, when you need it. [Read more in the article on page 20.](#)

Pest's Taste for Fine Wine May Prove Its Undoing. Capturing drosophila flies with lures containing wine and vinegar isn't a new approach. But a top-down examination of which chemical constituents in the aromas of these liquids specifically attract the flies has led to improved results...[Read more on page 21.](#)

Berry Research Providing Answers Zone tillage for strawberries? Exclusion netting, fixed sprayer systems, reflective mulches for SWD? Soil worms (nematodes) to combat root weevils? [Read more on page 22.](#)

Are Your Blueberries for the Birds or Your Buyers? Dance those birds away and attract more buyers with a new bird management strategy... [Read more on page 25.](#)

YouTube Video of the Month:
[Planting Everbearing Strawberries at Heeman's](#)

How to Build a Better Fly Swatter...Fruit Fly, that is...

GROWERS of Fall RASPBERRIES, Mid-Season & Late BLUEBERRIES,
& Day-Neutral STRAWBERRIES:

SAVE THE DATE!

Spotted Wing Drosophila (SWD) WINTER REGIONAL WORKSHOPS



- **CENTRAL NY**– Syracuse
Wed., Dec. 17, 2014

- **EASTERN NY**- Voorheesville
Wed. Jan. 14, 2015



- **WESTERN NY**- Batavia
Wed. Mar. 4, 2015

THIS is the place to learn up-to-date SWD management practices, based on 2 ½ years of research funded by legislative allocations

(The 2015 Expo will focus on other topics of importance to berry growers)

5 ½ DEC Credits available!

COMPLETE DETAILS COMING SOON...

Sponsored by:

NYS Berry Growers Association



“Going Bigger” is the Focus of the 2015 Empire Producers EXPO Berry Session

Making that move can be very profitable, but challenging – hear how!

Join commercial berry growers from across the state on Thursday January 22nd 2015 for a day-long commercial berry education session at the Empire State Producers EXPO held at the OnCenter in Syracuse, NY.

Morning Berry Session, Thursday, January 22, 2014, 9 to 11 AM

This session is designed to whet your appetite for what promises to be a full day of commercial berry educational programming you won't want to miss!

Consider expanding your berry operation by adding a new crop. One of the newer small fruit crops gaining acreage as well as popularity in NY is Juneberries. Dr. Erwin “Duke” Elsner, small fruit educator from Michigan State University will detail the basics of getting into Juneberry production and marketing, sharing insider how-to's for this exciting new crop via webinar.

Is organic blueberry growing on a large scale right for you? Dr. Bill Sciarappa, County Extension Dept. Head, and Agricultural Agent with Cooperative Extension of Monmouth County, Rutgers New Jersey Agricultural Experiment Station, brings it all into focus in his talk on “Organic Blueberry Production and Promise”.

“Introducing Ms. Penny Heritage, new communications person for the New York Berry Growers Association”, is one of the happenings in this session during the NYSBGA annual meeting. Learn more about the association's very successful efforts in mobilizing state funding for critical Spotted Wing Drosophila research and how you, too, can benefit from membership in this highly motivated organization.

And now here's...the rest of the story! If you had to give an opinion of the return on investment berry crops provide to your operation what would you say? Would your answer be a factual one based on your most recent berry farm business summary and enterprise budget data? Mr. Dan Welch, FarmNet



Business and Succession Planning Coordinator from the Cornell University Charles H. Dyson School of Applied Economics and management will provide final insights from a 2-year berry farm business summary research and extension project, funded by the NY Farm Viability Institute, and explain how you, too, can get set up to evaluate berry crop return on investment for your operation.

Afternoon Berry Session, Thursday, January 22, 2015, 1 to 4 PM

Looking for a new berry market but not sure which way to go? Try heading south! Berries are becoming more and more popular in the “Big Apple”. Bob Weybright from the Cornell Cooperative Extension Eastern NY Commercial Horticulture program shares his insights on small fruit marketing opportunities in NYC.

Have other commercial berry growers really “Gone Bigger” successfully?! And just how big, is BIG? Be on hand for the “Going Bigger” grower panel to hear 3 growers share their insights. Panelists include Mr. Steve Polter, Polter's Berry Farm, Fremont, OH, Mrs.

“Going Bigger” 2105 EXPO Berry Session *(continued)*

Shirley Kline from Happy Valley Berry Farm, Bridgeton, NJ and Mr. Nate Nourse, Nourse Farms, Whately, MA. Each will briefly share how they “went bigger” with their operation. A 15 minute audience Q&A is included in this panel discussion.

Do you feel like your efforts in commercial blueberry production are for the birds?! Hear Cornell graduate student Ms. Heidi Henrichs discuss her latest findings in bird management in fruit crops and tip the scales back in your favor (and perhaps sell a used car, or two, in the process...)

Those rotten root weevils! Is it possible to minimize damage from these unseen and often undetected pests in your strawberry plantings before it’s too late? Dr. Elson Shields from the Cornell Department of Entomology will share exciting results from his trials using microscopic entomophagus nematodes (aka bug-eating soil inhabiting round worms...) which you CAN grow and try at home!

“Where have all the...honeybees gone?!” seems to be one of the new songs of the day. How can you offset loss of these pollinators in your small fruit crops, particularly strawberries? Ms. Heather Connelly, graduate student in the Cornell Department of Entomology, shares results from her research work on improving strawberry pollination using wild flower plantings.

The final berry session of the day continues to provide updated insights on, you got it, Spotted Wing Drosophila and its management. Dr. Greg Loeb, Cornell Department of Entomology, and Ms. Dale Ila Riggs, President, NYS BGA, will share research findings on several fronts from work being done here in NYS to combat this invasive species.

So plan to join us for information packed 2015 EXPO berry educational program, you’ll be glad you came!

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



Educational Opportunities- Pawpaws and Grapes

Pawpaw Production Workshop

November 6, 2014. 6:30-8:30 pm.. Vince's Park, Seneca Falls NY, Intersection of Route 318 and Routes 5+20.

Have you ever thought of growing pawpaws? Pawpaw is a native fruit with a tropical-like flavor that has been described as a cross between a banana, mango and pineapple. They are rarely found in markets because the fruit is damaged easily when ripe. Steve Gabriel from the Cornell Small Farms Program and owner of Wellspring Forest Farm will be presenting a pawpaw production workshop, covering such topics as pawpaw management, site selection, and sourcing pawpaw trees.



You can register online at www.senecacountyccce.org or contact Derek Simmonds at 315-539-9251 or dcs285@cornell.edu. Cost is \$15 per family.



How to Create Your Own Vineyard

Cornell University Cooperative Extension of Allegany County in conjunction with Cornell University Regional Grape Program staff is hosting an Introduction to IPM and Managing Vineyard Pests Workshop for existing and potential commercial grape growers. This half day program will be held Nov. 6th (Thursday) from 8:30 AM-12:30 PM at the Cornell Cooperative Extension Belmont Office, 5435A County Road 48, Belmont NY.

Luke Haggerty, Cornell Viticulture Extension Specialist and Tim Weigle, Cornell Statewide Grape IPM Specialist, will be presenting at the workshop. This is a regional workshop and interested parties from surrounding areas are encouraged to attend. Topics will cover: how to select the best site for growing grapes; environmentally and economically sensible ways to protect crops from insects; selecting the grape varieties that will grow in your climate and how to plant your grapes and establish the structure for their optimal growth. Growers are encouraged to ask questions and actively participate in the course.

NYSDEC pesticide credits have been applied for in categories 1a, 10, and 22.

Cost of the program is \$15.00 per person or \$25.00 for two people from the same farm/household. Pre-registration is required. If you are interested in signing up for this program, please contact Colleen Cavagna at 585-268-7644 ext. 12 or cc746@cornell.edu.

Penn State **Extension**Cornell University
Cooperative Extension

Winter Wednesday Lunch Series

Vegetable and Small Fruit Production Webinars

Penn State and Cornell University have teamed up to present a series of webinars to keep you informed about critical production issues. This series provides convenient access to timely updates in commercial vegetable and small fruit production for extension educators, producers, and industry representatives in Pennsylvania, New York, and surrounding states.

Dates: December 10, 2014
January 14, 2015
February 11, 2015
March 4, 2015
March 25, 2015

Time: 1:00—2:00 p.m.

Cost: \$10 per webinar or \$35 for the whole series of five (payable by check or credit card); includes access to handouts and webinar recordings

To register, visit:
extension.psu.edu/vegetable-fruit/winter-webinars
Or call 724-627-3745

Topics and Speakers:

December 10: Hydroponic Vegetable Production
Tom Ford, Penn State

January 14: Current Issues in Strawberry Pest Management
Kathy Dermchak, Penn State, and
Cathy Heidendreich, Cornell
****2 Cat 02 & PC Recertification Credits Requested (Pennsylvania)*

February 11: Soil Health Through Reduced Tillage and Cover Crops
Carol MacNeil and Thomas Bjorkman, Cornell

March 4: Using Sanitizers in Wash Water
Luke LaBorde, Penn State

March 25: Tomato Nutrition in High Tunnels
Steve Bogash, Penn State, and
Judson Reid, Cornell

Stay connected!

In Pennsylvania, subscribe to our e-newsletter at extension.psu.edu/vegetable-fruit
In New York, visit cce.cornell.edu

This publication is available in alternative media on request.

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extension.psu.edu

Vole Management in Berry Plantings

Cathy Heidenreich, Cornell University, School of Integrative Plant Science, Horticulture Section

Voles, also known as meadow or field mice, can do a lot of damage to bushberry and caneberry plants during winter months from feeding on plant roots to girdling canes and gnawing on crowns below the snow cover. Population monitoring and management can help reduce losses incurred to blueberries, raspberries and blackberries and other berry crops by these small mammals.

Vole Life History and Management

Twenty-three species of voles occur in the United States. Meadow voles and Pine Voles are of the greatest economic importance to fruit growers. Most voles range in size from 5 to 9 inches in length, and 1 to 2 ounces in weight. They are generally gray-brown in color with grayish underparts. Compact is the term that best describes voles, which are stocky rodents with short legs and tails. These features, combined with small eyes and partially hidden ears make them ultimate tunnelers.

Home range for voles is usually $\frac{1}{4}$ acre or less but this varies with food supply, population density, and other factors. Pine voles spend their days underground creating systems of subterranean tunnels and runways (Figure 2). These tunnels are used to feed on plant roots, store food, and raise young (Figure 3). Tunnels have numerous surface entrances and a single burrow system may provide habitat for several adults and young.

Nocturnally active also, Meadow voles travel and feed at night along surface runways above ground. Runways consist of 1 inch wide depressions or matted trails in grass and ground cover that have characteristically close clipped vegetation and contain feces and bits of chewed debris.

Voles do not hibernate, reproducing for most of the year with peaks occurring in the spring and fall. Highly prolific, voles produce 1 to 5 litters per year with litters ranging in size from 3-11 young; average litter size is 3 to 6. Females are reproductively mature in 35 to 40 days. Young voles reach maturity within 21 days.

Vole lifespan is relatively short, ranging from 2 to 16 months. Populations tend to be cyclic with peaks occurring every 2 to 5 years. Cold winters can greatly reduce vole population numbers. Numbers are also affected by other climatic conditions and food supply.

Voles feed on a wide variety of plants but most commonly feed on grasses and forages. Other plant food sources include seeds, tubers, bulbs, and rhizomes. They are also known to occasionally feed on insects, snails, and animal remains.

The preferred habitat for most voles is an area with heavy cover (grasses, grass-like plants, leaf debris, mulch or litter). When populations are high they may spill over from these habitats into fruit plantings, wind breaks, and cultivated fields.



Figure 1 Vole feeding on apple. Photo courtesy P. Curtis.



Figure 2 Pine Vole tunnel. Photo courtesy I. Merwin.



Figure 3 Meadow vole nest in the Grass. Photo courtesy P. Curtis.

Vole Management in Berry Plantings *(continued)*



Figure 4 Meadow Vole (right) and Pine Vole (left).
Photo courtesy I. Merwin.

The two types of voles most common to our area are the Meadow vole (*Microtus pennsylvanicus*) and the Pine or Woodland vole (*M. pinetorum*). (Figure 4) The Meadow vole is the most common species found in the northern US and Canada. Ranging in size from 5.5 to 7.5 inches in length the meadow vole has gray to yellow brown fur with black-tipped hairs. Northern subspecies of this mammal may have reddish fur overtones. Meadow vole underparts are gray, sometimes washed with silver or buff; its tail is bicolored. Preferred habitats for *M. pennsylvanicus* are wet meadows and grasslands.

Pine vole, common to the eastern US, is smaller than Meadow vole, ranging in size from 4 to 6 inches in length. These voles are brown in color with soft dense fur. Underparts are gray mixed with yellow to cinnamon. The tail is one colored or just slightly bicolored. Pine vole's preferred habitats include deciduous and pine forests, abandoned fields, and orchards with heavy ground cover.

In terms of quick ID, the tail is shorter than hind foot length for pine voles and larger than hind foot length for meadow voles.

Trapping is an effective way to positively identify vole species present in an area. A snap-type mouse trap is sufficient for this purpose. Bait the trap with a small piece of apple. Some excavation may be needed to position traps in pine vole runs (Figure 5). Place a bent roof shingle over the trap to form a protective cover for the trap. Allow sufficient height between the trap and the shingle roof for the trap to spring without hitting.

Meadow vole traps should be placed at right angles to surface runways or back to back inside runs (Figure 6).

Recognizing Vole Damage to Berry Crops

Pine voles feed on berry crop roots, and Meadow voles girdle berry root crowns and canes. Girdling typically occurs in fall and winter. Damage may also occur to irrigation systems through voles chewing on tubing.

Girdling alone is not solely indicative of vole damage to bush and caneberryes. Rabbits and other rodents may also girdle berry

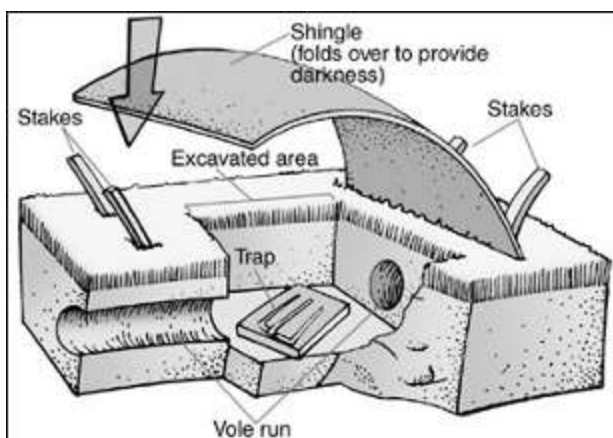


Figure 5 Pine vole trap (Pierce, 2003)

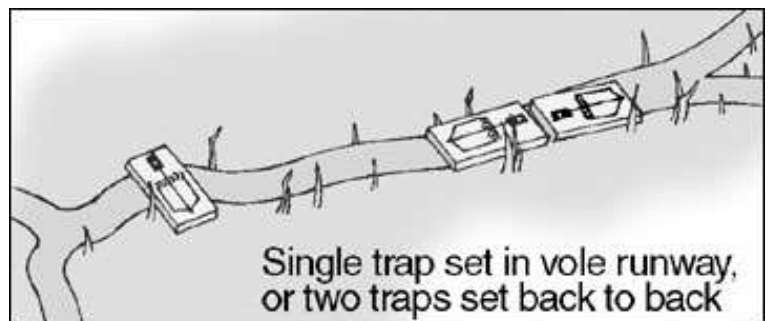


Figure 6 Meadow vole trap (Pierce, 2003)

Vole Management in Berry Plantings *(continued)*

Vole girdling is typically 1/8" wide by 3/8" long and 1/16" deep. Marks occur at various angles and in irregular patches. This type of feeding, coupled with evidence of extensive burrowing, burrow entrances and surface runways may indicate Meadow vole damage. Pine vole spends most of its time and causes its damage *below* ground. In comparison, Meadow vole spends considerable time and causes most of its damage *above* ground.

Extensive vole tunneling also creates air pockets in the root zone and may disrupt water movement through the planting.

Monitoring Vole Damage and Making Management Decisions

Monitoring may be done in spring, summer, and fall to track vole population changes. Fall monitoring however, is most often used in making management decisions. Monitoring should be done when temperatures are still above freezing during a period with little or no rainfall. Construct monitoring stations consisting of pieces of roofing shingle or other material to provide shelter. Place shelters over a tunnel entrance or section of runway. An apple wedge serves as bait under the shelter. Set out 4 to 8 monitoring stations per acre. Check apple wedges 24 hours after placement for evidence of feeding. If inclement weather is a factor, leave bait stations with wedges in place to allow ample time for night feeding. Score each station as positive or negative for feeding. In general, management is recommended when 15% or more of the bait stations show positive feeding damage after 24 hours. For more in-depth information on this technique see: *Integrated Pest Management for Blueberries - A Guide to Sampling and Decision Making for Key Blueberry Pests in Northwest Washington*. <http://whatcom.wsu.edu/ipm/blue/>.

Vole Management Strategies

Cultural practices are effective in reducing vole populations in berry plantings. Weeds, ground cover and litter should be eliminated around bushes as much as possible. Grass alleyways should be mowed regularly, especially in spring and fall. Mulch used for weed management should not excessively cover bases of canes or crowns.

Voles are excellent swimmers. Unmanaged waterways, rights-of-way, and ditch banks provide excellent vole habitat. Manage these adjoining areas carefully to reduce vole numbers. Keeping surrounding

vegetation to a minimum through mowing, spraying, or grazing may also reduce vole populations. Tillage of surrounding non-berry crop areas also helps reduce vole damage. Tilling removes cover, kills some voles outright, and destroys burrows.

In addition to cultural practices, some growers opt to use pelletized baits with rodenticides to further reduce vole populations. These products may be broadcast applied to whole plantings or applied by hand near entrance holes and in runways. Broadcast and hand applications, while easier to implement, have been found to be generally less effective than bait station use. Broadcast baits tend to degrade more quickly as they have full exposure to the environment. Moreover, their wide dispersal causes less frequent vole ingestion/exposure. This in turn may lead to bait-shyness through ingestion of sub-lethal doses of the bait. Broadcast baits should not be applied to areas with bare ground as this may increase non-target animal consumption.

Rodenticide bait stations protect bait from moisture and reduce the likelihood of bait consumption by non-target animals. Stations should be activated in fall if population numbers are high and maintained through spring if populations remain high during winter months.

They may be constructed from PVC pipe or other water repellent materials (Figure 7). Place bait stations at 10-ft intervals in infested areas. Repeat baiting again after 5 days. After 21 days, repeat the apple sign test to check efficacy of control measures.

Two types of rodenticide baits are currently available for vole population management: zinc phosphide containing baits which are a one-time application for quick knock down of rodent populations and baits containing anticoagulant compounds such as chlorophacinone that provide protection throughout the winter.

Zinc phosphide baits such as Prozap zinc phosphide pellets or ZP Rodent bait Ag contain 2% zinc phosphide. Both products are currently registered for use on bushberries and caneberries in NY. These products are restricted use pesticides which may be purchased and applied only by certified applicators. They are acutely toxic to all vertebrates (humans, domestic animals, wildlife). Broadcast applications by cyclone seeder or hand (follow all label precautions!) of these products may only be made during the dormant season (after final harvest and before leaf emergence

Vole Management in Berry Plantings *(continued)*

in the spring); PHI for bushberries and caneberries is 70 days. Hand applications should consist of throwing tablespoon amounts of bait into heavy cover along bushes, rock out crops, fence lines and runways. Make up to 2 applications at a minimum interval of 21 days, at the rate of 6 to 10 lbs. per acre (0.12–0.2 lb. ai/A) per application. Maximum application per growing season is 20 lbs. per acre (0.4 lb. ai/A). Never apply these materials to bare soil. Zinc phosphide baits should not be applied when ground is snow-covered, or when rain or snow is forecast within 48 hours of application.

Zinc phosphide baits should reduce vole populations within 72 hours of treatment. After the vole population has been reduced, an application of anticoagulant bait will assist in reducing the number of voles re-populating the planting during winter months.

Anticoagulant baits, such as those containing chlorophacinone as an active ingredient, are more toxic to voles than to other birds and mammals. These baits have a lower percentage active ingredient (0.005%) and require multiple feeding events by voles to be effective. Risk to non-target wildlife is minimal with these products when they are used according to label directions. There is currently one anticoagulant bait product registered for use in NYS with this ai: Rozol Vole Bait (EPA number 7173-242). It may be applied to border areas/buffer strips adjacent to crops (within 100 feet of the edge of the crop land). Before application, locate vole trails, runway systems, and harborage areas to be treated. Rozol must be applied by "Hand Spot Baiting" only in NY. Place 1 ½ ounces (6 tablespoons) of bait in each active hole, trail or runway; cover each placement with a shingle or grass to avoid exposing non-target organisms, or place in a tamper resistant bait station. (Figure 7). Do not exceed 10 pounds per acre.

As always, read and follow all label directions whenever applying rodenticides or other pesticide products.

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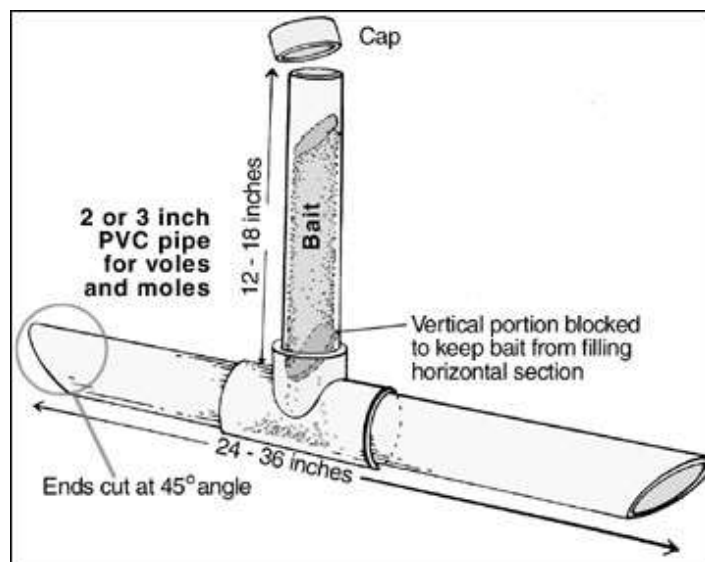


Figure 7 Bait Station diagram (Pierce, 2003). Note: Meadow voles will sometimes not use these types of bait applicators.



Figure 7 Roofing shingle cover over baited surface runway. Photo courtesy M. Fargione.

[/blue/voles.html](#).

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Vole Management in Berry Plantings *(continued)*

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Joint Report on the North American Cranberry Industry Details a Multi-Billion Dollar Economic Impact to Key States and Provinces Foundation

The most comprehensive study to date reveals cranberries' influence in value-added output and jobs

September 30, 2014. Wareham, MA. The Cranberry Marketing Committee (CMC) USA has announced the findings of an economic impact study of the North American cranberry. The study, conducted by University of California – Davis researchers, was jointly supported by the CMC, Cranberry Institute and British Columbia Cranberry Marketing Commission.

Key findings show that during the four most recent years in which complete data are available, 2009-2012, the cranberry industry in the United States was responsible annually for \$3.55 billion in value-added output and 11,610 jobs. During the same period, on average the cranberry industry in Canada has been responsible for \$411 million in value added output and 2,708 jobs annually.

“This report clearly identifies the cranberry industry as an important economic driver,” said Scott J. Soares, Executive Director, CMC. “Many thanks go to the broader cranberry industry who not only shared the information that made this report possible but also contribute so much to support and grow local economies.”

According to the University of California – Davis researchers, the fifty-one-page study, [Economic Impact of the North American Cranberry Industry Report](#), is the most comprehensive to date in terms of its geographical coverage and inclusion of both the production and processing sectors. The purpose of the report was to describe the economic impacts of the cranberry industry in an effort to convey industry facts to policy makers and regional stakeholders interested in the future of the cranberry industry. The study was led by Drs. Julian Alston and Tina L. Saitone.



In order of production, processing, and handling in the United States, states include Wisconsin, New Jersey, Massachusetts, Washington and Oregon. On a smaller scale, cranberries are also commercially grown and processed in Connecticut, New York, Rhode Island, Minnesota, Maine, and Michigan.

Québec is the leading cranberry producing and processing Province in Canada, responsible for \$365 million in value added and 2,269 jobs.

About the Cranberry Marketing Committee (CMC)

The CMC was established as a Federal Marketing Order in 1962 to ensure a stable, orderly supply of good quality product. Authority for its actions are provided under Chapter IX, Title 7, Code of Federal Regulations, referred to as the Federal Cranberry Marketing Order, which is part of the Agricultural Marketing Agreement Act of 1937, as amended. This Act specifies cranberries as a commodity that may be covered, regulations that may be issued, guidelines for administering the programs, and privileges and limitations granted by Congress. For more information about the CMC, visit uscranberries.com.

Berry Production - Getting Started with Production and Marketing



Berries are the crown jewels of Summer and Fall farm bounty, and can be a profitable enterprise on their own, or a good complement to an existing operation. Learn to produce and market strawberries, raspberries, blueberries, and other less common small fruits in a 6-week online course starting Nov. 6.

[BF 122: Berry Production - Getting Started with Production and Marketing](#) is a 6-week online course that will help you determine whether you want to add berries to your farm, and make a plan for doing so. The course consists of weekly real-time webinars followed by homework, readings, and discussions on your own time in an online setting.

****New this year:** students who successfully complete the course requirements are eligible to be considered for a 0% interest crowdfunded loan of up to \$10,000 through [Kiva Zip](#).

The course runs Thurs Nov 6 - Dec. 18, 2014--skipping Thurs. Nov. 27 for Thanksgiving--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 122: Berry Production](#) 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!



FSMA Updates

October 3, 2014. Redline versions of the codified text of the four recently released proposed supplemental rules are now available. The redline versions allow you to see how the proposed codified text has been modified from the original proposal.

[Proposed Supplemental Rule for Produce Safety](#)

[Proposed Supplemental Rule for Preventive Controls for Human Food](#)

[Proposed Supplemental Rule for Preventive Controls for Animal Food](#)

[Proposed Supplemental Rule for Foreign Supplier Verification Programs \(FSVP\)](#)

For more information on FDA's Food Safety Modernization Act, visit <http://www.fda.gov/fsma>.

BERRY ORGANIZATION NEWS

NYS BGA Welcomes New Communications Specialist

The NYS Berry Growers Association welcomes Penny Heritage to their new Communications role! Penny's background and education are in NY agriculture, she worked in Public Relations and Marketing for a NY agribusiness for 16 years, and has been providing Agricultural Communications services for NY farm organizations for the past decade.

Please feel free to contact Penny at 518-424-8028, or pennyh@nycap.rr.com.

Check out the benefits of joining the NY Berry Growers Association at: www.hort.cornell.edu/grower/nybga and "like" their new Facebook page at: www.facebook.com/NYSBerryGrowers



NARBA NEWS

Awald Farms at 100 – Debby Wechsler, NARBA

This year, NARBA member Awald Farms marks a major milestone, the farm's 100th anniversary – plus Ed and Millie Awald's 50th wedding anniversary. Add to that close to 20 years of membership in NARBA, and Ed and Millie have a long story to tell.

Awald Farms is located in western New York, about 25 miles southwest of Buffalo in North Collins, NY. It was established by Ed's grandfather, Edward Geiger in 1914. He and his son worked the farm as a mixed truck farm, generally wholesaling their crops. After they both died in 1960, the farm passed into the hands of Ed's mother and her husband. Ed and Millie rented it from them starting in 1975, and then bought it from them in 1983.

Ed grew up working on the farm. As an adult, he also had a job as an Ag Inspector for the NY Dept. of Ag and Markets for many years. His father and grandfather grew raspberries to take to market, and in the 1960s, Ed convinced them to get into blueberries as well. In the 1970s, they started selling PYO. Says Ed, "My father also sold many raspberry plants, and after his death, we decided to expand as a nursery."

Besides berries, Awald Farms raises pumpkins and a bit of summer produce, and their nursery offerings

include grapes and currants as well as caneberreries. The farm has three locations, all about a mile apart: their nursery, their PYO fruit operations, and their fall pumpkin patch. The combination of nursery, fresh berries, and pumpkins means that the Awalds are busy year-round. They start the PYO season with strawberries in June, then summer raspberries and blueberries, then fall raspberries and pumpkins. Nursery plants are dug in the fall, before cold weather sets in, and put in refrigerated storage. During the winter, they go through the plants, grade them, and bundle them up, using mostly local high school students as labor. Inquiries and orders start coming in the fall, and packing and shipping take place during the fall. "Nursery busy is a different kind of busy from selling fruit," says Millie. "There's a lot of bookwork and phone calls."

Each year, they get new nursery planting stock for their caneberreries, starting with tissue-cultured plugs or sometimes "nursery mature" plants, field grown one year after tissue culture. They grade the plants based on the American Nursery and Landscape Association grading standards. Their main outlet is wholesale nurseries, and other catalog nurseries but they also sell to commercial growers and home gardeners

In their raspberry PYO plantings, Ed says they try to grow varieties that are the most hardy, productive, and have good quality fruit. Their season starts with

NARBA NEWS...(continued)



Edmund Awald (L) and Edward Geiger (R), with bountiful black raspberry crop; they are father and maternal grandfather of current owners Ed and Millie Awald.

Prelude, followed by Boyne and Killarney, then Latham, and purple and black raspberries in July. For the fall, they offer Caroline and Heritage. The Awalds are also always looking for new varieties to try to expand their offerings to their customers. This year, they have young plantings of the three new Cornell releases: Crimson Giant, Crimson Knight, and Double Gold. While these are yielding some berries this year, it will take at least another year to fully evaluate them.

While they had some cold damage over the winter, so far 2014 has been a pretty good year, partly because of ample rainfall. They spray for SWD on a regular basis, and it has not been a problem, though they saw a few last year. One thing that helps is that customers do a good job keeping



Red and purple raspberry four-packs at Awald Farms.



Millie and Ed Awald with their son Wesley, and his wife Jamie, and their children Autumn, Ethan and youngest, Elijah.

the plants picked – dedicated customers will even pick in the rain, says Millie.

PYO red raspberries sell for \$2.60/lb and purple/black raspberries for \$2.90/lb; strawberries are \$2.00/lb and blueberries go for \$1.50/lb. They generally sell ready-picked raspberries as a box with four half-pint baskets for \$9.00 (\$10.00/box for black raspberries). Ready-picked blueberries get sold in 5 lb. handle baskets for \$13.00.

Many of their customers come a long way, often from the suburban areas and small towns around Buffalo. Many customers note that they loved coming to Awald Farms as children, and now they're bringing their children and grandchildren back. PR and advertising efforts this year



Ed Awald in a raspberry planting.

NARBA NEWS...(continued)



The Awald's farm market offers their own berries plus many other products.

have highlighted the 100th anniversary.

Five years ago, the Awalds built a handsome retail market at the PYO location. Daughter-in-law Jamie is the primary manager, and they hire local help to operate it. Besides their berries, the market offers jarred and packaged products, crafts, baked goods, groceries, drinks, ice cream, and a grill with hot foods (like hot dogs and hamburgers). The market is open June through August, the period when their berries are ripe. Millie and Jamie both make crafts for the market, and the jams and jellies are made for them locally.

Millie Awald has a bad back these days, so she is the power behind the phone and concentrates on the office work. Her favorite crop is the pumpkins, and it's her personal project. She's the one who chooses the varieties and starts the seeds in the greenhouse. The Awalds grow lots of different kinds: regular jack-o'-lantern pumpkins, 200-300 lb giants, mini pumpkins, white pumpkins, gourds, and "Snack Jack" pumpkins, grown primarily for their edible shell-less seeds.

All seven of their children have worked on the farm in some capacity, either doing field work or helping sell produce in the farm market. Sons Allan and Wayne took care of the everyday farm work when Ed was busy with his job as an Ag Inspector. Allan, the oldest, went to Cornell in the Ag & Life Science program and he and his wife Debra are currently living in Washington state. Says Millie. "He was the one that suggested we go to direct mail instead of ads in our local newspapers. We now do postcard mailings 3 times a year to a growing list of 7,500 customers." Allan also encouraged the Awalds to purchase a blueberry harvester and sorting equipment to minimize



Chris Awald developed this thick-stemmed "Wolf" pumpkin variety.

crop loss and increase sales. His wife, Debra, developed the Awald's first website.

Their son Wes and his wife Jamie both work on the farm and are instrumental in managing the PYO operation and farm market. In the fall, they have a corn maze and a U-pick pumpkin patch on their own nearby farm, welcoming the public and catering to school and group tours.

Chris and his wife have their own farm nearby. Chris has developed a pumpkin cultivar with a very thick, long, green stem called the "Wolf" pumpkin. He now sells the "Wolf" seeds to numerous seed companies. Wayne, Laurie, and Joe and their spouses are scattered around New York State in other careers, while Becky, the youngest, who resides with her husband in the area, serves as the farm's graphic designer, social media expert, and website manager. "I think several of the boys may come back to the farm someday," says Millie.

Ed says the biggest challenge in the last few years has just been the regular efforts of trying to make a living. With his many years of experience, his focus on the day-to-day must be formidable! We wish Awald Farms much success as they enter the next hundred years. t

See their website (and nursery catalog) at www.awaldfarms.com and Facebook page www.facebook.com/AwaldFarms.

NEW YORK STATE AG NEWS

New Farmers Grant Fund Program Purpose

The New York State New Farmers Grant Fund was created to provide assistance to new and early stage farmers and encourage farming as a career path to sustain and grow agribusiness across New York State

Program Highlights

Empire State Development, in consultation with the New York State Department of Agriculture and Markets, will administer the \$614,000 fund, which will provide grants from \$15,000 to up to \$50,000 for eligible early stage farmers who substantially and materially participate in the production of an agricultural product on a commercial farm operation within New York.

Funds can be used for up to 50 percent of project costs including, but not limited to: lease or purchase of farm machinery and equipment; construction or expansion of farm buildings or systems; and, purchase of supplies such as root stock, seed, and fertilizer. Beginning farmers must not have produced an agricultural product, as defined in the Agriculture and Markets Law (1), for more than ten consecutive years prior to application.

Eligibility

The following criteria must be met in order to be eligible to apply for funding:

- An applicant must be a commercial farm operation (2), as defined by the Guidelines, owning or leasing one hundred fifty acres or

less located wholly within New York State;

- All owners of the farm operation must not have not produced an agricultural product for more than ten consecutive years;
- All owners of the farm operation must materially and substantially participate in the production of an agricultural product grown or raised on the farm operation;
- Innovative agricultural techniques must be demonstrated including, but not limited to, organic farming, specialty crops, and environmental stewardship techniques and technologies; and,
- The farm operation must be a legally formed business in New York State at the time of application.

(1) N.Y. Agriculture and Markets Law § 328. (2) Farm operation means the land and on-farm buildings, equipment and practices which contribute to the production, preparation and marketing of crops, livestock and livestock products as a commercial enterprise.

Application Information

Visit the NY Farm Fund Web site for program guidelines and application procedures:

<http://esd.ny.gov/BusinessPrograms/NewFarmersGrantFund.html>.

The guidelines contain program requirements and information and should be referred to when completing an application. A complete application consists of an application form filled out in its entirety and all of the required

elements and attachments requested within. An application checklist is included as a guide.

Additional information may be obtained by writing to Bonnie Devine at nyfarmfund@esd.ny.gov.

Applications must be postmarked by January 28, 2015.

New York State Young Farmers Loan Forgiveness Program -Due Dec. 15

Are you a young farmer or know a young farmer with outstanding student loans? The Young Farmers Loan Forgiveness Incentive Program may be able to help.

Through the New York State Higher Education Services Corporation, the Young Farmers Loan Forgiveness Incentive Program is offered to encourage recent college graduates to pursue careers in farming in New York State.

This program provides up to \$10,000 annually in loan forgiveness awards to individuals who obtain an undergraduate degree from an approved New York State college or university and agree to operate or manage a farm in New York State, on a full-time basis, for five years.

Apply at

<https://webapps.hesc.ny.gov/questionnaire/page.hesc?questionnaireid=86&versionNumber=1>.



AGRICULTURE NEWS

New York State Department of Agriculture & Markets

108 Airline Drive ~ Albany, New York 12235 ~ www.agriculture.ny.gov

USDA NEWS

USDA Unveils Key New Programs to Help Farmers Manage Risk

End of Direct Payments Represents One of the Most Significant Farm Policy Reforms in Decades

USDA Launches Education Efforts to Help Producers Choose New Program Right for Them

Sept. 25, 2014. Washington D.C. U.S. Department of Agriculture (USDA) Secretary Tom Vilsack (*right*) today unveiled highly anticipated new programs to help farmers better manage risk, ushering in one of the most significant reforms to U.S. farm programs in decades.

Vilsack also announced that new tools are now available to help provide farmers the information they need to choose the new safety net program that is right for their business.

"The 2014 Farm Bill represented some of the largest farm policy reforms in decades. One of the Farm Bill's most significant reforms is finally taking effect," said Vilsack. "Farming is one of the riskiest businesses in the world. These new programs help ensure that risk can be effectively managed so that families don't lose farms that have been passed down through generations because of events beyond their control. But unlike the old direct payment program, which paid farmers in good years and bad, these new initiatives are based on market forces and include county – and individual – coverage options. These reforms provide a much more rational approach to helping farmers manage risk."

The new programs, Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC), are cornerstones of the commodity farm safety net programs in the 2014 Farm Bill, legislation that ended direct payments. Both programs offer farmers protection when market forces cause substantial drops in crop prices and/or revenues. Producers will have through early spring of 2015 to select which program works best for their businesses.

To help farmers choose between ARC and PLC, USDA helped create online tools that allow farmers to enter information about their operation and see projections about what each program will mean for them under possible future scenarios. The new tools are now available at www.fsa.usda.gov/arc-plc. USDA provided \$3 million to the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri and the Agricultural and Food



Policy Center (AFPC) at Texas A&M (co-leads for the National Association of Agricultural and Food Policy), along with the University of Illinois (lead for the National Coalition for Producer Education) to develop the new programs.

"We're committed to giving farmers as much information as we can so they can make an informed decision between these programs," said Vilsack. "These resources will help farm owners and producers boil the information down, understand what their options are, and ultimately make the best decision on which choice is right for them. We are very grateful to our partners for their phenomenal work in developing these new tools within a very short time frame."

Starting Monday, Sept. 29, 2014, farm owners may begin visiting their local Farm Service Agency (FSA) offices if they want to update their yield history and/or reallocate base acres, the first step before choosing which new program best serves their risk management needs. Letters sent this summer enabled farm owners and producers to analyze their crop planting history in order to decide whether to keep their base acres or reallocate them according to recent plantings.

The next step in USDA's safety net implementation is scheduled for this winter when all producers on a farm begin making their election, which will remain in effect for 2014-2018 crop years between the options offered by ARC and PLC.

USDA NEWS *(continued)*

Today's announcement was made possible through the 2014 Farm Bill, which builds on historic economic gains in rural America over the past five years, while achieving meaningful reform and billions of dollars in savings for the taxpayer. Since enactment, USDA has made significant progress to implement each provision of this critical legislation, including providing disaster relief to farmers and ranchers; strengthening risk management tools; expanding access to rural credit; funding critical research; establishing innovative public-private conservation partnerships; developing new markets for rural-made products; and investing in infrastructure, housing and community facilities to help improve quality of life in rural America.

For more information, visit www.usda.gov/farmbill.

USDA Invests Nearly \$118 Million to Support America's Specialty Crop Producers

Oct. 2, 2014. Miami, FL. Agriculture Secretary Tom Vilsack today announced nearly \$118 million in grants to strengthen markets for specialty crops, such as fruits, vegetables, tree nuts, horticulture and nursery crops. The grants were authorized through the 2014 Farm Bill as part of an effort to enhance the competitiveness of specialty crops and provide resources to strengthen American agriculture. The Secretary made the announcement in Florida.

"Specialty crop grants provide a major boost to the rural economies," said Secretary Vilsack. "Today's announcement is another example of how USDA is implementing the Farm Bill to deliver critical tools producers need to successfully grow, process, and market high-quality products."

Sales of specialty crops total nearly \$65 billion per year, making them a critical part of the U.S. economy. The [Specialty Crop Block Grant Program](#), administered by the U.S. Department of Agriculture's [Agricultural Marketing Service](#) (AMS), will provide \$66 million to state departments of agriculture for projects that help support specialty crop growers, including locally grown fruits and vegetables, through research and programs to increase demand. In addition, USDA's [National Institute of Food and Agriculture](#) (NIFA) is awarding \$51.8 million in grants through its [Specialty Crop Research Initiative](#) (SCRI). SCRI supports the specialty crop sector by developing and disseminating science-based tools to

address the needs of specific crops.

All 50 States, the District of Columbia, and four U.S. Territories were awarded Specialty Crop Block Grants that will fund a total of 838 projects. The Florida Department of Agriculture and Consumer Services (FDACS) will receive \$4.5 million to fund 34 projects. One project allows the FDACS to partner with Miami-Dade County to increase the market viability of local specialty crops. The project also educates the public about consumption of specialty crops to improve nutrition and publicizes the availability of specialty crops at local markets.

"These Specialty Crop Block Grants support hundreds of projects that address issues ranging from food safety to research needs to increased access to fruits and vegetables, all benefiting specialty crop producers and consumers across the country," said AMS Administrator Anne Alonzo. "With additional funding from the 2014 Farm Bill, we are able to do even more to help specialty crop growers increase profitability and sustainability."

Through SCRI, USDA is awarding \$51.8 million to fund research and extension projects for specialty crop production. The grants fund a wide variety of efforts, including research to improve crop characteristics, identifying and addressing threats from pests and diseases, improving production and profitability, developing new production innovations and technologies, and developing methods to respond to food safety hazards.

Together, these investments represent USDA's commitment to strengthening the specialty crop industry. The 2014 Farm Bill builds on historic economic gains in rural America over the past five years. Since enactment, USDA has made significant progress to implement each provision of this critical legislation, including providing disaster relief to farmers and ranchers, strengthening risk management tools, expanding access to rural credit, funding critical research, establishing innovative public-private conservation partnerships, developing new markets for rural-made products, and investing in infrastructure, housing and community facilities to help improve the quality of life in rural America. For more information, visit www.usda.gov/farmbill.

For additional grant information on the awardees please follow on the grant program links in this release.

USDA NEWS *(continued)*

USDA Expands Access to Credit to Help More Beginning and Family Farmers

Changes Increase Eligibility and Financing Options for Hard Working Families

Oct. 7, 2014. Washington D.C. Agriculture Deputy Secretary Krysta Harden today announced that the U.S. Department of Agriculture (USDA) will improve farm loans by expanding eligibility and increasing lending limits to help more beginning and family farmers. As part of this effort, USDA is raising the borrowing limit for the microloan program from \$35,000 to \$50,000; simplify the lending processes; updating required “farming experience” to include other valuable experiences; and expanding eligible business entities to reflect changes in the way family farms are owned and operated. The changes become effective Nov. 7.

“USDA is continuing its commitment to new and existing family farmers and ranchers by expanding access to credit,” said Harden. “These new flexibilities, created by the 2014 Farm Bill, will help more people who are considering farming and ranching, or who want to strengthen their existing family operation.”

The microloan changes announced today will allow beginning, small and mid-sized farmers to access an additional \$15,000 in loans using a simplified application process with up to seven years to repay. Microloans are part of USDA’s continued commitment to [small and midsized farming operations](#).

In addition to farm related experience, other types of skills may be considered to meet the direct farming experience required for farm loan eligibility such as operation or management of a non-farm business, leadership positions while serving in the military, or advanced education in an agricultural field. Also, individuals who own farmland under a different legal entity operating the farm now may be eligible for loans administered by USDA’s Farm Service Agency (FSA). Producers will have an opportunity to share suggestions on the microloan process, and the definitions of farming experience and business structures through Dec. 8, 2014, the public open comment period.

FSA is also publishing a *Federal Register* notice to solicit ideas from the public for pilot projects to help increase the efficiency and effectiveness of farm loan

programs. Comments and ideas regarding potential pilot projects will be accepted through Nov. 7, 2014.

Since 2010, USDA has made a record amount of farm loans through FSA — more than 165,000 loans totaling nearly \$23 billion. More than 50 percent of USDA’s farm loans now go to beginning farmers. In addition, USDA has increased its lending to socially-disadvantaged producers by nearly 50 percent since 2010.

These programs were made possible by the 2014 Farm Bill, which builds on historic economic gains in rural America over the past five years, while achieving meaningful reform and billions of dollars in savings for taxpayers. Since enactment, USDA has made significant progress to implement each provision of this critical legislation, including providing disaster relief to farmers and ranchers; strengthening risk management tools; expanding access to rural credit; funding critical research; establishing innovative public-private conservation partnerships; developing new markets for rural-made products; and investing in infrastructure, housing and community facilities to help improve quality of life in rural America. For more information, visit www.usda.gov/farmbill.

ON THE ORGANIC SIDE...

Biodegradable Bio-based Mulch Now Allowed for Organic Production

USDA National Organic Program has amended the National List of Allowed and Prohibited Substances to allow the use of biodegradable bio based mulch film with restrictive annotations. This action also adds to the organic standards a new definition for biodegradable bio based mulch film that includes criteria and third-party standards for compostability, biodegradability, and bio based content. The rule is effective October 30, 2014.

For more information: Federal Register, [Vol. 79, No. 189, Tuesday, September 30, 2014](#).

ANSI Peer Review Report

A critical part of the National Organic Program's (NOP) mission is to accredit and oversee the work of third party accredited certifying agents (certifiers). The USDA organic regulations and NOP's quality system requires periodic peer reviews to assess NOP's accreditation program and to see how well it aligns with the requirements of ISO/IEC 17011 (which describes standards for accreditation programs).

In 2014, the NOP contracted with the American National Standards Institute (ANSI) to conduct its peer review. ANSI reviewed all phases of NOP accreditation from initial application through final decision, NOP's ongoing surveillance and renewal activities, and management system.

We are pleased to share ANSI's Peer Review Report with the organic community:

[Executive Summary and Overview of Opportunities for Improvement](#)

[Full Peer Review Report](#)

New Wildlife Damage Control Handbook

A new handbook, [Wildlife Damage Control for Organic Farmers](#) describes non-chemical strategies for prevention and control of wildlife damage to gardens and crops. It covers ground squirrels, pocket gophers, voles, rabbits, woodchucks, deer, skunks, raccoons and coyotes, and there is also a general chapter on birds.

The handbook was developed as part of a project funded by Western Sustainable Agriculture Research and Education (Western SARE), and it's written by James E. Knight of Montana State University.

Find it on the Montana State University Wildlife Damage Extension page at: <http://animalrange.montana.edu/extension/wildlifeprevent.htm>.

NOTE: *Before applying any wildlife control product, be sure to read and understand the safety precautions and application restrictions, and make sure that the brand name product is listed in your Organic System Plan and approved by your certifier and check your state and local wildlife regulations.*

For more information see [Can I Use this Input on my Organic Farm?](#)

New Organic Farming Research Webinars

eOrganic is excited to announce its 5th season of webinars on organic farming and research!

This season's program features many regional and national research groups and farmers working on organic weed and insect management, organic grain



production, and organic plant breeding.

All webinars are free and open to the public, and advance registration is required.

Register for any of the webinars at the links below and check the [schedule of upcoming and archived webinars](#) regularly, because they'll be adding many more webinars and live conference broadcasts soon!

\$ MONEY TALK \$

New Farmers Grant Fund

Program Purpose

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Program Highlights

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Apply at

<https://webapps.hesc.ny.gov/questionnaire/page.hesc?questionnaireId=86&versionNumber=1>.

FARMNET - Help You Need, When You Need It

PROGRAM OVERVIEW

NY FarmNet was founded in response to the farm crisis of the late 1980's. What began as a crisis response hotline has evolved into a proactive program that utilizes program staff and a network of personal and financial consultants to help farm businesses thrive. Our primary method of working with farmers is individualized consulting in the privacy of their homes. Farmers can access our toll free hotline 24 hours a day, seven days a week and they will always talk to a live voice. Program staff are on call after hours to speak with farmers if their call requires immediate attention. NY FarmNet's services are free and confidential to all farmers in New York State.

NY FarmNet provides technical assistance to help farmers with business planning, estate planning, farm business transfers to the next generation, new farm business start-ups, business arrangements, and financial statement preparation for refinancing or business expansion.

Over half of all calls involve some form of personal obstacle to farm business success, and our trained personal consultants provide assistance in resolving conflict, holding more effective business/family meetings, and goal setting. Lack of profitability is not a factor holding all farms back from expanding. Personal issues need to be resolved before some farms can thrive. We have worked with many farms that doubled or tripled in size once they overcame personal and family obstacles.

MISSION

The mission of NY FarmNet is to provide New York farm families with free, confidential consulting services to develop skills to improve financial and production efficiency, and overcome business and family challenges. We accomplish this via personalized education, business and personal planning, and referrals.

IMPACT

NY FarmNet's work has significant positive economic impacts on the state's business economy. During the past year, our efforts have resulted in:

- Responding to over 6,000 requests to the office via phone, Email, web site, Facebook, and Twitter
- Over 90 percent of farms we worked with remained in business through increased profitability and business expansion
- 73 farm business transfers to the next generation
- Over 80 new farmers starting new businesses
- Additional annual farm gross receipts exceeding \$7.5 million
- 127 business plans to help farms expand and establish new enterprises
- Increased capital investment of over \$14 million that remained in local economies
 - Educational programs on farm business transfer and business planning that reached over 350 farm families

Please call **1-800-547-3276** if you need assistance from NY FarmNet. For more information on visit our web site: www.nyfarmnet.org



FOCUS ON PEST MANAGEMENT

Pest's Taste for Fine Wine May Prove Its Undoing - Jan Suszkiw, USDA Agricultural Research Service Information Staff.

A blend of odors that attracts spotted wing drosophila (SWD) flies has been developed into a new lure product for improved monitoring and control of these tree-fruit and berry pests.

The blend is a combination of four different chemicals found in the aromas of both wine and vinegar. Entomologist Peter Landolt and colleagues from USDA's [Agricultural Research Service](#) and the Oregon Department of Agriculture isolated the chemicals and evaluated them extensively in laboratory and field trials.

Based on those findings, Trécé, Inc., of Adair, Oklahoma, has commercially formulated the compounds into a novel blend and controlled-release lure, which is marketed under the trademark "PHEROCON SWD," along with a related trap.

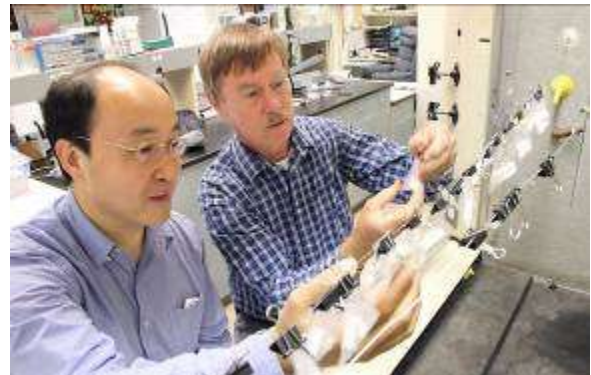
"We developed the attractant because farmers and pest managers need improved methods of attracting, monitoring, and managing the fly to prevent severe potential losses of cherries, berries, grapes, and other fruit crops," says Landolt, who leads the ARS Fruit and Vegetable Insect Research Unit in Wapato, Washington. "The lure's availability should provide better information to growers who use trap-catch data to make pest-management decisions." Those decisions include where, when, or whether to spray.

Known scientifically as *Drosophila suzukii*, SWD is a nonnative species from eastern Asia that was first detected in the United States in 2008. Since then, it has become an established pest of numerous tree-fruit and berry crops in both the eastern and western United States, says Landolt.

If unchecked, female SWD flies deposit their eggs beneath the surface of host fruit. Subsequent larval feeding inside the fruit causes it to soften, bruise, and wrinkle, ruining its marketability.

Capturing drosophila flies with lures containing wine and vinegar isn't a new approach. But Landolt's team was first to conduct a top-down examination of which chemical constituents in the aromas of these liquids specifically attract the flies.

Initially, acetic acid in vinegar and ethanol in wine were thought to be the primary attractants. Though important, the two compounds weren't the only sources of attraction for SWD flies, the researchers found. In



Postdoctoral researcher Dong Cha (left) and entomologist Peter Landolt isolated chemicals from wine and vinegar that attract *Drosophila* flies. Photo by Dong Cha.

extensive testing, they showed that ethanol alone was less attractive than wine, and acetic acid alone was less attractive than vinegar. Similarly, combinations of ethanol and acetic acid were also less attractive to the flies than wine-plus-vinegar blends, which suggested that other constituents were at work. Indeed, in field tests, wine-plus-vinegar captured 10 times more flies than acetic acid-ethanol blends.

Interestingly, combining acetic acid and ethanol with the wine-plus-vinegar blend worked best of all.

In more recent studies, the team showed that SWD prefers certain types of wine and vinegar over others, with Merlot wine and rice vinegar attracting more male and female flies than Chardonnay wines and apple cider vinegar, for example.

Of 20 total Chardonnay and rice-vinegar chemicals the team evaluated, acetoin and methionol triggered the strongest responses in SWD when combined with acetic acid and ethanol.

A third chemical, ethyl lactate, also attracted the flies but was determined unnecessary for optimum attraction. It was ultimately dropped from the final lure formulation, which contains acetoin, methionol, acetic acid, and ethanol. "If one of those is missing, you get significantly lower attraction," notes Dong Cha, an ARS postdoctoral researcher who, along with Landolt and coauthors, reported the findings in the February 2014 issue of *Pest Management Science*.—By [Jan Suszkiw](#), Agricultural Research Service Information Staff.

This research is part of Crop Protection and Quarantine, an ARS national program (#304) described at www.nps.ars.usda.gov. Peter Landolt is in the USDA-ARS [Fruit and Vegetable Insect Research Unit](#), 230 Konnowac Pass Rd., Wapato, WA 98951; (509) 454-6570.

*"Pest's Taste for Fine Wine May Prove Its Undoing" was published in the [October 2014](#) issue of *Agricultural Research* magazine.*

Update on Applied Berry Research in Eastern NY

Laura McDermott, CCE Eastern NY Commercial Horticulture Program

Optimizing Strawberry Production with a Zone Tillage System

The reduced-till system uses a sub-soiler to loosen soil deeply followed by coulters and a rolling basket that prepare a 6-10" wide seedbed. This zone tillage technique allows the longer rooted strawberry plant to be correctly planted while still having minimum disturbance between the rows. By only tilling this narrow area, the chance of new weed seeds being brought to the surface for germination is reduced. Because the strawberry plants will get off to a good start, they should out-compete weed competitors in the tilled zone. The addition of the shank allows for improved water drainage therefore reducing disease pressure from soil borne diseases like Phytophthora fruit rot. The use of reduced tillage tools usually requires a single trip across a field for it to be fitted for planting – an important advantage that translates into less labor, reduced fuel consumption and a decreased risk of soil compaction.

Our trial on 3 farms showed variable success with weed control and little impact on yield. However, from a farm profitability perspective, labor savings just for tillage averaged 37% and fuel savings 40% for the reduced tillage system compared to primary tillage for field preparation. The range reported by growers for savings in fuel ranged from 27 to 60% and savings in labor costs ranged from 25 to 60%. These figures are estimates from agronomic crops and some larger scale vegetable crops, but similar savings could be found on strawberries.

The reduced tillage approach would be more attractive if we could prove that yield of this high value crop would not suffer. The results from this study imply that farmers should experiment with reduced till in their matted row strawberries in order to maximize production and minimize costs.

Participating farmers: Tim Stanton, Stanton's Feura Farm; Al Lansing, Lansing Farm; Eric and Stephanie Gray, Gray's Farm Market. Funding from NE SARE

Using Exclusion Netting to Control Spotted Wing Drosophila in Blueberries

Two farmers in eastern NY have received NE SARE farmer grants to look at exclusion netting. This material, a Pro-Tek 80g net, was shown in the lab to exclude SWD adults. The purpose of the trials was to examine and perfect the system and to insure that the netting did not cause any damage to the berries in



Reduced tillage prior to planting



Two year old strawberries planted with zone tillage system. 1st two years of production out-performed traditionally planted berries.



Update on Applied Berry Research *(continued)*

terms of plant growth and/or yield.

In the first trial, each row of plants were covered, which resulted in excellent insect control with no effect on berry quality or overall yield. In the second trial, the entire planting was covered and it was determined that the 80g net performed much better than the 60g material, which excluded SWD only a week more than the control.

The cost of covering an acre of blueberry planting with insect netting would likely approach \$10,000/acre depending on the support system used. The life of the net is 7 years, so the amortized cost per year is \$1428, not including labor.

Participating Farmers: Lawrie Nickerson, Hay Berry Farm; Dale Ila Riggs, The Berry Patch. Funding from NE SARE.

Using Fixed Sprayer Systems to Control SWD in High Tunnel Raspberries

Fixed sprayer systems with micro-sprinkler emitters have been used in tree fruit and grape plantings to allow excellent pest control while dramatically limiting pesticide exposure to the applicator and also reducing the amount of labor necessary for this relatively unpleasant job.

This is the second year of the project and data is still being collected.

Participating farmer: Dale Ila Riggs, The Berry Patch. Funding from NYFVI

Using Bio-Control Nematodes to Manage Strawberry Root Weevil

Last fall, a northern NY grower applied entomopathogenic nematodes to his field to assist in controlling the root weevil complex that consists of Strawberry root weevil, *Otiorhynchus ovatus* (SRW) and Black vine weevil, *O. sulcatus* (BVW). ENYCHP educators Amy Ivy and Laura McDermott participated in the application under the direction of Dr. Elson Shields and Tony Testa.

The biocontrol nematodes being used in this study are native and have been found to control alfalfa snout beetle across northern NY. The beneficial nematodes are applied in the evening to avoid desiccation. The grower was able to apply the nematodes using his boom sprayer with all the filters and screens removed from the nozzles. The grower



Update on Applied Berry Research *(continued)*

left a control plot, so it will be relatively easy to see if these nematodes have an effect.

The most time consuming part of the application process was screening and rinsing the nematodes out of the substrate they have been raised in.

BVW is the larger of the two weevils and the more likely to be the problem as it has a larger host complex. The adult beetle has small yellow patches on its back. They feed on foliage, leaving characteristic notch marks on leaf margins, although this damage is usually insignificant to plant vitality, it is valuable for detecting their presence. They are 1/4- to 1/2-inch long. The larvae are white with tan heads, and have no legs. They feed on small roots and can quickly reduce the vigor of plants, causing plant death if larvae are numerous.

Top photo: adult BVW and larvae, upper left; Adult Strawberry root weevil and larvae, lower right

Bottom photo: BVW adult feeding on strawberry leaves; note characteristic notching.

Adult root weevils can still be present after harvest; however traditional chemical control measures of the adults should be taken early before egg laying begins in late spring. Eggs that were laid in the soil prior to or during harvest will hatch into young larvae that begin feeding on roots this fall. Root weevil larvae overwinter two to eight inches deep in the soil. You can actually scout for root weevil larvae now, but they are even smaller than in the spring and very difficult to see.

The weevils attack roots of high value horticulture crops, and over a few years will cause rapid decline and eventual plant death.

To scout for these pests, follow the protocol below:

- In the spring, watch for areas of weak growth. Dig in the root zones, checking for the white grub like root weevil larvae.
- When weevil adults emerge, watch for leaf notching especially on sucker growth near the ground.
- After dark on warm, calm nights, scout fields with a flashlight. Black vine and strawberry root weevils will be found feeding on top of the foliage.
- Look for adults in the dead plant material and weeds at the base of plants.



- In the fall, check areas that show weak growth and redden prematurely. The larvae be found in the fall but are much smaller than in the spring.

*Participating Farmers: Bob Rulf, Rulf's Orchard
Funding: NNY Capacity Building Grant*

Editor's Note: This is a summary and the one that follows are from talks given at the October 3, 2014 Cornell Small Fruit Open House in Ithaca, NY; they are reprinted here for the benefit of those who were not able to attend in person.

Are Your Blueberries for the Birds or Your Buyers?

Limiting bird damage in fruit crops

A Specialty Crop Research Initiative Project,
Funded by the U.S.D.A.



October 2014



Find us at <http://birddamagetofruitcrops.info/>

Bird Management Pilot Tests

We conducted pilot tests of several bird management strategies in 2013 and 2014. Our primary objective was to determine which strategies warrant larger-scale, well-replicated studies in 2014, and then carried those out. We tested the value of using multiple deterrents and changing deterrent locations. Deterrents tested include audio boxes emitting bird distress and alarm calls, live and artificial predatory birds, inflatable 'air dancers', netting, and chemical sprays. We are also investigating the influence of regional fruit abundance and surrounding landscape characteristics on bird damage in 151 blocks from our three study regions, Michigan, New York, and the Pacific Northwest.



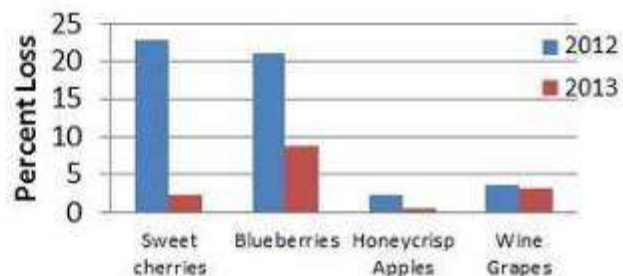
Consumer Research

Phil Howard, Chi-Ok Oh, and Zach Hermstadt surveyed 1,000 respondents to quantify preferences and willingness to pay for fruit produced with various bird management practices. They then conducted experimental auctions to adjust willingness to pay measures. Preliminary results show consumers are willing to pay more for fruit produced using falconry or nest boxes to attract bird predators. They will not pay as much for fruit produced using shotguns or artificial grape flavoring spray as deterrents.

Damage Assessment Results

Overall, bird damage levels in New York decreased between 2012 and 2013. This is most likely due to bad 2012 frost damage in cherries and apples, which resulted in limited natural food supply and higher damage levels. Pilot tests indicated air dancers may be an effective means of deterring birds, with full-scale trials completed in 2014.

Average Damage Levels in New York



Management Trials, 2014. In New York, we tested the use of air dancers in cherries, blueberries, and wine grapes during the 2014 season. Observations indicate lower bird presence when these dancers were present in fields. Levels of bird damage, and the effectiveness of the air dancers as bird deterrents are pending analysis.

Contact Heidi Henrichs via email hmh75@cornell.edu with questions.

Lindell, C., S. Shwiff, P. Curtis, P. Howard, K. Steensma, G. Unz, J. Boulanger, N. Rothwell, J. Carroll, C. Oh, C. Burrows, M. Longstroth, C. Kaiser, D. Lusch. 2011-2014. Limiting bird damage in fruit crops: integrating economic, biological, and consumer information to develop testable strategies for the future. U.S.D.A. Specialty Crop Research Initiative.

XIth International Rubus and Ribes Symposium – June 21 – 24, 2015 – Asheville, NC



Registration is now open!

Both online and mail-in registration are available through our website for both the XIth International Rubus and Ribes Symposium and the Pre-Symposium Tour: rubusribes2015.com

- Check out the details for [registration](#), [hotel reservations](#), [abstracts](#), and more
- Program Updates will be provided as available
- **Don't forget to follow us!**



Important Dates:

Early Bird Registration Ends

January 21, 2015

Call for Abstracts Closes

January 21, 2015

Notification to Authors

February 28, 2015

Advanced Registration Ends

May 1, 2015

Hotel Reservation Deadline

May 11, 2015

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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?

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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

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

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, Fayetteville, NC. **More information:** www.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/ishs/>