

# **The Vegetable & Small Fruit Gazette**

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## Schedule for Articles

September – Emelie Swackhamer	October – Lee Young
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## Quote for Thought from Pete Ferretti

When people are bored, it is primarily with their own selves.

*~Eric Hoffer from The Harper Book of Quotations*

# Promote Safe Food Preservation Practices

[Emelie Swackhamer](#), Horticulture Extension Educator, Lehigh and Northampton Counties

A lot of people are interested in home food preservation this year. We have noticed an increase in the number of home gardens, an increased demand for community garden plots and an increase in people looking to buy and preserve local food.

Your customers may be asking for instructions on how to preserve tomatoes, peaches, sweet corn and the other crops you grow and sell. There are a lot of untested recipes and practices out there that could lead to unsafe results. If you are trying to be helpful by sharing recipes and preservation ideas with your customers, make sure you are giving them research-based information to avoid food safety problems.

One of our local farms is handing out copies of Penn State's 'Lets Preserve' series at their farm stand. This series consists of fourteen fact sheets with scientifically tested recipes and instructions on how people can safely preserve food. Included are apples, blueberries, cherries, fruit pie fillings, jellies, jams and spreads, peaches, apricots, nectarines, pears, peppers, quick process pickles, sauerkraut, snap beans, strawberries, sweet corn and tomatoes. The whole series can be found on the web at [http://foodsafety.psu.edu/lets\\_preserve.html](http://foodsafety.psu.edu/lets_preserve.html), or call your county's Extension office to request a free copy. You can make copies of the original and give them to your customers.

# Tomatoes Infected with Late Blight – Are They Safe to Can or Eat Fresh?

Luke LaBorde, Associate Professor, Penn State Food Science

There have been many calls from gardeners who are concerned about the safety of eating or processing tomatoes infected with late blight. USDA recommends that canners select only disease-free, preferably vine-ripened, firm tomatoes for canning. The reason for this recommendation is that fungus infection may decrease the acidity of tomato flesh to levels that make it unsafe for canning. This applies even to tomatoes with only minor lesions since we cannot be sure that the infection has not spread to the interior of the fruit and the extent of internal infection is not always clearly visible.

It's probably best not to eat tomatoes that show signs of late blight infection. The plant disease organism by itself is not harmful to consume. But the tissue damage and rise in pH (decrease in acidity) that occurs can create conditions that promote the growth of other potentially harmful microorganisms. They probably don't taste very good either.

You can eat or can un-blemished tomatoes growing on plants with leaves, stems, or adjacent fruit that show signs of infection. But these tomatoes are at a higher risk for developing late blight lesions after they are harvested. Make sure to eat or process these tomatoes as soon as possible after harvesting. When ripening green tomatoes on the kitchen counter, regularly check them for signs of disease.

For more information on late blight disease, contact your local Cooperative Extension office.

## **Reminder – Blueberry IPM Workshop, Berks Co., Sept. 21, 2009**

[Kathy Demchak](#), Penn State Horticulture

Don't forget – if you're interested in attending the blueberry IPM workshop at Perry Acres (George Perry's farm, 33 Perry Lane, Hamburg, PA), please register by calling the Schuylkill County Extension office at 570-622-4225 by 4:30 p.m. on September 17th. Personnel from Rutgers University and Atlantic Blueberry Company will share their expertise and experiences on blueberry insect ID and scouting with us. This workshop runs from 1:00 p.m. to 4:45 p.m., and is free with costs defrayed by NE-SARE project LNE08-273. Andy Beck, Schuylkill County Extension Educator, has applied for category pesticide credits. Additional details and directions to the workshop are in the August Vegetable Gazette. Can't find your copy? It's also on-line at <http://horticulture.psu.edu/cms/veg crops/files/gazetteAug2009.pdf>. If you don't have Internet access, your local Extension office should be able to access this article.

## Learn the Latest on Berry Growing

*Experts to share cutting-edge practices through free web seminars starting September 9*

Laura McDermott, Cornell University

Northeast berry growers can learn about the latest production techniques and integrated pest management practices from university experts in a series of online web seminars this fall and winter. The first of the dozen interactive, hour-long ‘webinars’ is scheduled for September 9, 2009 and will focus on growing strawberries on plastic and in high tunnels. The berry IPM webinar series is hosted by the Cornell University Department of Horticulture and funded by the Northeastern Integrated Pest Management Center. The webinars are free, and participation is easy for anyone with a web browser and a high-speed internet connection. (Pre-registration is required.) If you can’t participate from your home or office computer, group viewings are being organized at selected extension offices and other sites across the northeast region. Webinars will be recorded and archived for later viewing. (Note: as of this issue’s release, no PA sites have been identified for group viewing. We’ll announce any sites in future newsletters should they become available – Kathy Demchak). Webinar speakers will make their presentations live, and respond to questions and comments that participants type into an online chat box.

The webcasts are divided into 3 mini series focusing on major berry crops: strawberries, brambles, and blueberries/cranberries. Four presentations on each crop group comprise a mini series.

“Alternative Production Methods for Strawberries”, will kick off the strawberry mini series when it airs live September 9th, 2009 at 12:45 PM. Featured speakers for this webcast are Dr. Lewis Jett, West Virginia State University, and Ms. Kathy Demchak, Penn State University. Dr. Jett will be speaking on growing strawberries in high tunnels. Ms. Demchak will be speaking on northeast approaches to growing strawberries on plastic.

Tuesday, September 22nd, 2009 will be the 2nd webcast in the strawberry series, also airing at 12:45 PM. Dr. Greg Loeb, Cornell University, will speak about managing strawberry sap beetle and tarnished plant bug; Dr. Richard Cowles, University of Connecticut, will help growers better understand strawberry vine weevil and its management.

Wednesday October 7th, 2009, 12:45 PM. Dr. Michael Ellis, Ohio State University, will speak on managing strawberry root diseases; Dr. David Gadoury, Cornell University will speak on strawberry powdery mildew management.

Friday October 30th, 2009, 12:45 PM. Dr. Robin Bellinder, Cornell University, will give an overview of strawberry weed management products; Dr. Marvin Pritts, Cornell University, will speak on cultural approaches to strawberry weed management.

There is no charge for webcast participation, but registration is required. Email with URL connection details is only sent to people who have registered. Connection details are sent about two days before the webinars. Please be connected by 12:45 PM. Connections for each webcast are limited to 70 participants so register now by contacting Laura McDermott, [lgm4@cornell.edu](mailto:lgm4@cornell.edu) or calling 518-746-2562. Check the web site for additional program and group viewing location details: [www.fruit.cornell.edu/webinar](http://www.fruit.cornell.edu/webinar).

# Late Season Strawberry Care – Including Foliar Disease Management

Kathy Demchak, Penn State Horticulture

This is the time of year when your strawberry plants are initiating flower buds for next year's crop. So, anything you can do take care of your plants now will help to increase next year's yields. Failure to take care of them now could set the stage for poor yields next year. So, what do we need to do? 1) Make sure the plants have adequate water (1-2" per week). 2) Make sure the plants have sufficient nitrogen (20 to 30 pounds applied during the mid-August to mid-September time frame, or slightly more on sandy soils). If you've experienced a lot of rain since renovation, you may want to apply the nitrogen a bit earlier than usual, especially if plants are light green and are not growing as fast as usual. Nitrogen you applied at renovation may have been washed through the soil, especially if it was in a nitrate form. 3) Keep an eye out for foliar diseases (as you've probably noticed, there are a lot of them out there this year), and apply an effective fungicide for any fungal diseases. Injured leaves = less photosynthesis = less food for flower buds and healthy root growth, and a lot of inoculum overwintering can damage your plants, including fruit, next year. The trick is correctly identifying which leaf disease(s) you have, and knowing whether any the symptoms you are seeing are caused by fungi or bacteria. Fungicides only work on diseases caused by fungi. So... here's a description of leaf diseases I'm seeing most frequently this year, in order from most common to least common, at least for 2009...

**Leaf scorch:** Spots on leaves start out circular and dark red to purple. Eventually the center may turn brown, spots may coalesce, and entire leaves and become affected and die, given the whole plant a scorched appearance. Some common fungicides are effective against this disease, which can be easily confused with angular leaf spot, on which fungicides will have no effect.

**Angular leaf spot:** At first, light green "windowpanes" between the veins show up on the leaf when it is held up to the light. From the top, these areas may have a blackened appearance at first. Later on, as affected areas enlarge and coalesce, the leaves may develop a reddish tinge, with leaf tissue eventually dying and turning brown. This disease (along with gray mold) was responsible for a lot of caps on the fruit turning brown or black this past spring. Fungicides don't affect this disease, but copper can help (see cautions below). Since leaf scorch and angular leaf spot are easily confused, here are some photos to help tell the difference. These photos are of the same two leaves, held differently so sunlight either shines down on them, or through them. The primary disease affecting the leaf on the left is leaf scorch, and the one on the right, angular leaf spot. In the first one, where sunlight is shining down on the leaves, the leaves appear very similar. In the second photo, where leaves are held up so that sunlight shines through the leaf, you can see that light does not shine through the leaves with leaf scorch on the left, but the "windowpane" effect of angular leaf spot can be clearly seen in the leaf on the right. Note that in these two leaves, there is some of each disease present on each leaf, but the disease causing most of the spots is different.



Leaf scorch (left) and angular leaf spot (right) when viewed with light shining down on the leaves.



Leaf scorch (left) and angular leaf spot (right) when held up to the light. The same two leaves appear in each photo.

**Powdery mildew:** Usually the first symptom noticed is leaf curling, where leaves fold inward along their length. There may be a purple tinge to the leaves. White powdery growth on the upper leaf surface may or may not be seen, but if you look at the leaves under magnification, as with a 16x hand lens, you may be able to see the growth of fungal mycelia on either leaf surface. On the leaf undersides, be careful not to confuse strawberry leaf hairs (they're straighter and thicker) with the mycelia.

**Phomopsis leaf blight:** As lesions grow, they form a V-shape, with the wide portion of the “V” at the leaf’s edge.

**Common leaf spot:** I’m seeing less of this all the time - most of today’s common strawberry varieties have resistance. Spots are small (1/8 to 1/4 inch across), and develop white to gray centers which may fall out.

Once you’ve figured out which disease(s) you have, how do you treat them? First, any cultural controls that improve air circulation will help greatly. Keep rows narrowed, and keep plantings weeded. As a general rule of thumb, Nova and Pristine work well on any of the above diseases except for angular leaf spot – just be sure to tank-mix or alternate chemistries, such as with Captan, as both are susceptible to resistance development. Captan or Captevate work quite well on leaf scorch, common leaf spot, and phomopsis leaf blight, but not powdery mildew or angular leaf spot. Copper helps with angular leaf spot, but phytotoxicity is a concern, so follow precautions on the package and discontinue use if phytotoxicity appears. For more info on these diseases and their biology, efficacy ratings, and management options, see the most recent version of the Mid-Atlantic Berry Guide.

# New Invasive Pest Threatens Corn Growers in Pennsylvania

Kristie Auman-Bauer, PA IPM Program

A new invasive pest recently found in Pennsylvania could mean serious losses to corn growers in the state.

Western bean cutworm (WBC) was first trapped in July 2009 in Erie and Lycoming counties and has also been found recently in low numbers in Forest, Clarion, Washington, Franklin, and Tioga counties, says John Tooker, assistant professor of entomology at Penn State. "WBC has historically been a pest of corn and dry beans in Great Plains states, but in recent years it has been expanding its range eastward for some unknown reason. This is the first time we've captured WBC in Pennsylvania," explains Tooker.

In response to the threat of this invasive pest, 30 pheromone traps were placed across the state in a joint effort of Penn State Cooperative Extension and the Pennsylvania Department of Agriculture. Pheromones are chemicals produced by insects to communicate with other individuals of their species. Pheromone traps can be used by growers to determine the status of pest populations in the field.

According to Tooker, WBC is an important pest of field and sweet corn as well as dried bean crops. "A heavily infested corn field might have several caterpillars per ear, reducing yields by 30 to 40 percent, so it has the potential to be a severe pest. They have one generation a year and adults are typically active in July, when the adult female moths lay eggs on the upper leaves of corn," he explains. "The larvae emerge, feeding on pollen, tassel, and silk tissue on their way to the ear where they feed on developing kernels. Once the pest enters the ear, they are protected from any insecticidal treatment, so it will be important for growers to monitor what is happening in their fields and time management tactics accordingly."

Because WBC has just been discovered in PA, it may take three to four years for populations to grow and cause serious damage. In the coming years, Tooker plans to expand the trapping program and collect data on where and when WBC is active to help determine the best way to manage the pest. "We can also look to other states to see how they are managing WBC. There are a number of different insecticides that will help; however, treating with insecticides may involve additional expenses because July corn tends to be pretty tall, requiring specialized equipment," says Tooker. "Growers will also have the option of using transgenic technology to combat WBC. Corn varieties with the Bt toxin Cry1F have insecticidal activity against the caterpillars, but growers need to keep in mind that Bt seed is more expensive because they are paying a premium for the new technology."

The pheromone trapping project is a joint effort of Penn State Cooperative Extension, Penn State Department of Entomology, the Crop Management Extension Group (CMEG), and the Pennsylvania Department of Agriculture. Funding for the WBC trapping network was provided in part by Penn State's College of Agricultural Sciences and the Pennsylvania Vegetable Growers Association.

For more information on the cutworm or trapping project, go to <http://ento.psu.edu/extension/field-crops/corn/western-bean-cutworm>. You can also contact Tooker at (814) 865-1895 or email at [jft11@psu.edu](mailto:jft11@psu.edu).

## Upcoming Meetings

If you have a meeting you would like to announce, please send the meeting title, date, location and contact information to [esanchez@psu.edu](mailto:esanchez@psu.edu).

### Local

- September 9, 2009; 6:30 pm. **Potato Twilight meeting**, Flint Hill Farm, Reservoir and Church Road, Germansville, PA. For more information contact Bob Leiby at (610) 391-9840 or [rel5@psu.edu](mailto:rel5@psu.edu).
- November 2009 (tentative date) **Western Pennsylvania Vegetable & Berry Seminar**, Butler, PA. For more information contact Eric Oesterling at (724) 837-1402 or [reol@psu.edu](mailto:reol@psu.edu) or Lee Young at (724) 228-6881 or [ljs32@psu.edu](mailto:ljs32@psu.edu).

### Regional

- October 16-17, 2009. **Fall Flower & Garden Fest**, 9 a.m. to 2 p.m., at Truck Crops Experiment Station, Crystal Springs, Mississippi. Free admission and parking. For more information: <http://msucares.com/fallfest> or 601.892.3731  
contact: Dr. Rick Snyder, Professor & Extension Vegetable Specialist
- November 8-10, 2009. **Southeast Strawberry Expo**, Sheraton Imperial Hotel, Research Triangle Park, NC. For information, contact the NC Strawberry Association, phone 919-542-4037, [info@ncstrawberry.com](mailto:info@ncstrawberry.com).
- January 12-14, 2010. **2010 Atlantic Coast Agriculture Convention and Trade Show** at the Taj Mahal in Atlantic City. For more information contact Mel Henniger at <mailto:henniger@aesop.rutgers.edu>
- February 2-4, 2010. **Mid-Atlantic Fruit and Vegetable Convention**, Hershey Lodge, Hershey, PA. For more information visit <http://www.mafvc.org/html/>.

### National

- None listed at this time.

### International

- None listed at this time.

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The newsletter is also posted within three days on the Department of Horticulture Vegetable program website at: <http://horticulture.psu.edu/cms/veg crops>.

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