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Cornell University
College of Agriculture and Life Sciences

New York Berry News

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Understanding Cold Injury in Blueberries

Blueberry cold hardiness varies tremendously among types and cultivars. Highbush, half-high, and lowbush blueberries are generally hardy to at least -20 F, although some cultivars are not. During recent years, blueberry breeding efforts in the northern United States have produced commercial cultivars which are hardy to between -30 and -40 F if snowfall is sufficient.

Cold injury

Not all of the tissues of a blueberry plant attain the same degree of cold hardiness. In fully dormant plants, the wood is normally somewhat harder than the buds, and the roots do not develop any great degree of cold hardiness. Mulching with bark or sawdust can help moderate root zone temperatures and minimize root freezing injuries.

The basal tissue that connects the flower bud to the shoot is the part of the bud that is most easily injured during the dormant period. Following a freeze, florets in a bud may show no injury even though the basal tissue is injured. The amount of growth of a new shoot or flower cluster depends on the extent of injury at the base of the bud. If injury restricts the flow of nutrients and water, growth of the shoot or flower cluster is slow or stunted, or completely inhibited.

Injury to the basal tissue can be determined by slicing longitudinally through a bud from the tip through the bud base with a sharp razor blade. Freeze-injured tissues will have a brown, water-soaked appearance, while healthy tissues will be green or white. For best results, wrap tissues to be tested in a plastic bag and hold at room temperature for several days before slicing and examining for browning.

Sudden collapse is usually related to the onset of hot weather, which increases the demand for water by the developing shoots and fruit. Injured vascular tissues are unable to supply the needed water and nutrients and the shoot collapses. Often, injury to vascular tissue can be determined by scraping away the bark a healthy vascular cambium is bright green, whereas one injured by cold is brown.

Site selection in cold regions

Selecting cultivars which are adapted to a growing site is the most important step in preventing freezing injury. Because blueberries are long-lived plants, average minimum temperatures are less of a concern than the probability of a killing freeze.

The best method of selecting blueberry cultivars is to determine how often severely cold temperatures are likely to occur in your area and base your selection upon the life expectancy of the blueberry planting and the probability of a killing freeze. If you do use the hardiness zone concept, select cultivars that are classified at least one zone harder than the planting site.

Cold Injury (Continued)

Acclimation

The degree to which a blueberry bush hardens off in the fall depends upon many factors, including length of the growing season, alternating day/night temperatures, nutrition, pruning, and fluctuating temperatures during the dormant season. Actively growing tissues are not cold hardy and are injured by temperatures around 28 F. As the daylength shortens and temperatures decrease in fall, blueberry canes cease active growth and begin a very complex process known as acclimation. Optimum cold hardiness develops when day/night temperatures decrease steadily from mid-summer to late fall, followed by several mild frosts. The degree of cold hardiness varies, according to temperatures, throughout the dormant season. A minimum of 850 to 1,000 chilling hours is needed for shoot growth and flowering to occur the following spring.

Maximum cold hardiness occurs after fully acclimated plants have been exposed continuously to several days of non-lethal, sub-freezing temperatures. Hardiness is lost during periods when temperatures rise above freezing. Most freezing injury occurs when temperatures fluctuate above and below freezing, and is typically associated with sub-freezing temperatures which follow mid-winter thaws.

Cultural practices that promote late fall growth can interfere with acclimation and inhibit cold hardiness development. For example, excessive or late fertilization with nitrogen forces late season growth that is susceptible to early fall frosts. Pruning too early in the fall, before plant dormancy, interferes with cold acclimation by stimulating late, tender growth. Even if no visible growth develops, early pruning can cause cane tissues to de-acclimate. Delay pruning until canes are fully dormant. Pruning during late winter and early spring also allows for identification and removal of injured wood and buds. Insect damage, disease, other stresses which damage foliage, and overcropping limit the production of food reserves and interfere with acclimation.

Frost injury

When the flower buds begin swelling in early spring, the florets are the most easily injured part of the bud. Once a flower bud opens, it has lost all of its cold hardiness and will be injured at about 28 F. The tip buds on canes and the tip florets within buds are the first to develop and are the most susceptible to early frost.

To reduce spring frost injury, avoid planting in frost pockets and ensure good drainage of cold air by removing cold air dams formed by trees and brush around blueberry fields. In regions where spring frosts are common, select planting sites on gently sloping hillsides.

Overhead sprinkler systems are effective in reducing spring frost injury if enough water is available. Applying about 0.10 to 0.15 inch of water per hour can protect open blossoms down to a temperature of 25 F. Water must be applied continuously until the air temperature warms above 32 F (wait for ice to melt), or frost injury may occur.



Information adapted from the following link: <http://berrygrape.org/winter-acclimation-and-cold-hardiness-of-blueberry/>

Picture adapted from: <https://www.morningagclips.com/bountiful-benefits-of-blueberries/>

Wildlife Damage Control for Organic Farmers

Controlling wildlife pests is a problem that every farmer faces, but finding nonchemical ways to do so can become even more problematic. In a handbook by Jim Knight, *Extension Wildlife Specialist Montana State University*, nonchemical control of these pests is broken down according to the type of wildlife. Wildlife damage control of **Richardson's and Columbian ground squirrels, pocket gophers, voles, rabbits, woodchucks, birds, deer, skunks, raccoons, and coyotes** are all included. While this handbook was based around techniques for organic farmers, traditional farmers may benefit from these techniques as well.

For example, the following is given as techniques to control **Woodchucks** (also known as ground hogs and whistle pigs):

- **Exclusion:** this includes wire fences as well as electric fencing. "Fences should be at least three feet high and made of heavy poultry wire or two-inch mesh woven wire. To prevent burrowing under the fence bury the lower edge 10 to 12 inches in the ground."
- **Repellents and Frightening Devices:** there are no nonchemical repellents available but the use of a scarecrow could potentially deter a woodchuck for a few days.
- **Trapping:** if you have a small scale woodchuck problem trapping can be extremely useful. By using bait traps you may be able to quickly solve the problem.
- **Other methods:** if you have a small scale problem you may be able to shoot the woodchucks if the state and local regulations allow.

Further details are given in the actual handbook. All of these main techniques are given for each individual wildlife pest. In order to see the full handbook visit:

<http://animalrange.montana.edu/documents/extension/WILDLIFEDAMAGECONTROLFORORGANICFARMERS.pdf>

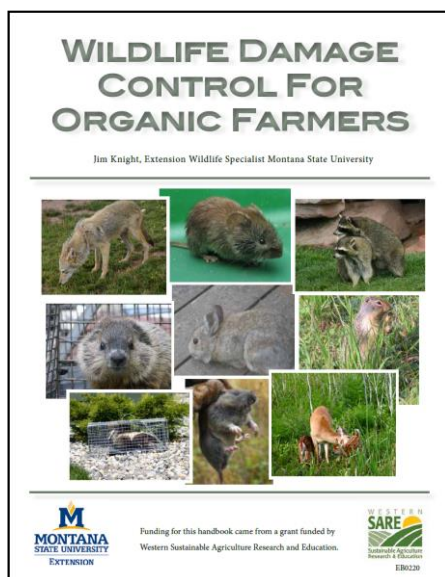


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Much of the information presented here was adapted from S.E. Hyattson (1994) in *Prevention and Control of Wildlife Damage*, University of Nebraska, Lincoln, NE. Ideas from Colorado State University Extension were also included. This information is for educational purposes only. Reference to commercial products or trade names does not imply discrimination or endorsement by Montana State University Extension Service.

Non-chemical control of woodchucks



Woodchucks are also known as ground hogs and whistle pigs and are one of 14 species of marmots. Woodchuck problems usually relate to burrowing under buildings or damaging garden crops. Digging under buildings can lead to problems with weakened foundations and unwanted water drainage. There is great variation between states regarding the legal control of woodchucks. Check state regulations before employing control methods.

Exclusion

Fencing can sometimes exclude woodchucks. They are, however, good climbers and can easily scale wire fences if electric wire is not included in the design. Fences should be at least three feet high and made of heavy poultry wire or two-inch mesh woven wire. To prevent burrowing under the fence, bury the lower edge 10 to 12 inches in the ground. Place an electric wire four to five inches off the ground and four to five inches away from the fence.

Repellents and Frightening Devices

There are no repellents effective for woodchuck control. Scarecrows and other effigies can provide a few days relief from woodchuck damage. Move them regularly and incorporate a high level of human activity in the susceptible area.

Trapping

Cage trapping can sometimes be effective for small-scale woodchuck problems. Live traps should be at least 10x12x32 inches. Bait traps with apple slices or vegetables such as carrots and lettuce, and change baits daily. Locate traps at main entrances or major travel lanes. Place guide logs on either side of the path between the burrow opening and the trap to help funnel the animal into the trap. Check all traps twice daily, morning and evening, so that captured animals may be quickly removed. A captured animal can be relocated at least 10 miles away if regulations allow. Drowning is an effective method of dispatch. When non-target animals are not a concern, body-gripping traps (also known as Conibear® traps) are effective in some situations. Place the traps over the main entrance of the burrow system. No bait is necessary. Conibear® No. 110 will handle young, small animals, while No. 160 and No. 220 will handle larger adults. Conibear® traps are designed to kill the animal. Care should be taken to avoid trapping domestic animals such as cats and dogs. Some state or local laws prohibit the use of Conibear® traps and some allow their use only in water. Consult the state wildlife department for regulations regarding the control of woodchucks.

Other Methods

Shooting is a way to kill a small number of woodchucks but it is seldom an effective method of population elimination. If state and local regulations allow, and if conditions provide a safe shooting situation, a 22-caliber rifle or a shotgun can be used to dispatch woodchucks.



“The New York State Berry Growers Association (NYSBGA) was begun in 1988 and incorporated in 1993 in its present form, a 501 (6) (c) not for profit educational association. The purpose of the Association is *“to promote the growing and marketing of berries by the exchange of information and to represent the Berry Growers in the areas of labor, research and technology, to advertise and promote the eating of berries”*.

This is accomplished by providing information and education to its grower members, and through yearly meetings with faculty and extension staff to discuss berry industry research and educational needs.



While not a direct lobbying association, berry industry issues can be represented in public hearings and agency forums. NYSBGA has a board of directors that meets two or three times per year, and has an executive secretary.

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

Since its inception, the Berry Growers Association has granted \$35,000 in research grants, primarily to Cornell researchers and extension staff, to address issues important to NYS growers. Originally, research dollars were collected from members on a voluntary basis. In 2009, the Board of Directors placed an even higher value on research, and changed the dues structure so that \$50 of every member's dues would automatically be put into a research fund.

The NYSBGA was instrumental in Cornell receiving NYFVI grants for Improving Production Efficiency in Berry Crop Production in 2007 and 2009. The Board proposed the idea, reviewed and suggested changes for the proposal, and members have served as advisors, collaborators, and participants. Unfortunately, state funding



Continued ...

cuts prevented the 2009 project from getting under way. In 2009, the Association also applied for, and received funding from the Farm Credit Ag Enhancement grants program to develop a new logo to act as a catalyst for a renewed effort on marketing. During the summer, press releases are sent out to alert consumers when the different "berry seasons" have begun. In the 1990's, the association also received a grant from EPA to develop and implement an IPM certification program with standards and a point system that a third party auditor used to verify that berries were IPM-certified.

For the future, the association would like to develop a way to guarantee that enough funds are raised to at least supply Cornell researchers with a summer technician to assist with berry research, thus ensuring a consistent research program that addresses the needs of NY growers. We are always interested in creative solutions that produce a benefit for both the industry and our partners in research and Extension."

Becoming a member of the NYSBGA has many benefits:

1. An annual day long winter educational and business meeting, usually in conjunction with the Empire State Fruit and Vegetable Expo, held in Syracuse, N.Y. Berry Production, marketing, and business topics are presented by growers, researchers and extension specialists from Cornell and across the country.

2. One main newsletter is published per year, sent out prior to the growing season - and other items of interest. NYSBGA members receive a complimentary copy 4 times per year of the New York Fruit Quarterly, which provides in each issue a topic specific to berry production.

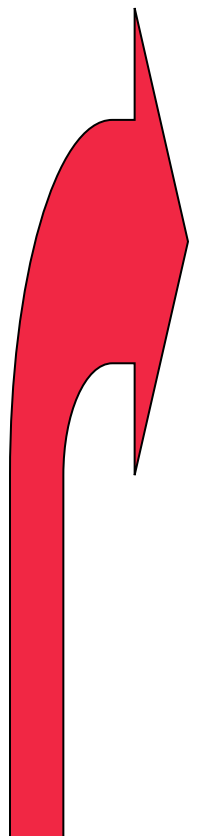
3. Timely mailings are sent to members when special information needs to be communicated, such as new crop protection registrations, labels, or marketing tools available to members.

4. Participation in regulatory open public hearings where berry issues need to be addressed, plus representation in other statewide program committees, and national berry initiatives.

5. During the berry harvest season, NYSBGA distributes press releases throughout the state informing the media on the status of the berry harvest, and where they can find more information.

6. The NYSBGA website has a ["Find a Berry Farm"](#) list of member growers searchable by county for media and consumers to locate local berry farms in their areas.

7. As part of the annual dues, NYSBGA members contribute \$50 to a designated research fund. In most years, about \$3,500 is granted for specific berry research projects including disease and insect control, post-harvest storage, spray technology, variety research, and wildlife management control.



New York State Berry Growers Association

www.hort.cornell.edu/grower/nybga
www.facebook.com/NYSBerryGrowers

2015 MEMBERSHIP RENEWAL/APPLICATION

Name: _____ Renewal ____ New ____

Farm/Business Name: _____

Address: _____

City: _____ State _____ Zip _____

Business Phone: (____) _____ County: _____

Mobile Phone: (____) _____ Wish to receive SWD text alerts? Y N

E-mail: _____ Publish in Find-A-Farm? Y N

Web Site: _____

Facebook Page: _____

Crops: (____ Acres Blueberries) (____ Acres Raspberries) (____ Acres Blackberries)
 (____ Acres Strawberries) (____ Acres Currants) (____ Acres Gooseberries)
 (____ Acres Other Berries: _____)

Marketing: ____ % U-Pick ____ % Retail ____ % Wholesale Organic?: Y N

____ Farm Membership: **\$125** (\$50 goes directly to research)

____ **Additional Research Fund Donation** (these dollars help multiply many more!)

____ Business Sponsor: **\$250** (includes 2 Ads in newsletters)

____ Associate Membership **\$75** (non-profit ag professionals)

____ **TOTAL**

Please make check payable to **New York State Berry Growers Association** and mail to:
 Paul Baker, Executive Secretary, 3568 Saunders Settlement Road, Sanborn NY 14132



Living with Black Root Rot

Marvin Pritts, *Horticulture, Cornell University, Ithaca, NY 14853*, mpp3@cornell.edu

Strawberry growers in the Northeast face many difficulties in maintaining healthy strawberry fields, particularly as plantings get older or when berries are planted in the same location as a previous crop. In addition to stress from cold and damp weather, soils often contain pathogens that can increase over time and negatively affect roots under suboptimal conditions. Factors associated with the development of unhealthy roots include the age of a planting, the length of time a field has been in berries, the degree of soil compaction, the use of fumigants and herbicides, and planting on flat beds. Typical symptoms of poor root health include a decline in vigor, small leaves, wilting, and blackening roots and lack of root hairs. Symptomatic plants usually occur in patches in the field. The causal organisms seem to vary from one location to another, but generally consist of varying levels of *Phythium*, *Rhizoctonia*, *Phytophthora*, *Fusarium* pathogens and *Pratylenchus* nematodes. Because of the complex nature of this disease, scientists have named it the Black Root Rot (BRR) complex.

One approach to manage black root rot is to kill the offending organisms. However, there are no products that selectively kill all of the culprits and leave the many more benign and beneficial organisms unharmed. Certain fungicides have activity against *Phytophthora* and *Pythium*, and can help in situations where these two organisms predominate. Typically, though, growers with severe problems will either avoid planting in those sites again or they will fumigate. Fumigation is effective over the short term, but because the beneficial organisms are also killed, reintroduced pathogens can grow quickly without competitive organisms in the environment, creating a worse environment in a few years. A teaspoon of healthy soil may contain between 600 and 800 million bacteria from 10,000 species; several miles of fungi from 5,000 species; and 1,000 species of protozoa, so specifically targeting three or four pathogenic genera in this complex is beyond the ability of current chemistry.

A second approach is to create conditions that discourage the establishment of harmful levels of BRR pathogens. This approach, while not targeted at specific pathogens, is a more desirable alternative to fumigation because it does not involve the use of synthetic biocides. This holistic approach involves improving the biological, physical and chemical environment of the soil.

Poor internal drainage is the major factor contributing to black root rot in strawberries. This can be addressed by installing tile drainage, decreasing soil compaction, and planting on raised beds.

Black Root Rot Continued...



Black root rot aboveground symptoms



Healthy root on left; Diseased on right

Compaction in isolation has a small negative effect on strawberries, but when combined with standing water, creates conditions very favorable for strawberry root pathogens. Growing certain cover crops with penetrating roots and subsoiling to break up compacted layers are methods to reduce compaction. Excessive cultivation will destroy soil structure and also lead to compaction and poor internal drainage.

Organic matter is the food source for the biological component of the soil. Soils high in organic matter tend to harbor a more diverse set of microorganisms which, in turn, seem to suppress the establishment of pathogens. Organic carbon pools in soil are important not only for increasing the cation exchange capacity of the soil, but also for N cycling. Some microbes are also able to fix N_2 gas from the air, providing another source of plant available N. The presence of microorganisms in the soil also increases soil aggregation through bacterial mucigel and fungal hyphae. Aggregation improves water infiltration, aeration, and reduces erosion. Without soil C these important microbial populations would decline and the benefits would decrease.

Methods of increasing organic matter include cover cropping and composting. Certain cover crop sequences suppress soil pathogens better than others, and work almost as well as fumigation. However, too much compost can excessively increase water holding capacity and create favorable conditions for soil pathogens. Also, we have evidence that too much straw can be detrimental to strawberry plant growth. For these reasons, it is difficult to develop hard and fast rules for managing soils.



Black Root Continued...

An example of this difficulty involves the use of straw mulch for protecting strawberries for winter. A survey of strawberry farms in NYS indicated that almost all have low levels of biological soil health which may reflect low levels of beneficial microorganisms and less competition for disease organisms. This may partially explain the long term decrease in yield per acre in NYS reported by the National Agricultural Statistics Service, and the increasing incidence of BRR that growers report. One difference between berry fields with low biological soil health and adjacent fields of vegetables with higher values is that strawberry growers use a large amount of straw for winter protection each year. One might expect that large additions of organic matter would enhance soil health, but it is possible that this large annual influx of straw might actually reduce microbiological activity, increase soil moisture in already wet soils, and make plants more vulnerable to BRR. We are studying various soil amendments/mulches and depth of tillage to determine how they affect biological soil health, and if so, what is the nature of those amendments that deplete, rather than enhance, soil health.

Until more is known, growers should try to prevent the establishment of BRR by ensuring that internal drainage is adequate, avoiding compacting soils, and ensuring that organic matter is high. Rotations of various cover crops between plantings of strawberries will suppress pathogens that otherwise would carry over into the new planting. Cornell University has a soil health test that determines where a soil falls on indicators of physical, biological and chemical health, and recommends adjustments in practices that can be made to improve these indicators.

Healthy soil will lead to healthy plants. While one can also obtain healthy plants in sterile soil, this is impractical to achieve in perennial cropping systems.

Considerable information on soil health is contained in a free 175 page publication: Berry Soil and Nutrient Management: A Guide for Educators and Growers

<http://fruit.cornell.edu/berry/production/soilnutrientmgmt/pdfs/BerrySoilandNutrientManagementGuide.pdf>

Also, Cornell has archived a series of 14 webinars specifically about soil management. These can be found at:

<http://fruit.cornell.edu/berry/webinar/archive.html#Soil>

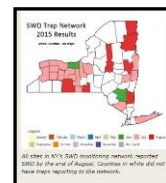
Resources for Spotted Wing Drosophila

Monitoring and managing the invasive pest Spotted Wing Drosophila (SWD) can be a daunting task. There are a number of resources available to help reduce this heavy burden:

➤ **SWD Distribution Map:**

This map, provided through the Cornell Fruit Page, displays when the first SWD was reported in each county. Using this map will keep you up to date on which counties have confirmed SWD catches.

The map can be found at: <http://www.fruit.cornell.edu/spottedwing/dist.html>



➤ **SWD Blog:**

The SWD blog posts up to date information on SWD monitoring, maintenance, and reports. During the monitoring season, blogs report the first finds of SWD in a county, along with Growing Degree Day (GDD) and day length information.

The blog can be found here: <http://blogs.cornell.edu/swd1/>

Spotted Wing Drosophila
Latest information from the NYS IPM Program.

➤ **List of Labeled Insecticides for Control of SWD in NY Berry Crops:**

These tables provide available insecticides for the control of SWD in blueberries, raspberries and blackberries, and strawberries. You can find the tables here:

<http://www.fruit.cornell.edu/spottedwing/pdfs/swd-insecticides-berries-ny.pdf>

May 2015 - Labeled Insecticides for Control of Spotted Wing Drosophila in New York Berry Crops

Compiled by Greg Loeb, Cathy Heidenreich, Laura McDermott, Peter Jentsch, Debbie Breth, & Juliet Carroll, Cornell University, July 29, 2013. Updated regularly.

➤ **Identifying SWD:**

Knowing how to identify SWD can be difficult, so having identification sources is important. There is a helpful identification chart provided through: <http://www.fruit.cornell.edu/spottedwing/ID.html>

You can also contact your [local regional fruit program](#) or [local office](#) with any questions.

➤ **More information** can be found directly through the SWD page on Cornell Fruit:

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



Upcoming Events!

January 7-9, 2016



NASGA Annual Meeting and Conference

Savannah, Georgia

<http://www.nasga.org/>

January 7-10, 2016



Southeast Regional Fruit and Vegetable Conference

Savannah, Georgia

<http://www.seregionalconference.com/>

January 19-21, 2016



The 2016 Empire State Producers Expo

(more info on pages 23-25)

Oncenter Convention Center; Syracuse, NY

<http://nysvga.org/expo/information/>

February 16-18, 2016



Ontario Berry Growers Annual Conference

<http://ontarioberries.com/site/growers-and-members.html>

Ontario Fruit and Vegetable Convention

<http://www.ofvc.ca/>

Niagara Falls, Ontario

February 18, 2016



Hudson Valley Fruit School – Berry session

(more info on page 18)

Kingston, NY

<https://enych.cce.cornell.edu/>

February 23, 2016



Berry Processing Workshop
CCE Columbia County and Micosta Enterprises

Hudson, NY

<http://www.agroforestrycenter.org/>

Upcoming Events! Continued

March 1, 2016



Niagara County Vegetable and Small Fruit Grower Meeting

(more info on page 17)

CCE of Niagara in Lockport, NY

March 1-4, 2016



North American Raspberry & Blackberry Conference

Williamsburg, Virginia

<http://www.rasperryblackberry.com/make-plans-to-attend-our-2016-conference/>

March 24, 2016

Cornell Cooperative Extension
Saratoga County

Cornell Berry Production Workshop *CCE Saratoga County*

Ballston Spa, NY

<http://ccesaratoga.org/>

August 14-17, 2016



International Strawberry Symposium

Quebec City, Quebec

<http://www.ishs.org/symposium/406>

August 17-18, 2016



NASGA Summer Tour

Quebec City, Quebec

<http://www.nasga.org/>

Juneberries



So what exactly is a Juneberry...

"The juneberry, or saskatoon berry, is a tasty and nutritious berry native to North America. *There are two main species:*

- 1) The high-yielding species used as a crop is *Amelanchier alnifolia*, and
- 2) The wild shrub or tree found in the Eastern US is *Amelanchier canadensis*.

Sometimes confused with blueberries, juneberries taste somewhat different. The flavor of the fruit is similar to sweet black cherries or a mild blackberry, with a hint of almond in the tiny, soft seed. Juneberries are truly nutrient-dense, with high levels of protein, calcium, iron, and antioxidants. Perfect for the athlete in you!

Juneberries are becoming widely known in the Northeast U.S. and Great Lakes region. We are looking forward to a good season after the bitter winter of 2013-2014 (the juneberry crop thrives in cold, dry weather). Fresh juneberry harvest season starts in late June and ends in early July in most of the Northern US.

This project is focused on bringing this interesting new crop to small farms, berry growers, home gardeners, foodies, chefs, and anyone interested in berries.

There are now several dozen small farms in the Northeast that are growing juneberries for you-picking, farm markets, and processing. As of 2014, the availability of juneberries will be limited but many more will be coming into production in 2015 and 2016."

... and what can I do with them?

"Just about everyone who has tried fresh-picked juneberries likes them fresh from the farm - no need to add sugar or anything else to improve the flavor. In addition to fresh out-of-hand eating, juneberries are an easy and nutritious addition to anything you would want fruit in, including muffins, breads, salads, jams, preserves, granola, and pies. They are great on your breakfast cereal or oatmeal, baked into a fruit crisp or warmed in pancakes. Anything you do with fruit in your life, you can do with juneberries."

Juneberries continued

Juneberry Nutrition:

“Juneberries / saskatoons are a fruit native to North America, grown in central Canada, but relatively unknown in the Northeast.

Juneberries are an excellent source of iron – each serving provides about 23% RDA for iron (almost twice as much iron as blueberries)

Juneberries contain high levels of phenolic compounds, particularly anthocyanins.

A typical juneberry is 18 % sugar, and about 80% water.

Juneberries have a lower moisture content than blueberries, so there are slightly higher levels of caloric value, proteins, carbohydrates and lipids in them.

For the athletic type, juneberries contain relatively large amounts of potassium (twice as much as blueberries); also, large amounts of magnesium and phosphorous.

Juneberries have about as much vitamin C, thiamin, riboflavin, pantothenic acid, vitamin B-6, folate, vitamin A and vitamin E as blueberries, and also trace amounts of biotin.

Juneberries have a flavor more reminiscent of dark cherries due to the presence of benzaldehyde, a natural volatile compound.

Juneberries were consumed and preserved by native North Americans for nutrition and medicinal uses. Like other native fruits, they provided important vitamins and minerals to European settlers in North America, preventing deficiency diseases such as scurvy.”

For more information on Juneberries as well as links to a Juneberry/Saskatoon production manual visit:
<http://www.juneberries.org/>



Juneberries: A new berry crop for the Northeast US

All information and pictures attributed to <http://www.juneberries.org/>





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July 29, 2015

State Agriculture Commissioner Highlights New York State's Blueberry Season

Encourages New Yorkers to Support Increasing Number of Blueberry Growers

State Agriculture Commissioner Richard A. Ball today announced it is peak blueberry season in New York State and encouraged New Yorkers to support the state's increasing number of growers. The New York State Berry Growers Association estimates that there are more blueberry plantings in New York than ever before as a result of several factors. From the demonstrated health benefits of eating blueberries and increased consumer demand for locally grown berries to New York's climate, excellent soils, and ample water supplies, the Growers Association is seeing more people making the long-term investment necessary to bring a planting of blueberries into production.

"Blueberry season may be a short season but it is a very productive season and I couldn't be happier for our growers who continue to rank well in production year after year," said Commissioner Ball. "I encourage all New Yorkers to support their growers this season which is as easy as stopping by your local farmers' market or pick-your-own farm."

New York growers plant over 40 different varieties of blueberries across the state to provide the delicious fruit for New York consumers for as long a period as possible. From "Duke" and "Patriot" varieties that can be harvested in early July to "Bonus" and "Elliott" that can be harvested into the middle of September, New York consumers can find local blueberries for about ten weeks. Peak season is late-July into early August.

Blueberry bushes take about eight years to become fully productive. In 2014, 700 acres of blueberries were harvested across the state. While approximately the same acreage is expected to be harvested in 2015, more of that acreage should be approaching full production, resulting in more supply to New York consumers.

Dale-Ila Riggs, President of the New York State Berry Growers Association said, "Many New York State blueberry growers have a bountiful crop this year. The summer weather and frequent rains have made the berries plump and sweet. The season is always short so make sure you don't miss out on the season and visit a local berry grower soon!"

New York State was the 11th largest blueberry producer in the nation in 2014. Growers harvested 1.6 million pounds of blueberries last year and produced a crop worth \$2.8 million.

New York State grown blueberries are now available at select grocery stores, farm stands, farmers' markets and pick-your own farms across the state. A map of farmers' markets across New York State, many of which offer fresh, local blueberries, can be found [here](#) or by county [here](#).

Agriculture
and Markets**AGRICULTURE NEWS** *(continued)*www.agriculture.ny.gov

Blueberries are one of the easiest fruits to prepare and serve for consumers. When preparing blueberries there is no peeling, pitting, coring or cutting involved. Blueberries can be eaten fresh out of hand and go well with other New York produced fruits in a fruit salad or with New York yogurt. They are also making an appearance in New York's beverage industry—now used in products such as Blueberry Wine made at Blue Sky Farm and Winery in *Delaware County* and Nine Pin Ciderworks' Blueberry cider made with blueberries harvested at Indian Ladder Farms in Albany County.

Blueberries are not only delicious but they provide a variety of health benefits. The fruit is reported to have one of the highest antioxidant contents among all fruits and vegetables. They are also a good source of vitamin K, vitamin C, and manganese, and have been found to maintain *healthy* bones, lower blood pressure and manage diabetes

Many blueberry growers proudly use the Pride of NY label on their products. To join the Pride of NY program, please visit: www.prideofny.com/PONY/consumer/newEstabAccount.do.

The Pride of NY website also lists harvest times and availability of fresh New York produce, depending on the season: www.prideofny.com/PONY/consumer/viewHarvestCalendar.do.

All information taken directly off of the New York State

Agriculture and Markets website:

<http://www.agriculture.ny.gov/AD/release.asp?ReleaseID=3109>

Niagara County Vegetable and Small Fruit Grower Meeting

Date: March 1st, 2016

Time: 9:00 am-12:00 pm Vegetables;
1:00 pm -4:30 pm Fruit

Location: Niagara County CCE, 4487 Lake Avenue, Lockport, NY 14094

DEC CREDITS WILL BE OFFERED

The morning vegetable program will include presentations by the Cornell Vegetable Program (CVP) specialists Darcy Telenko, Robert Hadad and Judson Reid, and will include research updates on sweet corn bird and weed management; the final ruling of the Food Safety Modernization Act (FSMA) – what it means for your farm planning, training and timelines; and living much. The CVP team will also lead discussions during lunch about fresh market vegetable research priorities and needs, and the Western NY Food Hub.

The afternoon berry program will include presentations by Cornell faculty - Kerik Cox, Greg Loeb, Marvin Pritts, and Courtney Weber. The talks will include time for questions and will address current issues in strawberries, blueberries, and raspberries.

Stay tuned for full program details coming soon!



Hudson Valley Fruit School – Berry session

Agenda - Thursday, February 18, 2016 –Berry Grower Session

8:50 -9:00 AM	Call to Order and Announcements Laura McDermott, <i>CCE Eastern NY Commercial Hort., Hudson Falls, NY</i>
9:00 – 9:30	Extending local strawberry production using low tunnel technology Laura McDermott, <i>CCE Eastern NY Commercial Hort., Hudson Falls, NY</i> A statewide low tunnel project revealed reduced disease risks and improved yields when growing day neutral strawberries in upstate NY. Field trials from 2015 will be discussed.
9:30 – 10:00	White Pine Blister Rust 101 – What this means for Ribes production Steven McKay, <i>Micosta Nursery, Hudson, NY</i> Understanding White Pine Blister Rust is important to successful management of the disease in Ribes plantings. Local expert Steven McKay will help growers understand the risk and how to manage it.
10:00 -10:30	Finding Revenue in your Berry Business Dan Welch, <i>Charles H. Dyson School of Applied Economics and Management, Cornell Univ., Ithaca, NY</i> A multi-year Berry Profitability project helps growers locate opportunities for improving the bottom line.
10:30 – 10:40	Break
10:40 – 11:10	Growing Figs in Upstate NY Ron Wagner, <i>CNY Figgery, Rome, NY</i> Central NY is not the first place you think of when considering fig culture, but this farmer has been successful at growing figs for the fresh market using high tunnels. Learn the cultural and pest management requirements of growing this warm weather crop in the inhospitable north.
11:10 – 11:40	Using Native Nematodes to Control Strawberry Root weevil Elson Shields, <i>Dept. of Entomology, Cornell University, Ithaca, NY</i> Dr. Shields has been successfully introducing native nematodes that will overwinter and provide perennial control of strawberry root weevil larvae and possibly other root larvae pests. Learn about how this ecologically based control method may benefit berry growers in the near future.
11:40 – 12:10	Research Update: Invasive Insects in Berry Crops (SWD, BMSB) Greg Loeb, <i>Dept. Entomology, Cornell Univ., Geneva, NY</i> Update on ongoing research on SWD. Implications for 2016 management will be discussed.
12:10 PM	Final announcements – Stamp DEC Credit forms – Adjourn
12:15	Lunch

Trellising Options for Raspberries and Blackberries in Cold Climates

Marvin Pritts, *Horticulture, Cornell University, Ithaca, NY 14853*, mpp3@cornell.edu

Several principles involving bramble plant growth and physiology must be understood before one can appreciate the benefits of trellising, and the various ways that brambles can be trellised.

- 1) The top half of a cane has the potential to produce more fruit than the lower half of a cane.
- 2) The amount of light intercepted by a bramble plant is somewhat proportional to its yield
- 3) Brambles can compensate somewhat for the loss of flowers and buds through pruning by increasing bud break and the size of remaining fruit
- 4) Primocanes can interfere with floricanes light interception and harvesting
- 5) Blackberry primocanes bend when they are young and succulent, whereas raspberry primocanes do not bend.
- 6) Erect blackberry canes exposed to a typical winter will experience damage to fruiting canes.

Knowing these principles, we can examine various approaches to trellising.

1. No trellis

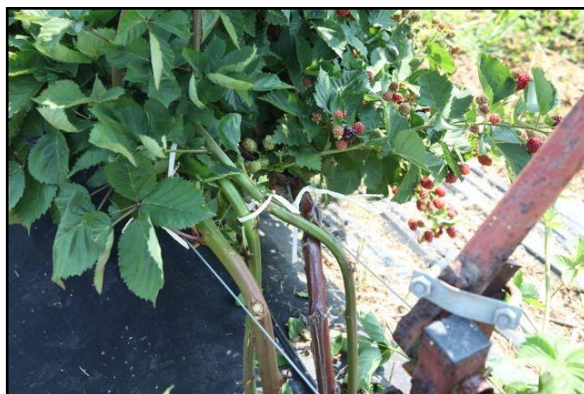
This option is obviously less expensive to implement, but unsupported canes often bend over when they have a fruit load and are then difficult to harvest. If canes are topped to prevent bending over, a significant portion of the fruiting potential is lost.

2. I-trellis

This option holds canes erect and prevents loss from topping. But light interception is poor, and yields do not meet their full potential. Primocanes grow towards the light and can interfere with spraying and harvesting of the floricanes.



I-trellis



Primocane training for blackberries

Trellising Options Continued...



V-trellis



V-trellis in high tunnel; where the canes fruit on only one side of the V each year



Rotatable cross-arm trellis; where the trellis arms are laid down and covered with row cover for the winter

3. V-trellis

This system opens up the canopy by pulling fruiting canes to the outside of the V, and allows primocanes to grow in the middle of the V. Interference with picking is minimized and light interception and penetration are improved. Yields can be improved 30% by converting from an I to a V-trellis, although the trellis is more elaborate and expensive to install.

4. Modified V for a tunnel

Blackberries in a tunnel grow very vigorously; primocanes of some varieties can grow 20 feet in one season. Standard trellising does not work well in a tunnel as the canopy is too dense and canes are too tall. Vigor can be reduced without a major reduction in yield by horizontally training a limited number of primocanes (2 or 3) to the lower wire of a V-trellis. When the primocane reaches the adjacent plant, it is pinched to promote lateral bud break. These buds are trained upright to one side of the V. Harvesting a one-sided V is much easier than a regularly trained plant (where densely arranged primocanes are shortened to approximately 6 feet). Primocanes are trained to the opposite side of the V in alternating years. This system does not work for raspberries as canes do not bend even when they are young.

5. Rotatable cross-arm trellis

Primocanes are trained similarly to the previous description of the V-trellis. However, the accommodating trellis has a cross-arm that can rotate into a horizontal position so that canes can be laid against the ground at an appropriate time. The trellis arm with attached canes is laid on the ground prior to winter, and covered with a row cover to minimize winter injury. The trellis arms are raised after winter, and the buds emerge with significantly less injury. We have documented five-fold differences in yield in cv. Chester between canes laid on the ground and those held erect for winter.

Canes bent and trained along the lower wire twist about 90 degrees when the cross arm is laid in a horizontal position. This small amount of twisting does not damage the canes. However, a vertical cane forced into a prostrate position will snap. Therefore, it is important to train the canes horizontally from the time of their emergence in spring so they will twist and not break when laid horizontally.

Applying these principles to a good trellis design will allow growers to maximize their yield potential in raspberries and blackberries. Installing a trellis requires materials and labor, but the fact that nearly all raspberry and blackberry growers use them, attests to their efficacy.

Extending local strawberry production using day neutral cultivars and low tunnel technology

Opportunities to produce strawberries for five months of the year now exist with the merging of new day neutral cultivars, particularly Albion, with low tunnel technology using plastics that exclude much of the ultraviolet and infrared radiation. We have conducted studies with 1) various day neutral cultivars, 2) various plastic covers, 3) varying planting dates, and 4) grower-cooperators. After four years of research, the following procedure is recommended for growing and producing day neutral strawberries.

Establish raised beds (18 inches or wider) in late fall or early spring so they can be planted as soon as possible in spring. Each bed should have a trickle irrigation line attached to a fertilizer injection system. Cover each bed with white plastic, and plant Albion in a staggered double row, with plants 9 – 12 inches apart in each row. Use a tool that will insert roots into the bed while disturbing the plastic as little as possible.

Fertilize the planting with 2 lbs of actual nitrogen per planted acre per week for the first few weeks after planting. Remove the flowers for the first three weeks, or until vigorous new leaves appear from the crown. Plant grass seed between the rows, or lay a landscape fabric or straw mulch to prevent mud from splashing on the berries.

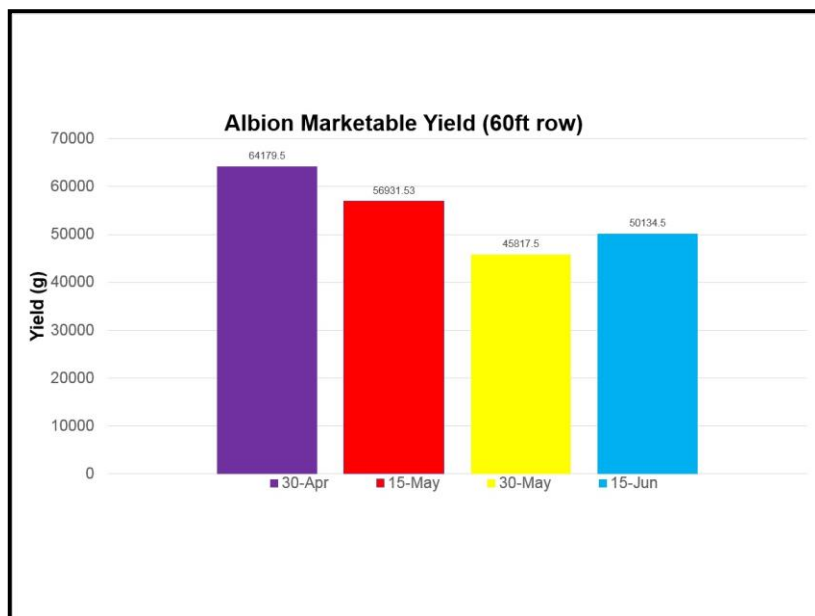
Install tunnels when plants begin to throw new flower trusses. Cover the tunnels with 4 to 6 mil plastic, preferably with a type that excludes ultraviolet light and reduces infrared radiation. Dubois Agrinova

(<http://www.duboisag.com/>) sells kits with plastic that has predrilled holes for ventilation when the plastic is lowered. The cost for the tunnel kits is \$450 per 100 foot of row. This cost is recovered in the first year.

At least one side of the plastic should remain up under normal weather conditions to allow for pollination and to prevent heat build-up. Infrared-inhibiting plastic does provide some shade which is beneficial for the plants, so allow them to be shaded by the plastic if possible. Lower the sides when the weather is cold or stormy. A benefit of the plastic is the near elimination of Botrytis gray mold from water exclusion and inhibition of spore germination from the reduction of UV light.



Last Harvest of 2014; cultivar Albion



Strawberry Production Continued...

Once plants begin to set fruit, increase the nitrogen to 5 lbs/acre per week. Failure to provide weekly applications of nitrogen was a major reason why our grower-cooperators had lower yields than expected.

Harvest the fruit at least twice a week. Peak yields will occur in late August, with production occurring through October. Fruit quality from Albion has been excellent. Fortunately, spotted winged drosophila damage has been minimal provided that fruit is harvested regularly and not left rotting in the field.

Once the temperature falls below 40F, lower the tunnels. If the temperature falls below 30F in mid-October, cover the entire field with row cover for the night. This will extend the harvest season should the weather warm again.

Once harvest is over, lower or remove the plastic and cover the beds with straw. Albion does not overwinter well in cold weather. Remove the straw in late March/early April and allow these plants to fruit again. The tunnel can be used to protect from late spring frost.

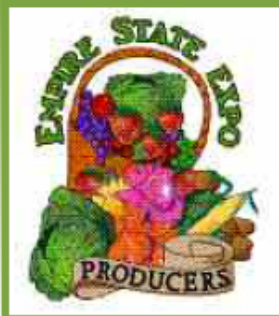
Over the course of the first year with an April planting date, we harvested 20,000 lb/acre, which is as much as a good June-bearing cultivar will produce in one season. Average berry size of Albion was 15 grams, which is the size of a medium king fruit on a June-bearer. Flavor is excellent. Production peaked in early September with two quarts (four pints) of berries per 10 feet of row, but in October plants consistently produced about a quart of berries every 10 feet of row until a hard frost.

In spring of the second year, a large flush of fruit is produced about the same time as that of early June-bearers. Tunnels can be used to accelerate flowering if desired. Spring yields can be almost as much as the previous year's yield. We have not found it to be economical to hold over these plants into a second summer and fall. Rather, we grow them for about 15 months and then remove them.

We found that, while attractive, growers may not be able to "fit" such a crop into their farm operation since day neutrals require constant attention. Plastic has to be raised and lowered, plants have to be fertilized weekly, and once harvest begins, it lasts for months. However, the rewards can be great. Growers have reported gross sales of \$50,000 per acre from Albion in New York State. Given that the cost of materials for an acre is about \$44,000, sales can pay for the materials in the first year. In the second year, costs include plants, fertilizer, labor and harvest. Conservatively, this can be \$20,000, but with sales approaching \$50,000, the margins are quite good.

We believe that this technology will transform strawberry production in the Northeast over the coming decade.





EMPIRE STATE PRODUCERS EXPO

Oncenter Convention Center • Syracuse, NY

January 19-20-21, 2016

TUES. 8AM-5PM • WED. 8AM-5PM • THURS. 8AM-1:30PM

Sponsored by Cornell Cooperative Extension, New York State Vegetable Growers Association, Empire State Potato Growers, New York State Berry Growers, the New York State Horticultural Society, New York Farmers' Direct Marketing Committee, Farmers' Market Federation of NY, NYS Flower Industries and Cornell University

EXHIBITOR INFORMATION

Welcome to the

2016 Empire State Producers Expo!

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

As an exhibitor you can expect dedicated trade show hours, trade show educational sessions, opportunities to present new information regarding your company and its products during educational sessions, events such as the popular ice cream social. All of these aspects of the show will enhance the Expo for both attendees and your company! Thank you for including the Expo as a part of your business plan to make new contacts, network with existing customers and introduce new products and/or services that your business offers!

Booth Rental

Exhibit booth spaces and equipment exhibit spaces are available in the main trade show. The more booth space that you require, the more you save! Please refer to the contract enclosed with this information for prices for your specific needs as an exhibiting company.

Your 10' x 10' booth rental includes:

- Basic booth set-up, frames with back and side dividers and draperies, table and two chairs.
- Two complimentary registrations per day for each exhibitor booth including exhibitor name badges and registration materials.

- Free company listing in the NYSVGA Exhibitor Guide
- The opportunity to speak at "What's New From Industry" - a part of the educational sessions where you can highlight products and services that your company offers.

Equipment space rental includes:

(Minimum of 400 square ft.)

- Table and Two chairs.
- Two complimentary registrations per day for each equipment space rental including exhibitor name badges and registration materials (includes one free copy of the published Conference Proceedings).
- Free company listing in the NYSVGA Exhibitor Guide
- The opportunity to speak at "What's New From The Industry" - a part of the educational sessions where you can highlight products and services that your company offers.

Call Dan Wren at 518-673-0117

To find out about special packages available for equipment dealers!

Trade Show Hours:

Tuesday, January 19: 8:00am - 5:00pm; Wednesday, January 20: 8:00am - 5:00pm;
Thursday, January 21: 8:00am - 1:30pm

Managed by the Trade Show Division of Lee Newspapers, Inc.

2016 EMPIRE STATE PRODUCERS EXPO

Sponsorship opportunities for the Expo are available. We can help your company customize your sponsorship support.

Your company's support for the fruit & vegetable growers of New York State is greatly appreciated and important to the Expo.
Thank You!

CONFERENCE SCHEDULE

Conference registration starts at 7:30 a.m. each day. Educational sessions are generally from 9:00 a.m. to 5:30 p.m. on all days, with lunch breaks. Free coffee and juice is available in the trade show area from 7:30 a.m. until 4:30 p.m. each day. All registered conference attendees have a name badge and are checked at the trade show door. A trade show only pass will also be available at the door. Conference sessions run concurrently, with the following anticipated schedule:

Monday, January 18
Trade Show Set-Up (Times will be scheduled)

Tuesday, January 19
Trade Show Open • 8:00 a.m. - 5:00 p.m.

Wednesday, January 20
Trade Show Open • 8:00 a.m. - 5:00 p.m.
Ice Cream Social in the Trade Show

Thursday, January 21
Trade Show Open • 8:00 a.m. - 1:30 p.m.
Exhibitors' Breakfast

LITERATURE TABLE

Please contact the NYSVGA office to request a literature table order form.

OFFICIAL HOTEL

The official hotels for the Empire State Producers Expo are the Genesee Grande (downtown), The Crowne Plaza (downtown), The Holiday Inn Liverpool (Thruway) and the Doubletree (Thruway).

Genesee Grande Hotel - The Genesee Grande, just off I-81 and steps from the Syracuse U Carrier Dome. Rooms are available for a discounted rate of \$99 per night. Hospitality suites are also available for your company's needs. Please contact the hotel directly at 315-476-4212 to make your reservations and be sure to mention the Expo or vegetable growers for your discount. This hotel has limited outdoor parking.

Crowne Plaza Hotel - The Crowne Plaza, just off I-81 and closest to the Expo site. Rooms are available for \$96. The cutoff date for booking is January 12, 2016. Contact the Crowne at 315-479-7000 and tell them you're with the vegetable growers. This hotel has a free parking ramp.

Holiday Inn Liverpool Hotel - The Holiday Inn Liverpool, located at the Exit 37 Electronics Parkway Exit of the Thruway. Rooms are available for \$97 per night. The cutoff date for booking is January 1, 2016. Contact the Holiday Inn at

315-457-1122 and ask for Expo rate. Open parking lot with free parking. Hotel to provide dedicated shuttle to the Expo.
Double Tree Hotel - The Doubletree, located at Carrier Circle just off the NYS Thruway offers free shuttle service to the Expo. Rooms are available for \$99. The cutoff date for this price is December 27, 2015. Contact the Doubletree at (315) 432-0200. The shuttle will run from the Doubletree to the Oncenter.

HOLIDAY INN & DOUBLETREE SHUTTLE SCHEDULE TO ONCENTER

Tuesday January 20, 2016 -

- 7:00 am - 11:00 am - Continuous loop between the Holiday Inn and Doubletree Hotel and the Oncenter
- 3:00 pm-6:00 pm - Continuous loop between the Holiday Inn and Doubletree Hotel and the Oncenter

Wednesday January 21, 2016 -

- 7:00 a.m. - 11:00 am - Continuous loop between the Holiday Inn and Doubletree Hotel and the Oncenter
- 3:00 pm-6:00 pm - Continuous loop between the Holiday Inn and Doubletree Hotel and the Oncenter

Thursday January 22, 2016 -

- 8:00 am - 11:00 am - Continuous loop between the Holiday Inn and Doubletree Hotel and the Oncenter
- 3:00 pm-6:00 pm - Continuous loop between the Holiday Inn and Doubletree Hotel and the Oncenter

DECORATING COMPANY

The official trade show contractor is Great Lakes Events, 100 Bickford Street, Rochester, NY 14606. Phone: 585-458-2200, Fax: 585-458-5087. Call them for shipping and other special booth decorations.

ELECTRICITY AND INTERNET SERVICES

Electric service is available. Please use form included to order your electricity and internet needs. Internet service will be available at no charge courtesy of the show. Passwords can be obtained at the show.

SET UP AND DISMANTLING

Set up will be from 12:00 p.m. - 6:00 p.m. on Monday, January 18. The trade show will reopen by 7:00 a.m. on Tuesday, January 19. All exhibits must be in place by 8:00 a.m. on Tuesday, January 19. (See back of Contract for late set-up policy). Trade show exhibits may be dismantled starting at 1:30 p.m. on Thursday, January 21.

Questions? Please contact:

Trade Show Information

Dan Wren, Lee Trade Shows
PO Box 121 • Palatine Bridge, NY 13428
Phone: 518-673-0117 • Fax: 518-673-2381
email: dwren@leepub.com

Education & Sponsorship Information

NYS Vegetable Growers Association
8351 Lewiston Rd #3-304, Batavia, NY 14020
Phone: 585-993-0775 • Fax 518-677-1865
email: nysvegetablegrowers@gmail.com

2016 Empire State Producers Expo: *Berry Session Agenda*

THURSDAY, JANUARY 21

BALLROOM WEST

Session organized by Laura McDermott and James O'Connell, CCE Eastern NY Commercial Horticulture Program, and Marvin Pritts, Cornell University

- 9:00 AM** **Welcome –**
Laura McDermott, CCE Eastern NY Commercial Horticulture Program
- 9:05 AM** **Soil health in matted row strawberries –**
Maria Gannett, School of Integrative Plant Science, Cornell University
- 9:30 AM** **Managing highbush blueberry nutrition –**
Eric Hanson, Horticulture, Michigan State University, East Lansing, MI
- 10:00 AM** **What's new from industry?**
- 10:05 AM** **Successful nutrient strategies for berry crops –**
Gary Phelps, Gary's Berries, Endicott, NY
Rod Dressel Sr., Dressel Farms, New Paltz, NY
Dale Jla Riggs, The Berry Patch, Stephentown, NY
- 10:40 AM** **NYS Berry Growers Association annual meeting –**
Paul Baker, NYS Berry Growers Association, Sanborn, NY
Dale Jla Riggs, NYS Berry Growers Association and Owner of The Berry Patch, Stephentown, NY
- 11:00 AM** **Lunch**

THURSDAY, JANUARY 21

BALLROOM WEST

Session organized by Laura McDermott and James O'Connell, CCE Eastern NY Commercial Horticulture Program, and Marvin Pritts, Cornell University

- 1:00 PM** **Announcements and DEC credit sign-up –**
James O'Connell, CCE Eastern NY Commercial Horticulture Program
- 1:05 PM** **Prioritizing strawberry weed control –**
Eric Hanson, Horticulture, Michigan State University, East Lansing, MI
- 1:35 PM** **Cane berry weed management strategies –**
Timothy Miller, Crop and Soil Sciences, Washington State University, Mount Vernon, WA
- 2:05 PM** **Advances in high tunnel covers –**
Kathy Demchak, Plant Science, Penn State University, University Park, PA
- 2:35 PM** **Strategies to control arthropod pests in high tunnels –**
Gregory Loeb, Entomology, NYSAES, Cornell University
- 3:00 PM** **Microbial pesticide efficacy in controlling disease on strawberries and raspberries in high tunnels –**
Annemiek Schilder, Plant, Soil and Microbial Science, Michigan State University, East Lansing, MI
- 3:35 PM** **Extending local strawberry production using low tunnel technology –**
Marvin Pritts, School of Integrated Plant Science, Cornell and Laura McDermott, CCE Eastern NY Commercial Horticulture Program
- 4:00 PM** **Adjourn and safe trip home!**

Horticulture Section
School of Integrative Plant
Science

Cornell University
Ithaca, NY

PHONE:
607-255-4568/1789

FAX: 607-255-0599

E-MAIL:
hort@cornell.edu

We're on the Web!

See us at:

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

New York Berry News (**NYBN**) is a seasonal commercial berry production newsletter provided by Cornell berry team members. It is designed to help promote and strengthen commercial berry crop production in New York State. NYBN is available free of charge in pdf format at: <http://www.fruit.cornell.edu/nybn/>.

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

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

UPCOMING EVENTS all posted on pages 11 & 12

Questions or comments about the New York Berry News?

Ms. Nicole Mattoon
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315-787-2624
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