NEW YORK BERRY NEWS
VOLUME 10 NUMBER 1

JANUARY 20, 2011

Cornell University
College of Agriculture and Life Sciences

New York Berry News

Cornell University Berry Team

Upcoming Berry Events:

January 27, 2011. Empire State Fruit and Vegetable EXPO Berry Session. Details follow on page 15 of this issue.

January 31 – February 3, 2011. Mid-Atlantic Fruit and Vegetable Convention at the Hershey Lodge in Hershey, PA. For more information visit www.mafvc.org.

February 8-11, 2011. 7th North American Strawberry Symposium and joint North American Strawberry Growers Association Meeting. Tampa, Florida. Program and details follow below. For more information: Kevin Schooley, 613-258-4587, or info@nasga.org or http://www.nasga.org/.

March 5, 2011. Planting, Cultivating, and Marketing Juneberries in the Great Lakes Region. NYS Agricultural Experiment Station, Geneva, NY. For more information: Nancy Anderson (585) 394-3977 x427 or e-mail nea8@cornell.edu.

April 2, 2011. Growing Berries in Tunnels and Greenhouses, Cornell Cooperative Extension Office, 480 North Main St., Canandaigua NY 14424. For more information: Nancy Anderson (585) 394-3977 x427 or e-mail nea8@cornell.edu.

Inside this issue:

NYBN Celebrates 10th Anniversary With New Look

Welcome to the 10th Anniversary edition of New York Berry News. We're celebrating with a new look and new content!

Please note along with the new look for the newsletter, we also have a new web site and url:

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

Many of our previous features will continue to appear such as: upcoming berry events, local and national Ag news, berry organization news, feature articles, Berry Barometer, weather reports, and so on.

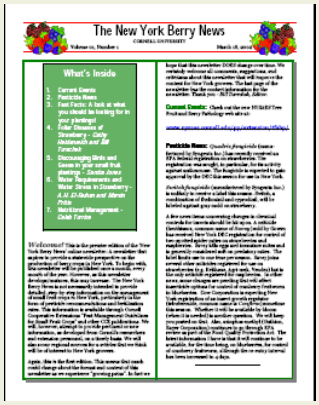
Content is now organized in the newsletter by subject matter with new columns featuring GAPS/food safety, marketing/business management, organic production, an extensive "focus on pest management" section, variety spotlights, high tunnel production and more.

A Look Back In History

NY Berry News began with release of its first issue on March 18, 2002.. Dr. William (Bill) Turechek, new tree fruit and small fruit pathologist at Cornell's NYS Agricultural Experiment Station was NYBN's designer and editor. Designed as an online newsletter; subscribers received e-mail notification and table of contents for each monthly issue when it was released. Approximately 100 people were on the first distribution list. A text only version was also available by e-mail for those interested. At least one county CCE offices printed and distributed the text only version to commercial berry growers as part of their county membership.

Cathy Heidenreich became interim NYBN editor when Bill Turechek left Cornell to accept a position with USDA-ARS in 2005. She later became editor in 2008.

Today NY Berry News has


The New York Berry News

What's Inside

350 people on its e-mail distribution list and the text only version is mailed by 4 county CCE offices to an additional 350 people. To read more about NYBN and its distribution see:

NY Fruit Quarterly Vol. 15 No. 15

Send Us Your Story for Our All New "Grower-to-Grower" Feature!

We would like to add yet another new feature to 10th anniversary edition— a monthly "Grower-to-Grower" column where we can hear from you, our readers.

Tell us your humorous berry-related story, provide us with an inside look at your berry operation, share an insider growing tip through this new monthly column, send us a short paragraph telling us your favorite berry variety and why you like it so much.

Your "Grower-to-Grower" submission should be approximately 150 to 300 words in length. If possible please include a photo of yourself to along with the article, plus one or two related photos to accompany your submission.

Questions regarding submissions may be directed to Cathy Heidenreich at mcm4@cornell.edu or by phone at 315-787-2367.

Submissions may be sent in via to the e-mail address above or by USPS to the following address:

Cathy Heidenreich, Editor
NY Berry News
Cornell University NYSAES
630 West North Street,
Geneva, NY 14456

Looking forward to hearing from you in 2011!

Agricultural Outlook Forum 2011

February 24-25, 2011
Crystal Gateway Marriott Hotel
Arlington, Virginia

Plenary Session

Secretary Tom Vilsack will deliver the Forum's keynote address followed by a distinguished speaker. Deputy Secretary Kathleen Merrigan will deliver the Forum's welcome. Chief Economist Joseph Glauber will discuss the Domestic and Foreign Agricultural Economic Outlooks. Plenary and session speakers will be announced in the near future.

Breakout Sessions

Twenty-five breakout sessions will focus on a broad range of topical issues related to risk management, foreign trade and domestic markets, rural communities, conservation and the environment, renewable energy, broadband, nutrition and food safety, dietary guidelines, land tenure issues, and sustainability. The Forum also will feature our traditional commodity and supply and demand outlook sessions.

Please visit the web site (http://www.usda.gov/oce/forum/) for Forum updates or sign up to receive updates by sending us an e-mail request at: agforum@oce.usda.gov.

Early Bird Registration $350 until January 21, 2011 * $375 after January 21.

Planting, Cultivating, and Marketing Juneberries in the Great Lakes Region

Planting, Cultivating, and Marketing Juneberries in the Great Lakes Region

Saturday, March 5, 2011
9:00 AM – 2:00 PM
Jordan Hall, NYSAES
Cornell University
630 West North Street,
Geneva, NY 14456

This new seminar is an introduction to small-scale Juneberry production.

Juneberries (a.k.a. Saskatoons) are a cold-hardy fruit grown widely in central Canada and have already demonstrated marketing promise in the Northeast.

Michigan State University Extension Juneberry/Saskatoon Specialist Stephen Fouch will present details about orchard establishment, variety selection, pest management, and insights gained from coordinating more than 40 acres of plantings on small farms in Northern Michigan.

We will also review marketing data, nutritional information, and acquisition of plant material in the Great Lakes region. Of course, Juneberries and Juneberry products will be available for sampling. Seminar fee: $40, includes educational materials, morning refreshments and a full lunch. Pre-registration required by February 28, 2011 by calling Cornell Cooperative Extension of Ontario County at (585) 394-3977 x427 or e-mail Nancy Anderson (nea8@cornell.edu).

Hosted by Cornell Cooperative Extension of Ontario County in cooperation with Northeast SARE and partnering growers in the Finger Lakes region. For more information about Juneberries and this educational project, please go to www.juneberries.org.

Growing Berries in Tunnels and Greenhouses

Growing Berries in Tunnels and Greenhouses

Saturday, April 2, 2011
8:30-Noon
Cornell Cooperative Extension Office
480 North Main St.,
Canandaigua NY 14424

We have an elite group of Cornell University faculty as presenters for this meeting:

Dr. Courtney Weber will focus on raspberry varieties for high tunnel systems based on his experiences with the Haygrove multibay system. He will discuss the set up of his trellis system, irrigation, and timing of tunnel skinning and other aspects of production. He will also share results of two trials, one with summer bearing raspberry varieties and the other with fall bearing raspberry varieties, talk a little about the plant breeding program and the new selections that will be available in coming years.

Dr. Kerik Cox will address disease management in greenhouses, high tunnels and things in between using raspberries and strawberries as model systems. Specific aspects to be covered will include: common disease problems and management practices specific to greenhouses and high tunnels; also the efficacy, safety, labeling and use implications for greenhouse and high tunnel pesticide use on small fruit

Dr. Greg Loeb will key in on management of insect and mite pests of raspberries and strawberries that are most likely to be a problem in greenhouses or high tunnels. He will emphasize biology and alternative management tactics including biological control options where appropriate. Examples of pests to be considered include spider mites, tarnished plant bug and Japanese beetle.

Dr. Marvin Pritts will speak on the cultural practices used in the production of fall raspberries, fall blackberries and summer blackberries using tunnels to extend the season and bring tender plants through the winter, along with the economics of producing under tunnels.

Class fee: $15 per person, includes handouts, refreshments and networking. For more information or to register contact Nancy at 585-394-3977 x427. NYS DEC pesticide recertification credits pending.

Hudson Valley Commercial Fruit Growers' School

The 2011 Hudson Valley "Fruit School" will again be held at the Holiday Inn of Kingston, NY. This event is geared for commercial fruit growers and NYSDEC pesticide recertification credits are expected. YOU MUST BE ON TIME AND IN-ATTENDANCE TO RECEIVE DEC CREDITS! The pre-registration discount will be applied to registrations received by February 7, 2011. To register: http://hudsonvf.cce.cornell.edu/calendar.html#fruitschool.

Topics for the 4 days include:

Day 1, Tuesday, February 15, 2011 - Tree Fruit Session and Trade Show
Day 2, Wednesday, February 16, 2011 - Tree Fruit Session
Day 3, Thursday, February 17, 2011 - Berry Session
Day 4, Friday, February 18, 2011 - Grape Session

Proposed Berry School Agenda, Feb. 17, 2011 Kingston Holiday Inn

8:30- 8:50 Registration

8:50- 9:05 Local Updates—Laura McDermott and Steven McKay

9:10- 10:00 Berry Varieties Update—Courtney Weber

10:00- 10:15 Break~ Networking and samples

10:15- 10:45 Brown marmorated stink bug and other pest updates—Peter Jentsch and Greg Loeb

10:50- 11:30 Berry pathology update—Kerik Cox

11:35-12:00 Elderflower research efforts—Olga Padilla Zakour and Steven McKay

12:00-1:30 Lunch

1:30-2:30 Potential for developing a business with primary processed and retail products - - Olga Padilla Zakour.

2:35-3:00 Farm to table resources for processing and marketing—Jim Hyland

3:05 – 3:50 PM Demand for IFQ and Concentrated Products – Industry Roundtable Discussion. Moderator: Steven McKay . Panel: Brian Lehner, Sales, Tides Company; Jared Ort, Sales, JSO Associates, Inc.; Tom Engelandsdal, Sales, Schare and Associates

3:55 – 4:25 PM Potential for IFQ and Concentrate Production for the Hudson Valley. Moderator: Steven McKay, Panel Jim Hyland, Manager Farm to Table; Bill Heafy, Product Development, Yamco

4:25 – 5:00 PM Local Producer Roundtable to Develop a Working Group to Implement Mechanization in the Hudson Valley. Moderator: Steven McKay

Directions to the Holiday Inn, Kingston, Ulster County, NY
Take NYS Thruway to Exit 19 (Kingston). Go through traffic roundabout to Washington
Avenue Exit. The Holiday Inn entrance will be one-quarter mile on the right side of the road.
The entrance is just after Picnic Pizza and before Bank of America.

Hudson Valley Commercial Fruit Growers School

February 15-18, 2011
Kingston Holiday Inn
503 Washington Avenue
Kingston, NY 12401

The Holiday Inn is offering a special $89.00 room rate for this conference. Reservations must be made by February 11, 2010 to obtain this rate. Call 845-338-0400 and mention Cornell Fruit Growers' School.

"Darrell J. Aubertine has been nominated to serve as Commissioner of Department of Agriculture and Markets. Not only is he an experienced farmer, but he has a very strong command of the issues confronting New York's producers and the opportunities for bolstering agriculture as a key part of a stronger state economy. "

NYS Department of Ag and Markets News

Albany, NY. 1/06/11. Governor Andrew M. Cuomo today announced the following nominations to senior positions within the state government.

Darrel J. Aubertine will be nominated to serve as Commissioner of the Department of Agriculture and Markets. The nomination requires confirmation by the State Senate.

Mr. Aubertine recently served as State Senator of the 48th Senate District in Central and Northern New York, which is comprised of Oswego, Jefferson and part of St. Lawrence counties. He served as chair of both the Senate Agriculture Committee and the Rural Resources Commission, and as the ranking majority member and vice chair of the Energy & Telecommunications Committee. Before joining the Senate in 2008, Mr. Aubertine represented the 118th Assembly district in the New York State Assembly for five years, where he served as the chair of the Commission on State-Local Relations. From 1996-2001, he was a member of the Jefferson County Legislature and was elected to chair in 1998. Mr. Aubertine's career in government began in 1994, when he served as a member of the Cape Vincent Town Council.

Since 1971, Mr. Aubertine has owned and operated the sixth-generation heritage Triple-A Farm in Cape Vincent, for which he purchased a plot of land while still in high school. Mr. Aubertine has been a member of numerous cooperatives and organizations, including the Cape Vincent Milk Producers, Allied and Eastern, Agway, St. Lawrence County Farm Bureau, the New York State Farm Bureau, and the Dairy Herd Improvement Association.

"Darrel's experience and expertise in agriculture is unparalleled," Governor Cuomo said. "He fought for years on behalf of farmers in the state legislature and delivered real results. New York's agricultural community will thrive with Darrel at the helm of this critical department, and I thank him for his service."

Dean Norton, President of the New York Farm Bureau, said, "We are pleased that Governor Cuomo has selected an individual who has long-standing connections to agriculture and our farm families. Darrel Aubertine has strong roots in the agricultural community and has proven to be a staunch ally through the years. New York Farm Bureau's almost 30,000 members look forward to working with Governor Cuomo and Mr. Aubertine to serve and strengthen agriculture."

Garry Douglas, President of the North Country Chamber of Commerce, said, "The North Country has enjoyed Darrel Aubertine's leadership for years on agriculture issues, and now the entire state will benefit from his knowledge and vision. Not only is he an experienced farmer, but he has a very strong command of the issues confronting New York's producers and the opportunities for bolstering agriculture as a key part of a stronger state economy. On top of that, his years in local government and then the State Legislature will help him to effectively turn his knowledge and vision into effective new policies and initiatives. Governor Cuomo has made an excellent choice for agriculture and economic development across our state."

David J. Skorton, President of Cornell University, said, "We congratulate the governor and Mr. Aubertine on this nomination. As chair of the Senate Agriculture Committee, he has already demonstrated his commitment to the success of Upstate's largest industry. Under Darrel's leadership we look forward to continuing Cornell's partnership to support and enhance the food and agriculture industry in New York State."

The U.S. Department of Agriculture's Climate Change Science Plan provides a guide for the Department and its stakeholders to enable clear and consistent consideration of current and potential investments in climate change science activities.

USDA News

USDA Announces New Steps to Meet the Challenge of Climate Change

Speaking at the United Nations Climate Change Conference, Agriculture Secretary Tom Vilsack said USDA continues to take steps to reduce greenhouse gas emissions "by helping farmers, ranchers and forest landowners to be even better conservationists." Vilsack said USDA will demonstrate ways landowners can reduce greenhouse gas emissions and increase carbon sequestration while improving their financial bottom line. Vilsack said USDA's Natural Resources Conservation Service will provide $15 million in Conservation Innovation Grant funds and other assistance to support large-scale demonstration projects to accelerate the adoption of new approaches to reduce greenhouse gas (GHG) emissions and promote carbon sequestration on private lands. The Farm Service Agency will develop a communications tool to link companies, organizations and participants in carbon storage activities and information sharing. In addition, the Secretary announced that institutions in seven States were awarded Federal funding for research on the economics of reducing agricultural GHG emissions. Read more…

http://www.usda.gov/wps/portal/usda/

(continued on page 22)

New York Berry Growers Association News

Dale Ila Riggs, Chair, The Berry Patch, Stephentown NY

2010, what a blur! The berries flowered, produced, were harvested and marketed, and now they are put to bed for a winter's nap. It's the reflective time of year, but a busy time of year for the Board of Directors of the NYS Berry Growers Association. The last time I wrote in this newsletter, I asked for input on three possible logo designs. The Board of Directors deliberated over the options, requested some minor modifications, voted, and here we are, introducing the new logo of The New York State Berry Growers Association!

Now some people may ask why we need a new logo. The Board has identified two main purposes of the NYS Berry Growers Association: To support, through research funds, in-kind contributions, and input for program direction, the outstanding research and extension program that is available to berry growers in New York State; and To promote NYS grown berries to the public.

It's difficult to promote a crop on an industry wide basis without having a uniform identifier. The Farm Credit Ag Enhancement grants program felt that identifying and promoting NYS berries was important enough to give us a small grant to hire a graphic designer to assist with this project. With this logo, consumers will be able to identify those growers who are marketing NYS grown berries to them. We want to market a message to the consumer that when they see this logo, they will be able to trust that our product is locally grown and of high quality.

Just as you want your own farm logo to conjure an image to someone that sees it, we want the Berry Growers logo to conjure an image of locally grown and great quality, no matter where in the state a consumer might see it.

The logo will be used by the association in press releases announcing when the different berry seasons begin, letters of support for research proposals submitted by faculty and extension, communications with our elected officials, and it will be distributed to paid members of the NYS Berry Growers Association.

When you send in your membership dues, you will receive a CD with a pdf version of the logo, along with several examples of how the logo can be used. For example, there will be a sample pricing sign, sample stickers, sample farm signs, and the like.

The Board is hopeful that in the future this logo will also be accepted by the NYS Department of Transportation for use in roadside directional signs.

Please send in your membership form today. You can find a copy in this newsletter. Remember, at least $50 of your dues goes directly to NYS researchers that are working on problems affecting the NYS berry industry.

Contact Berry Grower Board members to let them know what problems you would like to see research done on.

And get your copy of the NYS Berry Growers Association logo today to use everyday to identify yourself as a producer selling high quality NYS grown berries.

"New York State Berry Growers Association Launches new logo."

Marvin Pritts Receives NARBA Distinguished Service Award

During the North American Raspberry and Blackberry Growers' Association (NARBA) Annual Meeting, NARBA was pleased to award its Distinguished Service Award to Dr. Marvin Pritts of Cornell University. He has made a difference to many, many growers. and his dedication to serving the berry industry is extraordinary. He has been a presenter at many NARBA conferences – including this one, where he was one of the leaders of the Raspberry & Blackberry Fundamentals workshop and a major presenter in the "Dirt Track" sessions the following day. He has been involved in NARBA since its early days and has been a member since 1989. Below is most of the text of NARBA President Nate Nourse's presentation of the award:

Here at our annual conference we have many professors, extension specialists, and growers learning and working together for the good of the bramble industry. Some of these people have dual roles, such as extension specialists who also farm. Or Marvin Pritts, who is the department head of Horticulture at Cornell, still teaches students and master gardeners, and is an extension specialist. Allison, his wife, says he's a great consultant for her farm. It's people like Marvin who inspire me to try to make improvements every year to produce a better crop. He also inspires me to be a better consultant and help growers produce a better crop and be more profitable. It is interesting to watch people like Marvin, who attentively listen to growers and use their wealth of knowledge to offer a solution to their problems. In the event there is no solution, they might submit a research proposal to address the problem. This unselfish dedi-

Marvin Pritts in his element, talking to growers, at a high tunnel meeting in Ithaca, NY in 2006. (Photo by Cathy Heidenreich)

Marvin Pritts Receives NARBA Distinguished Service Award

cation to helping others. Listening to crazy ideas, then helping people to realize their goals.

While I've been picking on Marvin, it has not been by accident. The NARBA Executive Council Board has chosen him to receive its 2011 Distinguished Service Award. I am amazed by the amount of work he has accomplished, and the committees and boards he sits on while raising a daughter who is now a senior and a son who is a freshman in high school.

Marvin received his doctorate in horticulture from Michigan State. He started at Cornell in 1984 and became a full Professor in 1996. His own words, in his online bio, best describe this great man and what he stands for better than anything I could come up with:

"My goal as a professor with a teaching, extension and research appointment is to seamlessly integrate these three activities into one program that is scholarly, credible, and relevant to the multiple audiences that benefit from my program. I attempt to identify, develop, and test production and pest management systems involving berry crops for their practicality, economic viability, and environmental impact. I believe that the land-grant university has an obligation to develop research priorities, at least in part, in response to client needs. Furthermore, I believe that we have a responsibility to help educate all citizens about issues that affect their lives. In my case, this education involves issues of food choice, sustainability, food safety, and food quality. One of my professional objectives is to be a credible resource on these broader issues, in addition to developing a high level of expertise in berry crops.

"One of my goals is to be a good communicator with many different audiences. I intentionally seek out audiences that range in age from preschool to adult, and range in expertise from novice to professional. I also strive to be broadly informed about the many issues that affect the food system so I can be a useful resource."

While many might say mission accomplished, I'm sure Marvin has more to do. Congratulations!

NASGA Sponsors Winter Webinar Series

Day Neutral Strawberries and Emerging Pests: ID and Management

Register now to participate in this live webinar series! All you need is a home or office computer and high speed internet access. to attend this educational series sponsored by NASGA and co-hosted by Cornell University Dept. of Horticulture and Cornell Cooperative Extension.

Participation is free, but registration is necessary to participate. Registration is on a first-come-first-served basis for the first 100 participants. To register go to:

http://www.nasga.org/ .

All webinars will begin promptly at 1 PM EST and last approximately 1 hour and 15 minutes.

Registrants will received an e-mail with instructions and a web link prior to each webinar. Simply click on the link to see the scheduled presentations given live by the speakers from his or her location across the US and Canada. Type questions into the chat box provided for real time Q and A with the speakers after the presentations.

Webinar Schedule

Day Neutral Strawberries

February 18, 2011

"Strawberry Physiology" - Dr. Adam Dale, University of Guelph

"Day Neutral Strawberry Varieties" - Ms. Pam Fisher, OMAFRA.

February 25, 2011

"Growing systems "- Mr. Simon Parent, president, Novafruit.

"Fertility/Fertigation" - Dr. John Zandstra, University of Guelph

March 4, 2011

"Diseases "- Dr. Frank Louws, North Carolina State University.

"Insect and Mite Management for Day Neutral Strawberries" - Dr. David Handley, University of Maine. *(continued on page 6)*

Emerging Pests: ID and Management

March 11, 2011

"Brown Marmorated Stinkbug "- Dr. Tracy Leskey, USDA ARS Appalachian Fruit Research Station

"Fusarium and Charcoal Crown Rots" - Mr. Steven Koike, University of California Cooperative Extension, Monterey County.

March 18, 2011

"Strawberry Viruses" - Dr. Robert Martin, USDA ARS, Corvallis Oregon

"Management of the spotted wing drosophila in the small fruits" – Mr. Mark Bolda, University of California Cooperative Extension, Santa Cruz County.

March 25, 2011

"Nematodes and Root Rots "- Dr. James LaMondia, The Connecticut Agricultural Experiment Station.

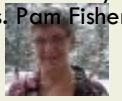
"Advances in Root Weevil Management" - Dr. Richard Cowles, The Connecticut Agricultural Experiment Station.

First Webinar of the Series:

February 18, 2011

"Strawberry Physiology" - Dr. Adam Dale, University of Guelph

"Day Neutral Strawberry Varieties" - Ms. Pam Fisher, OMAFRA.



On the Organic Side...

Managing Organic Nutrients

A free 14-page booklet, "Using Organic Nutrient Sources," helps organic farmers understand their soil test results and go on to respond wisely and compliantly, within the USDA National Organic Program standards.

Filled with useful detail and valuable reference charts, the booklet acknowledges from the start that nutrient management is often a major challenge for organic farms. And since soil test results don't come with specific recipes for applying different nutrient sources, the guide shows farmers how to make informed decisions about the best use of the amendments and fertilizers available to organic growers.

The text and charts in the booklet guide farmers on how to manage pH, calcium, and magnesium levels and how to apply nitrogen, phosphorus and potash from organic sources to satisfy crop requirements without accumulating excessive levels of nitrogen and phosphorus.

The publication is connected with a 2007 Professional Development Grant, "Whole-farm nutrient planning for organic farms." The project, led by Dr. Elsa Sanchez from Penn State University, supported intensive training on this topic for New York and Pennsylvania educators and service providers. The overall focus was to help organic farmers improve nutrient management through more relevant soil and compost analysis recommendations and use of computer-based whole-farm nutrient planning.

This same project also resulted in another change: Soil test reports now include a statement of the hazards of above-optimum-level nutrients, and says that compost applied on an N basis will have an excess of P and K relative to plant demand. These salts and minerals can accumulate with repeated application--farmers should test frequently and avoid over-application.

The booklet can be downloaded at no charge from: http://pubs.cas.psu.edu/FreePubs/pdfs/uj256.pdf.

There is also a companion worksheet that helps farmers decide which organic nutrients to use and how much to apply. This decision-making tool shows how to figure out the right questions to ask, get real-world estimates of residual nitrogen from compost, calculate nitrogen availability from last season's cover crop, and decide whether compost is the best way to apply nutrients.

Both the booklet and the worksheet were developed by Penn State. If you prefer a printed copy over download, you can request one from the Publications Distribution Center, Pennsylvania State University, 112 Agricultural Administration Building, University Park, PA 16802; call 814-865-6713.

National Organic Program Amends List of Allowed and Prohibited Substances

The National Organic Program (NOP) published a final rule amending the National List of Allowed and Prohibited Substances for crops and processing, effective December 14, 2010. The rule enacts six recommendations: 1) Adds aqueous potassium silicate for use as an insecticide and for plant disease control in organic crop production. 2) Adds sodium carbonate peroxyhydrate for use as an algaecide in organic crop production. 3) Adds gellan gum as a nonsynthetic allowed for use in organic handling. 4) Adds fortified cooking wine for use in organic handling as a nonorganic agricultural ingredient only when not commercially available in organic form. 5) Adds tragacanth gum for use in organic handling as a nonorganic agricultural ingredient only when not commercially available in organic form. 6) Removes glycerine oleate as a synthetic inert ingredient allowed in organic crop production. Use of these substances is subject to restrictive annotations. For more information see:

Federal Register 77521
Vol. 75, No. 238, Monday, December 13, 2010

Organic EQIP Initiative for 2011

Apply by March 4, 2011

Farmers who are already organic and farmers who are at any stage of transition to organic farming can apply for federal funding to help pay for organic farm practices that are also considered conservation practices. The funding is being offered through the USDA Environmental Quality Incentives Program (EQIP). There is a dedicated pool of money available to NY, separate from the overall EQIP funding for the State. If you are already certified, check the list of eligible practices to see if there are some that you may not currently use to the fullest. You can apply for funding to pay for these.

The information on how to apply for New York State producers will be available starting Jan 3, 2010. Go to: http://www.ny.nrcs.usda.gov/ and search for "Organic EQIP."

Do you need to find your county NRCS office phone number? Go to: http://www.ny.nrcs.usda.gov/contact/ Look at the listing on the left of the page and click on "Find a Service Center".

Need assistance? Contact Sarah Johnston, Organic Agriculture Specialist, 518-457-4531 or Email: sarah.johnston@agmkt.state.ny.us

NRCS Natural Resources Conservation Service

How Do Consumers Respond to Advertising Programs for Fruits and Vegetables?

Brad Rickard, Jura Liaukonyte, and Harry M. Kaiser, Dyson School of Applied Economics and Management, Cornell University and Tim Richards, Morrison School of Agribusiness and Resource Management, Arizona State University

Introduction Fruit and vegetable consumption rates in the United States are significantly lower than what is recommended by nutritionists and health experts. Of the six groups traditionally included in the food recommendation pyramids, fruits and vegetables are significantly underconsumed (Figure 1). Figure 2 shows that fruits and vegetables receive very low levels of advertising funding relative to the other food groups. Therefore, we examine the role of advertising as a way to influence the consumption of fruits and vegetables.

Fruit and Vegetable Marketing With few exceptions, promotion efforts for fruits and vegetables have been very small, have been commodity-specific, and have been generic given the limited number of brands for fresh produce. There have been recent discussions in the United States about implementing a mandatory "broad-based" promotion program for all fruits and vegetables, and this issue was fiercely debated in 2009. In the United States, broad-based campaigns for fruits and vegetables, such as the "Fruit & Veggies: More Matters" campaign, have been supported by voluntary donations and have had much less media exposure than their counterparts in other countries.

Advocates suggest that commodity-specific programs compete for consumption share and that a large broad-based program may increase demand for the entire fruit and vegetable category. Opponents argue that broad-based messages simply emphasize a well-known fact—that eating fruits and vegetables is good for you—and do not believe they will influence consumer choice. Among those questioning the efficacy of broad-based campaigns, there are also concerns about the distributive implications across fruits and vegetables; a broad-based effort might only provide benefits for particular fruit and/or vegetables, rather than increase demand for all fruits and vegetables.

Experimental Design To shed some new light on this issue, we designed an experiment that showed samples of promotional efforts for fruits and vegetables to research participants. We recruited 271 adult subjects to participate in our study; each subject was paid $25 and asked to participant in several computerized auctions and submit bids that reflect their maximum willingness to pay for one pound of selected fruit and vegetable products. Subjects were placed into one of six treatments, and the treatments varied according to the advertisement shown to the participants. Each treatment was comprised of three 90-second video clips of the popular animated television series, *The Simpsons*, interspersed with up to two minutes of advertisements for fruits and vegetables. Advertisements for fruits and vegetables were either commodity-specific, broad-based, or a mixed approach that included commodity-specific and broad-based efforts. The six treatments were: 1) Control (no ads), 2) Broad-Based Ads, 3) Apple Ads, 4) Broad-Based + Apple Ads, 5) Potato Ads, and 6) Broad-Based + Potato Ads. At the end of the experiment each subject completed a 25-question survey that included demographic questions and questions about food preferences.

Effects of Broad-Based and Commodity Specific Advertising Table 1 shows the average price subjects were willing to pay for the eight fruits and vegetables (apples, oranges, grapes, bananas, tomatoes, potatoes, carrots, and bell peppers) under each treatment. Here we see that the average bid was $0.74 per pound in the control group (no advertisements), and did not exceed this level in the treatments showing commodity-specific advertisements. However, in the three treatments that include broad-based advertising, we see a significant increase in price that consumers were willing to pay.

Our results show that the average willingness to pay across the eight fruits and vegetables was 41% higher among subjects in the broad-based group compared to the control group. Our treatment that combines potato advertising and a broad-based campaign provides evidence that a mixed advertising strategy may also lead to a significant increase in the average willingness to pay for fruits and vegetables. However, the increase in demand associated with this mixed strategy is very similar to the shift in demand associated with adoption of a broad-based program.

Conclusion and Industry Implications Our study provides support for the advocates of a broad-based promotional campaign who argue that such advertising would raise overall demand for fruits and vegetables. In fact, we find that the fruit and vegetable industry may be better off without any commodity-specific advertising. For these reasons, a cooperative strategy whereby producers of fruits and vegetables pool their advertising funds and promote their products generically is apt to be more profitable than a series of competing commodity-specific messages. For policy makers interested in food intake, obesity, and changing dietary habits, our results suggest that using additional resources for a broad-based promotional program may be an effective way to increase consumption of fruits and vegetables.

Funding for our project was provided by the Consumer and Market Demand Network. Working Paper available at: http://aem.cornell.edu/research/researchpdf/wp/2010/Cornell_Dyson_wp1012.pdf.

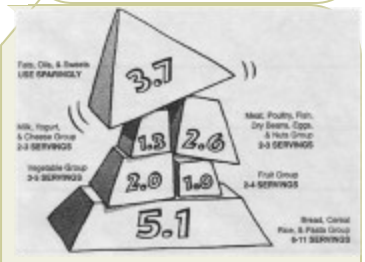


Figure 1

Figure 2

Table 1: Results from Our Experiment

	Willingness to Pay ($/lb)
Control	0.741
Broad-Based Ads	0.836
Apple Ads	0.692
Broad-Based & Apple Ads	0.832
Potato Ads	0.740
Broad-Based & Potato Ads	0.814

For more information: Brad Rickard: Tel: +1.607.255.7417 E-mail: bjr83@cornell.edu

Pest Management Update - Cathy Heidenreich, Cornell University

New Soil Fumigant Toolbox Available on EPA Web Page

EPA has created a new virtual toolbox for information on soil fumigation, which is available at http://www.epa.gov/pesticides/reregistration/soil_fumigants/. The soil fumigants toolbox now provides easy access to a variety of soil fumigant training, outreach, and other resource materials for applicators and handlers, communities, state and local agencies, and others interested in understanding and implementing the current requirements for safe use of soil fumigants.

Key features of the toolbox include safety brochures for handlers of soil fumigants, training modules on the new soil fumigant requirements, templates for soil fumigant management plans, and updated fact sheets on the soil fumigant mitigation measures and implementation schedule. New materials will be added to the toolbox as they become available during 2011.

Products Receive NYS 2 (ee) Labels for Suppression of Spotted Wing Drosophila (SWD)

The New York State Department of Environmental Conservation has approved a FIFRA 2(ee) Recommendation for the use of Delegate WG (EPA Reg. No. 62719-541) to suppress the unlabeled pest -- spotted wing drosophila -- on bushberries, caneberries, grapes, pome fruit, and stone fruit. NYSDEC has also approved a FIFRA 2 (ee) Recommendation for the use of Entrust (EPA Reg. No. 62719-282) for suppression of SWD on bushberries, caneberries, grapes, stone and pome fruit.

Products Receive NYS 2 (ee) Label for Brown Marmorated Stinkbug

The New York State Department of Environmental Conservation has approved your FIFRA 2(ee) Recommendation for the use of Danitol 2.4 EC Spray (EPA Reg. No. 59639-35) to control the unlabeled pest brown marmorated stink bug on bushberries, cotton, cucurbit vegetables, head and stem brassica, fruiting vegetables, pea (succulent), grape, pome fruit, stone fruit, and strawberry.

NYS DEC has also approved a FIFRA 2(ee) Recommendation for the use of DuPont Lannate SP Insecticide (EPA Reg. No. 352-342) to control the unlabeled pest brown marmorated stink bug on apples, barley, blueberries, field corn, sweet corn, peaches, pears, peppers, soybeans, tomatoes, and wheat.

Note: Applicators must have copies of 2(ee) labels in their possession while making applications. Labels are available at : http://pmep.cce.cornell.edu/

"Delegate WG and Entrust now registered for Spotted Wing Drosophila Suppression in NYS bushberries and Caneberries"

Disease Name: Crumbly berry of Raspberry

Cause: Tomato ringspot virus (ToRSV)

When to watch for it: First leaf to fruit maturity

First line of defense: Remove plantings and replant elsewhere with clean stock. Plant to non-host or leave fallow for 3-5 years

Berry Disease Snapshot: Crumbly Berry of Raspberry - Kerik Cox, Cornell University

Crumby berry disease is named for a symptom of tomato ringspot virus (ToRSV) infection.

Plants with ToRSV infections may be asymptomatic until virus titers are sufficiently high. In severe cases there may be yellow rings or chlorotic networking patterns on leaves (rare), drupelets may be malformed, and or mature fruit may crumble under slight pressure when picked.

The virus is vectored by the dagger nematode, a microscopic plant parasitic roundworm. The nematode doesn't move far in heavier or non-sandy soils, but has numerous weed hosts, which is why it's best to remove the infected planting, replant elsewhere with certified virus-free stock, and leave the former planting site fallow (and weed free) for several years.

Bear in mind that crumbly mature fruit is just a physiological consequence of virus infection. Any number of physiological problems due to horticultural concerns including nutrition and toxicity could lead to crumbling fruit at maturity.

However, if you routinely have this problem it may be important to get tested for the virus.

Tomato ringspot virus (ToRSV) symptoms on raspberry leaf

Brown Marmorated Stinkbug Adult (photo courtesy Steven Jacobs, Penn State University)

BERRY ARTHROPOD PEST SNAPSHOT: LOOK WHO'S COMING TO DINNER? – Greg Loeb, Cornell

The one constant of farming (maybe life in general) ironically is that it never stays exactly the same. Change is good, right? There is change coming to New York with respect to the invasion of two new insect pests of fruit crops: the Brown Marmorated Stink Bug, which is already present at low numbers, and the Spotted Wing Drosophila, which has not been reported yet, but getting close. Both these insects have the potential to change pest management practices for small fruit growers and I thought I would use this space to introduce them to you. In this issue I will focus on Brown Marmorated Stink Bug (BMSB).

BMSB originates from Asia. It was accidently introduced into Pennsylvania about 15 years ago and has been spreading through the USA ever since, reaching NY a few years ago. This insect is a plant feeder, using its soda straw like mouthparts to suck out plant juices. It is known to feed on a wide range of plant species, including a number of fruit, vegetable, and field crops where it can cause serious damage. Pome fruit seem to be particularly vulnerable. Several small fruit crops are vulnerable as well, with perhaps blueberries and raspberries the most at risk. When it feeds on developing fruit, you may only observe small blemishes or slight to moderate deformations on the surface, but underneath you will find corky, necrotic tissue. In addition to its feeding habits, BMSB is also a nuisance pest. It overwinters as an adult, often in homes, barns and parked vehicles like RVs, etc. They can be very numerous and although they do not bite, they can release an unpleasant odor (hence the name stink bug). Incidentally, the stink bug odor has caused some problems for the wine industry. Adults congregate in vineyards in the fall and can get accidently harvested with grapes. In the process they release their alarm odors, which can result in unpleasant aromas in wine. A good fact sheet on BMSB, with photographs of adults, eggs and immatures and damage, has been produced by Penn State University [http://ento.psu.edu/extension/factsheets/brown-marmorated-stink-bug].

BMSB has caused serious economic damage to fruit, vegetable, and field crops in the Mid-Atlantic States. Time will tell to what extent BMSB will be a problem for NY berry growers and to what extent pest management practices will need to change to accommodate them. I recommend learning how to recognize BMSB and monitor for its presence in your fields. University and USDA scientists are working hard to learn more about the biology of BMSB and effective ways to control it. Right now NY has one insecticide labeled for use against BMSB (Danitol [fenpropathrin] has a 2ee exemption for use on blueberries, grapes, and strawberries, but unfortunately not brambles). However, over time additional insecticides will be added and hopefully some innovative alternatives will also be developed. So I guess change is not always good, but probably unavoidable. We will need to learn how to manage BMSB and minimize its economic and environmental impacts.

"Time will tell to what extent BMSB will be a problem for NY berry growers and to what extent pest management practices will need to change to accommodate them."

Small pull behind airblast sprayer used in highbush blueberry planting.

SELECTING A SMALL SPRAYER FOR THE SMALL BERRY CROP PLANTING – Andrew Landers, Cornell

(Excerpted from "2011 Cornell Berry Pest Management Guidelines for Berry Crops", ©2010 Cornell University. All rights reserved.)

There are many important points to consider before purchasing a sprayer, not the least of which is the area to spray, the proximity of the local supplier, standard of manufacture, etc. There are many growers with small plantings who need spraying equipment ranging from backpack sprayers to small truck- or ATV-mounted machines.

Canopy Sprayers

Backpack Sprayers. Small capacity (4-5 gallon) sprayers will produce up to approximately 100 psi pressure. Weight is an important consideration and growers should select a sprayer with good, wide, padded straps to ease the load on your shoulders. Correct nozzle selection according to the target is very important to ensure even coverage. A good-sized filling hole at the top is also important.

There are three factors affecting application rate – forward speed, pressure, and nozzle tip size. Unfortunately, most inexpensive backpack sprayers have no pressure gauge. Pay more money and purchase a backpack sprayer with a pressure gauge or, better still, purchase a spray management valve as standard or as an option. Normally output increases or decreases according to the pressure in the system, (which is dependent upon how vigorous you are in pumping the handle up and down). A spray management valve, such as a

SELECTING A SMALL SPRAYER FOR THE SMALL BERRY CROP PLANTING -(continued)

CF valve, will ensure a constant output irrespective of hand pump action. The CF valve evens out fluctuations in pressure, e.g. will only allow a maximum and minimum pressure thus ensuring even flow. The Fountainhead Group (http://www.thefountainheadgroup.com/) sells a backpack sprayer with a simple valve which ensures the correct pressure is not exceeded.

An alternative to the hand-operated backpack sprayer is an electrically-operated backpack sprayer, which utilizes a small rechargeable battery. Maximum pressure is relatively low and it is easier than using a traditional hand pump system, particularly if you have many rows of plants to spray. Similarly a small back pack sprayer fitted with a small gas engine is available. The electric version is quieter to use, but you must remember to recharge the batteries otherwise spraying will be delayed.

Portable Mist and Air Blower Backpacks. These are ideal for plantings where canopy penetration is required, e.g. denser, vigorous plantings. A small gas engine drives a fan blower which creates an airstream which passes along a hand-held tube (similar to a leaf blower). The tube has a nozzle situated at the end so that liquid spray can be squirted into the airstream. The operator directs the spray cloud towards the canopy by pointing the hand-held tube. It is preferable to point the tube backwards to avoid walking into the spray cloud. Engine speed can be reduced which enables a slower airspeed to match a smaller canopy in early season. They are very good at rustling the canopy and getting good penetration and deposition. They are heavy! Noise is a problem, so ear protection must be worn.

Portable Gas Engine-driven Sprayers. If weight is a problem, and ground conditions are relatively smooth, a number of manufacturers offer a sprayer with a small gas engine and a 10 to 12 gallon tank. Larger capacity tanks (14 to 100 gallons) are often trailed and can be pulled by a lawn tractor, ATV, Gator, or small tractor.

Small, Mounted Sprayers. Ideal for mounting onto the carrier rack of an ATV, 15 to 25 gallons, they use a small electric pump to provide up to 70 psi. When used with a hand wand and a hose, they can be used to spray short length rows. The same system is ideal for weed control and spot spraying of weeds.

Large, Skid Mounted Sprayers. Ideal for fitting into the back of a pick-up truck, these sprayers have a tank capacity of 35 to 200 gallons, and an electric-start gas engine.

Small, Trailed Airblast Sprayers. Very small airblast sprayers, with tank capacities up to 110 gallons and a 5.5 to 20 hp gas engine, can be towed by an ATV or a small tractor. Larger tank capacities up to 300 gallons are also available but require larger tractors with weights and brakes for safe operation. Remember, the larger the gas engine, the more important it is to buy an electric start option. Small airblast sprayers are ideal in blueberry plantings with tall plants but suffer from a lack of air direction, therefore purchase sprayers with deflectors or towers to direct the air into the canopy.

Small, Mounted Airblast Sprayers. Three-point hitch, PTO-driven models with a 22- or 24-inch fan, for fitting onto 25 plus hp tractors are available. Beware of drift, again consider models which direct the air via deflectors or towers.

Herbicide or Ground Application Sprayers

Backpack, Small ATV-Mounted Tank, and Hand-Lance Sprayers. These sprayers can be used for herbicide application **BUT** be very careful that there is no carry-over from herbicide residues in the sprayer, therefore wash them out very thoroughly before using them to apply materials other than herbicides. Alternatively, have dedicated herbicide-only equipment.

Controlled Droplet Applicators (CDA). The use of CDA's will considerably reduce the need to carry vast amounts of water. A spinning disc (battery powered) will produce 95% of the same-size droplets, thus reducing herbicide rates by at least 50% and water rates by 75%. Herbi and Mantis (trade names) are both hand-held CDA sprayers. ATV- or tractor-mounted shielded CDA sprayers such as the Environmist also reduce spray rates while shielding the plants from the spray. More information:

http://www.micron.co.uk/cda_and_the_small_farmer/

Wick Wipers. Where occasional weeds and access over wet land are a problem, the use of a hand-held wick wiper is an easy-to use, effective option. A small tank, usually contained in the handle, holds the liquid, which soaks a rope wick or a sponge. The rope or sponge can then be wiped against the weeds.

This and more information on spray technology for small scale berry plantings is available in the 2011 Cornell Berry Pest Management Guidelines for Berry Crops.

To order your copy visit:

http://ipmguidelines.org/BerryCrops/

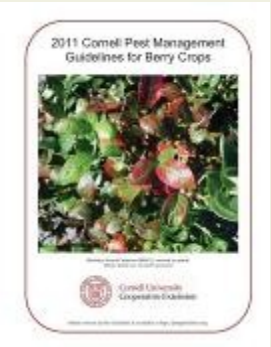
or by phone: 607-255-7282. Cost is $25 which includes shipping.

Special thanks to Cornell University's Pest Management Education Program (PMEP) and Dr. Andrew Landers for allowing us to reprint this material.

Pump-up back pack sprayer.

"Where occasional weeds and access over wet land are a problem, the use of a hand-held wick wiper is an easy-to use, effective option."

(Photo: Leslies Huffman, OMAFRA)



'L'Amour' Strawberry

Cornell University Breeding Program
Early mid-season

Variety Spotlight: Strawberries – Courtney Weber, Cornell University

L'Amour Strawberry (Tested as NY1829) was released from Cornell in 2003. It's an early mid-season type with excellent fruit quality.

'L'Amour' is a bright red and recognized from its excellent, aromatic flavor. It fruits in the early season similar to 'Honeoye'.

'L'Amour' was first selected for testing in 1994 from a cross of NYUS256 x 'Cavendish'.

The fruit of 'L'Amour' is a classic heart shaped conical with a fancy calyx, which makes them very attractive.

The flesh is firm but not hard with a nice eating texture.

The plants have good winter hardiness, disease resistance and vigor.

Best Use: 'L'Amour' fits into the early to early mid-season market similar to 'Honeoye' and before 'Darselect'.

Field produce d 'Prelude ' summer red raspberry.

Tunnel produce d 'Caroline ' fall red raspberry.

Variety Spotlight: Raspberries – Courtney Weber, Cornell University

Prelude summer-fruiting red raspberry (Cornell University-NYSAES, Plant Patent #11,747) is the earliest summer fruiting cultivar available.

The fruit is medium sized, round, and firm with good flavor.

It is very resistant to Phytophthora root rot and has good cold hardiness.

A moderate fall crop is large enough to warrant double cropping.

Best Use: It is probably the best early season cultivar available for the northeast. It makes a great homeowner variety too because of its double crop and disease resistance.

Caroline fall-fruiting red raspberry (University of Maryland, Plant patent # 10,412) produces medium to large, conical fruit in late August through September.

The fruit is bright red but darkens with storage. The flavor is very good.

'Caroline' produces tall upright canes that benefit from trellising due to heavy crop loads.

The short fruiting laterals can be challenging to pick because of the heavy leaf cover, but yields are very good (2-3t/A outdoors, up to 5t/A in high tunnels) for the fall.

It has good resistance to Phytophthora root rot.

Best use: 'Caroline' performs well in both field and tunnel production.

'Caroline' Fall Red Raspberry

University of Maryland Breeding Program
Mid-season

'Prelude' Summer Red Raspberry
Cornell University Breeding Program
Early season

(Photos courtesy Nourse Farms)

'Bluecrop' Blueberry

USDA Breeding Program
Early mid-season

Variety Spotlight: Blueberries – Cathy Heidenreich

Bluecrop blueberry is one of the leading commercial varieties produced in the US, and is especially popular in New Jersey and Michigan commercial production. T

It is a result of a ('Jersey' x 'Pioneer') x ('Stanley' x 'June') cross and was released from the USDA breeding program in 1952.

This early mid-season blueberry produces high yields of large firm bright blue berries with small scars. Berries are produced in large clusters.

'Bluecrop' is an easy blueberry to grow and is well known for its hardiness, vigor and consistent production. It is hardy in most of NY and can be machine harvested. The canes tend to be weepy.

'Bluecrop' has few field management problems; withstanding spring frosts well.

Best Use: 'Bluecrop' is suitable for u-pick local fresh market sales.

Points to Ponder – Choosing Strawberry Varieties – Courtney Weber, Cornell University

I often get asked by growers "What variety of (straw-, rasp-, blue-, goose-) berry should I plant?". My answer is almost always "It depends." and then we talk about some of the things that need to be considered. I ask growers to tell me what their goals are.

For strawberries, do you want early season fruit to bring in customers to start your season or to go with rhubarb or asparagus? Then you need an early variety such as 'Earliglow' or 'AC Wendy'.

Do you worry about late frosts? Then maybe avoid the earliest varieties and start with 'L'Amour' and 'Darselect'.

Do you want to have berries past the 4th of July? Then 'Ovation' and 'Cabot' are possibilities.

Where do you market - wholesale, u-pick, ready-picked on farm or at farmer's markets? Wholesale markets usually require larger fruit with brighter color such as 'L'Amour', 'Jewel' and 'Cabot'.

U-pick are usually more discerning consumers who will sample the fruit so high flavor varieties are indicated such as 'Earliglow', 'L'Amour' and 'Jewel' and varieties that freeze and process well such as 'Clancy' and 'Honeoye'. Be sure to let consumers know with signs or verbally which varieties are best for which purpose!

Ready picked markets (farm and farmer's markets sales) benefit from both high flavor and large size since customers buy with their eyes but often consume immediately. Try varieties like 'L'Amour', 'Jewel', and 'Darselect'.

Do you have any disease pressure or was the field in strawberries at any time in the past? If red stele, black rot, verticillium and/or general replant disease are a problem you may want to stay away from 'Jewel', 'Honeoye', 'Annapolis' and 'Kent'. Try more disease resistant varieties like 'L'Amour', 'Winona', 'Clancy' or 'Mesabi'.

Do you get fog or frequent high humidity? Powdery mildew can be an issue with 'Darselect', 'Annapolis' and 'Earliglow' as well as many day neutral varieties from California like 'Aromas' and 'Diamante'.

No one variety will fill all needs. I generally suggest 3 or 4 varieties with variable harvest seasons so the risk from adverse weather and site conditions is not concentrated on one variety.

The same principles apply to other berry types. If you know your goals then answering "What variety should I grow?" is a little easier.

Dr. Courtney Weber is associate professor and small fruit breeder in the Cornell University Department of Horticulture, Geneva, NY

"What variety of (straw-, rasp-, blue-, goose-) berry should I plant?". My answer is almost always "It depends."

Variety Spotlight: Ribes – Steven McKay and Cathy Heidenreich, Cornell University

Tixia™ (Rafzicta)

(Can.Pl.Breeder Rights#3348)

This red gooseberry is semi-thornless, very vigorous and productive.

Fruit is very large with a beautiful, bright red color. Plants are resistant to mildew.

Tixia is a gooseberry variety that has captured the attention of growers and consumers alike.

Midseason, it bears an oval-shaped elongated, large bright-red berry with a smooth skin. The plant is also desirable since it is mildew resistant, and lacks thorns.

Any thorns present are borne singly, are relatively soft, and are borne on the upper parts of the shoots.

Growth is vigorous, and tends to be upright.

The variety was bred by Peter Hauenstein in Rafz, Switzerland, and was released in 1990, a cross of Invicta x LS 9 -31-54.

Best Use: Tixia is well suited for home garden, U-pick and commercial plantations.

Rovada

Developed in the Netherlands, Rovada red currant bears heavy crops of very large bright red fruit on extremely long strigs

It is a cross of Fay's Prolific x Heinemann's Rote Spatlese - Holland, made in 1990.

Rovada is a compact, mounding, deciduous shrub which grows 3-5' tall.

Plants have good vigor and disease resistance, plus they are late to flower, thus escaping late season frosts.

Fruit ripens in late July.

Best Use: Rovada is an excellent choice for fresh market and U-pick.

Tixia Gooseberry

Ribes UVA-Crispa 'Tixia'

Rovada Red Currant

Ribes rubrum 'Rovada'

Rimol High Tunnel with extended sides, used in raspberry and blackberry production, Ithaca, NY.

"Tunnel Talk" is a new feature designed to provide insights and information to high tunnel berry growers. Have a high tunnel tip to share?

Haygrove high tunnels used in raspberry production, Geneva, NY

Tunnel Talk Marvin Pritts, Cornell University

High Tunnel Raspberries and Blackberries — Tips and Observations:

Blackberries retain their leaves throughout much of the winter in closed tunnels. They will fall off in spring when new buds break.

Just because blackberries retain their leaves does not mean that plants have received insufficient chilling.

Photo: Leaves on tunnel blackberries in March.

Do not keep tunnels completely closed for the winter. Allow sides to be rolled up six inches or so to permit some air movement through the tunnel.

Photo: Covered tunnel vented for winter. Note chicken wire barrier used to reduce rabbit damage.

Be sure rabbits do not enter the tunnel during winter. They will girdle canes.

Photo: cane girdling by rabbits.

Remove snow and ice that accumulates more than 3 or 4 inches on the tunnel.

Photo: Tunnel collapse after heavy wet snowfall, Ithaca, NY.

Irrigate closed tunnels as soon as possible in the spring.

Photo: Irrigation set up in high tunnel, Ithaca, NY

Winter is a good time to prune canes, tighten trellises and remove fallen leaves from inside the tunnel. Leaves on the tunnel floor can be a source of insect pests.

Photo: collapsible "V" trellis.

Use horticultural oil on raspberry canes in closed tunnels as soon as the weather begins to warm and buds start to push.

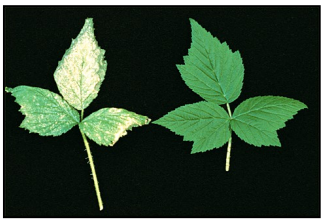
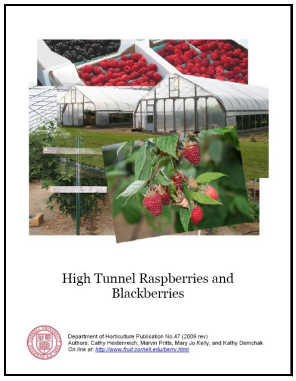


Photo: Mite damage on raspberry leaf (left). Undamaged leaf (right).

For more information on bramble production in high tunnels see: High Tunnel Raspberries and Blackberries



EDITOR"S NOTE: This just in from Amy Ivy, Public Affairs Specialist, USDA-NRCS-NY, 315-530-8075:

"NY's signup for FY 2011 High Tunnel funding as part of the Agricultural Management Assistance Program (AMA) ended last week.

However, I still encourage you to apply at your local county office http://offices.sc.egov.usda.gov/locator/app?state=NY.

As part of the EQIP Organic initiative, we plan to offer high tunnel funding this year with a signup deadline of March 4, 2011 http://www.ny.nrcs.usda.gov/news/releases/organic_funding.html.

(continued on page 22)

Empire State Fruit and Vegetable EXPO Berry Session

Selling that beautiful crop can be the hardest thing about making a living growing berries.

Come to the Berry Crop session of the Empire State Fruit and Vegetable Expo and Direct Marketing Conference, Thursday January 27, 2011 at the On Center in Syracuse, New York to learn about new approaches to making money selling berries.

Matt LeRoux , Cornell Cooperative Extension, will share simple ways to compare customized marketing strategies. From farm stands to farmers markets, you-pick berries to CSAs and wholesale buyers like grocery stores or restaurants, each "channel" has pros and cons. Learn how to evaluate your farm's marketing channels to focus on the profitable and minimize the costly.

Following LeRoux's talk, three successful berry growers will present remarkably different marketing strategies. Growers, Katie Creeger, Kestrel Perch Berries, Suzie Grisamore, Grisamore Farms, and Terry Perfetti, Cherry Knoll Farm will describe how their marketing strategies have evolved to changing conditions.

Soils for Berries

Berry crops are notoriously finicky about the soils they're grown in, and New York soils vary largely.

Come to the afternoon Berry Crop session to learn more about soils for berries.

Marvin Pritts and Harold Van Es will give a candid look at New York soil types and how they affect berry growth including reading and interpreting soil descriptions, soil limitations, and to what extent they can be overcome.

After that, hear from fellow farmers on how they manage their own soils. From irrigating a sandy soil to raised beds on clays, these farmers will share their creative solutions to dealing with the land they were dealt.

Hear Cornell professor Art Degaetano present Weather 101: Understanding forecasts and reading the local conditions. He'll define frosts and freezes, explain how the field can get a frost while the house thermometer reads 34 F, and explain simple tools that you can use to prepare better for local weather events.

You'll learn how to decipher berry root problems with Jim LaMondia, Connecticut Agricultural Experiment Station, as well as interpret soil and leaf test results to better understand the fertility needs of your crop.

At the end of the day you can get personalized help finding your own farm's soil type on the Web Soil Survey.

The 2011 Empire State Fruit and Vegetable Expo will be held January 26-27, 2011 at the OnCenter Convention Center in Syracuse, NY. The Expo provides growers with a multitude of educational opportunities, Association meeting and networking times, and a commercial trade show which offers the latest services, equipment and advances in the horticultural industry in New York State. Sessions conducted at the Expo include specific commodity sessions, focusing on a variety of crops including sweet corn, potatoes, tree fruit, berries, to name a few, as well sessions on direct marketing, soil health, research, food safety, labor, and more.

Mark your calendars now and save the dates in January in order to attend the Empire State Fruit and Vegetable Expo. You, and your farm business, will be glad you did!

The 2011 Empire State Fruit and Vegetable Expo is sponsored by the New York State Vegetable Growers Association, Empire State Potato Growers, New York State Berry Growers Association, New York State Farmers' Direct Marketing Association, New York State Horticultural Society, Cornell University and Cornell Cooperative Extension.

For more information and to register, visit http://www.nysaes.cornell.edu/hort/expo/.

Berry Track, 2011 Expo
Ballroom East
January 27, 2011 Thursday.
Selling Berries Session
8:50 – 11:15 PM

8:50 Announcements

9:00-9:45 Make money selling berries: Market channel assessment—Matt LeRoux, CCE South Central NY Ag Team. Growers can sell berries on farm stands, at farmers markets, as you-pick berries, to a CSA, or to wholesale buyers like grocery stores or restaurants. Each "channel" has pros and cons. Learn how to evaluate your farm's marketing channels so you can focus on the ones that are profitable and minimize the others.

9:45-10:45 Berry Marketing Channels Grower panel: Growers will have about 15-20 minutes each to tell about how their farm sells berries now, and how these marketing channels have evolved over the life of their farm (response to various pressures or success).

- Katie Creeger, Kestrel Perch Berries, (berry CSA);
- Suzie Grisamore, Grisamore Farms, Locke, NY (wholesale, u-pick, agritourism);

(continued on page 20)

"It's been a berry great season, you have a beautiful crop in the field, and you're ecstatic. What's missing? The money."

Trade Show Hours:
8:00 a.m. to 6:00 p.m.
on January 26th
and
8:00 a.m. to 4:00 p.m.
on January 27th.

STRAWBERRY GENOME – SEQUENCE WILL LEAD TO BETTER FRUIT FOR CONSUMERS

Kevin Folta, a University of Florida associate professor of horticultural sciences, displays the woodland strawberry in his laboratory at UF's main campus on Dec. 20, 2010.

Folta, of UF's Institute of Food and Agricultural Sciences, and researchers from Virginia Tech led a consortium of 75 international scientists that was the first to publish the DNA sequence for the strawberry.

Also shown are other members of the Rosaceae family of flowering plants expected to benefit from the research, including cultivated strawberry, apples and cherries. ***(Photo by: Tyler L. Jones, University of Florida)***

"Having the genome sequence means strawberry breeders can unravel — and improve upon — even a complex trait, such as fruit quality or aroma."

ABOUT THE ARTICLE

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GAINESVILLE, Fla. — An international team of scientists led by the University of Florida and Virginia Tech is the first to publish the DNA sequence for the strawberry — a development expected to yield tastier, hardier varieties of the berry and other crops in its family.

The genome sequence, obtained by a team of 75 researchers from 38 institutions around the globe, will be published Dec. 26 in the online version of the journal Nature Genetics.

"We've created the strawberry parts list," said researcher Kevin Folta, an associate professor with UF's Institute of Food and Agricultural Sciences. "For every organism on the planet, if you're going to try any advanced research, such as molecular-assisted breeding, a parts list is really helpful. In the old days, we had to go out and figure out what the parts were. Now we know the molecular nuts and bolts that make up the strawberry plant."

Having that "parts list" in hand will enable strawberry breeders to bring new varieties to market faster, creating plants that can be grown with less environmental impact, better nutritional profiles and larger yields.

"All of those dividends are probably at least a decade off, but they are definitely realities on the horticultural radar screen," said Folta, a member of the UF Genetics Institute.

Vladimir Shulaev, a University of North Texas biological sciences professor who led the project while a faculty member of the Virginia Bioinformatics Institute at Virginia Tech, said having the genome sequence means strawberry breeders can unravel — and improve upon — even a complex trait, such as fruit quality or aroma. It will also help to create fruits containing higher levels of phytochemicals with health benefits.

Janet Slovin, a plant molecular biologist with the U.S. Department of Agriculture's Agricultural Research Service in Beltsville, Md., who was part of the research team, said scientists may be able to help growers create berries that mature earlier or later than existing varieties so that they can get their product to market when no one else can.

"That means if you're a grower, you can extend your growing season, get a better price per flat, and use your land more—and that's exactly what growers want," she said.

The consortium sequenced the woodland strawberry, a wild relative of today's cultivated strawberry varieties. From a genetic standpoint, the woodland strawberry is similar to the cultivated strawberry but less complex, making it easier for scientists to use in research.

The strawberry is part of the Rosaceae family of flowering plants that includes important agricultural and ornamental crops, such as apples, peaches, cherries, raspberries, plums, almonds and roses. Plants in the Rosaceae family share many important traits, so unveiling the woodland strawberry's genome should mean quicker breeding advances for those crops, as well.

The research was distinctive in several ways, Folta said. First, it had no central funding source, unlike some similar genome-sequencing projects. Scientists donated time and used parts of smaller grants, to cover costs. Second, the consortium was open access — meaning any scientist who had an interest in the project was allowed to play a role, even those who were not experts in genome sequencing or computational biology, Folta said. And finally, the woodland strawberry is the first plant to have its genome sequenced exclusively by a method called short-read sequencing, he said. Such advances have only been recently reported in deriving the genome sequence of animal species, such as the panda. In short-read sequencing, small pieces of DNA are sequenced separately. Those pieces are then strung together using computer software. Folta explained it like this: "If you had the alphabet from A to Z, and someone gave you a piece that was A-B-C, and another piece was C-D-E-F, and another piece that was E-F-G-H, you could align all those using the common letters, and eventually develop the whole alphabet."

Strawberry is an excellent crop for scientists to use in genetic and physiological studies, Folta said, because it takes so little space to grow and is a quick-turnaround crop, unlike some others in the Rosaceae family, such as peach, which can take several years to bear fruit.

Ted Campbell, executive director of the Florida Strawberry Growers Association, called the genome-sequencing a "very significant milestone" for growers around the world — including those in Florida, where strawberries are a $338 million-a-year commodity.

Todd Mockler, an Oregon State University associate professor and member of the genome-sequencing team, said it may be a few years before the discovery is noticeable to consumers — but positive changes will come.

"For fruit crops, and strawberry in particular, it will matter to farmers and ultimately, to consumers," he said. "It may mean better yields or pest resistance, improvements in shelf life and things like flavor, fragrance, taste and appearance. Having the genome sequence will enable all of that."

CURRANT, GOOSEBERRY, ELDERBERRY, AND ARONIA-PRODUCTION, PRODUCTS, AND MARKETABILITY –

Steven McKay, Cornell University

The group of berries presented here has great potential for new crop development in the US. All can be produced with mechanization, which is important considering the need to reduce input costs such as labor. They have documented health benefits, and an excellent range of value-added products that can be marketed. The publicity for black currants has helped to raise customer awareness domestically, but much more remains to be done to bring these crops to their full potential for marketing.

RIBES: CURRANTS AND GOOSEBERRIES

Introduction: *Ribes* is the genus name of currants, gooseberries, and crosses of the two. Currants and gooseberries were once grown extensively on a commercial basis in the US. At the beginning of the century, the largest collection of currants and gooseberries in the country was in Geneva, NY, and the state ranked number one in red currant production in the 1930's. There are over 150 species of gooseberries in the world, and hundreds of currants and selected and hybridized cultivars. One British nurseryman told me in 1999 that he refers to a variety publication from earlier this century that lists over 1,500 varieties of gooseberries alone, and some researchers state that about 4,000 have been reported over the years (possibly a number are duplicates). Many cultivars have been lost, or are very rare, and there is an international effort to save as many of these as possible in various collections.

Even though currants and gooseberries are in the same family, they appear quite different. The crosses may look like either parent, some like currants and others like gooseberries. The variety in shapes, colors, texture, and flavor make *Ribes* a good candidate for development in gourmet and specialty markets. Fresh fruit can decorate plates, salads, and desserts. Cooked or processed fruit makes delicious sauces, pastry, wine, vinegar, and preserves. The juices have great flavor and health benefits that make them appropriate for popularizing as common breakfast or snack drinks. A comprehensive cookbook is currently available on CD for *Ribes,* and recipes can be found in old cookbooks, cooking magazines.

Gooseberries grow on a bush approximately 3 to 6 feet tall and about 3 to 4 feet wide. Most gooseberries have spines or thorns at each of the leaf nodes. The spines may be single, double, or triple, and they may be large, (10 to 15 mm) to small (l to 5 mm). The habit of the plant may vary from low spreading to upright and tall. Berry color may vary from green to yellow/green, to yellow; or white, to pink, to red, to dark red or purple. The size of the berries varies from about 1.5 grams to more than 12 grams. The average is about 3 to 6 grams. The berries are usually borne in ones, twos, or threes, and hang under the branches. The taste ranges from very tart to very sweet. In the US, gooseberries ripen starting about mid-June and the latest are ripe about mid-August. The seasons may vary a week or more either way, depending on the weather and your location.

Gooseberries are generally classified as dessert berries, those that are used raw, and culinary, or 'cookers' that are used primarily for processing or cooking. There are some that fall into both categories depending on the stage of ripeness when picked. Generally the dessert berries are larger and used when completely ripe. The culinary berries are generally smaller, very tart and used before they are fully ripe. Some growers use some of the dessert type berries while still unripe as cookers and as a means of thinning and using the crop. The remaining berries become larger and are used as they ripen. Please see *New York Fruit Quarterly*, Fall, 2006 for an article on gooseberries.

Some of the cultivars used as dessert berries in North America are:

'Achilles', 'Captivator', 'Early Sulphur', 'Hoenings Earliest', 'Invicta', 'Hinnomaki Red', 'Hinnomaki Yellow', 'Jeanne', 'Jahn's Prarie', and 'Whinham's Industry'.

Some of the culinary cultivars are:

'Careless' (dual use), 'Oregon Champion', 'Poorman', and 'Red Jacket', ('Pixwell' less recommended).

There are many other cultivars available in varying supplies that could be used in plantings for berries for sale at farmer's markets or roadside markets. The Corvallis Oregon germplasm repository has plants that could be brought into commercial production also.

Currants grow on a bush that is generally larger than a gooseberry bush with thicker wood. There are no thorns or spines, and bushes can be spreading or upright. There are two major different types of currants, black currants (R. *nigrum)* and red currants (R. *rubrum)*. The red currants also include the pink, white, and yellow currants, which are color phases of the red.

Almost all **black currants** are processed into juice or other products such as syrup, jam, jelly, tea, yogurt, pie fillings, candy, nutraceuticals, and wine. There has been an increase in consumption of black currant flavored beverages, and fresh consumption is

"The group of berries presented here has great potential for new crop development in the US. All can be produced with mechanization, which is important considering the need to reduce input costs such as labor. "

(Photos courtesy M. Pritts and S. McKay)

Top: Red Currant 'Red Lake".
Bottom: 'Achilles' Gooseberry.

Young currant and gooseberry planting, Geneva, NY.

Red Currant 'Red Lake" in bloom, Geneva, NY.
(photos courtesy C. Heidenreich)

CURRANT, GOOSEBERRY, ELDERBERRY... (continued)

growing, although demand remains relatively low because berries have a strong pungent flavor. The flavor is great for those who are accustomed to it, either fresh, or for cooking.

Some available black currant cultivars that may be used:

Black Currants: 'Ben Sarek', 'Ben Lomond', 'Ben Alder', 'Titania', ('Ben Nevis', 'Consort'....available but less recommended). Watch for two new Polish varieties soon to be released in North America.

Red currants are used both fresh and processed. They grow in bunches similar to grapes called strigs and may have from 10 to 35 berries. Fruits are often made into juice which can be consumed as a beverage, or used for preserves or other products. Currant jelly is an ingredient in many recipes to produce a tart flavor or to glaze. Red currants are used in sauces for meats, poultry or fish as well as a dessert topping on ice cream, cake, puddings, and creams.

Some currant cultivars that may be used:

Red Currants: 'Red Lake', 'Jonkeer Van Tets', 'Redstart' (mechanical harvested only), 'Rovada', and 'Tatran'.

White Currants: 'Primus', 'Blanka', 'White Imperial', 'Pink Champagne', and 'White Versailles'.

There are other hybrids and species of *Ribes* that don't fit into the above classifications. One of these is 'Crandall'. It is often grouped with black currants, but is actually another species, *R . odoratum*, and looks like a black currant, but has a milder flavor and is often eaten as fresh, raw fruit. It is quite large, and late for a black currant.

Josta berries (*Ribes nidigrolaria*), and selections called ORUS are actually hybrids of gooseberry and black currant. They often produce light crops of fruit.

Deciding Whether to *Grow Ribes:* *Ribes* crops definitely have a place in a grower's diversification formula. Local consumption by gourmet enthusiasts, small scale processors, and ethnic markets should be one's first target. Know what your market is before planting. Remember that larger scale production is more risky. As an example, the production of red currants as of 2010 has grown so much that it is a challenge to sell them all during the season. However, CA storage could be considered as a way to extend season and increase prices. Please see an article in *New York Fruit Quarterly*, Spring, 2006 edition for information on CA storage.

One should be conscious of any regulations that restrict *Ribes* production in the local area. Consider proximity to white pines, and the information about white pine blister rust. Labor or proximity to a harvester is also a critical factor.

Considerations in Choosing a Variety: As with other crops, no ideal varieties of *Ribes* crops have been developed. Certain varieties are better suited to selected geographical locations. Fruit quality on a given variety might be excellent, while lack of disease resistance or poor plant growth habit could be a flaw. When you consider varieties for commercial production, consider the following factors: availability of plant material, ease of propagation, plant patents, local laws, market audience final use of fruit, yield, ease of picking (length of strig), fruit color, size and quality, plant: thorns, growth habit/size, disease resistance.

Culture: Spacing - Planting rates for gooseberries and currants that are being used in pick-your-own operations should be about 3-4 feet in the row and in rows about 6-8 feet apart, depending on your training system and equipment. It is very important to know about the growth habit of your selected varieties and the space requirements of equipment, especially if you plan to mechanically harvest. Field spacing can be planned according to the defined parameters. For example, the black currant Ben Lomond would be planted a little closer in row, while 'Titania' could be spaced wider, due to size differences of plants. Mechanically harvested plants are spaced closer in the row, at about 18", with alleys spaced wider so that equipment can pass. One grower in England advocates planting at 12" in-row spacing, insisting that a tight hedgerow is critical for success in mechanical harvesting.

Mechanical harvesting is also possible for gooseberries (and red currants). Gooseberries that are planted for processing are planted closer in row, and are 'stripped' of berries while still fairly green (unripe) and hard. Gooseberries picked for fresh market are often planted about 3.5 feet in the row unless trained to vertical cordons which are spaced at eighteen inches. Fresh market berries are generally hand-picked.

Both red currants and gooseberries are most efficiently trained to cordons if they are to be used for fresh fruit production. Please *New York Fruit Quarterly*, Summer, 2005 edition for a detailed article on this training system.

Soil and Water - *Ribes* are best grown in good soil with at least 3-5% organic matter content and a pH of about 6.5, (however they can tolerate lower readings). High nitrogen should be avoided as this produces too much vegetative growth and may predispose plants to more mildew problems. A British rule of thumb is to add 50 kg per

CURRANT, GOOSEBERRY, ELDERBERRY... (continued)

hectare each of N and K (actual) for crops producing 10 metric tons per hectare. (A 10 m t/ h crop will extract the following kg of actual nutrient per hectare: N 20, P 5, K 44, Ca 8, Mg 3, S 4.) *Ribes* need about 0.6-1 inch of water per week during the fruiting season. Drip irrigation and mulching with wood chips, straw, or plastic is beneficial..

Pruning and Training - The best fruit is borne on 2 and 3 year old wood; wood should be pruned out after 4 years. Many training systems have been developed over the years, and continue to be developed. One alternative for black currant is to prune plants to the ground every other year, and to harvest alternate years. The crop is essentially grown as a "field crop" with as little as 15 hours of labor per year per acre. The Dutch have developed a mechanical pruning system that removes 1/3 of the bush per year on rotation. Systems will vary by use of fruit, harvest method, and other factors.

Pest Control - The lack of registered chemicals has been a problem from time to time for *Ribes* producers. (Check with your local extension office for the latest recommendations.)

1. Mildew tends to be the major disease problem, but trials are showing that it can be controlled by stylet oil. Gooseberry fruits are blemished and deformed by the disease. Shoot tips are deformed. The disease was once the limiting factor preventing success with European cultivars in North America.

2. Leaf spot has been a serious a problem on all *Ribes* crops. Leaf yellowing and premature defoliation weakens the plant and affects yield. Copper sprays and weed control help to control the disease.

3. White pine blister rust has been the cause of *Ribes* restrictions in the Northeast which are being reconsidered for modification. Immune cultivars are advisable especially near white pine stands. Gooseberry and red currant are resistant to the disease.

4. The British are controlling cane borers with pheromone mating disruption. They are sometimes a problem in the Northeast.

5. Aphids sometimes cause a red deformation on red currant leaves.

6. Reversion virus is common in black currant in Europe, but not found in the US. It can reduce the useful life of a black currant planting to as few as eight years. Quarantine has kept the disease out so far. The disease is spread by big bud mites.

7. Currant Cane Blight, a fungus disease that was a problem in the past (when ribes were previously cultivated in large acreage), has become a problem again. It is caused by *Botryosphaeria ribis*, and causes branches to yellow, wilt, and die. See *New York Fruit Quarterly*, Fall, 2008 edition for a related article.

8. Imported currant worm, is a green larva that can defoliate a plant in a matter of days. They are easily controlled with insecticide, but control measures must be taken quickly, because they can defoliate a plant in a couple of days.

Recommendations for pest control can be found in the *Cornell Small Fruit Crop Pest Management Recommendations* or other local extension publications.

Harvest/Postharvest: As with all berries, harvest and post harvest care of fruit can extend the shelf life of fruit. Some varieties hang longer on the plant than others. Generally speaking, red and black currants will sweeten as they hang, and fresh eating quality improves. Most people have a tendency to pick these fruits on the green side. Gooseberries will ripen off the plant. They ripen slowly in cold storage. Gooseberries lose their distinct veination as they ripen and become overripe. They develop a stronger, mustier flavor, lose acid, and can become mealy. Gooseberries and red currants can be kept a number of months (up to seven) with palletized CA storage.

Hand Harvesting: At harvest, one should avoid pricking gooseberries on thorns, and leave the blossom and stem end of the berry intact. Avoid bruising fruit. Red currants are left on strigs, and should be picked carefully to avoid smashing berries closest to the plant. Cultivars with long strigs, not heavily clustered are easier to hand pick. Black currants would follow the same generalizations as the red currants. Often harvest of black currants is best started as the first ripe berries in the top of the plant are beginning to fall off. In all *Ribes,* free moisture should be avoided, and berries should be shaded in the field and chilled as rapidly as possible. Fruit of all three types can be held at 36-40 F for two to three weeks. I have held fruit at 33F for as long as six weeks. CA storage methods are being developed for these fruits.

Machine Harvest: Proper adjustment of shakers is critical so that a thorough job of harvesting is done and the bushes are not badly beaten. Some machines are gentle enough to harvest gooseberry and black currant fruit suitable for fresh market. Red currants are more desirable intact on strigs for fresh market, and this is not possible with machine.

Useful Resource:

Currants, Gooseberries, And Jostaberries: A Guide For Growers, Marketers, And

White pine blister rust on lower leaf surfaces of susceptible black currant.

Ribes trained to cordon, Geneva, NY.

Above: Powdery mildew on gooseberry. Below: Currant aphid damage on leaves.
(photos courtesy C. Heidenreich)

Above: Elderberry flower cluster; fruit cluster (cyme) below.

"The products from these berries are beginning to appear in specialty and natural food shops, and even superstores."

Aronia Fruit ready for harvest.
(photos courtesy S. McKay)

CURRANT, GOOSEBERRY, ELDERBERRY... (continued)

Researchers In North America
by Danny L., Ph.D. Barney and Kim E. Hummer.

Find the *New York Fruit Quarterly* articles on www.fruit.cornell.edu.

ARONIA AND ELDERBERRY

Elderberry and Aronia (chokeberry) are common in different parts of Europe, and are gaining a foothold in the US. The products from these berries are beginning to appear in specialty and natural food shops, and even superstores. In spite of the high price of the fresh fruit and its primary processed products on the domestic market, very little crop is actually produced in the US.

Aronia publicity has sparked a few plantings around the US, and several small-scale elderberry growers are found around the country producing mainly for wine and local fresh consumption. Aronia became popular and known on the West Coast a number of years ago due to a line of juice blends introduced by Wildland. The juice was sold in Costco, but has since been discontinued. Superberries.com is a web-based business that is currently selling Aronia based on its nutraceutical benefits.

Elderberry is appearing more and more as it replaces Echinacea as a popular cold and flu nutraceutical. Syrup and pulp are imported from abroad. Both are used as food coloring because of their deep purple pigment. Many businesses are now present on the web with related products.

Botanical Classification

Aronia~ The genus name Aronia has been replacing the rather unpleasant sounding common name, black chokeberry. Aronia is a member of the Rosaceae family, and the cultivars used for fruit production are from the species *Aronia melanocarpa*. The plant originated in North America, and cultivar selection was done in Europe. Cultivars are self-fertile.

Elderberry~ Elderberry is a member of the family Caprifoliaceae with 13 species native to North America. Commercially, we are interested in *Sambucus nigra* L. ssp. *canadensis* (North American, formerly classified as a separate species), and *Sambucus nigra* L. which is native to Europe. The fruit clusters (cymes) of the *S. nigra* cultivars are larger than those of *S. n. canadensis*. In addition, some of the *S. nigra* cultivars have superior growth habits. Elderberries are only partially self-fruitful, and planting of two or more varieties within 60 feet of one another is beneficial. It is assumed that any pair of cultivars will function as mutual pollenizers.

Cultivars

Aronia~ 'Viking' and 'Nero' are cultivars that are commonly available in North American plant catalogs. DNA fingerprinting research done in Sweden by Niklas Jeppsson has shown very little difference between available cultivars. In fact, the cultivars perform about the same commercially, and Niklas stated in an interview that it doesn't really matter which cultivar one uses. Seeds of the cultivars can even be planted, and the plants will be much like their parents, quite suitable for commercial production.

Elderberry~ In the *S. nigra* species, 'Samdal' and 'Samyl' are the most highly recommended for yield and desirable growth habit (produce new suckers annually). Two North American nurseries have germplasm and are propagating these in tissue culture.

In the *S. n. canadensis* species, 'York', 'Nova', 'Johns', and the 'Adams' series are available. 'York' and 'Nova' are touted as the heavier yielders. These cultivars are products of breeding work that ended in 1960. Renewed interest in the Midwest is sparking more work with new cultivars and cultural practices such as mechanical maintenance and harvest.

Propagation

Aronia~ Aronia is very easy to propagate. Softwood or semi-softwood cuttings can be propagated with mist in July. Divisions from established plants can be made at a rate of as many as 25 per two year old plant. Stool beds are often used, as can seeds that have been stratified. Seeds are no longer recommended for propagation in Europe since plants have different rates of growth and coming into production. Even though seedlings reach the same size as cuttings, they may take longer to come into production.

Elderberry~ Elderberry can be propagated from softwood cuttings in June and from tissue culture. Hardwood cuttings taken in early spring have about a 50% rooting rate, and are susceptible to damage in overly wet media. Divisions and even seeds can also be used for propagation.

Cultural Practices

Aronia~ Aronia is adaptable to a wide variety of neutral to slightly acid soils. Less fertile soils are desirable to keep plants smaller in size. It is suggested that plants be placed 0.8-1.0 meters apart and mulched with plastic to prevent weed growth. Plastic can be removed after two to three years as plants sucker and fill in the hedgerow. Plant growth is usually so dense after three to four years, that further weed control within the row is unnecessary. At five to seven years, selective pruning is done to remove the oldest, thickest branches, and keep the center open. Frost protection is not necessary since

CURRANT, GOOSEBERRY, ELDERBERRY... (continued)

plants bloom so late, mid May in New York. Aphids on shoot tips, and leaf-eating beetles are possible pests, but plants are so vigorous, that pest damage that slows them down will not have much of a negative effect. Since Aronia is in the Rosaceae family, fire blight is a potential problem, but has not been reported as such.

Elderberry~ Elderberry prefers a sandy to heavy loam soil with a pH of 5.5-6.5. It is recommended that plants be set out at a 0.75-1.0 meter spacing, and that every other plant be removed after three to four years. This will improve chances of getting an economic return faster. The 'Samdal' and 'Samyl' cultivars have a nice growth habit where they throw canes from the base every year in good numbers. Six to eight canes are maintained per plant to fruit the following year. Flowering takes place in mid June in New York. In the Fall after fruiting, the spent canes are removed, and a rotation is maintained. This way, canes are never left for more than a year, and plants are maintained as a five to seven foot bush. Aphids, leaf wrinkling mites, birds, cane borers, mildew, and botrytis blossom blight can be pest problems. Tomato ringspot virus has been a problem in the past with *S. n. canadensis* cultivars, but is less of a problem with *S. nigra*.

Harvest

Aronia~ Aronia is mechanically harvested between August and September.

Five to ten tons per hectare can be expected in about five years, once plants have matured. Some yield can be expected in the first years, but plants often have weak branches that fall over in the ground.

Elderberry~ Elderberry is picked by hand in the US, although mechanical harvesting is a possibility.

Twenty tons per acre are produced in Denmark, while four to twelve tons per acre are recorded in New York.

The *S. nigra* cultivars are higher yielding, especially when grown as hedge-rowed bushes.

Fruits are picked as whole cymes and frozen until ready to use. A premium is paid for stemless frozen berries.

Harvest takes place from August through September. Flowers can also be harvested around June 15 and sold fresh, or processed. Varieties 'Samyl' and 'Samdal' seem to have expected fragrances for elderflower products.

Products and Uses

Aronia~ Aronia is used to produce syrup, juice, soft spreads, and tea. The tea is usually a blend with other more flavorful ingredients including black currant. The berries are also used to make food coloring.

Elderberry~ Elderberry is also used for food coloring. Both flowers and fruits are used to produce cordials, beverages, soft spreads, wine, tea, and nutraceutical products. Flowers and fruits both have a fresh market in New York and elsewhere. Fresh flowers are used to make fritters, in fruit salad (delightful star-shaped petals), and baked goods. Many folks are saying that elderberry will replace *Echinacea* as a top cold and flu remedy.

In summary, both elderberry and Aronia are gaining popularity in the US for their health benefits and quality processed products. Both plants are easy to grow, have few pests, and can have mechanical cultivation practices employed. A number of processors are looking for potential growers to make contracts. Global prices vary, but demand is expected to continue growing as the health benefits of these berries are discovered.

About the Author: Steven McKay is Fruit Extension Educator with the Hudson Valley Fruit Program. He covers a five county area in the Hudson Valley and is located at the Cornell Cooperative Extension office in Columbia County, Hudson, NY. Steven specializes in berry crops and grapes. He is a world-renowned expert on Ribes.

Steven has a B.S. in entomology from U.C. Davis and a M.S. in pomology. He was founder and served as first president of the International Ribes Association.

Steve is owner of 'Micosta' a specialty fruit nursery located in Hudson, NY.

He teaches extensively about fruit production for both the industry and homeowners.

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***Aronia melanocarpa* fall foliage (photo courtesy M. Pritts)**

Aronia Fruit. (photo courtesy M. Pritts)

The Empire State Fruit & Vegetable Expo
Growing for the Health of New York

Mark your Calendars!

EXPO Berry Session
Thursday
January 27, 2011

To Register:
http://www.nysaes.cornell.edu/hort/expo/

EXPO BERRY SESSION (continued from page 15)

- Terry Perfetti, Cherry Knoll Farm, Marathon, NY (value added, wholesale and retail).

10:45 What's new from industry

11:05-11:15 NYS Berry Growers Association Annual Meeting

Soils for Berries Session
12:30 - 2:30 PM

12:30-12:35 What's new from industry

12:30-1:15 Soils for Berries –Marvin Pritts and Harold Van Es, Cornell University, will give a candid look at NY soil types and how they affect berry growth including reading and interpreting soil descriptions, soil limitations, and to what extent they can be overcome.

1:15-2:00 Soils for Berries: Grower panel. 15 minutes each, questions for 15 minutes. Growers will talk about the soils they have, their benefits and draw backs, and what they do to manage them (irrigation, cultivation, herbicides)

Dave Johnson, Apple Hills, Binghamton, NY. Orchard and berries on heavy soil

John Hand, Hand Melon, Greenwich, NY. Berries on sandy soil, some gravel

2:00-2:30 Weather 101: Understanding forecasts and reading the local conditions. Art Degaetano in Earth and Atmospheric Sciences at CU. Definition of a frost warning versus a freeze warning, explain times when thermometer on car or house reads 34 F and you still get frost in field, what role does humidity play, and fog, simple tools/tricks to better "read" the local weather, does a barometer help? what signs of nature or folklore holds true and what doesn't (full moon and fall frosts??)

Soils Session, continued
3:30 - 5:30 PM

3:30-4:15 Berry Root Problems. Jim LaMondia, Connecticut Agricultural Experiment Station. How to tell the difference between the various pathogens and winter injury—some pathogens do have resistant varieties to try, others don't. How are pathogens/pests and winter injury related? How do you tell what pathogen you have? What does a good root system look like—usually I'm seeing only the bad ones.

4:15-4:45 Interpreting soil and leaf tests for berries Molly Shaw, CCE South Central NY Ag Team (will need backup in case of baby arrival), talk about results from 2010 berry grower project where we're sampling leaves and soils, and putting the results together to make fertilizer recommendations

Large-Scale Study Reveals Major Decline in Bumble Bees in the U.S – Diana Yates, Life Sciences Editor, University of Illinois

CHAMPAIGN, Ill. — The first in-depth national study of wild bees in the U.S. has uncovered major losses in the relative abundance of several bumble bee species and declines in their geographic range since record-keeping began in the late 1800s.The researchers report that declining bumble bee populations have lower genetic diversity than bumble bee species with healthy populations and are more likely to be infected with *Nosema bombi*, an intracellular parasite known to afflict some species of bumble bees in Europe.

The new study appears this week in the Proceedings of the National Academy of Sciences."We have 50 species of bumble bees in North America. We've studied eight of them and four of these are significantly in trouble," said University of Illinois entomology professor Sydney Cameron, who led the study. "They could potentially recover; some of them might. But we only studied eight. This could be the tip of the iceberg," she said.

University of Illinois entomology professor Sydney Cameron and her colleagues analyzed bumble bee populations across the U.S. Their study found dramatic declines in four of eight species studied. | Photo courtesy Sydney Cameron

The three-year study analyzed the geographic distribution and genetic diversity of eight species of bumble bees in the U.S., relying on historical records and repeated surveys of about 400 sites. The researchers compiled a database of more than 73,000 museum records and compared them with current sampling based on intensive national surveys of more than 16,000 specimens.

The national analysis found that the relative abundances of four of the eight species analyzed have declined by as much as 96 percent and that their surveyed geographic ranges have shrunk by 23 to 87 percent. Some of these contractions have occurred in the last two decades.

Researchers have many hypotheses about what is causing the declines, but none have been proven, Cameron said. Climate change appears to play a role in the declines in some bumble bee species in Europe, she said. Habitat loss may also contribute to the loss of some specialist species, she said. Low genetic diversity and high infection rates with the parasite pathogen are also prime suspects.

"Whether it's one of these or all of the above, we need to be aware of these declines," Cameron said. "It may be that the role that these four species play in pollinating plants could be taken up by other species of bumble bees. But if additional species begin to fall out due to things we're not aware of, we could be in trouble."

The study, "Patterns of widespread decline in North American bumble bees," is available online at: http://www.pnas.org/content/early/2011/01/03/1014743108.abstract/.

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Above: Researchers analyzed the relative abundance of eight species of bumble bees in the U.S. Black areas of the U.S. map represent the historic range of *Bombus affinis*, one of the species found to be in decline. Yellow circles indicate the number of total bumble bee specimens collected at a given site. Orange areas in the circles represent the relative proportion of *B. affinis* specimens found at that location. (Empty yellow circles with no orange regions indicate no *B. affinis* specimens were found at that location.) Graphic by Janet Sinn-Hanlon of the Imaging Technology Center, Beckman Institute

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USDA NEWS - (continued from page 4)

USDA to Measure Financial Health of American Farms

Starting in January, the USDA's National Agricultural Statistics Service (NASS) will contact farmers and ranchers across the nation to conduct the Agricultural Resource Management Survey (ARMS). This survey will provide farmers and ranchers with an opportunity to provide accurate, real-world data that will help shape the policies, programs and issues that affect them.

"ARMS asks a small, but representative, sample of farmers about their operation in order to understand the current financial state of U.S. agriculture," said King Whetstone, director of the NASS New York Field Office. "Participation in ARMS is so important because government and agricultural leaders use the information needed to make sound decisions that impact the future of farmers, their families, their businesses and their communities."

The survey will be conducted between January and March. In an effort to obtain the most accurate data. NASS will reach out to nearly 35,000 producers nationwide, including 665 in New York. Producers will be asked to provide data on their operating expenditures, production costs and household characteristics.

"Farm organizations, the USDA, other government agencies, members of Congress, and State and local officials use the collective information from ARMS to answer questions and make important decisions concerning the economic viability of American agriculture, the rural economy and other emerging issues," explained Whetstone.

As with all NASS surveys, information provided by respondents is confidential by law. NASS safeguards the confidentiality of all responses, ensuring no individual respondent or operation can be identified. The economic data gathered in ARMS will be published in the annual Farm Production Expenditures report on August 2, 2011. All NASS reports are available online at www.nass.usda.gov.

Tunnel Talk - (continued from page 14)

USDA Provides Update on Seasonal High Tunnel Pilot

Agriculture Deputy Secretary Kathleen Merrigan has announced that more than 2,400 seasonal high tunnels are being constructed by farmers in 43 states through a pilot project initiated by USDA in fiscal year 2010. USDA also posted a YouTube video of how NRCS-funded seasonal high tunnels are helping farmers extend the growing season, diversify production, conserve water, and reduce inputs.

USDA's Natural Resources Conservation Service (NRCS) is providing financial assistance for seasonal high tunnels as part of a three-year trial to determine their effectiveness in conserving water, reducing pesticide use, maintaining vital soil nutrients, and increasing crop yields.

The pilot is offered under the Know your Farmer, Know your Food initiative. In FY 2010, NRCS provided $13 million to landowners through its conservation programs to install high tunnels, and additional funding is available in FY 2011.

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Crops: Blueberries_____ Raspberries_____ Strawberries_____

Ribes _____ Vegetables_____ Fruit_____

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($50 of this will go directly to research)

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Paul Baker, Executive Secretary NYS Berry Growers
90 Lake Street, Apt. 24D, Youngstown, NY 14174

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