

VegNet *The Vegetable and Fruit Crops Teams Newsletter*

<http://vegnet.osu.edu>

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Managing Downy Mildew on Pumpkins in Southern OH, KY, and IL

from Sally Miller, Professor, The Ohio State University, Department of Plant Pathology

Downy mildew was found on pumpkins last week in Scioto County, OH. There have also been reports of pumpkin downy mildew in Kentucky and Illinois. Downy mildew can be quite severe on pumpkin leaves. Look for the angular brown lesions on the leaves. We found a great deal of the fuzzy look (sporulation) of the pathogen on the underside of these leaves. Downy mildew is managed using fungicides such as Ranman plus Bravo, alternated with Zing or another downy mildew product; products should be applied weekly. As the summer winds down and cooler weather, with heavy morning dews, becomes common, we can expect downy mildew to ramp up. Sporangia of the downy mildew pathogen move from plant to plant through the air. They do not survive well on sunny days, but can move for long distances under overcast skies. It is important to keep downy mildew to a minimum on all types of cucurbits – not only to protect yield, but to prevent spread of the disease to other fields – near and far.



A. Small angular lesions of downy mildew on a pumpkin leaf.

2015 Upcoming Events

September 22-24

Farm Science Review, London Ohio For full details go to fsr.osu.edu

January 18-20

OPGMA Congress, Sandusky, Ohio For full details go to www.opgma.org

October-December

First Friday Hops Tours in Piketon and Wooster, Ohio For full details see page 12

To list your upcoming events in future additions of the VegNet newsletter, please send details to bergeford.1@osu.edu

On-farm testing of microbial products

from Julie Laudick, Graduate Researcher, Environmental Science Graduate Program, Zheng Wang, Postdoctoral Researcher, Department of Horticulture and Crop Science, The Ohio State University, and Matt Kleinhenz, Department of Horticulture and Crop Science

We continue to evaluate commercially available microbial products alongside Ohio vegetable growers. One experiment involving broccoli and different organic fertilizers was started in July while other experiments on farms and at the OARDC in Wooster involve tomatoes. Find out more about these experiments at:

<http://organicfarmingresearchnetwork.org.ohio-state.edu>



A. Broccoli transplants inoculated in July on a farm in Northwest Ohio

B. First harvest of tomatoes treated with microbial inoculants on a farm in Northeast Ohio

Photos by Julie Laudick

Ottawa, Sandusky, Seneca & Wood County Vegetable Update

from Michael Netz, Vegetable & Field Crop Specialist, Widmer & Associates, Ltd., Gibsonburg, Ohio

The area has had its weather challenges in the last couple of weeks. Two weeks ago the area had daytime temperatures in the 60s with nighttime temperatures in the 50s. The cucurbit crops did not like these temperatures, and other crops that needed to mature and ripen did so slowly. This last week we had daytime temperatures between 85-90 degrees with night time temperatures in the 70s. It was very humid too! This brought numerous thunder storms into the area, rainfall received was from ½" to 3", and some areas had some hail as well.

Processing tomatoes

Yields have been very low in most growers' fields. The early rains caused plants to lose roots and stop growing. Then when conditions improved, plants began to grow again. Now we are trying to harvest split sets of fruit, and the fruit is either really ripe or green. Area processors have had a hard time receiving enough tomatoes to keep their factories open during the week. Most weekends the processing plants have been closed. Right now we should be in the peak or glut of the season in a normal year!

Peppers

The early sets of banana and jalapeno fruit have now been mostly picked. The plants are growing and setting new small fruit sets.

Bell peppers are looking very good and growers are mostly on their 3rd picking. Plants are continuing to set new small fruit. Time will tell if the weather will cooperate and allow these late sets to develop in size and get harvested.

Cucumbers and late planted pickles

Growth of runners and fruit setting slowed down dramatically during the cool week, this has slowed down harvest. The frequent rains and heavy dews are causing a lot of foliar disease. The main disease is angular leaf spot. Additionally, we are also seeing gummy stem blight and anthracnose.



Wayne County IPM Program: Scouting Summary

From Rory Lewandowski, Extension Educator, Agriculture and Natural Resources, The Ohio State University, Wayne County

This is the final report from the Wayne County Extension IPM scouting program for the 2015 growing season.

Fruit:

Some early apple varieties are being harvested. This past week, codling moth trap numbers declined slightly but growers need to alert to possible damage from codling moth larvae on later maturing apple varieties. Other insect pests noted on scouting reports this last week of scouting include green apple aphids and European red mites. As apple varieties near harvest, growers need to be vigilant about reading labels and watching pre-harvest intervals if they need to treat for codling moths or any other insect pest. Disease-wise, most growers have done an excellent job of keeping up and maintaining fungicide spray programs and scouts are noting very little disease.

Most early and mid-season peaches have been or are being harvested. Spotted wing drosophila (SWD) have been captured in traps placed in peach orchards, with counts as high as 80+ in one trap. Later maturing peaches may be at risk from SWD.

In small fruit, spotted wing drosophila (SWD) trap capture numbers have been increasing in control traps placed near wild fruit that is not being treated with insecticides. These traps have captured more than 400 SWD this past week. Some red raspberry and grape traps also contained some very high numbers of SWD this past week. Growers need to remain diligent in maintaining a consistent spray program and in making sure that coverage is from the top to the bottom of the plants and penetrating into the canopy of the plants.

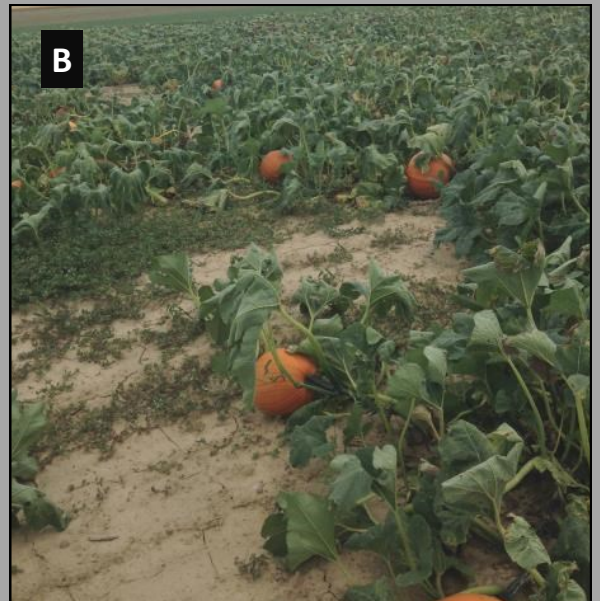
Vegetables:

Continued lack of rainfall is causing a lot of moisture stress, especially in larger fields without irrigation or in any smaller plantings without irrigation.

Tomatoes harvest continues. Due to the dry weather, blossom end rot is being seen more frequently by scouts in field grown tomatoes. Scouts continued to find tomatoes with stink bug stings in both field and high tunnel production tomatoes. Aphids are being seen in some high tunnels as well. This past week 2-spotted spider mites at treatment threshold levels were found in some high tunnel tomatoes.

Cole crops planted for fall harvest continue to have pressure from imported cabbage worm with many plantings above treatment threshold levels. Zebra caterpillars were found in several fields this past week doing localized feeding damage.

Depending upon the planting date, vine crops range from bloom to harvest. *(article continued on the next page)*



Wayne County IPM Program: Scouting Summary Continued...

This past week scouts noted wilting leaves and dying leaves in pumpkin and squash fields that are not irrigated. The combination of moisture stress and earlier disease damage, particularly from anthracnose is responsible for this collapse. There are a lot of cucumbers, summer squash, zucchini, and melons (cantaloupe and watermelon) currently being harvested. Powdery mildew is being found by scouts in virtually every planting and growers are being advised on maintaining a fungicide spray program to minimize damage from this disease. Cucumber beetles continue to be present and some damage by cucumber beetles chewing on the rinds and stem handles of squash were noted by scouts. Some fields had localized heavy infestation of squash bugs.

Eggplant and pepper fruit are being harvested. Scouts noted moisture stress on plants in a number of fields. Sunscald is being noted on both crops by scouts on a frequent basis. Many of those sun scalded fruit are developing secondary botrytis infections. Anthracnose has been found on both leaves and fruit. In peppers, some growers are treating for European corn borer (ECB) larvae to prevent damage, and ECB moth numbers in pheromone traps averaged 16/week, so growers do need to be treating to prevent damage. Stink bug stings have been noted on fruit by scouts along with the presence of aphids.

Green snap beans range from in bloom to harvest. Scouts have not noted any disease problems in green beans. Insects that are present include bean leaf beetle, grasshoppers, Japanese beetles and aphids.

Sweet corn ranges from plants at V-8 to harvest. Corn earworm trap numbers started to increase this past week. Trap captures ranged from 0 to 8. This may be an indication that the population is starting to increase and growers will need to protect corn at green silk with a shorter interval spray program. European corn borer moth captures ranged from 0 to 2 at 3 locations. Scouts noted some light damage to ears from European corn borer larvae and some light flea beetle damage was noted in some plantings by scouts this past week. Northern corn leaf blight was noted on the lower leaves of some plantings. Much of the sweet corn, if not irrigated, is showing drought stress. Bird and raccoon damage was noted in some plantings by scouts.

Potato harvest is underway or completed in most fields.



- A. Preparing for apple harvest
- B. Leaves wilting due to dry conditions in pumpkin field
- C. Squash and pumpkin field dying down
- D. Combination of disease and dry weather causing dying back of pumpkin field

Photos by Art Sigler & Chris Smedley

Southern Ohio Vegetable and Fruit Update

from Brad Bergefurd, Extension Educator, Agriculture and Natural Resources, The Ohio State University, Scioto County & South Centers

Vegetable & Fruit Field report

The two-week rainfall total for the area has been less than two inches for most areas allowing growers to perform timely field and harvest activities. Field operations include pie and jack-o'-lantern pumpkin harvest, winter squash harvest, burn-down herbicide spraying, fungicide and insecticide applications, cultivation, planting, ground preparation and harvest of hops, harvest of apples, peaches, and all vegetable crops. High tunnels are being prepared for fall and winter plantings. Downy Mildew continues to be reported on southern Ohio pumpkin, melon and squash crops. Tight fungicide spray schedules are being applied on tree fruit, small fruit, hops, vegetables, melons, and grapes. Scouting and trapping for insects and disease continue. Nutrient deficiencies continue to be reported on hops and late sweet corn plantings where Nitrogen leached after heavy rainfall events. Black rot continues to be reported on grapes. Fields are being prepared to begin garlic planting next month. Transplanting of the plasticulture strawberry crop will be complete the week of September 7th. Planting of new hop fields continues.

Harvest

Harvest is in full swing for all produce and specialty crops, including hops, pie pumpkins, jack-o'-lantern pumpkins, fall squash, red raspberries, late season blueberries, sweet corn, cantaloupe, watermelon, field and high tunnel tomatoes, green beans, half runner beans, potatoes, sweet potatoes, zucchini, yellow squash, cucumbers, pickles, cabbage, Brussels sprouts, broccoli, radishes, greens, lettuce, hot and bell peppers, apples, peaches, and day-neutral strawberries. The season's wet weather has caused continued harvest gaps for sweet corn, summer squash, cucumber, pickle and green bean crops with increased demand from retail farm markets and continued spike in wholesale prices. Growers south of I-70 are reporting early jack-o'-lantern pumpkin harvests ranging from total crop losses to 70% of a crop. *(article continued on the next page)*



Southern Ohio Vegetable and Fruit Update continued...

Fruit size seems to be reduced some on these early harvests and there is a split set on early plantings, probably due to high rainfall amounts during the main bloom, making harvest difficult. The market demand for the early pumpkin harvest has been strong.

Hops

The hop harvest is almost complete for farms south of I-70. Four mechanical harvesters are being operated throughout the state by the Ohio Hop Growers Guild members. This has sped up harvest dramatically this season. Great yields, quality, higher prices, and great brewer demand are being reported. Virus, spider mites, *Alternaria* cone disorder and downy mildew continue to be reported. Hop growers continue to prepare new hop fields for fall planting which will continue through early October, weather dependent. Field operations include deep tillage, deep incorporation of lime and fertilizer, pulling up beds, applying herbicide, laying fabric mulch and drip irrigation, seeding cover crops, soil testing and building high trellis systems.

Strawberry

The last of the plasticulture strawberry fields will be transplanted in southern Ohio the week of September 7th. Plant quality has been great and consistent. Some suspected herbicide damage has been reported by one farm in Highland County. Day-neutral strawberry harvest has slowed with the high temperatures, but a light harvest continues with one of the best summer crops ever being reported, with the cool summer growing conditions. *(article continued on the next page)*



Southern Ohio Vegetable and Fruit Update continued...



- A. Processing tomato harvest is in full swing in northern Ohio
- B. & C. Bedding and laying plastic for plasticulture strawberries finished up the week of August 15
- D. & E. SE Ohio is under drought conditions requiring irrigation of late sweet corn
- F. Fields are being prepared and new hop plantings will be made into October
- G. & H. Hops harvest is winding down throughout Ohio
- I. Fields are being prepared and new hop plantings will be made into October

Photos by Brad Bergefurd, Welch Farms, Witten Farms, Hirzel Farms, Barn Talk Hops, Little Miami Farms, & Ohio Valley Hops

Muskmelon Trap Crop Research Underway at OARDC

from Chelsea Smith, Research Assistant, The Ohio State University & Dr. Mary Gardiner, Associate Professor, Department of Entomology, The Ohio State University

In collaboration with Dr. Sally Miller and Dr. Celeste Welty's labs, we have spent much of the summer researching the effectiveness of trap cropping in a cucurbit system. Trap cropping is a method that uses a planting to attract target insect pests away from market crops. The goal of this type of companion planting is to decrease insecticides applied to the crop and decrease insect pest damage. To test the effectiveness of this method, we selected muskmelons as the market crop and squash as the trap crop on a large scale (200 ft rows). We are hoping that the squash planting can effectively attract striped and spotted cucumber beetles away from the muskmelons. Cucumber beetles are a serious pest in cucurbit systems. They feed on the foliage and fruits, in addition to spreading bacterial wilt which can devastate a crop. Currently, many growers use pesticides heavily to protect their crop. Following the conclusion of this field season we hope to find out if our particular trap crop design will work on commercial musk melon farms. Harvest of our trap crop study is almost completed at OARDC. Between the four fields planted, we harvested more than 2,500 marketable melons on September 3rd. It was our third harvest of the research plots and we have one more to go!



- A. Striped cucumber beetles on squash flower
 - B. Melon planting (left) and trap crop (squash) planting (right)
 - C. Farm crew and lab members planting the fields at OARDC
 - D. The harvest from a control field (no trap crop) waiting to be sorted into "Marketable" and "Unmarketable" categories
- Photos by Chelsea Smith**

Beware: worms threatening late sweet corn

From Celeste Welty, Associate Professor of Entomology, The Ohio State University & Jim Jasinski, Associate Professor, The Ohio State University

Corn earworm moths began arriving in Ohio two weeks ago, and are a threat to late sweet corn as well as peppers. This is a typical pattern of activity, as the moths migrate from the southern USA, but their arrival is about 2 weeks later than in most years. Moths have been at high density (>90 moths per pheromone trap per week) in Clark County, and at moderate density (6-90 moths/trap) in Franklin, Medina, Huron Counties.

Control of earworm with insecticides during the silking period involves choosing an insecticide and a spray interval. Remember that corn earworm populations have become less susceptible to pyrethroids such as Warrior in recent years; pyrethroids at the maximum rate have worked adequately when earworm populations are low, but not when populations are high. Among the pyrethroids, the pre-mix Hero is working better than single pyrethroids. Alternatives to pyrethroids are Coragen (chlorantraniliprole) as well as Radiant (spinetoram), Blackhawk (spinosad), and Belt (flubendiamide). The best spray interval varies from every 2 days to every 5 days depending on the moth population density and temperature. At sites with moderate density and with the current hot temperatures, a 3-day spray schedule is recommended. A chart with spray interval recommendations is available at this link: <http://u.osu.edu/pestmanagement/files/2014/12/CornTrapInstructions2009-uepefy.pdf>

Fall armyworm is also currently active in Ohio, and is being found in our late sweet corn plots in Clark County. Fall armyworm moths are also reported from Huron and Franklin Counties. This pest usually begins infestation in whorl stage corn then moves into ears. It can also cause significant damage to peppers and tomatoes.

Trap counts are posted on a website: <http://u.osu.edu/pestmanagement/trap-reports/vegetable/> Thanks to all of our faithful trap cooperators who are posting their weekly counts on this site.

Black Raspberry Growers Survey

from Dr. Robert Agunga, Associate Professor, Department of Agricultural Communication, Education & Leadership (ACEL), and Director, Center for African Studies & Brad Bergefurd, Extension Educator, Agriculture and Natural Resources, The Ohio State University, Scioto County & South Centers

Ohio State University researchers are conducting a research survey to collect information to assist berry producers to increase their production output and earn more income. Our goals are two-fold: to assess the potential for industry growth and to develop specific recommendations that will increase consumer demand for fresh or processed black raspberries. If you are a black raspberry producer, have grown black raspberries in the past, or are knowledgeable about black raspberries, please complete the survey. Your answers will help us in our research goal of improving the production and marketing of black raspberry products. Your participation is highly voluntary and we thank you for your time. There is no penalty for not participating. You can stop at any time without penalty and you do not have to answer any question you do not wish to answer.

To participate in this important survey please go to https://osu.az1.qualtrics.com/SE/?SID=SV_5imj6Hr6btcPuqV

Thanks to all who take the time to complete the survey. We greatly appreciate your input and responses. Please contact Brad Bergefurd at 740-289-3727 ext. 136, email bergefurd.1@osu.edu or Robert Agunga at 614-292-8751, email agunga.1@osu.edu with any questions you may have.

From The National Association of County Agricultural Agents

2015- Award Press Releases

Brad Bergefurd recently received the 2015 Distinguished Service Award from the National Association of County Agriculture Agents during their Annual Meeting and Professional Improvement Conference held in Sioux Falls, SD. This award is given to Agents with more than 10 years of service in Cooperative Extension and have exhibited excellence in the field of Extension Education. This award is only presented to 2% of the County Extension Educators in Ohio each year.

Located in Scioto County and South Centers in Piketon, Ohio, Brad conducts field research, authors publications, and teaches on plasticulture strawberry, vegetable crops and hops production, produce auction development, urban agriculture and food hubs. Responsibilities include: Co-Leader of the OSU Vegetable Crops Team; Director of the Great Lakes Vegetable Working Group; Ohio Produce Growers and Marketers Educational Advisor; Ohio Hops Guild Academia Director; NC SARE Research & Education Technical Committee and Co-leader for an agriculture development project in Senegal, Africa.

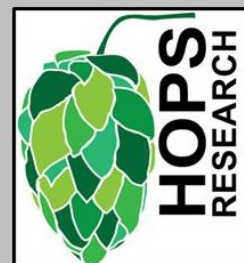


OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER

OHIO STATE UNIVERSITY EXTENSION

Hops

First Friday Tour



Date:

First Friday of
Every Month
10:00 A.M.—12:00 P.M.

Locations:

OSU South Centers
1864 Shyville Rd.
Piketon, OH

AND

OARDC Horticultural
Research Unit 2
5082 Oil City Rd
Wooster, OH

Cost: \$15 per family

To Register:

(you must preregister)
Contact Charissa McGlothlin
at mcglothlin.4@osu.edu or
at 740.289.2071 ext. 132

DEADLINE to Register:

The Wednesday before the
first Friday of the month



**Hosted by Brad Bergefurd
& Mary Gardiner**

The tour will include:

- Hop yard construction
- Establishment cost
- Bine training
- Irrigation
- Variety Selection
- Fertilization
- And more!

For more information on Hops go to
go.osu.edu/hopsinformation



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Submit Articles:

To submit an article to the VegNet newsletter please send the article and any photos to **Brad Bergefurd** at bergefurd.1@osu.edu or for questions regarding the newsletter call 740.289.2071 ext.132.

About the editor

Brad Bergefurd

Bergefurd is an Extension Educator, Agriculture and Horticulture Specialist with Ohio State University Extension, with statewide responsibilities for outreach and research to the agriculture and commercial fruit and vegetable industries Brad has offices at the OSU Piketon Research & Extension Center in Piketon and at OSU Extension Scioto County in Portsmouth.



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