NEW YORK BERRY NEWS
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Cornell University
College of Agriculture and Life Sciences

New York Berry News

Cornell University Berry Team

Inside this issue:

Survey of Fruit Producers Kicks off a Study of Bird Damage to Fruit Crops

Dr. Juliet Carroll, Fruit IPM Coordinator, New York State IPM Program, Cornell University, NYSAES, 630 W. North St, Geneva, NY 14456, jec3@cornell.edu

Fruit loss to birds is a longstanding and costly problem that has received little coordinated attention from researchers, until now. Attention to these issues is about to increase, as a new multi-state, multi-year research project kicks off this year.

In March 2012, apple and cherry producers across New York will be receiving a mail survey focused on assessing bird damage to 'Honeycrisp' apples, sweet and tart cherries, wine grapes, and blueberries. The survey is being conducted by the Human Dimensions Research Unit at Cornell University, in cooperation with the New York Apple Association, the New York Wine & Grape Foundation, the New York State Berry Growers Association and the Department of Horticulture.

The official title of the project is "Limiting bird damage in fruit crops: integrating economic, biological, and consumer information to determine testable management strategies for the future." It is sponsored by the National Institute of Food and Agriculture (USDA). The project involves a diverse group of university and fruit marketing collaborators in Michigan, California, Washington and New York. Faculty at Michigan State University are coordinating the project nationally.

The primary long-term goal of the project is to provide fruit producers with effective, environmentally sustainable bird management strategies, based on clearly identified costs and benefits. Secondary goals include providing citizens and officials in fruit-growing areas with economic information about the costs of bird damage and increasing information available to consumers about bird-management strategies.

For more information about the fruit producer survey, please contact Dr. William (Bill) Siemer (202 Brucker Hall, Department of Natural Resources, Cornell University, Ithaca, NY 14853; tel: (607) 255-2828; email:wfs1@cornell.edu).

Upcoming Berry Events

February 25, 2012. *CSA School: Growing Success One Share at a Time.* CCE Ontario County, 480 N Main St, Canandaigua, NY. Pre-registration by February 23. Call CCE Ontario Co. at 585-394-3977 x427 or send name, address and phone number to nea8@cornell.edu. *Hosted by Cornell Cooperative Extension of Ontario County and NOFA-NY.*

February 27, 2012. *Cornell 2012 Winter Grower Meeting*, Niagara County CCE Training Center, 4487 Lake Ave., Lockport, NY 14094. AM Program – For Fresh Market vegetable growers. PM Program – For Small Fruit growers. Lunch Provided, agenda & registration info follow.

February 29, 2012. *Capital District Vegetable & Small Fruit Program Annual Winter Meeting*, 9:00 am - 3:30 pm, Best Western Albany Airport Inn, 200 Wolf Rd, Albany. Flyer follows with details. Culture and pest To register contact Marcie at mmp74@cornell.edu or at 518-272-9524.

February 29 to Mar 2, 2012. *US Highbush Blueberry Council Spring Meeting,* Sheraton Fisherman's Wharf, San Francisco, CA. For more information: http://www.blueberry.org/calendar.htm#Meetings

March 7, 2012. *Solar and Wind Power for the Farm: Getting Your Farm Ready for Renewable Energy*. CCE Yates County, 417 Liberty St, Penn Yan. Pre-registration required by March 5. Call CCE Yates Co., 315-536-5123.

March 8, 2012. . *Farm Disaster Prep Certificate Course.* 8:30 am - 2:30 pm, CCE Genesee County, 420 E Main St, Batavia. Details follow.

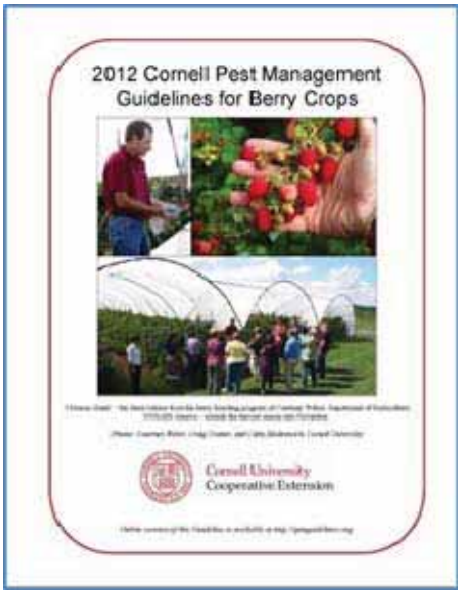
March 13, 2012. *Commercial Berry Grower Update,* Binghamton, NY. . Cost: $30 per person. 4.5 DEC credits available in the following categories: 1a,11 & 22. To register or for more information, contact Carol at clf62@cornell.edu or (607) 772-8953.

March 13, 2012.. Organic Sprayer Calibration Workshop. Finger Lakes region. Contact Abby Seaman at 315-787-2422 or ajs32@cornell.edu.

Internet Version of 2012 Cornell Pest Management Guidelines for Berry Crops Now Available

http://ipmguidelines.org/BerryCrops/

This annual publication provides up-to-date pest management and crop production information for blueberry, bramble (raspberry and blackberry), strawberry, ribes (currant and gooseberry), cranberry, elderberry, and Juneberry (Saskatoon) production in New York State. Supplemental information on wildlife management and harvesting, handling, and transporting berry crops is also included. This publication has been designed as a practical guide for berry crop producers, crop consultants, ag chemical dealers, and others who advise berry crop producers.



A print copy of the 2012 *Cornell Pest Management Guidelines for Berry Crops* can be obtained through your local Cornell Cooperative Extension office or directly from the Pesticide Management Education Program (PMEP) Educational Resources Distribution Center at Cornell University. To order from PMEP, call (607) 255-7282, send an email to patorder@cornell.edu, or order on-line at http://psep.cce.cornell.edu/store/guidelines. Cost for the *Guide* is $26, shipping included.

All-Day Strawberry/Bramble School in Gettysburg, PA March 7, 2012

Penn State Extension and The Penn State Department of Horticulture are excited to announce the All-Day Strawberry / Bramble School. This school covers everything you wanted to know about strawberry, raspberry, and blackberry production in one intensive day. Topics that will be covered include basics of production; variety performance; disease, insect, and weed management; fertility; high tunnel raspberry production; considerations for organic production; and marketing pointers.

The school features growers who will share their experiences in plasticulture and day-neutral strawberry production, plus Courtney Weber, strawberry and plant breeder from Cornell University, Penn State extension personnel Steve Bogash, Kathy Demchak, Bob Pollock, Tim Elkner, Tom Ford, and Rich Marini.

Pesticide credits will be awarded. The school will take place from 8:30 to 4:30 at the Penn State's Extension Office at 670 Old Harrisburg Road in Gettysburg, PA. Directions can be obtained at http://extension.psu.edu/adams/directions . The registration fee is $75 until Feb.28, 2012 and increases to $90 on March 1 (or at the door?).

Register on-line at http://agsci.psu.edu/strawberry-bramble or call 1-877-489-1398. The registration fee covers lunch and materials.

Trac Software Workshops

Learn about using Trac Software and receive DEC credits!

Category	Credits
1a	2.50
10	2.50
22	2.50

Must attend the full workshop to receive full credits

Five Workshops across New York are scheduled during spring 2012:

Location	Date	Time
Hudson Valley Fruit School, Kingston, NY	Feb 16	9:00-11:15 AM
LIHREC, Suffolk County CCE, Riverhead, NY	Feb 17	9:00 AM-12:00 PM
CLEREL, Lake Erie Regional Grape Program, Portland, NY	Feb 21	1:00-4:00 PM
Niagara County CCE, Lockport, NY	Feb 22	9:00 AM-12:00 PM
Wayne County CCE, Newark, NY	Mar 2	9:00 AM-12:00 PM

Workshop Outline

First Hour – **Using Trac Software, the Basics**

- Opening Trac, Enabling Macros and Saving Files
- Protecting Your Software and Hidden Rows
- Updating Trac from the Previous Year, Excel Shortcuts and Trac Tips
- Setting Up Your Information in Trac – NameAddress, Applicators, SiteLists
- ChemTable, Inventories and Tank Mixes
- Keeping Records in Trac, SprayData, FertData and HarvestData
- EPA WPS Central Posting Form, Applicator Records
- Creating and Printing Reports with Trac
- break

Second Hour – **Advanced Features of Trac Software**

- More about SiteLists
- Advanced ChemTable Features
- Customizing Trac Software
- Create Report Files to Submit Electronically
- Working with Data, Filtering and Sorting
- Where to Access Technical Support
- break

Wrap-up – **Question & Answer Discussion Session**

In this session the floor will be open to questions and discussion from the audience. Questions will be taken throughout the Workshop, but those of a more individual or highly advanced nature will be addressed during this session.

Thank our location hosts!

Steve McKay
Laura McDermott
Alice Wise
Tim Weigle
Kevin Martin
Debbie Breth
Alison DeMarree

Trac software is a pesticide spray record-keeping and reporting software program built in Excel. Learn more about it at www.nysipm.cornell.edu/trac

Participants attending the workshop will receive DEC recertification credits.

For more information contact

Juliet E. Carroll, Fruit IPM Coordinator, NYS IPM Program
jec3@cornell.edu
315-787-2430

IPM Integrated Pest Management

Cornell 2012 Winter Grower Meeting Registration

DEC Pesticide Applicator Credits Pending

AM Program – Fresh Market Vegetables – for more info contact Robert Hadad at 585-739-4065 or rgh26@cornell.edu registration 8:30, program from 9-12:30.

PM Program – Berries – for more info contact Craig Kahlke at 585-735-5448 or cjk37@cornell.edu, registration 12:30, program 1-4.

Registration fee is $20 for enrollees of either the Cornell Vegetable Program or Lake Ontario Fruit Program, and $30 for non-enrollees. The fee is to cover lunch, breaks, materials and other costs of programs. The fee is for a half day program (with lunch) or the full program.

At the door, the registration fee will be $35.

Please Pre-register **by Feb 24** to accommodate planning for lunch and handouts.

Send registration form and check payable to "Cornell Cooperative Extension" to: Karen Krysa, 4487 Lake Ave. , Lockport, NY 14094. Last minute? Call Karen at 716-433-8839 x 221.

Name_____

Business Name_____

Address_____

Phone_____Fax_____

Email_____

Number attending _____ x $20 (enrollees) =_____ submitted

Number attending _____ x $30 (non-enrollees) =_____ submitted

Other Names attending

_____

_____

Cornell Cooperative Extension and the Cornell Vegetable Program Team Present:

2012 Winter Vegetable Meeting

Monday Feb. 27th 9:00am-12:30pm

At the 4-H Training Center
Niagara County Cooperative Extension
4487 Lake Ave.
Lockport, NY 14094

$20 CCE enrollees $30 non-enrollees, $35 at door

AM Vegetable Program

For more information contact Robert Hadad rgh26@cornell.edu 585-739-4065

Agenda

8:30 Registration, DEC sign up

9:00 Late Blight Forecasting & Management in Tomatoes & Potatoes – Carol MacNeil – Cornell Vegetable Program

9:45 Update on FDA Food Safety Modernization Act – Robert Hadad – Cornell Vegetable Team

10:00 What's New with Fungicides – Tom Zitter – Cornell Univ. Plant Pathologist

10:30 Break

10:45 What's New with Fungicides (cont) Tom Zitter – Cornell Univ. Plant Pathologist

11:00 First Year Results Using Biological Control to Reduce Thrips & Aphids (and Reduce Spraying) in Sweet Pepper Plantings – Carol Glenister, Entomologist – NY IPM Labs, Mark Zittel – Zittel Farms of Eden Valley, NY

12:00 Cornell Vegetable Team Report – Upcoming Vegetable Projects and Research – Robert Hadad, Carol MacNeil, Jud Reid, Christy Hoepting, Julie Kikkert

12:30 Receive DEC credits

Lunch

Cornell Cooperative Extension, The Cornell Vegetable Program, and the Lake Ontario Fruit Program present:

Cornell 2012 Winter Grower Meeting

AM PROGRAM – FRESH MARKET VEGETABLES, PM PROGRAM - BERRIES

For more information contact Craig Kahlke 585-735-5448, or cjk37@cornell.edu

Niagara County CCE Training Center
4487 Lake Ave., Lockport, NY 14094

1:00 PM Announcements and DEC credit sign-up – *Craig Kahlke, CCE Lake Ontario Fruit Team*

1:05 Forced-air Cooling to Increase Quality for Small Fruit and Vegetables – *Craig Kahlke*

1:25 Update on Spotted Wing Drosophila, a New Threat to NY Berry Crops *–Greg Loeb, Cornell*

1:50 Berry Crop Weed Management Part I – Principles and non-herbicidal approaches – *Marvin Pritts, Cornell*

2:10 Berry Crop Weed Management Part II: Where to find specific herbicide information and updates? – *Cathy Heidenreich, Cornell*

2:25 Root Disease Problems in Wet Seasons, Management Considerations for the 2011 Season *–Kerik Cox, Cornell*

2:45 Break

3:00 Soil and Foliar Testing for Berry Crops - *Cathy Heidenreich*

3:20 High Tunnels for Brambles -*Marvin Pritts*

3:40 Management of Blueberry Viruses in NY: Updates from the 2011 Survey *– Kerik Cox*

4:00 ADJOURN

Capital District Small Fruit & Vegetable Growers Winter Meeting

Wednesday, February 29, 2012, 8:00am to 4:00pm

Best Western Albany Airport Inn
200 Wolf Road, Albany, NY 12205

Presented by Cornell University Cooperative Extension Capital District Vegetable & Small Fruit Program

8:00 Registration, coffee and visit with our sponsors!
8:50 Introduction and announcements – Chuck Bornt - CDVSFP
9:00 Adapt-N: A New Nitrogen Management Tool for Sweet Corn? Bianca Moebius-Clune, Cornell
9:40 Farmers' Market Promotion Program for the Capital District – Crystal Stewart, CDVSFP
9:50 Using Reduced Tillage in June-Bearing Strawberries (to control weeds and root disease) – Laura McDermott, CDVSFP
10:10 Industry Updates
10:30 Coffee Break
10:45 Testing for Pathogen Distribution in Flooded Farmland – Peter Bergholz, Cornell
11:15 Cole Crops Disease Overview – Dr. Chris Smart, Cornell
11:45 Micronutrients and Their Role in Vegetable Production – Dr. Steve Reiners, Cornell
12:15 Lunch – Hot Italian buffet
1:15 Improve Pumpkin Yield with Proper Spacing and Nitrogen Application – Sarah Hulick and Dr. Steve Reiners, Cornell
1:45
2:15 Dealing with Tomato Diseases and Phytophthora in Bell Peppers – Dr. Chris Smart, Cornell
2:45 Break
3:00 Spotted Winged Drosophila: What to expect in 2012 – Dr. Greg Loeb, Cornell
3:30 Results from 2011 Field Trial – Pumpkin Herbicide and Irish Potato Variety Trial – Chuck Bornt, CDVSFP
3:55 Adjourn

DEC Recertification Credits Have Been Applied For!

Pre-Registrations are required and due by February 24th

Capital District Small Fruit & Vegetable Growers Winter Meeting

Name: _____

Farm or Company Name: _____

Address: _____ State: _____ Zip: _____

Contact number: (in case of cancellation due to inclement weather) _____

Number of guests attending: _____ Total amount due: _____

Enrolled members of the CDVSFP can register for $30/person and $20 for each additional person from the same farm. Non-enrollees will be charged $50/person. Registration includes lunch, breaks and DEC and CCA credits. **Return this form to: CDVSFP, Ag. & Life Sciences Bldg., 61 State Street, Troy, NY 12180 or call 518-859-6213 or fax to 518-272-1648.** Make checks payable to CCE CDVP.

Farm Disaster Preparation Certificate Program Offered by Cornell Cooperative Extension

Six-hour training for farm owners provides certificate leading to insurance credit or discount

Thursday, March 8, 2012, 8:30 AM - 2:30 PM
Cornell Cooperative Extension of Genesee County, 420 East Main Street, Batavia, NY 14020

Cornell Cooperative Extension has developed a unique training program for farm owners to increase their resistance to small and large disasters. The Farm Disaster Preparation Certificate program will help farm owners plan for and manage disasters that might occur. This program focuses on practical pre-disaster education, preparedness, regarding farm equipment safety on the road, fire or structure collapse, storm and wind damage, criminal activity, farm chemical risks, and biosecurity.

By special arrangement with several farm insurance carriers, farms that complete the Farm Disaster Preparation Certificate training will receive a certificate to provide to their insurer as a condition of eligibility for receiving a credit or discount toward the farm's annual insurance premium. The value of the credit or discount will vary according to individual policies and policyholder circumstances, but is usually a 10 to 15 percent discount.

The Farm Disaster Preparation Certificate is directed to all sizes of farms and all types of products. Dairy and livestock farms are especially encouraged to participate in the program due to their additional concerns regarding animal agriculture.

Class fee: $35.00 per person includes lunch, handouts and complete Farm Disaster Preparation Certificate training. The person representing a farm should be the insurance policyholder; other key farm personnel are welcome.

For more information or questions about the workshop contact Jackson Wright at (585)746-3016. Please pre-register by March 1; to register contact Jan Beglinger at 585-343-3040 x 132 or jmb374@cornell.edu.

NYS Department of Ag and Markets News

Vendors Sought for Thruway Farmers Markets New York-grown Produce at Travel Plazas

The New York State Thruway Authority is seeking farmers and growers to participate in "Tailgate Farmers Markets" at selected travel plazas along the Thruway system. The Tailgate Farmers Markets are intended to offer fresh farm produce to Thruway travelers, to provide farmers and growers another outlet for their products and to promote New York's agricultural industry. The markets operate from mid-May through Nov. 1, depending on the availability of product.

Participation is limited to New York State farmers/growers of locally grown fresh fruits, vegetables, edible herbs, cider and horticultural products. Only produce grown or produced in New York State may be sold at the farmers markets. For more information, call the Thruway Authority at (518) 436-2831. For a list of the 27 travel plazas, see the weblink http://www.thruway.ny.gov/travelplazas/index.html.

State Offers Next Round of Assistance to Flood Affected Farmers

4th Component of Governor's ACRF Program Will Provide up to $20,000 to Eligible Farms for Capital Losses Caused by Hurricane Irene and Tropical Storm Lee

New York State Agriculture Commissioner Darrel J. Aubertine today announced the fourth component of Governor Cuomo's Agricultural and Community Recovery Fund (ACRF), the Capital On-Farm Needs Component, which will provide funding up to $20,000 per eligible farm for capital losses caused by Hurricane Irene and Tropical Storm Lee.

"Farmers affected by the storms this past fall continue to struggle in financing the necessary repairs and physical losses they incurred," the Commissioner said. "Governor Cuomo has given us the framework and resources through his ACRF program to help our farmers, and it is our intention to provide some needed assistance to these businesses as they work to get back on their feet and begin planning out their 2012 growing season."

The ACRF Capital On-Farm Needs Component is designed to help pay for capital losses, such as the repair or replacement of fixtures

NYS Department of Ag and Markets News (continued)

and equipment needed to maintain agricultural operations. Funding for this program will be provided in the form of grants for 50 percent of eligible costs up to $20,000 per farm. Program guidelines and applications for the Capital On-Farm Needs Component, as well as other ACRF components, are available on the Department's website, http://www.agriculture.ny.gov/.

This component of ACRF will be administered by the New York State Department of Agriculture and Markets, in coordination with New York State Homes and Community Renewal (NYSHCR) and Empire State Development (ESD).

Immediately following the devastating effects of the combined storms of Hurricane Irene and Tropical Storm Lee, Governor Cuomo created the $15 million Agricultural and Community Recovery Fund (ACRF) to help rebuild the agricultural industry and farming areas in the impacted areas. That program has had three successful components, prior to the current Capital On-Farm Needs Component. Those include the ACRF Conservation Component, ACRF Farm Operation Match Component, and the ACRF Main Street Component.

In addition, Governor Cuomo announced $50 million in additional flood recovery funds, of which farmers and small business owners will be eligible for $21 million for physical flood-related damage costs, not covered by other federal, state or local recovery programs, or any third party payers. The guidelines and application for that program can be found on Empire State Development's website, http://www.esd.ny.gov/BusinessPrograms/FloodRecovery.html.

The combined impacts of Hurricane Irene and Tropical Storm Lee had a devastating effect on New York State agriculture resulting in an estimated 200,000 acres of cropland damage and $73 million in agricultural damages to crops, buildings, equipment and land resources.

NYS DEC News

DEC Reminds Water Withdrawers to Report Their Water Use

A Phased-In Approach for Compliance will be Applied to Existing Water Users that Report Their Water Use by February 15, 2012

The New York State Department of Environmental Conservation is reminding entities that currently use significant volumes of New York's water, including from the Great Lakes, that they must report their water use by February 15.

A new water resources law, signed by Governor Cuomo in August 2011, requires a state permit for most water withdrawals that meet or exceed a threshold of 100,000 gallons per day.

Under the draft regulations that would implement the new law, current water users that report their water use to DEC before February 15 will benefit from a phased-in process that establishes varying dates for when a permit would be needed to continue to withdraw large volumes of water. Under the phased-in approach proposed in the draft regulations, the largest water users, those with water withdrawal systems withdrawing or designed to withdraw more than 100 million gallons per day, would need to obtain a permit by February 15, 2013.
The smallest water users, those with systems withdrawing or designed to withdraw at least 100,000 but less than 500,000 gallons per day, would need to obtain a permit by February 15, 2017. Farms that currently use an average of 100,000 gallons of water per day in any 30-day period must also report their water use by February 15, 2012 in order to receive an exemption from the permit requirement. Public water supply systems will continue to need permits as required.

Once the regulations are finalized, all new water users of more than 100,000 gallons per day will be required to get a permit. Persons, including farmers, that do not report their current water use by February 15, 2012 will have to apply for a permit as new withdrawers and will be subject to a more stringent authorization process.

To learn how to submit the required reports, water withdrawers should visit the DEC website. For more information on the water withdrawal permit requirements, visit the DEC website.

USDA News

USDA Gearing Up to Conduct 2012 Census of Agriculture

National Agricultural Classification Survey is an Important Step toward a Complete Count

Washington, February 10, 2012 – Surveys are now arriving in mailboxes around the nation to help identify all active farms in the United States. The National Agricultural Classification Survey (NACS), which asks landowners whether or not they are farming and for basic farm information, is one of the most important early steps used to determine who should receive a 2012 Census of Agriculture report form. The Census of Agriculture, conducted every five years by the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS), is a complete count of U.S. farms and ranches and the people who operate them.

"We are asking everyone who receives the NACS to respond even if they are not farming so that we build the most accurate and comprehensive mailing list to account for all of U.S. agriculture in the Census," said NASS's Census and Survey Director, Renee Picanso. "The Census is the leading source of facts about American agriculture and the only source of agricultural statistics that is comparable for each county in the nation. Farm organizations, businesses, government decision-makers, commodity market analysts, news media, researchers and others use Census data to inform their work."

NACS is required by law as part of the U.S. Census of Agriculture. By this same law, all information reported by individuals is kept confidential. NASS will mail the 2012 Census of Agriculture later this year and data will be collected into early 2013.

"The NACS survey is the first step in getting a complete count, so we ask everyone who receives a survey to complete and return it," said Picanso. "The Census is a valuable way for producers and rural America to show their strength – in numbers."

The 2012 Census of Agriculture is your voice, your future, your responsibility. For more information about NACS, the Census of Agriculture, or to add your name to the Census mail list, visit www.agcensus.usda.gov.

NASS provides accurate, timely, useful and objective statistics in service to U.S. agriculture. We invite you to provide feedback on our products and services. Sign up at http://usda.mannlib.cornell.edu/subscriptions and look for "NASS Data User Community."

USDA Unveils New Plant Hardiness Zone Map

WASHINGTON, Jan. 25, 2012--The U.S. Department of Agriculture (USDA) today released the new version of its Plant Hardiness Zone Map (PHZM), updating a useful tool for gardeners and researchers for the first time since 1990 with greater accuracy and detail. The new map—jointly developed by USDA's Agricultural Research Service (ARS) and Oregon State University's (OSU) PRISM Climate Group—is available online at www.planthardiness.ars.usda.gov. ARS is the chief intramural scientific research agency of USDA.

For the first time, the new map offers a Geographic Information System (GIS)-based interactive format and is specifically designed to be Internet-friendly. The map website also incorporates a "find your zone by ZIP code" function. Static images of national, regional and state maps have also been included to ensure the map is readily accessible to those who lack broadband Internet access.

"This is the most sophisticated Plant Hardiness Zone Map yet for the United States," said Dr. Catherine Woteki, USDA Under Secretary for Research, Education and Economics. "The increases in accuracy and detail that this map represents will be extremely useful for gardeners and researchers."

Plant hardiness zone designations represent the average annual extreme minimum temperatures at a given location during a particular time period. They do not reflect the coldest it has ever been or ever will be at a specific location, but simply the average lowest winter temperature for the location over a specified time. Low temperature during the winter is a crucial factor in the survival of plants at specific locations.

The new version of the map includes 13 zones, with the addition for the first time of zones 12 (50-60 degrees F) and 13 (60-70 degrees F). Each zone is a 10-degree Fahrenheit band, further divided into A and B 5-degree Fahrenheit zones.

To help develop the new map, USDA and OSU requested that horticultural and climatic experts review the zones in their geographic area, and trial versions of the new map were revised, based on their expert input.

Compared to the 1990 version, zone boundaries in this edition of the map have shifted in many areas. The new map is generally one 5-

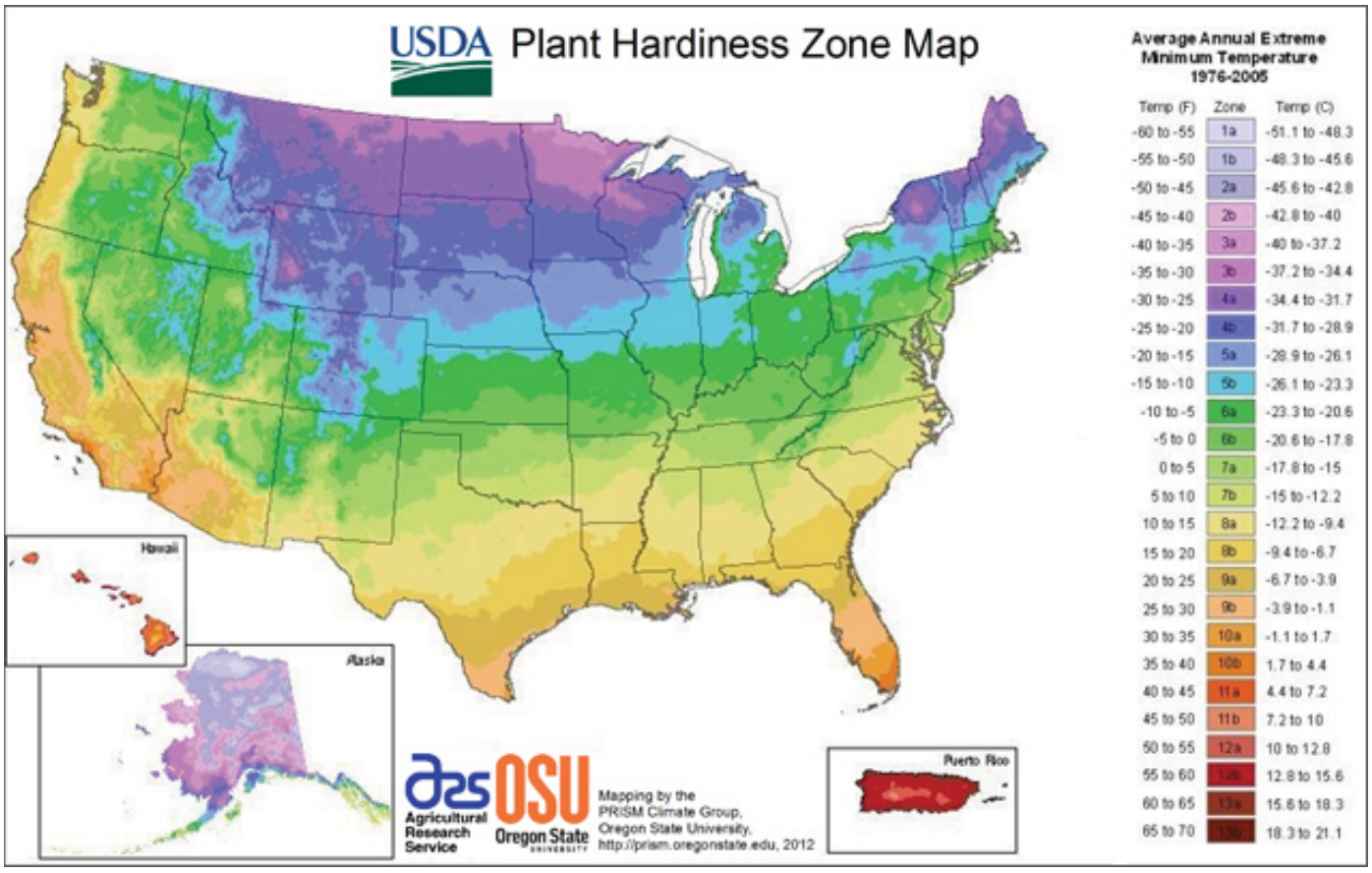
USDA News...(continued)

degree Fahrenheit half-zone warmer than the previous map throughout much of the United States. This is mostly a result of using temperature data from a longer and more recent time period; the new map uses data measured at weather stations during the 30-year period 1976-2005. In contrast, the 1990 map was based on temperature data from only a 13-year period of 1974-1986.

Some of the changes in the zones, however, are a result of new, more sophisticated methods for mapping zones between weather stations. These include algorithms that considered for the first time such factors as changes in elevation, nearness to large bodies of water, and position on the terrain, such as valley bottoms and ridge tops. Also, the new map used temperature data from many more stations than did the 1990 map. These advances greatly improved the accuracy and detail of the map, especially in mountainous regions of the western United States. In some cases, advances resulted in changes to cooler, rather than warmer, zones.

While about 80 million American gardeners, as well as those who grow and breed plants, are the largest users of the USDA Plant Hardiness Zone Map, many others need this hardiness zone information. For example, the USDA Risk Management Agency uses the USDA plant hardiness zone designations to set some crop insurance standards. Scientists use the plant hardiness zones as a data layer in many research models such as modeling the spread of exotic weeds and insects.

Although a poster-sized version of this map will not be available for purchase from USDA, as in the past, anyone may download the map free of charge from the Internet onto their personal computer and print copies of the map as needed. For more information or to download a map go to: http://planthardiness.ars.usda.gov/PHZMWeb/.



USDA News...(continued)

USDA Announces CRP General Sign-up

Landowners and Producers Will Have 4-Week Window Beginning in March to Enroll

WASHINGTON, Feb. 1, 2012—Acting Under Secretary for Farm and Foreign Agricultural Services (FFAS) Michael Scuse announced today that the U.S. Department of Agriculture (USDA) will conduct a four-week Conservation Reserve Program (CRP) general signup, beginning on March 12 and ending on April 6. CRP has a 25-year legacy of successfully protecting the nation's natural resources through voluntary participation, while providing significant economic and environmental benefits to rural communities across the United States.

"It is USDA's goal to ensure that we use CRP to address our most critical resource issues," said Scuse. "CRP is an important program for protecting our most environmentally sensitive lands from erosion and sedimentation, and for ensuring the sustainability of our groundwater, lakes, rivers, ponds and streams. As always, we expect strong competition to enroll acres into CRP, and we urge interested producers to maximize their environmental benefits and to make cost-effective offers."

CRP is a voluntary program available to agricultural producers to help them use environmentally sensitive land for conservation benefits. Producers enrolled in CRP plant long-term, resource-conserving covers to improve the quality of water, control soil erosion and develop wildlife habitat. In return, USDA provides participants with rental payments and cost-share assistance. Contract duration is between 10 and 15 years. Producers with expiring contracts and producers with environmentally sensitive land are encouraged to evaluate their options under CRP. Producers also are encouraged to look into CRP's other enrollment opportunities offered on a continuous, non-competitive, signup basis.

Currently, about 30 million acres are enrolled in CRP; and contracts on an estimated 6.5 million acres will expire on Sept. 30, 2012. Offers for CRP contracts are ranked according to the Environmental Benefits Index (EBI). USDA's Farm Service Agency (FSA) collects data for each of the EBI factors based on the relative environmental benefits for the land offered. Each eligible offer is ranked in comparison to all other offers and selections made from that ranking. FSA uses the following EBI factors to assess the environmental benefits for the land offered:

Wildlife habitat benefits resulting from covers on contract acreage; Water quality benefits from reduced erosion, runoff and leaching; On-farm benefits from reduced erosion; Benefits that will likely endure beyond the contract period; Air quality benefits from reduced wind erosion; and Cost.

Over the past 25 years, farmers, ranchers, conservationists, hunters, fishermen and other outdoor enthusiasts have made CRP the largest and one of the most important in USDA's conservation portfolio. CRP continues to make major contributions to national efforts to improve water and air quality, prevent soil erosion by protecting the most sensitive areas including those prone to flash flooding and runoff. At the same time, CRP has helped increase populations of pheasants, quail, ducks, and other rare species, like the sage grouse, the lesser prairie chicken, and others. Highlights of CRP include:

CRP has restored more than two million acres of wetlands and two million acres of riparian buffers; Each year, CRP keeps more than 600 million pounds of nitrogen and more than 100 million pounds of phosphorous from flowing into our nation's streams, rivers, and lakes. CRP provides $1.8 billion annually to landowners—dollars that make their way into local economies, supporting small businesses and creating jobs; and CRP is the largest private lands carbon sequestration program in the country. By placing vulnerable cropland into conservation, CRP sequesters carbon in plants and soil, and reduces both fuel and fertilizer usage. In 2010, CRP resulted in carbon sequestration equal to taking almost 10 million cars off the road.

In 2011, USDA enrolled a record number of acres of private working lands in conservation programs, working with more than 500,000 farmers and ranchers to implement conservation practices that clean the air we breathe, filter the water we drink, and prevent soil erosion. Moreover, the Obama Administration, with Agriculture Secretary Vilsack's leadership, has worked tirelessly to strengthen rural America, implement the Farm Bill, maintain a strong farm safety net, and create opportunities for America's farmers and ranchers. U.S. agriculture is currently experiencing one of its most productive periods in American history thanks to the productivity, resiliency, and resourcefulness of our producers. For more information on CRP and other FSA programs, visit a local FSA service center or www.fsa.usda.gov.

USDA News...(continued)

Agriculture Deputy Secretary Merrigan Announces Funding To Create Jobs and Strengthen the Economic Foundation of Rural America

Projects to Assist Agricultural Producers, Farmers, Ranchers, Small Business and Cooperatives

CHICAGO, February 3, 2012 - Agriculture Deputy Secretary Kathleen Merrigan today announced that USDA has selected 298 recipients in 44 states and Puerto Rico to receive business development assistance through the Value-Added Producer Grant (VAPG) program. Merrigan made the announcement in Chicago after keynoting the "Local/Regional Food System Conference" hosted at the Federal Reserve Bank of Chicago.

"In his State of the Union address last week President Obama was clear that we need to do more to create jobs and promote economic growth. These projects will provide financial returns and help create jobs for agricultural producers, businesses and families across the country," Merrigan said. "This funding will promote small business expansion and entrepreneurship opportunities by providing local businesses with access capital, technical assistance and new markets for products and services."

For example, Living Water Farms, Inc. is a three-year-old family company that focuses on the production of hydroponic greens for specialty markets in the Midwest. Located in Strawn, two hours south of Chicago's Loop, three generations of the Kilgus family are part of a group called Stewards of the Land which was organized to market produce from small farms. The hydroponic complex was developed to supply fresh produce year-round. The current market includes Illinois supermarkets, restaurants in Chicago and St. Louis and a Midwest college food service program. The grant will help them evaluate their brand and expand distribution to other restaurants, specialty retail and institutional outlets.

One of the examples of how an award can make an impact is Agriberry LLC, located near Mechanicsville, Virginia. Agriberry is the dream of Anne and Chuck Geyer whose vision is to establish a consumer supported summer berry farm and become an agricultural training facility for first-time workers. They realized the region's demand for an assortment of fresh, local, seasonal berries and fruits. With the assistance of a working capital value-added grant, Agriberry has now expanded to over 35 acres of red raspberries, and other fruit. They hire a number of local workers each growing season.

Green Mountain Organic Creamery, LLC in North Ferrisburgh, Vt., will receive a working capital grant to market certified organic, bottled pasteurized milk, butter, ice cream and other dairy products. Owners Cheryl and John DeVos founded the dairy to provide local, organic dairy products to the community and throughout the Northeast. Green Mountain was recognized as the Vermont Dairy of the Year in 2011.

The Value-Added Producer Grants announced today total more than $40.2 million. Funds may be used for feasibility studies or business plans, working capital for marketing value-added agricultural products and for farm-based renewable energy projects. Eligible applicants include independent producers, farmer and rancher cooperatives, agricultural producer groups, and majority-controlled producer-based business ventures. Value-added products are created when a producer increases the consumer value of an agricultural commodity in the production or processing stage.

For more information: http://www.rurdev.usda.gov/BCP_VAPG_Grants.html.

NARBA News

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BLACKBERRY BREEDER JOHN CLARK RECEIVES NARBA'S DISTINGUISHED SERVICE AWARD

At its annual meeting on January 16, 2012 the North American Raspberry & Blackberry Association (NARBA) presented Dr. John R. Clark, University of Arkansas Professor of Horticulture , with its Distinguished Service Award.

The award especially honors Dr. Clark's work as a breeder of many of the leading blackberry varieties grown today, including new primocane fruiting types which have the potential to greatly increase both the harvest window for blackberries and the geographic range for commercial production.

Blackberry varieties developed by Dr. Clark include Ouachita, Natchez, Navajo, Apache, Kiowa, Arapaho, Choctaw, and the primocane varieties, Prime Jim and Prime Jan, and PrimeArk 45. His recent releases of Natchez and Ouachita have been widely planted in the eastern U.S., California, and around the world.

Making the award was grower Nathan Milburn of Milburn Orchards, Elkton, Maryland, incoming president of NARBA. Said Milburn, "We know John most as a breeder of blackberries and a friend of NARBA. He is a frequent contributor to the NARBA newsletter and has been a presenter at many NARBA conferences. He has spoken in support of NARBA's blackberry Research and Promotion Program initiative, and helps culture the visionary and collaborative attitudes that will be necessary for its success."

NARBA is a membership organization of blackberry/raspberry growers, researchers, and others with members in more than 35 states, 8 Canadian provinces, and 5 countries. NARBA's annual meeting and conference were held in Sandusky, Ohio, in association with the Ohio Produce Growers and Marketers Association Congress.

Previous winners of this Distinguished Service award include grower Ervin Lineberger, Kings Mountain, NC (2010) and Dr. Marvin Pritts, Cornell University (2011).

For more information about NARBA, visit www.raspberryblackberry.com.

USHBC News

"Blueberry Kitchen" Launches on CIA ProChef Website

The U.S. Highbush Blueberry Council (USHBC) announces **Blueberry Kitchen: Contemporary Recipes from the Culinary Institute of America,** a new easy-access online curriculum developed in partnership with the Culinary Institute of America (CIA). The program includes entertaining and informative video instruction by CIA Chef Scott Samuel who demonstrates preparation of 14 innovative blueberry dishes, spanning breakfast, salads, entrees, cocktails and desserts. Designed for chefs, foodservice professionals and culinary educators, **Blueberry Kitchen** is on the CIA ProChef website at www.ciaprochef.com/blueberries.

In addition to recipe know-how, the ProChef site delivers inspiration for incorporating blueberries into world cuisines and offers ideas for adding various forms of blueberries, including fresh, frozen, dried and juice to add blueberry flavor, color and nutrition to year-round menus.

"Blueberries are a fascinating fruit," says Chef Samuel. "As I worked with them in the kitchen—cooking, blending, baking, adding spices and other ingredients—I learned how they behave and incorporated what I learned into the program content."

Blueberry Kitchen also links to the USHBC site, www.littlebluedynamos.com where further blueberry information is available for foodservice and consumers, and foodservice pros can sign up to receive *Blue Plate Special*, the quarterly e-newsletter from the USHBC.

The USHBC consists of growers and packers in North and South America who market their blueberries in the United States. The members of the USHBC work together to promote the growth and wellbeing of the entire industry. The blueberry industry is committed to providing blueberries that are grown, harvested, packed and shipped in clean, safe environments.

Chipotle-Grilled Chicken Breast with Blueberry-Peach Salsa

Blueberry-Ricotta-Orange Crêpe with Vanilla Blueberry Sauce

blueberries
U.S. HIGHBUSH BLUEBERRY COUNCIL

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New York Berry Growers Association News

NYSBGA President's Report January 2012 – *Dale Ila M. Riggs, President, NYS Berry Growers Association*

The New York State Berry Growers Association (NYSBGA) was begun in 1988 and incorporated in 1993 in its present form, a 501 (6) (c) not for profit educational association. The purpose of the Association is "to promote the growing and marketing of berries by the exchange of information and to represent the Berry Growers in the areas of labor, research and technology, to advertise and promote the eating of berries". This is accomplished by providing information and education to its grower members, and through yearly meetings with faculty and extension staff to discuss berry industry research and educational needs. While not a direct lobbying association, berry industry issues can be represented in public hearings and agency forums. NYSBGA has a board of directors and an executive secretary.

Strawberries, raspberries, blueberries, and other berries are indeed the fruit for the new millennium. More and more, berries are being recognized for both their nutritional and health value. Demand for berries continues to increase, and they receive favorable reviews in public media. According to the National Agricultural Statistics Service (NASS), in 2010, the value of berry production in NYS was $15,000,000 for the three major berry crops (strawberries, raspberries, blueberries). In the last ten years, blueberry acreage has increased 29%, raspberries 11%, and strawberry acreage has declined slightly. In those same ten years, the combined value of these three crops has risen almost 50%.

Since its inception, the Berry Growers Association has granted $37,000 in research grants, primarily to Cornell researchers and extension staff, to address issues important to NYS growers. Originally, research dollars were collected from members on a voluntary basis. In 2009, the Board of Directors placed an even higher value on research, and changed the dues structure so that $50 of every member's dues would automatically be put into a research fund.
In 2011, the Association completed the development of a new logo to act as a catalyst for a renewed effort on marketing. During the summer, press releases are sent out to alert consumers when the different "berry seasons" have begun. Multiple interviews with the press were conducted by Paul Baker and me as a result of these efforts.

The NYSBGA Board of Directors meets twice a year. Since the annual meeting in 2011, the Board met with Dean Kathryn Boor of Cornell's College of Agriculture and Life Sciences. The purpose of the meeting was to introduce the Association to Dean Boor, highlight the areas in which Cornell is most important to the berry industry, and in these difficult financial times, to offer our support to the College for future collaboration.

In February of 2011, I traveled to Washington D.C. with the Board of the Horticulture Society and Paul Baker to represent the berry industry's interests with our NY representatives, especially concerning the need for a reliable, legal, stable workforce. Our efforts resulted in Representatives Slaughter and Owens, working with other NY representatives, organizing meetings with the US Dept of Labor about grower concerns with the H2A program. Additionally, the Labor Dept. has been holding educational webinars about the H2A program this winter.

The Board funded blueberry virus survey work by Kerik Cox this past season that is yielding important information for the blueberry industry in the state, and will be vital for anyone considering putting in new plantings. We also committed to contributing funding for a national Specialty Crops Research Initiative grant that Cathy and Marvin spearheaded in conjunction with Michigan State University that will study bird management in berry and other fruit crops.

The Berry Growers Association wrote a letter of support for Greg Loeb for a multi-state proposal concerning Spotted Wing Drosophila. Should this project be funded, two Board members will have direct involvement in this project by having research conducted on their farm

"New York State Berry Growers Association

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http://www.hort.cornell.edu/grower/nybga/

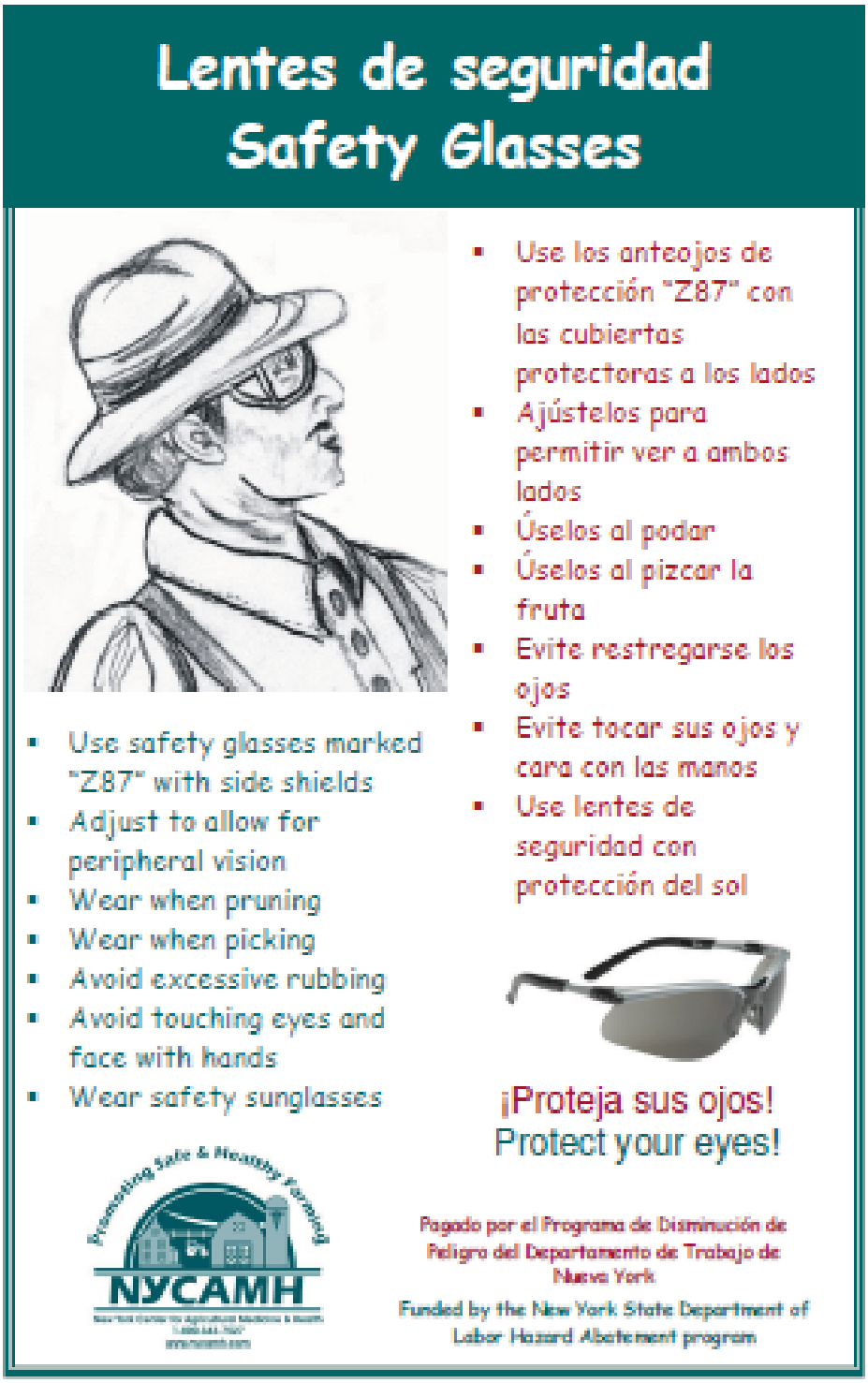
New York Berry Growers Association News (continued)

and I will serve on an advisory panel for the project.

The newest project that the Board is working on is a potential collaboration with Courtney and his breeding program. The NYSBGA and Cornell University hope to work together to advance the testing of potential new berry varieties. Grower members of the NYSBGA will have the opportunity to test selections from the Cornell breeding program on a commercial scale before they are available to the general growing community through a testing agreement with the Cornell Center for Technology Exchange and Commercialization. Members of the NYSBGA will have priority access to new selections to aid in the release of new varieties and develop commercial production data for members.

Members of the NYSBGA also receive the benefits of the "Find-A-Farm" section on the association web site. Members of the public can access this web site and all members that submit information can be found by people looking for NYS berries. When I did a web search on "NYS berries", our web site was the first site listed. Our thanks go to Cornell for hosting and updating this web site for us.

Membership in the NYSBGA can yield many benefits to your farm – from tangible benefits like bringing more customers to your farm through the Find-A-Farm web site, to the less immediately tangible benefits of being the first to test potential new varieties or helping to test control options for devastating pests. If you are a member, we thank you for your support and look forward to your input. If you are not yet a member, please join us to help advance the berry industry in New York.



On the Organic Side...

On the Organic Side...

Cultural Practices for Disease Control in Blueberry Production Systems – *Mike Ellis and Mizuho Nita, Ohio State University*

The use of any practice that provides an environment within the planting that is less conducive to disease development and spread should be used. The following practices should be carefully considered and implemented in the disease management program.

Use Disease-Free Planting Stock
Always start the planting with healthy, virus-indexed plants obtained from a reputable nursery. Remember that disease-free plants are not necessarily disease resistant: cultivar selection determines disease resistance.

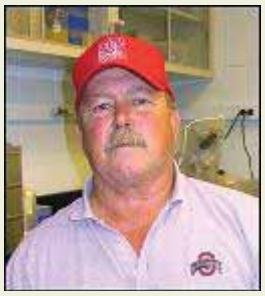
Site Selection
Soil Drainage (Extremely Important) - Select a planting site with good water drainage.Avoid low, poorly-drained wet areas. Good water drainage (both surface and internal drainage) is especially important for control of Phytophthora root rot. This disease requires free water (saturated soil) in order to develop. If there are low areas in the field that have a tendency to remain wet, this is the first place that Phytophthora root rot will develop. Any time there is standing water in the field, plants are subject to infection. Any site in which water tends to remain standing is, at best, only marginally suited for blueberry production and should be avoided. Any practice, such as tiling, ditching, or planting on ridges or raised beds, that aids in removing excessive water from the root zone will be beneficial to the disease management program.

Site Exposure
A site with good air circulation that is fully exposed to direct sunlight should be selected. Avoid shaded areas. Good air movement and sunlight exposure are important to aid in drying fruit and foliage after rain or irrigation. Any practice that promotes faster drying of fruit or foliage will aid in the control of many different diseases.
Weed Control
Good weed control is essential to successful blueberry production. From the disease control standpoint, weeds in the planting prevent air circulation and result in fruit and foliage staying wet for longer periods. Several diseases can be more serious in plantings with poor weed control versus plantings with good weed control.

In addition, weeds will reduce production through direct competition with blueberry plants for light, nutrients, and moisture and will make the planting less attractive to pickyour- own customers, especially if you have thistles!

Sanitation
Any practice that removes twigs or branches infected and other plant debris from the planting is beneficial in reducing the amount of fungal inoculum. Removal of fruit mummies is critical for mummy berry control. Removal of infected twigs and branches is also critical for control of Phomopsis twig blight and Fusicoccum canker. Infected plant material should be removed from the planting and destroyed.

Maintaining proper soil conditions
One of the most common problems in Midwestern blueberry plantings is iron chlorosis. Affected plants are chlorotic (yellow) and stunted. The major cause of chlorosis is planting on a site with improper ph. The best soils for blueberries are well-drained sandy silt loam or silt loam, with pH 4.5 to 5.2, organic matter of 4 to 7% and adequate phosphorus and potassium. At pH levels above 5.2, chlorosis will probably be a problem. Most soils will need to be adjusted in pH. Too low a pH can result in manganese or aluminum toxicity, while a high pH results in the unavailability of certain nutrients such as iron. Do not plant blueberries without amending the pH at least 1-2 years before planting. Soil test kits are available from your local county Extension office. Where top and subsurface soils have a naturally high pH (6.0 to 8.0) and there is a high buffering capacity, soil amendments will not adjust the pH and blueberries should not be planted. Where soil pH is too low, apply lime to increase the pH. Sulfur can be used to decrease the pH to the proper level if the pH is not too high. Incorporate sulfur and organic matter into the raised bed (upper 6 to 12 inches) 3 to 6 months



About the Author:

Mike Ellis is professor of plant pathology at Ohio State University. In addition to his responsibilities in research and teaching Mike is a State Extension Specialist with The Ohio State University Extension. It is his duty to provide the most reliable and current information available on diagnosis and control of fruit crop diseases to Ohio fruit growers and other interested clientele.

On the Organic Side...(continued)

prior to planting. This allows time for the chemical reaction to occur and reduces potential root damage. Retest the soil 3 to 6 months after application to determine whether further adjustments are needed.

Apply all nutrients according to soil test. Phosphorus will not move through the soil and is ineffective after plant establishment. Applying sulfur to only the raised bed may require 500 to 800 pounds per acre of bed to decrease the pH by 0.5. Incorporate sulfur at least 3 weeks before planting.

In major commercial blueberry areas, blueberries are produced on sandy soils with high water tables. Most Midwestern soils (except some Michigan and Wisconsin soils) require soil amendments and irrigation for maximum growth and yield. Tile drainage may be required, but in most Midwestern soils containing 10% or more clay, raised beds are preferred for optimal growth. A raised bed 8 to 10 inches high (original height) and 4 feet wide is required. Over time, the bed will compact to 6 inches, but the addition of hardwood or other suitable mulches maintains a height of 6 to 8 inches.

Protect from winter injury

Winter injury predisposes blueberry plants to many diseases. In colder regions of the Midwest, pile snow around bushes to insulate from fluctuating temperatures. Protect crowns (base of plant at soil line) with wood-chip or straw mulch.

Avoid Excessive Fertilization

Fertility should be based on soil and foliar analysis. The use of excessive fertilizer, especially nitrogen, should be avoided. Sufficient fertility is essential for producing a crop, but excessive nitrogen can result in dense foliage that increases drying time in the plant canopy, i.e., it stays wet longer.

Harvesting Procedures

a) Pick fruit ***frequently*** and early in the day before the heat of the afternoon (preferably as soon as plants are dry). Picking berries as soon as they are ripe is critical. Overripe berries will cause nothing but problems during and after harvest. b) Handle berries with care during harvest to avoid bruising. Bruised and damaged berries are extremely susceptible to rot. c) Train pickers to recognize and avoid berries that have disease symptoms of mummy berry or anthracnose. If at all possible, have pickers put these berries in a separate container and remove them from the field.

Post Harvest Handling

a) Always handle fruit with care during movement from the field to market to avoid any form of damage. b) Get the berries out of the sun as soon as possible. c) Refrigerate berries immediately to 32 to 35°F in order to slow the development of fruit rots. d) Market the berries as fast as possible. Encourage your customers to handle, refrigerate, and consume or process the fruit immediately. Remember that even under the best conditions, blueberries are quite perishable.

Focus on Food Safety

GAPs Training and Workshops *Develop Your Own Farm Food Safety Plan*

Cornell Cooperative Extension, New York State Department of Agriculture and Markets, and National GAPs Program personnel collaborate to conduct 2-day workshops to help fresh produce growers learn about GAPs and write their own farm food safety plans. After attending the 2-day workshop, growers are invited to a mock audit during the growing season so they know what to expect from a third party audit.

Workshop Dates and Locations for 2012 (Check website for program and registration information: http://www.gaps.cornell.edu/eventscalendar.html.

March 14 & 15, 2012 —Albany area

March 28–29, 2012 —Syracuse, NY

Produce Safety Alliance February Update - *Gretchen Wall, Produce Safety Alliance Program Coordinator, Cornell University*

As we enter 2012, the PSA is looking forward to another productive year and exciting steps forward on curriculum development. It's hard to believe February is upon us, but January has flown by with six more working committee meetings, bringing us to a total of 62 meetings held since May of 2011.

Focus on Food Safety...(continued)

As our working committees wrap up their discussions and final recommendations, we have begun to conduct focus groups with fruit and vegetable farmers to gather their thoughts and opinions about produce safety as well as what they expect from a training program. Going forward, having this base of knowledge direct from farmers' perspectives will help us create and deliver an efficient and effective training program with learning objectives based on content identified in the working committees.

News from the Working Committees
Our ten working committees (WCs) and co-chairs have been working diligently through the New Year and making significant progress on developing their recommendations and summaries of discussions. Working committee 10, tasked with discussing certification related activities, has published their report which is available on the PSA's website. We are excited to share these discussions, as well as other future WC summaries with you in the near future.

Current Events in Produce Safety: January 2012
It's been one year since President Obama signed the FDA Food Safety Modernization Act (FSMA) into law. A summary of FSMA's one year progress report can be found online at: http://www.fda.gov/Food/FoodSafety/FSMA/ucm285635.htm

It is anticipated that the new Produce Safety Regulation of the FDA's Food Safety Modernization Act (FSMA) will arrive early this year. Until then, you can follow updated reports of FSMA on the FDA's website at: http://www.fda.gov/Food/FoodSafety/FSMA/default.htm.

Keep Up-To-Date
Visit our website at (http://producesafetyalliance.cornell.edu/psa.html) and join the general listserve. Stay up to date with the PSA's activities as well as the upcoming produce safety regulation. The listserve currently reaches 380+ people from the U.S. and beyond who have an interest in produce safety education and outreach.

Other Resources
The calendar is continually updated online with committee meeting dates. (http://producesafetyalliance.cornell.edu/calendar.html).
In addition, WC meeting notes and summaries are available for download as they are received. (http://producesafetyalliance.cornell.edu/wk-notes.html).

Want to pass on the word about the Produce Safety Alliance to others? Visit the website to download the most recent updates and progress from the PSA flyer. As always, please do not hesitate to contact myself (glw53@cornell.edu) or Betsy Bihn (eab38@cornell.edu) if you have any questions.

Agriculture Deputy Secretary Merrigan Introduces New Risk Management Tool to Help Producers Achieve GAP Certification

WASHINGTON, Dec. 15, 2011.—Agriculture Deputy Secretary Kathleen Merrigan, along with leaders from food and agriculture organizations, introduced today a free online tool to help U.S. producers of all sizes achieve Good Agricultural Practices (GAP) harmonized standards and certification, helping to further expand economic opportunities for American agriculture. USDA's GAP audit verification program focuses on best agricultural practices to verify that farms are producing, and packers are handling and storing, fruits and vegetables in the safest manner possible to minimize food safety hazards. The free online tool—developed by FamilyFarmed.org with funding from USDA's Risk Management Agency (RMA)—helps farmers design a customized manual to meet GAP harmonized standards and certification requirements, including USDA GAP standards, and mitigate business risks by answering just a few questions.

"USDA believes that a strong farm safety net—including effective, market-based risk solutions for producers of all variety and size—is crucial to sustain the vitality of American agriculture," said Merrigan. "Effectively managing risk is important to all producers, and having an acceptable food safety program is in the best interest of consumers, buyers, and the farmers themselves. USDA is proud to have worked with private, public and non-profit partners to introduce this free tool to farmers seeking to gain certification as a Good Agricultural Practices (GAP) producer."

The online tool, part of FamilyFarmed.org's On-Farm Food Safety Project, is the first of its kind and was developed by a broad coalition of farm and produce industry partners. It is available at http://www.onfarmfoodsafety.org/.

USDA's GAP audit verification program, administered by USDA's Agricultural Marketing Service (AMS), focuses on best agricultural practices to verify that farms are producing fruits and vegetables in the safest manner possible to minimize risks of microbial food safety hazards. USDA's voluntary audit based program verifies adherence to the recommendations made in the Food and Drug Administration's Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables.

Focus on Pest Management

Pest Management Update

Root Diseases in Strawberries and Raspberries - *Molly Shaw, South Central Ag Team, Cornell University*

Strawberries and raspberries often suffer from root rots. They can get Verticillium and Phytophthora, and strawberries are also thought to get Anthracnose in their roots from time to time. As with most fungal diseases, wet conditions set the plant up for trouble. Wet conditions like we had last fall, when some areas of the state got hurricane rains and flooding.

Soil management to improve drainage is the long-term solution (diseases are one big reason why strawberries and raspberries are particularly unhappy in heavy soil types). Aside from the pre-plant soil preparations like good cover-cropping and organic matter additions, subsoiling can also help with drainage if the field has a hard pan (and most cultivated fields do). Planting on ridges or mounds (like raised beds with no framing) is also a technique used by farms with poorly draining soil. If you have anything but the best drained soils, choose varieties that have resistance to root rots.

But what can you do when weather just wasn't kind, and you know your nice berry planting is going to struggle this coming year because of it?

There are a couple fungicides that growers can use in this situation. Phosphorous acid fungicides (such as 'Phostrol' or 'Rampart') and potassium phosphite fungicides (like 'Prophyte') are used the same way in established plantings—foliar applications at 30-60 day intervals starting when new leaf growth begins, continuing as long as the soil stays wet.

Both fungicides have the same active molecule—phosphite—that both inhibits the fungus directly and causes the plant to mount its own immune response. Although it sounds like phosphorous, the plant nutrient, it's slightly different. Fertilizer P is PO_4, fungicide P is PO_3. A subtle difference perhaps, but that extra oxygen makes a difference to plants (and apparently to fungi too!). Phosphite doesn't provide P in a form the plant can use, so it's not a fertilizer.

The key here is to be proactive, to apply one of these fungicides before plants really start to decline. If you want to apply a fungicide but also want to assure yourself that it did something, turn the sprayer off for a short section in the middle of the field, flag it, and see if you can tell the difference later.

Keep a close eye on your berry plantings this spring and if wilting occurs (often a sign of root troubles) or plants are unusually slow to begin growth, dig up some root systems. Winter injury causes browning in the cortex of the plant roots, but initially the vascular tissue is still white. Fungi usually infect the vascular tissue first, causing it to brown while at first the cortex is ok. If your roots are brown all over, look for a plant that is not as far gone and cut open its roots to check for symptoms. Often by the time a diagnostic lab gets samples, the plants have been dead for too long to tell what started the problem.

Weed Science Society of America to Co-Sponsor National Summit on the Management of Herbicide-Resistant Weeds

Weed Science Society of America (WSSA) announced it will co-sponsor an upcoming scientific summit on how to manage herbicide-resistant weeds — a costly and growing problem threatening crop production across the U.S. and around the globe.

The May 10 event is being organized by the National Research Council, the operating arm of the National Academy of Sciences, and will be held at George Washington University in Washington, D.C.

Several WSSA members will deliver presentations or participate in panel discussions. Among them is David Shaw, former president of WSSA and immediate past chairman of its Herbicide Resistance Education Committee. He will address best management practices that can combat herbicide resistance.

"A significant contributing factor in the evolution of resistance is the repeated use of a single herbicide mode of action," Shaw says. "To counter this dangerous trend, we need to move to integrated weed management programs that incorporate a variety of other control methods. Doing so can help us preserve crop yields, herbicide effectiveness and the sustainability of vital agricultural production systems."

Other WSSA scientists on the program include:

- **Michael Owen**, professor of agronomy at Iowa State University, who will speak on the nature of herbicide resistance in weeds.
- **Jodie Holt**, professor of plant physiology at the University of California-Riverside, who will speak on the epidemiology of herbicide resistance.
- **Stephen Powles**, professor of weed science at the University of Western Australia, who will discuss what his country is doing to combat herbicide resistance.
- **Harold Coble**, agronomist with the U.S. Department of Agriculture (USDA) Agricultural Research Service, who will speak on

Focus on Pest Management (continued)

ways to address the pressing problem of herbicide resistance.

- **Dale Shaner**, plant physiologist with the USDA Agricultural Research Service, who will participate in a panel discussion on impediments to the use of best management practices.

John Soteres of Monsanto Company, chairman of the Herbicide Resistance Action Committee, who will participate on a panel discussing ways to encourage the adoption of best management practices. Last fall WSSA introduced a free training program on herbicide resistance that is tailored for pesticide applicators, growers, agrichemical retailers, farm consultants and other industry stakeholders. The peer-reviewed materials are currently available in English and in Spanish on the WSSA website at http://wssa.net/LessonModules/herbicide-resistant-weeds and on the Pesticide Environmental Stewardship (PES) website at pesticidestewardship.org. For more information on the National Summit, visit http://nas-sites.org/hr-weeds-summit.

Disease Snapshot: White Pine Blister Rust - *Zachary Frederick, Graduate Student and R. Kerik D. Cox, Assistant Professor Plant-Pathology & Plant-Microbe Biology, Cornell University*

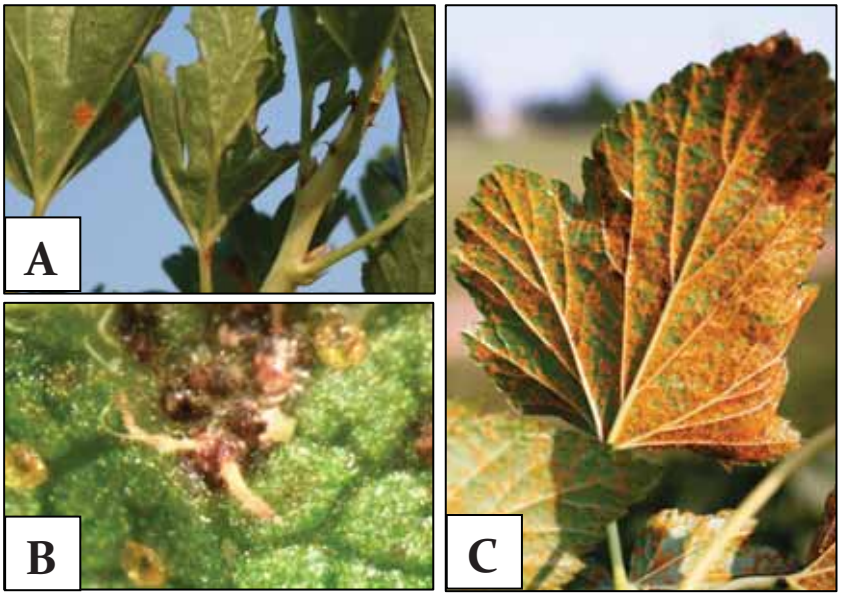
Disease Name: White Pine Blister Rust

Cause: *Cronartium ribicola*

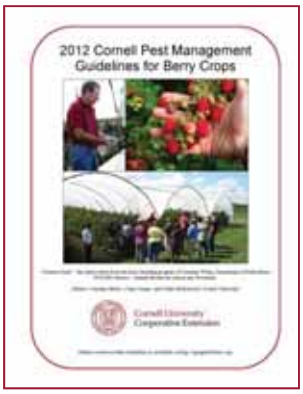
When to watch for it: Spring through early fall

First line of defense: Plant resistant or immune *Ribes* crops and cultivars. Jostaberries and many gooseberries are fairly resistant. The varieties of red, white, and pink currants planted on the east coast (e.g. Red Lake, Pink Champagne etc.), are typically resistant. Of the black currants, the varieties 'Coronet', 'Crusader', 'Consort', and 'Titania' are immune.

Summary: White pine blister rust can be devastating to the local timber industry, since the alternate hosts are 5 needled pines. This pathogen, *C. ribicola,* can greatly reduce productivity on *Ribes*. Many black current vareites are susceptible to the disease, and severely infected plants may defoliate prematurely. In wet seasons, even resistant varieties can be affected to the point of defoliation. *Above, A: Uredia on the undersides of Gooseberry leaves. B: Telial horns on the underside of a currant leaf at 100X. C: Severe infection on the underside of suceptible black currant leaves. The millions of Uredospores produced from these uredia will re-infect Ribes within the immediate vicinity.*



Aeciospores produced on infected pines can travel miles on air currents and remain infectious to *Ribes*. Infections usually appear on the undersides of *Ribes* leaves and appear as powdery orange, cup-like lesions. Uredospores produced from these lesions are also wind-born but are much heavier, and can only infect *Ribes* locally (<1 mile). In late summer, dark orange telial horns emerge from these cup-like lesions. Teliospores produced from these structures germinate into basidia, which in



PIMS

Product, Ingredient, and Manufacturer System:

http://pims.psur.cornell.edu/

OMRI

http://www.omri.org/omri-lists

Berry Diagnostic Tool

http://www.fruit.cornell.edu/berrytool/

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Focus on Pest Management

turn produce basidiospores. Basidiospores can only infect pine, meaning that the disease dose not overwinter on *Ribes*. Sterol demethylation inhibiting fungicides have the highest level of activity against rust, and white mineral oil fungicide products are also effective against the disease on resistant and susceptible varieties.

More Mummy Berry in 2012- *Kerik D. Cox, Assistant Professor, Dept. of Plant Pathology and Plant-Microbe Biology, Cornell University*

In 2009, there were severe outbreaks of mummy berry disease outbreaks in NY. During the late spring and summer months of 2009, there was considerable rainfall and some fairly long wetting periods. Given the number of blueberry farms devastated by mummy berry in 2009, we were concerned about high levels of mummy berry inoculum the growers would face in 2010. It turned out that 2010 had a fairly dry spring, and few growers had problems with the disease. The spring of 2011 was characterized by cool temperatures, heavy extended rains, and even flooding.*Fig 1. Apothecia produced on mature mummy berries hidden and protected by ground covering (right).*

Although the disease went unnoticed in the spring, there many growers suffer losses to mummy berry at harvest.

Mummy berry disease is caused by a fungus belonging to a genus responsible for many fruit diseases. Unlike the species causing other fruit diseases, the species of *Monilinia* causing mummy berry disease in blueberries is unique in that it has evolved the ability to mimic flowering, a process that is important to both the plant and the blueberry producer. Fortunately, it is possible to stop the mummy berry fungus from 'mimicking' flowers and tricking bumblebees into perpetuating its devastating life cycle.

The first step in breaking the cycle of infection is to develop an understanding of how it occurs. The process begins with mummy berries present on the orchard floor or in a nearby planting. As early as April in NY, these germinate to form little trumpet shaped mushrooms called apothecia (Fig 1).

The apothecia emerge at time when the predominately-affected cultivar at the operation is at green tip. These apothecia release ascospores, which are capable of traveling great distances to infect young leaf buds. The blighted leaf buds, referred to as strikes, become transformed by the fungus to appear like a flower to pollinating bumblebees (Fig 2). The fungus causes the tissue to reflect in the UV spectrum in a pattern similar to that of flowers. Moreover, the sporulating tissues on these strikes (Fig 2) produce sweet odorous chemicals that "smell" and "taste" like the floral nectar that bumblebees are seeking during pollination.

Focus on Pest Management…(continued)

Fig 2. Blight leaf tissue "strikes" with powdery grey infective spores that are attractive to bumblebees (left).

Bumblebees visit both mummy berry strikes and flowers as they forage, and during this process spores from strikes are transferred like pollen grains to the stigmatic surface of open flowers. These spores germinate like pollen grains and infect the ovaries through the stylar canal. Unlike flowers fertilized by pollen grains, flowers infected by spores from strikes develop into a mummy berry (Fig 3) instead of a blueberry.

The mummy berry disease cycle can be stopped at two places: the mummy, and the leaf strikes. Because elimination of flowers is not an option for blueberry producers, fungicides are the most logical means of killing mummy berry spores and leaving pollen grains unaffected. Unfortunately, the spring rains can wash off fungicide residues and cause strikes to sporulate with increase abundance. In order to give fungicides a chance, one must try to reduce the numbers of spores available to infect flowers by targeting the mummies and protecting young leaf tissue. In operations that were greatly impacted by mummy berry in 2011 there will simply be too many mummies for fungicides to prevent leaf and subsequent flower infection.

In order reduce the number of mummy berries with apothecia at leaf bud break there are a few options. One option is the use of urea fertilization. This typically involves the application of a high rate of urea (200 lbs/A) to the planting floor to burn apothecia after emergence. This option is high risk because apothecia emerge over a fairly long period and the application would have to be timed just right to affect the majority of the apothecia. An alternative is to try a lower rate (40 lbs/A) application of feed grade urea to the row middles and area under the bush. This should be done before leaf bud break and as soon as you can get the spray equipment into the field. This practice is meant to enhance microbial degradation of the mummies instead of burning the apothecia, which is why the application needs to be made as soon as possible in the spring.

Fig 3. Developing mummy berries (A) cut at 50 to 75% coloring to reveal infection of ovaries, and mature mummy berries (B) that have fallen to orchard floor in autumn and overwintered to spring. (Top and bottom, respectively)

This practice is quite successful for reducing apple scab inoculum in apple orchards and could promote reduction of mummy berry inoculum as the mummies are quite susceptible to microbial degradation, which is enhanced by available nitrogen.

Another option is the use of fresh mulch to cover mummy berries and smother emerging apothecia. Applying 2-3 inches of mulch as soon as the snow melts should be sufficient to cover mummies and prevent apothecia from emerging. The mulch helps to increase the distance that emerging apothecia would need to extend to eject spores and limits light exposure, which is needed to stimulate germination of apothecia on mummy berries. If your operation had a serious mummy berry problem in 2011 and you have mulched beds, you will need to remove the existing mulch (despite labor intensity), and re-mulch beds. Once mummy berry becomes established in existing mulch, it is actually a favorable organic matter rich environment for the pathogen. Similar to established mummy berry in mulch beds, moss can be an extremely favorable ecosystem for mummy berries, providing moisture and organic matter. Moreover, moss protects mummy berries from exposure to detrimental environmental conditions and management practices. Although moss can be a nice feature in pick your own blueberry operations it

Focus on Pest Management (continued)

can be a serious problem if mummy berry becomes established. In these instances, the moss should be removed manually by removing the sod on which it is established. There are chemical means of the killing moss, but these means must be repeated on a yearly basis, and often provide limited success. If you decide to remove the sod, it is important mulch over bare soil to ensure than unearthed mummies are covered.

Once the best efforts are made to reduce inoculum, a regular program of fungicides aimed at protecting emerging leaf and flower tissue needs to be implemented. The chemical management program should be started when the first variety is showing ¼" of green tissue on leaf buds, and end when the latest flowering variety is at 50% petal fall. Fungicide applications should be made prior to rain events and re-applied on 10-14 day interval unless the planting receives more than 2" prior to the end of the interval. There are several excellent mummy berry fungicides, but one of the best fungicide programs consists of applying Indar 2F (6 fl oz/A) alternating with Pristine (20 oz/A) or Switch 62.5 WG (14 oz/A). These materials will not only help control mummy berry, but also control the majority of other fungal diseases of blueberry such as anthracnose and *Botrytis*. It's important to note that Pristine WG recently had blueberries removed from the label. Fortunately, this registration on blueberries will be restored in New England for 2012, but not likely for NY before the season's end. If you have product from 2011, you can still use it, but Pristine acquired in 2012 will not likely be registered for blueberry. As soon as the registration is NY restored, I will post the news to the program's Twitter account (FruitPathology@Twitter).

If you had mummy berry in 2011, you should consider practicing all of the recommended cultural and chemical management practices. If you do not implement the inoculum reduction practices, you can easily overwhelm the ability of your fungicides to control the disease. Even if you do both cultural and chemical management, do not be surprised if the problem is not immediately solved in 2012. Although mummy berry disease appears to become established "out of the blue", it actually becomes slowly established over time. Mummy berry can take several years of proactive management to eliminate. If you did not have mummy berry in 2011, it is not necessary to implement the cultural and chemical management practices. However, it will be important to begin scouting for mummy berry strikes around bloom to ensure that mummy berry doesn't surprise you in later seasons.

Pruning Safety Tips –James Carrabba, NYCAMH

At this time of year, many producers are in the midst of pruning. Pruning in an orchard can present many hazards such as falls, cuts, and eye injuries. With that in mind, let's take some time to consider how to accomplish this task safely. One of the first things you can do is to inspect your pruning tools before using them. Any tools that appear damaged or have broken handles should be repaired or replaced.

Remember that a sharp tool is a safer tool. Take the time to sharpen your cutting tools before you use them and periodically as you use them. Sharp cutting tools will require less force to operate, making your job easier. Carry and store tools properly. Never carry tools in your pockets. They could easily injure you if you fell. Carry shears or sharp pointed tools with the point down while walking or standing. Use the proper sized tools and only as they were intended to be used. Make sure folding saws are locked tight. Always be aware of where your other hand is when holding a branch or stem and cutting with the other hand. Always wear gloves when pruning. Gloves will protect your hands from cuts and scrapes. Gloves will also give you a better grip on tools.

If using a chainsaw, wear the proper protective equipment. This would include heavy-duty gloves, head, eye, hearing protection, and chain saw chaps to protect your legs. Keep a firm grip on the saw. Keep the chainsaw below shoulder height and don't overreach. While cutting, keep an eye on the tip of the guide bar and make sure it does not contact another object. Consider wearing safety-toed or composite shoes if there is a danger of heavy objects falling. Sturdy work boots with a good tread will help to prevent falls on slippery ground. When working in cold weather, dress in layers to help regulate your body temperature. Take short breaks to rest and warm up. Wear safety glasses to protect your eyes. Approved eye protection will have the Z87.1 logo on them. Your eyes may be at risk from pointed branches and twigs and also from debris or particles lodging in the eye. Regular eyeglasses or sunglasses won't provide the same protection.

It is best to use tripod ladders when working in orchards. Tripod ladders are designed for use on soft uneven ground found in orchards. Inspect the ladder before using it. Do not use ladders that have any broken or missing parts. Check wooden ladders carefully for splits, cracks, loose parts, broken rungs or rot. Check aluminum or steel ladders for loose joints, bolts, faulty welds and cracks. Before climbing the ladder, set all three legs. Always climb up and down the ladder facing the rungs. Never carry tools when ascending or descending. Wear a leather holster or pouch to hold small hand tools or raise them or lower them with a bucket or rope. Do not work or stand on the top two rungs. Stay centered on the ladder. Don't reach too far to the side when on the ladder.

We at NYCAMH hope your pruning work goes productively and safely. Please note that NYCAMH is offering on-farm safety surveys and on-farm worker safety trainings at no cost to the farm. We also offer bilingual trainings and materials. If you would like more information on pruning safety or any other agricultural safety and health issue, please contact me at 800-343- 7527, ext 239 or e-mail me at jcarrabba@nycamh.com.

Innovative Strawberry Growing Ideas

Cathy Heidenreich, Cornell University

What are some of the newer ideas in strawberry production in the Northeast and Canada? Are they meeting with success?

Not Your Father's Matted Rows

Plasticulture Strawberries

Ohio growers are having success using plasticulture production systems for strawberries. They are growing June-bearers and day-neutrals on black plastic using a 2-row per bed system. The typical production cycle is 2 years.

NY growers continue to experiment with plasticulture strawberries – both June-bearers grown in perennial systems and day neutrals grown as annuals or on a 2 year cycle. These are both grown on traditional black or white plastic mulch or on biodegradable mulch. Not all attempts have been successful but much progress is being made. Fertility issues affecting fruit quality, varieties and production systems suitable for NY are still under investigation.

Both Quebec and Ontario are having excellent success with plasticulture production of day neutrals.

Annual production systems using day neutrals are established in June using dormant crowns, and harvested from June until frost. These plantings were initially carried over for a spring crop but berry size was small. To capture earliness without compromising fruit size, a second production system was adopted where fall plantings are established using plug plants. There is some risk associated with fall planting as plants not sufficiently established tend to be more prone to frost injury. Wind breaks and/or fencing is used to encourage snow accumulation to protect plants during the winter.

Fields for fall or spring planting are fumigated in late summer before being fitted with raised beds/plastic. This allows for the earliest spring planting. The beds are 4-ft wide and 10" high and are covered with black plastic mulch. Two drip tapes run down each row under the plastic. Plants are spaced 8" in row and 16" between rows on the plastic (20,000 plants/A). 'Seascape' is the variety under production in these systems. Fall planted plug plants are overhead watered 2 times a day in addition to trickle irrigation during the first 2 weeks after planting. This is especially critical during warm August weather. Pre- emergent applications of Chateau and Sinbar are made only in the 2.5' wide alleyway area between the beds to help avoid any potential injury to the transplants. Runners are removed weekly. Pest issues include Tarnished Plant Bug, Two-Spotted Spider Mites, Powdery Mildew and Gray Mold. Harvest begins in early June; berries are picked every 2 days while they are bearing.

More information:

Dale, A. and Pritts, M. 1989. Day neutral Strawberries. http://www.omafra.gov.on.ca/english/crops/facts/89-099.htm

Nourse, Nate. 2012. Plasticulture 2012: June-bearing and Everbearing Strawberry Production with Dormant Plants. http://noursefarms.com/assets/2012-4_plastic.pdf

Poling, B., Krewer, K., and Powell Smith, J. 2005. Southeast Regional Strawberry Plasticulture Production Guide. http://www.smallfruits.org/SmallFruitsRegGuide/Guides/2005culturalguidepart1bs1.pdf

Hydroponic Strawberries

Interest in hydroponic strawberry production is growing in NY and across the Northeast. Both commercially available and owner/operator designed systems are currently in use in the field and under protected production in high tunnels.

Stackers - Commercial systems like hydrostackers are popular. The typical field stacker operation is a ¼ acre plot with 15,000 plants growing in an artificial potting medium. Each "stack" has 5 Styrofoam planting units that hold 4 plants each. These are assembled in

Innovative Strawberry Growing Ideas...(continued)

Innovative Strawberry Growing Ideas...(continued)

Innovative Strawberry Growing Ideas (continued)

rows with weed barrier below. Automated irrigation/fertilization/pesticide application systems are in place at the top and mid-level of each row of plants. Varieties under production include 'Seascape' and 'Albion'. Berries are typically harvested from mid-June to late October. Most operations are U-pick. Berry stems are cut with scissors allowing berries to drop gently into baskets (both scissors and baskets with liners provided). Alternatively, they may be purchased pre-picked from the farm stand. Some growers also sell at local farmers markets; berries not suitable for marketing as fresh fruit are often used to make value-added products also sold through the farm stand. Pest issues for this type of production system include American Robins, Gray Mold, Powdery Mildew, Tarnished Plant Bug, Leaf rollers/Skeletonizers and Two-Spotted Spider Mites. Vertical growing systems are also being used in commercial and DIY high tunnels. Pest issues here are minor compared to field production and chiefly include Two-Spotted Spider Mites and Powdery Mildew. *More information:* Hydro-Stacker Vertical Hydroponic Growing Systems - http://www.hydrostacker.com/ and Verti-gro - http://vertigro.com/.

DIY Hydroponic Systems - One enterprising NY grower designed and built his own hydroponic system and has used it successfully with both tomatoes and strawberries. Using lengths of square PVC pipe he plumbed an 8-row system in his high tunnel. 4 inch diameter holes were drilled at evenly spaced intervals along the pipe. Pipes are connected using T's. Dormant strawberry plants were planted in 4 inch open mesh weave pots filled with pebbles. These are set into the holes in the pipes. Water and nutrients are circulated through the system on a regular basis.

High Tunnel Strawberries

Day Neutrals - The season extension aspect of day neutrals is magnified when grown in a tunnel. Additionally, strawberries can fill valuable space where other crops would simply not fit. If they are treated as annuals, they just go into a regular rotation with other veg crops. Several production schemes are in use, including traditional matted rows, plasticulture, soil socks, hydroponics, etc.

More information:

Innovative Strawberry Growing Ideas (continued)

Jett, L. 2006. Growing Strawberries in High Tunnels in Missouri. http://www.hightunnels.org/PDF/Growing_Strawberries_in_High_Tunnels.pdf;

Rowley, D., Black, B., and Drost, D. 2010. High Tunnel Strawberry production. http://extension.usu.edu/files/publications/publication/Horticulture_HighTunnels_2010-01pr.pdf.

Not Your Mother's June-bearers

Day Neutral Strawberries

Unlike their June-bearing cousins that fruit once a season, day neutral strawberries flower and fruit continuously (for the most part) from mid-June until frost. They may be grown either in traditional matted row systems or in plasticulture or hydroponic systems. The first commercial day neutral strawberry varieties were released in the early 1980's by the Maryland Agricultural Experiment Station in conjunction with USDA-ARS. These were 'Tribute' and 'Tristar'. Other releases followed from the University of California Davis Breeding program, including 'Seascape' (1991) and 'Albion (2004)' which are the mainstays of day neutral production in the Northeast. 'Other new day neutral releases from the UC Davis breeding program ('Monterey', 'Pacific', 'Palomar', 'Portola', and 'San Andreas', 2009) have not been fully evaluated under NE growing conditions. One eastern NY grower who has trialed Portola and Monterey reports Portola looks to have the MOST promise, although Monterey is also good, but a bit late and not enough yield. Portola kept going even when Seascape petered out a bit.

You may also be asked information about growing cuttings and planting in the summer (Chandler) simply because many small growers

Innovative Strawberry Growing Ideas (continued)

in New England and eastern NY have such high value markets and are selling produce all winter long. Those very early season berries really bring a LOT of money and are worth just putting in a bit so that they can capitalize on them.

Alpine Strawberries
Alpine strawberries (*Fragaria vesca*) are a gourmet type strawberry also known as "Fraises des bois" (woods strawberries). They have recently come back under consideration as a potential commercial strawberry crop for sale to gourmet market outlets such as high end restaurants. They are available in red, white or yellow fruited open pollinated varieties. Fruits are small but highly fragrant. These berries are labor intensive in terms of harvesting.

More information: Wellik, M. Growing Gourmet Strawberries Commercially. http://www.thestrawberrystore.com/GrowingGourmetStrawberriesCommercially.pdf

Other Bright Ideas...

Strawberries on Raised Beds
Growers in western NY often have rocky heavy clay soils to deal with. Strawberry production is problematic for these growers because of drainage issues and root rot diseases. One commercial berry operation has gone exclusively to raised bed production for strawberries. This system, in conjunction with the use of resistant varieties, has made commercial strawberry production possible and profitable for their operation.

The next 2 bright ideas attempt to address weed control during the establishment year of perennial matted row strawberries while reducing cultivation and herbicide inputs and improving soil health.

No-till/Zone-till Strawberries
A 2009 Cornell University project focused on controlling weeds in strawberries during the establishment year by transplanting dormant berry plants into a killed cover crop (Winter rye, *S. cereale,* 80 lb/A). Results from this project indicated this technique showed great promise but revealed a significant barrier. Most growers had difficulty planting through the killed cover crop. This resulted in slower establishment during the first month and caused skips.

Another related Cornell project nearing completion compares no-till, zone till and conventional tillage strawberry production. An Unverferth ripper/stripper was used to create a 6" tilled zone in the cover crop and the berries were planted in that zone. Its sub-soiler loosens soil deeply followed by coulters and a rolling basket that prepare a6-10" wide seedbed. This technique allows the longer rooted strawberry plant to be correctly planted while still having minimum soil 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.

Strawberries and Biofilm
Biotelo mulch film was used in Cornell research and demonstration trials on grower strawberry farms for planting year weed management trials. This mulch is made of Mater-Bi, a thermoplastic material mainly derived from corn starch. The mulch is certified compostable and is IFOAM approved for use by European organic farms. Novamont, the maker, has not yet pursued

Innovative Strawberry Growing Ideas (continued)

approval for use in U.S. organic systems. The MaterBi mulch is an embossed mulch film manufactured using the same technologies used to produce conventional plastic mulch film. Mater-Bi's physical and chemical properties are similar to those of traditional plastics, but Mater-Bi mulches biodegrade at a rate similar to pure cellulose. Biofilms degrade as soon as they are stretched during field

application and continue to break down in soil after incorporation. For the demonstrations, we used a .6 mil Biotelo mulch film. The rolls were 48" wide and 5000' long. As of November 2008, the cost is $400/roll.

Biofilm decomposes more quickly when applied to soils with high organic matter content, so growers with plantings on sandy soil thought breakdown was slow. One Long Island grower in particular saw very little decomposition after 16 weeks. This is a problem as strawberry runners could not root through the intact biofilm. Growers with more organic soils were happier with the rate of decomposition and the degree of weed suppression. These growers reported that they did not need additional in-row herbicides, tilling, or hand labor during the first year growing season. Further, they felt that the berries grown on biofilm were more vigorous than the conventional matted row plant. *Sources of Biofilm*: Biobag USA, www.biobagusa.com, 1-800-959-2247 or Dubois Agrinovation, www.DuboisAg.com, 1-800-667-6279.

Strawberries and Bird Netting

One last comment on a probable production change is netting for birds in strawberries. Bird damage in strawberries was a HUGE concern this year in the Northeast region, and many growers are planning on netting strawberries in 2012. Remember, the scale of the planting is so much smaller in this area, that this type of intervention is not unreasonable for the value of the crop.

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New York Berry News is a monthly commercial berry production newsletter provided by Cornell Berry Team members.

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Agriculture Deputy Secretary Merrigan Introduces New Risk Management Tool to Help Producers Achieve GAP Certification–

(continued from page 15)

To generate a food safety plan using the tool, the user must answer a series of questions on topics including worker health and hygiene, agricultural water, previous land use, soil amendments and manure, animals and pest control, packinghouse activities, product transportation, agricultural chemicals, and field harvesting. In addition to helping farmers create a food safety plan, the tool offers farmers a full-set of record keeping templates to document their food safety efforts as well as useful food safety resources.

Once users have completed their farm's food safety plan and compiled necessary documentation, they have the capacity to apply for GAP food safety certification, a process asked for by many larger buyers. Large buyers including Compass Group, SYSCO, and Chipotle Mexican Grill supported the project financially and with technical assistance. Groups that participated in the development and review of the tool include: Chipotle Mexican Grill, Community Alliance with Family Farmers, Compass Group, Earthbound Farm, Farm Aid, FDA, NSF Agriculture, Produce Marketing Association, SYSCO, The Organic Center, Western Growers, Wallace Center at Winrock International, Wild Farm Alliance, University of California at Davis, United Fresh Produce Association, and USDA's National Institute of Food and Agriculture.