Cornell University
College of Agriculture and Life Sciences

New York Berry News

Volume 14 Number 1 *Winter Edition 2015*

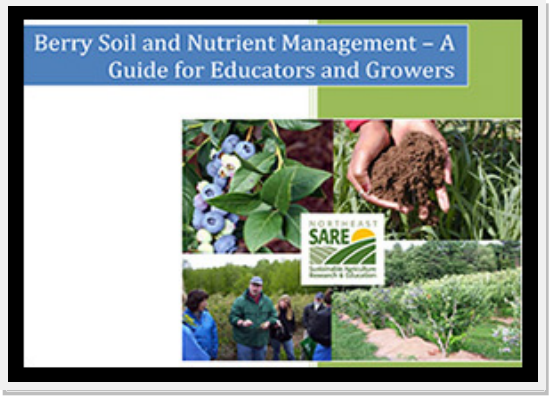
Features:

Berry Soil and Nutrient Management – A Guide for Educators and Growers

New York Berry News has not been published since December, due to the untimely death of its editor, Cathy Heidenreich. Cathy was very dedicated to helping berry growers, and she put her heart and soul into her work. Many of you had an opportunity to meet or work with Cathy, and have appreciated the pleasant demeanor and positive attitude she brought with her where ever she went.

Cathy was responsible for many activities, including this publication. Her loss left many items partially completed or in limbo. We are slowly figuring out which activities we can continue, and which we can complete.

I am pleased to announce that one of Cathy's outstanding contributions is the new publication *"Berry Soil and Nutrient Management – A Guide for Educators and Growers"* and the accompanying webinars that correspond to each of the 12 chapters in the book.



This publication was sponsored by NE SARE and is available for free at: http://fruit.cornell.edu/berry/production/soilnutrientmgmt/index.html.

This guide is a testament to the quality of work that Cathy produced, and I am proud to share it with the community of berry growers.

Marvin Pritts

Blueberry Pruning—Commonly Asked Questions

Laura McDermott

Do I have to prune every year?

Pruning blueberry bushes regularly helps reduce the overall size of the mature plant but it will also reduce the annual overall yield. However, the benefits to the plant over the long term significantly outweigh the short term loss of yield. If you ignore pruning you will drastically reduce the vigor of the planting and the number of years that you will be able to fruit the plants. Annual pruning, done efficiently, is the very best approach to managing the crop canopy.

Does pruning result in larger fruit?

Reducing the number of fruit buds on the bush can result in an increase in the size of the remaining individual berries. Improving irrigation, plant nutrition, pest management and cultivar selection will have similar positive effects on berry size.

How does pruning make my plants healthier?

Pruning invigorates plants to initiate more growth. Blueberry buds are initiated on wood produced the previous season - one-year-old wood. Annual pruning regulates the fruiting potential of the following season's crop. You are striving to invigorate the plant to produce enough new wood that you will have a good crop in two summers. By removing the oldest, unproductive wood, you are lengthening the overall life of the plant and increase the number of crops that those plants will bear.

When do I prune?

Blueberries should be pruned during the winter while the bushes are dormant. By mid-January you can see flower buds on one-year-old wood. This winter could be a major challenge given the snow pack that exists throughout the state.

What tools do I need?

Use a good quality bypass (scissor action) hand pruner and/or lopper. The lopper should be capable of cutting branches 2 to 3 inches in diameter. For larger plantings, pneumatic pruners can be really helpful. I also think that pneumatic pruners can be VERY helpful as farmers' age or if time is tight and pruning needs to be done especially quickly. This may be the case this year. Pneumatic pruners require an air compressor and can cost nearly $2000.

When I look at the bush, what do I remove first?

This depends on the age of the plant. Well-rooted two year old plants do not need to be cut back except to remove fruit buds shortly after planting. In the second year a moderate pruning will help to stimulate new growth. Continue to remove fruit buds on plants younger than three years of age in order to encourage bearing wood development. During the establishment phase (plants are 3-8 years old, prune to develop good plant architecture. Remove all low-spreading branches and the oldest canes if they are weak, particularly if in the center of the plant. "Head back" the strongest upright shoots to the desired height to keep the bush from growing too tall. These shoots will be your primary bearing wood for the next few seasons. Thin out the shorter, thin shoots and leave only those shoots that have enough vigor to bear a crop. Each variety will have a different ability to renew itself while it bears – some varieties send out very few renewal shoots – others you can't prune enough!

Blueberry Pruning Continued…

For a mature plant at least 8 years of age, simplify the process and focus on the crown of the plant. Remove diseased or broken shoots first. Then remove shoots that are poorly placed, i.e. if they are flopping into the alley. Remove 1-2 of the oldest canes. Then step back and look for small canes that will not grow quickly enough to actually bear fruit in 2 seasons. If they are smaller than the diameter of a pencil, they are not going to perform and should be removed. After all of this pruning, you should have about 16 canes, 2 from each year (2 eight year old canes, 2 seven year old canes, 2 six year old canes etc.). If you still need to remove canes, make sure to prune canes that look crowded.

When blueberries are 8-10 years old, they are at their productive peak, but this is when new cane development starts to slow. In order to prolong the productive life of the planting the blueberry grower needs to plan to revitalize the plant now. Weak or badly diseased canes should be removed entirely. If the varieties don't readily produce new canes from the crown, it could be helpful to cut back to a strong lateral which is located in the right spot.

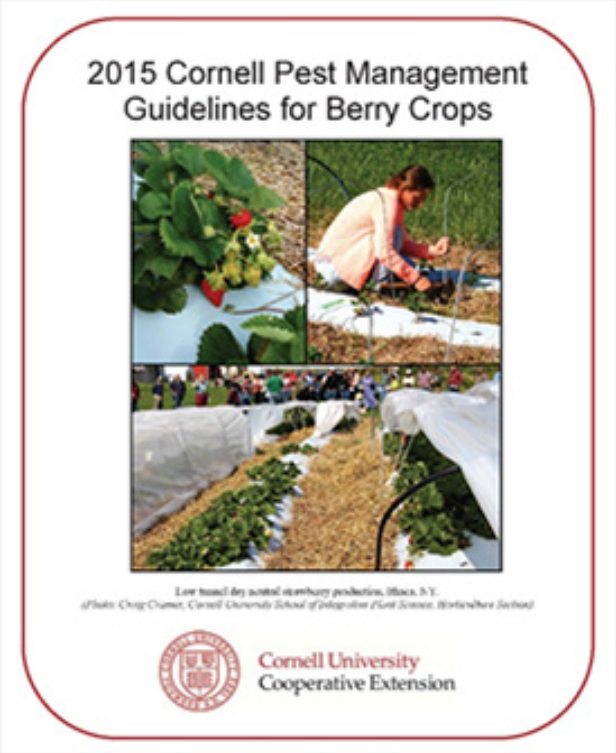
How can I make pruning go faster?

Most growers that I talk with estimate that pruning a well-managed blueberry planting will usually take 3-5 minutes per bush. That works out to be 250 to 417 man-hours to prune 5000 plants; 6-10 people working for 40 hours – which adds up to a lot of money and time. Given the late winter, many growers are planning on a light pruning already, and my response is that a light pruning is better than no pruning. Pneumatic pruners can also help speed up a slow process. This equipment can be costly, but if you can afford to streamline the process and possibly hire fewer workers or have them complete the task in fewer hours, you can move closer to making the investment in a $2000+ pruner and compressor system really pay for itself.

Cornell Pest Management Guidelines for Berry Crops

The **2015 edition** of the *Cornell Pest Management Guidelines for Berry Crops* is now available. This annual publication provides up-to-date pest management and crop production information for blueberry, bramble (raspberry and blackberry), strawberry, ribes (currant and gooseberry), cranberry, elderberry, and Juneberry (Saskatoon) production in New York State.

Information on wildlife management and harvesting, handling, and transporting berry crops is also included. This publication has been designed as a practical guide for berry crop producers, crop consultants, Ag chemical dealers, and others who advise berry crop producers.



In addition to the annually revised pesticide and crop production information, the following highlighted changes in this 2015 edition of the *Berry Guidelines* that will benefit berry producers include:

- Revised food safety and berry crops section.
- Updated information on spotted wing drosophila control.
- A new weed control section on herbicide active ingredients and the weeds controlled.
- Strawberry nutrient management guidelines split between day-neutral and June bearing varieties.
- Revised agricultural plastics recycling information.

New for 2015 are three different product options for the Cornell Guidelines. Users can obtain a **print copy, online-only access, or a package that combines print and online access**. The print edition of the 2015 *Berry Crops Guide* Cost is $28 plus shipping. Online-only access is $28. A combination of print and online access costs $39.00 plus shipping costs for the printed book.

Order the 2015 Guidelines from The Cornell Store.

Original post displayed on SWD Blog by Julie Carroll

http://blogs.cornell.edu/swd1/

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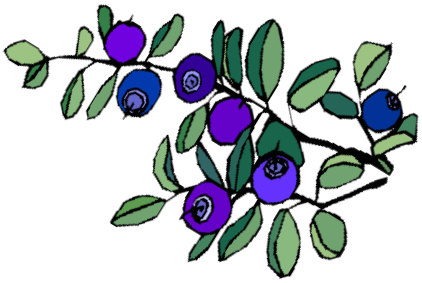

2015 Spring Berry Workshops

These workshops will cover pruning efficiency and protocol; spring pest management including scouting for pests and optimizing control strategies. Join us for one of these workshops to learn more about berry culture and how you can minimize the impact of berry pests.

Locations	Dates	Times
Gade Farms, 2479 Western Ave., Guilderland, NY 12009 *Questions? Contact Laura McDermott: 518-791-5038*	Thursday, April 9	10:00 AM-12:00 PM
Kelder Farms, 5755 Route 209, Kerhonkson, New York 12446 *Questions? Contact Jim O'Connell: 845-943-9814*	Monday, April 13	1:00 PM-3:00 PM
Greiner's Farm, 102 Lattintown Rd., Newburgh, New York 12550 *Questions? Contact Jim O'Connell: 845-943-9814*	Tuesday, April 14	1:00 PM-3:00 PM
Northern location TBA *Questions? Contact Laura McDermott: 518-791-5038*	April	

These workshops are directed at the commercial berry grower.
Monitoring for pests, designing an effective pest control program, Understanding pruning strategy for bramble crops and blueberries (depending upon site) and general troubleshooting will all be part of this workshop. There will be plenty of time for questions and discussion.

DEC Pesticide Re-certification credits will be available.

Please pre-register with Marcie Vohnoutka at 518-272-4210 or mmp74@cornell.edu to let us know you are coming. This helps us plan – and also allows us to cancel the class in the event of supremely foul weather. Otherwise it will be held rain or shine!

Call the person listed under the location and date you are interested in attending if you have questions about directions to the farm or if you have a specific topic that you want to address at the class. **When leaving a message include your name and phone number.**

Diagnosing Dry Calyx Problems on Strawberrv Fruit

Mark Bolda and Steven Koike

***Derived from the Strawberries and Caneberries blog*:**

http://ucanr.edu/blogs/strawberries_caneberries/index.cfm

For fresh market strawberry, damage to the leafy calyx often results in reduced quality and marketability of the fruit. The calyx is made up of the green, leafy sepals that initially surround and protect the young blossom. As the flower transforms into the fruit, the calyx remains intact and becomes the green whorl of leafy material on the top of the fruit. These are also referred to as "caps."

Damaged calices exhibit various symptoms, including tan to brown discolored tissue, shriveling of the leafy sepals, and eventual drying and death of the calyx tissue. Diagnosing the cause of dry calyx problems may be difficult because such damage could be caused by disease, inherent traits of some cultivars, or calcium deficiency.

***Disease*:** Leaf blotch disease of strawberry is caused by the fungus *Zythia fragaria.* The disease primarily causes a leaf disease, with symptoms consisting of tan to gray leaf lesions; lesions usually contain tiny dark brown specks that are the fruiting bodies of the pathogen. For coastal California, leaf blotch is an early spring disease that disappears by mid-summer. Fruit calyx tissues can also become infected and develop tan to brown lesions that may or may not have the fruiting bodies (Photos 1 and 2).

***Cultivar trait*:** Dry calyx can also arise from inherent tendencies of certain varieties when exposed to certain environmental conditions. For example, dry calyx was a common occurrence on the first fruit set, early in the year, for the cultivar Camino Real (Photos 3 and 4). Later in the spring, however, Camino Real fruit grew normally and dry calyx disappeared. Interestingly, for this particular variety the dry calyx is not known to occur when it is grown in Mexico.

***Calcium deficiency*:** Dry calyx symptoms can also be associated with nutritional factors. Young foliage having pinched, brown, dead leaf tips exhibit symptoms of calcium deficiency (Photo 5); such deficiency can be confirmed by tissue testing. On such plants, calices can sometimes develop dry, tan to brown tips (Photo 6) that apparently are linked to this calcium problem.

***Difficulty in diagnosis*:** Dry calyx problems caused by disease, cultivar traits, and calcium deficiency can look very similar. Therefore, field diagnosis can be difficult. Leaf blotch disease on calices can be confirmed if fruiting bodies are present in the calyx tissue or if the calyx tests positive when tested in a pathology lab. Dry calyx on cultivars known to develop this problem is likely related to the cultivar itself. If leaves show calcium deficiency symptoms, dry calyx could be related to nutrition. In addition, calices on strawberry plants could simultaneously suffer from multiple causes of dry calyx. Table 1 summarizes these various factors.

***Table 1.* Summary of possible causes of dry calyx damage**

Dry Calyx

Factors	***Zythia leaf blotch***	***Inherent cultivar trait***	***Calcium deficiency***
Calices with fruiting bodies	**yes**	**no**	**no**
Foliage with leaf blotches	**yes**	**no**	**no**
Cultivar known to show drying	**no**	**yes**	**no**
Young foliage with deficiency	**no**	**no**	**yes**

Diagnosing Dry Calyx Problems Continued…

Photo 1: Zythia on strawberry fruit calyx. Photo Steven Koike, UCCE.

Photo 2: Zythia on strawberry fruit calyx. Photo Steven Koike, UCCE.

Photo 3: Dry calyx on Camino Real. Photo Steven Koike, UCCE.

Photo 4: Dry calyx on Camino Real. Photo Steven Koike, UCCE.

Photo 5: Dead tips of young strawberry leaves associated with calcium deficiency. Photo Mark Bolda, UCCE.

Photo 6: Calices with dry, brown tips apparently linked to calcium problem. Photo: Mark Bolda, UCCE.

Derived from the Strawberries and Caneberries blog: http://ucanr.edu/blogs/strawberries_caneberries/index.cfm

Moving the Needle

Accomplishments of the National Strawberry Sustainability Initiative 2013-2014

Under the collective effort of various editors and contributing organizations, information on strawberry sustainability has been released under "*Moving the Needle: Accomplishments of the National Strawberry Sustainability Initiative*". In this informational newsletter, the accomplishments are broken into eight different **Project Priorities**:

1. Increase the production season and regional diversity of U.S. strawberry production
2. Reduce the chemical inputs for soil sterilization, fertilization, weed control, and pest management
3. Conserve and preserve water resources used in the production system
4. Improve soil quality and health in the production system for succeeding crops
5. Reduce the risk of human health pathogens spread on fresh berries
6. Reduce the postharvest production loss through the supply chain from production through distribution and sales
7. Increase product value and economic return to growers and participants through the supply chain
8. Implement meaningful and constructive metrics for strawberry production sustainability

"The hypothesis of the National Strawberry Sustainability Initiative (NSSI) is that the sustainability of the national strawberry industry can be optimized by expanding production into states and regions outside of the primary production centers, thereby increasing local production while complementing the existing industry. Sustainability would be increased by reducing travel distance and time (thus reducing spoilage), using new technologies to extend the range of harvest dates, and implementing new pest management technologies. Although there has been significant research in many of these areas, the specific goal of this project is to support programs that implement the advancement of proven science and technology in production systems in a variety of regions."

In order to view the complete newsletter, visit http://strawberry.uark.edu/nssiweb.pdf

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Bettina Lehovec, Copy Editor

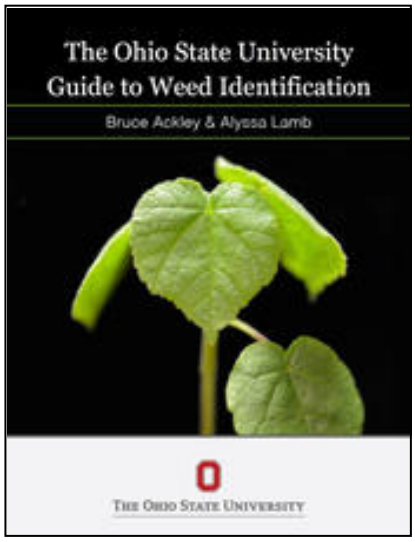
Weed Identification Guide

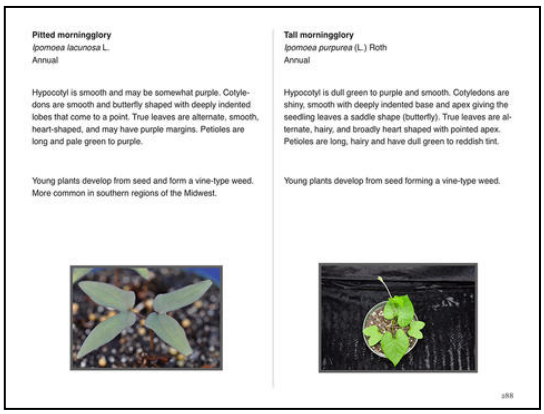
A new guide developed by an agronomist at The Ohio State University (OSU) is now available to help growers identify weeds in order to manage them before they take over.

The 2015 Ohio State University *Guide to Weed Identification* is available for free as an iBook and can be downloaded through Ohio State's Digital Bookstore at **digitalbookstore.osu.edu/book/ohio-state-university-guide-weed-identification**

The guide is presented in a digital format that offers pictures of various weed species at different stages of maturity and 360-degree movies for most species, allowing viewers to gain an ultimate understanding of the weed's composition.

It describes 46 families and 100 species of monocotyledonous and dicotyledonous plants and also provides an introduction to weed control and management.





Penn State **Extension**

Cornell University Cooperative Extension

Winter Wednesday Lunch Series

Vegetable and Small Fruit Production Webinars

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

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

Time: 1:00—2:00 p.m.

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

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

Topics and Speakers:

December 10: **Hydroponic Vegetable Production**
Tom Ford, Penn State

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

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

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

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

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

This publication is available in alternative media on request.

extension.psu.edu

XIth International Rubus and Ribes Symposium

"On behalf of the Rubus and Ribes Working Group and the Vine and Berry Fruits Section of the International Society for Horticultural Science (ISHS), we invite you to attend the **XIth International Rubus and Ribes Symposium in Asheville NC, June 21- June 24, 2015**. The theme for this symposium is *Healthful Harvests, Global Reach, Local Roots*.

The conference will consist of a three-day scientific program at the Renaissance Asheville Hotel. We welcome presentations on all aspects of Rubus and Ribes production, including *research in the areas of genetics and germplasm, physiology, production systems, plant and soil nutrition, irrigation pests and diseases, marketing, post-harvest handling, fruit quality, and health benefits*. This event will be open to those involved in all aspects of Rubus and Ribes research, teaching, extension, business, and public services and to promote international co-operation between colleagues all over the world. Please note that the conference will be conducted in English. Mark your calendars and plan to join us."

Pre-Meeting Symposium Tour
Thursday, June 18 – Sunday, June 21, 2015
Embassy Suites Charlotte
4800 South Tryon Street
Charlotte, NC 28217
USA

XIth International Rubus and Ribes Symposium
Sunday, June 21 – Wednesday, June 24, 2015
Renaissance Asheville
31 Woodfin S.
Asheville, NC 28801
USA

All accepted oral and poster symposium presentations are eligible for publication in the proceedings if a suitable manuscript is prepared and submitted on time to the Editorial Board. **All oral presenters, including invited and keynote speakers, must submit a manuscript for the proceedings being published in *Acta Horticulturae*.** If this is not agreed to by the author(s), the work can be presented as a poster.

The deadline to submit your manuscript is June 1, 2015.

Complete submission details, copyright information and instructions on formatting your manuscript can be found at http://www.ishs.org/authors.

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We're on the Web!
See us at:
http://hort.cals.cornell.edu/

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

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

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

Questions or comments about the New York Berry News?

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