



Cornell University  
Cooperative Extension

# Eastern NY Commercial Horticulture Program

Vol. 4, Issue 7  
June 15, 2016

## Berry News

### Spring Berry "To Do" List

#### All Crops

- Bird management – put up nets in berry plantings before the berries begin to color
- Weed management – should be ongoing – make note of real problem weeds.
- Fertilizer program – most 2<sup>nd</sup> applications should be on plantings now.
- **Deploy monitoring traps for SWD!**
- I haven't seen too much slug damage so far this year, but keep an eye out. Slug bait should be applied after renovation for best effect.
- Scout for leaf notching from adult weevils, or shot hole damage from strawberry rootworm – call us if you see it!
- As plants start to grow, watch for weak growing areas and check plants for weevil larvae, root rot and/or cold damage. Call us if you think there is an issue – we have support for diagnostic services.

#### Blueberries

- Evaluate bushes for winter injury. Very few leaves will mean stressed plants.
- Look for leaf notching caused by adult vine weevils – please call us if you see anything!
- Water is VERY important now as shoot development is occurring. 1-2" each week is mandatory.
- Scout for strawberry clipper - count the number of damaged flower trusses per yard of row. Treat when you have an average of more than 3 damaged buds per yard. Insecticides should not be applied during bloom.
- Scout for tarnished plant bug - If 4 or more flower clusters are infested with nymphs spray is recommended. We are just finding tarnished plant bug now. The pressure seems low, but hot weather can really push their development.

#### Raspberries and Blackberries

- Blackberry orange rust is sporulating. Remove the infected plant as this disease is systemic.
- Scout for two-spotted mites – especially if you have raspberries in tunnels!!
- Scout for Phytophthora Root Rot – primocanes will be collapsing.

#### Strawberries

- Apply Botrytis gray mold cover sprays on late bloomers. The mostly dry weather has helped, but now that humidity is up cover sprays are needed.
- Scout for leaf diseases – photos and management tips included in this edition.



### PEST ALERT

#### Boxelder Bug an Occasional Pest on Strawberries

Last week a local grower called to report thousands of boxelder bug nymphs and adults eating dayneutral strawberries. This has been reported in the literature, but it's the first time I've seen it. There were *Acer Negundo* trees (Boxelders) relatively close by, but the plants were just covered with these orange-red bugs. There were also egg masses of the insect found on the underside of the leaves. The adults were definitely feeding on berries and causing a lot of damage.

*continued on next page*



The literature implies that this attack will be short lived, small comfort when the damage is so extensive. There are no good chemical controls for these insects, but insecticidal soap or just a strong spray of water may discourage them as much as anything. About 50 products are labeled for boxelder bug control on ornamental trees. Common active ingredients in products include carbaryl, chlorpyrifos, cyfluthrin, permethrin, and pyrethrins

## SWD Found in Capital District and Elsewhere Across NYS

This Monday, June 13th, 1 female SWD was found in a Scentry-lured trap on the perimeter of a blueberry field in Washington county. Three female flies were found in traps in Ontario county on June 7<sup>th</sup>, in traps at the edge of a blueberry planting adjacent to woods. On June 8<sup>th</sup>, 2 female and 2 male SWD were captured in two separate Scentry-lure baited traps at blueberry and blackberry locations in eastern Long Island. Both of the Long Island traps have woods adjacent to the plantings. It has been reported that SWD adults were also found in Ontario last week.



Blueberry fruit development stage at the farm where the SWD were caught in Suffolk County, Long Island. No signs of infestation nor egg laying were found on fruit. Photo: Faruque Zaman

Growers should encourage pickers to clean up the field from old fruit as much as possible. It would be wise for growers to monitor harvested fruit.

Research by Dr. Anna Wallingford, a post-doctoral associate in Greg's lab, and others is finding that SWD goes into reproductive diapause in the late fall during which time egg laying ceases and overwintering survivability increases. The traps used to catch the Ontario county insects were baited with a fermenting lure that is being researched by a team at Rutgers the State University of New Jersey. This same team has research that is underway, on the female SWD caught in these fermenting lure traps, to

These findings are approximately 1 month earlier than last year, and this is the earliest the AWD has been caught in New York since monitoring began in 2012. The mild winter that occurred in New York, with only one significant cold snap around February 14<sup>th</sup>, may have contributed to early arrival and overwintering success of SWD. Mild winters and early SWD arrival is the typical situation that is now found in Europe with this invasive insect.

The good news is that the blueberry crop is not ripe and the therefore not vulnerable to oviposition at this time. Dr. Faruque Zaman evaluated 200 fruit from the blueberry field in Long Island where SWD adults were found. He found no sign of SWD egg laying or damage on any of the berries.

The bad news is that June bearing strawberries are just beginning their month long harvest season. Still, the overall population of SWD is extremely low so the potential for serious infestation in the strawberry crop is also low.

determine if these early-arrival females are ready to lay eggs.

There is no doubt, the SWD season has begun in New York and it looks as if the 'mild winter early arrival' predictions may prove true.

Source: This report was generated in part by the NYS IPM SWD blog. To subscribe visit: <http://blogs.cornell.edu/swd1/about/>.

**Get ready to protect your crop, find more information on Cornell Fruit Resources:**

[Spotted Wing Drosophila,](#)

[SWD management,](#)

[Insecticide quick reference table for berries](#)



## Identification of Strawberry Leaf Diseases

*Edited from an article first written by Cathy Heidenreich, and published in New York Berry News, Vol. 12(3), March 2013.*

Strawberry leaf diseases are tricky to identify – especially when they are just starting – which of course is when it's best to be able to detect them. This overcast, cool, humid weather favors disease and I've seen plenty of examples over the last few weeks.

**Leaf Spot** caused by the fungus *Mycosphaerella fragariae* is the most common from my perspective. Look for small round purple to reddish spots on upper leaf surfaces. The centers of these spots become light tan to grey to white with age, and have purple to brown borders. The most distinctive feature is that the centers of these lesions may drop out giving the spot a "shot-hole" appearance. Leaf stems, runners, flowers and berry calyx can also develop spots. Infections from spores transferred from old leaf refuse occur during periods of leaf wetness lasting 12 to 96 hours and temperatures between 59 and 68 °F.

The other two leaf 'spot' diseases are **Leaf Scorch**, caused by the fungus *Diplocarpon earliana* and **Leaf Blight**, caused by the fungus *Phomopsis obscurans*.

**Leaf scorch** causes spots of two types: small pinpoint spots in large or small numbers and/or ¼ to ½" diameter blotchy spots. Scorch spots are typically reddish brown and often fuse together. As the disease progresses the leaves brown, wither and curl, becoming "scorched" in appearance. The centers of these spots **do not** become white, brown, or gray, as with leaf spot or leaf blight. Symptoms can also



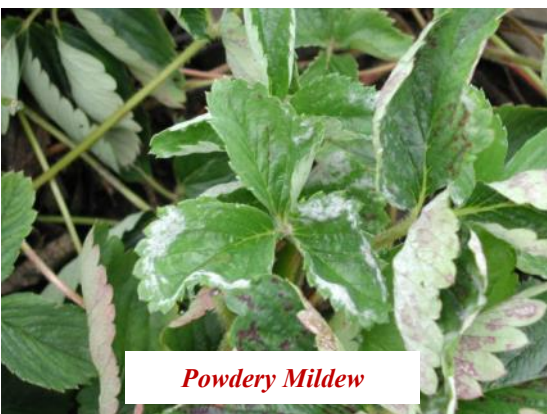
**Leaf Spot**



**Leaf Scorch**



**Leaf Blight**



**Powdery Mildew**

appear on berry calyx, petioles, and flowers. Scorch reduces plant vigor and growth and may even cause plant death in extreme situations of plant stress. Like leaf spot, conditions that favor infection are when spores are splashed from dead leaves on to new leaves by rain or irrigation. Infections occur during periods of leaf wetness lasting 9 hours or more and temperatures between 59 and 86 °F.

**Leaf Blight** lesions are usually slightly larger than the other two leaf spot diseases. The spots are symmetrically circular with wide reddish purple margins and brown centers. I have also frequently seen the V-shaped lesion that is quite common and a good distinguishing trait. We have yet to see *Phomopsis* soft rot on fruit in NYS, but it's common in Ohio so maybe we just haven't sent the right sample in for diagnosis. This disease is favored by a longer period of wetness so it seems more likely that leaf spots would not be caused by *Phomopsis* this spring.

**Powdery Mildew** caused by the fungus *Podosphaera macularis*, may be responsible for most leaf spots this year. Although I haven't seen the tell-tale white powdery patches that typically develop on the upper leaf surface, I've seen several examples of the purple to reddish blotches on the lower leaf surface. Powdery mildew can infect flowers so if you see some hard dry, misshapen fruit, or older fruit that looks seedy – you might have a powdery mildew. Severe infections cause leaf drop. Unlike the leaf spot fungi, powdery mildew does not thrive when there is a lot of rain – which is why this spring has been perfect for it. The disease develops best under humid conditions at 60-80 °F. Powdery mildew does not overwinter on

*continued on next page*

dead tissue – it needs living tissue to stay alive.

### Management of Leaf Diseases

#### Leaf Spot, Leaf Scorch, Leaf Blight

Promote good air circulation by keeping planting weed free. Using row cover to augment or replace overhead irrigation during frost protection will also limit the amount of free water in the planting. Choose varieties that are resistant or tolerant to leaf diseases and clean up dead leaves at renovation. Apply nitrogen fertilizers only after renovation or in the fall to reduce chance of infection.

New plantings or plantings with history of disease: Apply a protectant spray in early spring as new leaves begin to unfold and again before conditions that favorable for disease occur (check product labels for recommended intervals between sprays).

Begin sprays again after renovation to protect new foliage from infection. Thorough coverage is necessary for good control; it is especially important to cover undersides of leaves as well as surfaces.

#### Leaf Spot

Conventional Products: Cabrio EG, Captan 50WP, Captan 4L, Captec 4L, Pristine, Rally 40WSP, or Copper.

Organic Products: Basic Copper 53, Nu-Cop 50DF and 50WP, or Badge X<sub>2</sub>.

#### Leaf Scorch

Conventional Products: Topsin-M 70WSP or copper.

Organic Products: Badge X<sub>2</sub>

#### Leaf Blight

Conventional Products: Agristar Sonoma 40WSP or Rally 40WSP, Topsin-M 70WP, or copper.

Organic Products: Nu-Cop 50DF and 50WP, or Oxidate.

To manage **powdery mildew**, choose varieties that are resistant or tolerant to powdery mildew whenever possible. Infected transplants may be a major source of disease initiation; plant only clean plant material from certified nurseries. Ask your nursery about their powdery mildew management program for transplants. Note the standard practice of removing leaves from transplants during harvest and packing will also help reduce disease in new planting although some powdery mildew may be present on crowns. If New plantings show up with PM, or in plantings with a history of the disease: It is important to begin management at the very first sign and continue applications as long as disease development continues. Effective control of powdery mildew in the fall will reduce disease development in the spring; reduction of powdery mildew development on leaves will also aid in reducing fruit infections.

Conventional Products: Abound, Cabrio EG, Organic JMS Stylet Oil, Pristine, Quintec, Rally 40WSP or Agristar Sonoma 40WSP, Rampart, Topsin 4.5L, Microthiol Disperss or Kumulus DF.

Organic Products: Actinovate-AG, Kaligreen or Milstop, Kumulus DF, Oxidate, or Organic JMS Stylet Oil.

Find the full article at: <http://www.fruit.cornell.edu/berry/ipm/ipmpdfs/strleafdisidmgmt.pdf>

## Peruvian Blueberry Exports Reached a Record in Early 2016



The National Institute of Statistics and Informatics (INEI) stated that, during the first quarter of 2016, blueberry exports from Peru reached a record as they amounted to 22.5 million dollars, 227.7% more than in the same period last year.

Blueberry shipments in the first quarter of each year have been growing rapidly and have amounted to a total of 5,426.7 tons over the last seven years, 69.0% of which was recorded in the current year.

#### Main buyers

In the first quarter of 2016, the fresh blueberries were the most traded variety, mainly to the United States which purchased 2,382 tons (60.9% of the total volume of exported), followed by the Netherlands (20.1%) and the United Kingdom (13.6%). In the same period, Peru exported blueberry juices to Colombia, Panama, Chile, and Puerto Rico.

Currently, the United States and Canada account for more than 50% of the world's blueberry production. In South America, Peru is the fourth largest producer behind Chile, Argentina, and Uruguay.

Source: [larepublica.pe](http://larepublica.pe). Publication date: 6/7/2016

### PESTICIDE UPDATES

The New York State Department of Environmental Conservation recently approved the following 2 (ee) recommendation for unlabeled pest:

**Agri-Mek SC Miticide/Insecticide** (EPA Reg. No. 100-1351) - suppression of Cyclamen mites in strawberries.

To obtain copies of these 2(ee) recommendations, visit the [PIMS](http://www.pims.org) website and search by the product's EPA registration number.



## Exploring Prices and Opportunity

Jesse Strzok, ENYCHP



This summer you may see a new face running around collecting pricing data from farmers' markets in ENY. Lindsey McMahon is a summer intern working on a project we designed to evaluate prices and opportunities to realize greater income. The goal is to provide farmers' market vendors with timely price data summaries and examine regional variations in pricing of products.

Each week we will be travelling to markets and recording price information before aggregating and summarizing for publication. This data can be used by vendors to adjust prices during the season and, hopefully, increase revenue and profit. Keep your eyes out for Lindsey and upcoming price summaries!

For more information contact Jesse Strzok – [js3234@cornell.edu](mailto:js3234@cornell.edu) or Lindsey McMahon – [lm679@cornell.edu](mailto:lm679@cornell.edu).

### Average Weekly Farmers' Market Prices

Week of June, 6 2015

Saratoga and Lake George			Capital Region			Mid-Hudson		
Commodity	Unit	Average Price	Commodity	Unit	Average Price	Commodity	Unit	Average Price
Beefsteak			Beefsteak Tomato	1 lbs	\$ 4.32	Carrots	1 lbs	\$ 2.00
Tomato	1 lbs	\$ 3.95	Beefsteak Tomato			Cherry Tomato	Pint	\$ 5.00
Red Potato NC	3 lbs	\$ 4.00	NC	1 lbs	\$ 5.00	Heirloom Tomato	1 lbs	\$ 3.75
			Carrots	1 lbs	\$ 3.00	Red Potato	3 lbs	\$ 3.75
Russet Potato NC	3 lbs	\$ 4.00	Cherry			Russet Potatoes	3 lbs	\$ 3.75
Salad Mix (mesclun) NC	1/2 lbs	\$ 5.00	Tomatoes NC	Pint	\$ 4.83	Salad Mix (mesclun)	1/2 lbs	\$ 2.50
Salad Mix (spring) NC	1/2 lbs	\$ 6.00	Salad Mix (mesclun)	1/2 lbs	\$ 7.00	Salad Mix (mesclun) NC	lbs	\$ 6.86
<b>Strawberries</b>	<b>Pint</b>	<b>\$ 5.00</b>	Salad Mix (mesclun) NC	1/2 lbs	\$ 5.56	Shelled Peas	Pint	\$ 4.51
<b>Strawberries NC</b>	<b>Pint</b>	<b>\$ 6.00</b>	Shelled Peas	Pint	\$ 2.50	Shelled Peas NC	Pint	\$ 2.50
Yellow Potato	3 lbs	\$ 4.00	<b>Strawberries</b>	<b>Pint</b>	<b>\$ 4.10</b>	<b>Strawberries</b>	<b>Pint</b>	<b>\$ 4.33</b>
			<b>Strawberries NC</b>	<b>Pint</b>	<b>\$ 4.50</b>	<b>Strawberries NC</b>	<b>Pint</b>	<b>\$ 5.60</b>
Yellow Potato NC	3 lbs	\$ 4.00	Sugar Snap Peas	Pint	\$ 3.34	Sugar Snap Peas		
			Sugar Snap Peas NC	Pint	\$ 4.00	NC	Pint	\$ 5.00
						Yellow Potato	3 lbs	\$ 3.75

NC = non-conventional

### Haskap Berry Project

#### and General Berry Site Selection Workshop

Come join Jim O'Connell and Laura McDermott of the Cornell Cooperative Extension Eastern NY Berry Team at **Christopher Jacobs Winery at Pennings Vineyards, on June 22, 2016, at 4:00pm** where they will present the preliminary results from the Haskap berry trial.

Chris and Monica Pennings, will act as hosts as they are the owners of **Christopher Jacobs Winery at Pennings Vineyards, 326 Crawford Street, Pine Bush NY**, which was one of four sites selected for this trial. Plants were evaluated for how well they grow in Hudson Valley conditions, including their winter hardiness. Although there are no fruit available to sample, growers can come learn about some of the history of Haskaps, some of the health benefits associated with this fruit, and how the plants have responded thus far to Hudson Valley growing conditions. In addition to learning about Haskaps, growers will also learn about general site selection for berry crops. While Monica and Chris Pennings grow mostly grapes, they have expressed interest in expanding into berry crops.



## 2016 Weekly and Seasonal Weather Information

	Growing Degree Information Base 50° F			Rainfall Accumulations		
Site	2016 Weekly Total 6/6-6/13	2016 Season Total 3/1-6/13	2015 Season Total 3/1-6/13	2016 Weekly Rainfall (inches) 6/1-6/13	2016 Total Rainfall (inches) 3/1-6/13	2015 Total Rainfall (inches) 3/1-6/13
Albany	73.1	616.2	742.0	0.66	6.74	8.73
Castleton	74.1	590.2	708.7	0.76	9.74	7.7
Glens Falls	70.4	525.1	604.5	0.36	8.27	9.67
Griffiss	45.6	461.3	559.5	1.06	12.32	15.32
Guilderland	63.0	547.5	653.5	0.78	11.82	14.23
Highland	93.2	688.5	765.8	0.46	11.55	13.14
Hudson	81.4	653.2	767.5	0.83	11.29	12.06
Marlboro	85.0	636.2	711.4	0.31	8.07	10.1
Montgomery	93.6	631.7	735.5	0.13	7.26	10.81
Peru	46.2	459.7	550.2	0.05	6.51	10.3
Red Hook	85.9	628.3	715.6	0.54	7.18	8.01
Willsboro	51.3	455.3	530.6	0.37	7.23	11.91
N. Adams, MA	56.5	453.7	539.5	0.74	10.32	9.9

## Upcoming Events

**June 22 - Haskap (Honeyberry) Production Workshop** – See article in the newsletter for more information. But register here to attend.

**July 20 – Cornell Fruit Field Day**, NYSAES, Geneva, NY. Will spotlight work being conducted on all tree fruit and small fruit crops, grapes, and hops and will feature plot visits and presentations. A trade and equipment show will also be available. To register, <https://app.certain.com/profile/web/index.cfm?PKwebID=0x831574809f&varPage=home>

**August 13-17 – International Strawberry Symposium** in Quebec, Canada. <http://www.iss2016-quebec.org/> This meeting is research oriented, but it might be a once in a lifetime kind of event. Follow it up with a much more farmer appropriate educational event below.

**August 17-18 – North American Strawberry Growers Summer Tour**, Quebec, Canada. Several years ago Laura attended this event in the greater Montreal area. It was a FANTASTIC opportunity and I would strongly encourage growers to try and make time. Bring a spouse or partner and have some fun! <http://www.nasga.org/>

## ENYCH Program Educators:

### Fruit

Dan Donahue  
Phone: 845-691-7117  
Email: [djd13@cornell.edu](mailto:djd13@cornell.edu)  
Tree Fruit

Anna Wallis  
Phone: 443-421-7970  
Email: [aew232@cornell.edu](mailto:aew232@cornell.edu)  
Tree Fruit & Grapes

Laura McDermott  
Cell: 518-791-5038  
Email: [lmg4@cornell.edu](mailto:lmg4@cornell.edu)  
Berries

James O'Connell  
Phone: 845-691-7117  
Email: [jmo98@cornell.edu](mailto:jmo98@cornell.edu)  
Berries & Grapes

### Vegetables

Chuck Bornt  
Cell: 518-859-6213  
Email: [cdb13@cornell.edu](mailto:cdb13@cornell.edu)

Amy Ivy  
Phone: 518-561-7450  
Email: [adi2@cornell.edu](mailto:adi2@cornell.edu)

Teresa Rusinek  
Phone: 845-340-3990 x315  
Email: [tr28@cornell.edu](mailto:tr28@cornell.edu)

Erik Schellenberg  
Phone: 845-344-1234  
Email: [js3234@cornell.edu](mailto:js3234@cornell.edu)

Crystal Stewart  
Cell: 518-775-0018  
Email: [cls263@cornell.edu](mailto:cls263@cornell.edu)

Maire Ullrich  
Phone: 845-344-1234  
Email: [mru2@cornell.edu](mailto:mru2@cornell.edu)

### Business and Economics

Jesse Strzok  
Phone: 518-429-1464  
Email: [js3234@cornell.edu](mailto:js3234@cornell.edu)



Find us on  
**Facebook**