VegNet The Vegetable and Fruit Crops Teams Newsletter

http://vegnet.osu.edu

Lead Editor and Contributing Author: Brad Bergefurd Graphic Designer & Editor: Charissa Gardner McGlothin

In this issue:

Vol. 22 Number 9, July 28, 2015

Wayne County IPM Program: Scouting Summary

Upcoming Events

Southern Ohio Vegetable and Fruit Update

Powdery Mildew in Cucurbits and High Tunnel Tomatoes

Insect Notes

Hops Production Field Night at Piketon

Plasticulture Stawberry Field Day

2015 Vegetable Crops Field Night

Ohio Superberry & Winegrape Field Night

Northwest Ohio Hops Field Day

Wayne County IPM Program: Scouting Summary

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

Fruit:

Apples are progressing in fruit development and overall the crop looks very good. Codling moth numbers started to tick upward in a few traps this week, resulting in setting a biofix date for 2nd generation codling moth. Sooty blotch, one of our summer fungal diseases was noted on some apples this week. Growers need to stay on a fungicide program to prevent both sooty blotch and fly speck disease development during the summer. All apple maggot traps remained negative the week of July 13-17, though one apple maggot fly was noted by a scout on an apple leaf. Other insects noted at below threshold levels in orchards included green apple aphids, wooly apple aphids, leafminers and Japanese beetles. European red mites and 2-spotted spider mites were found at threshold levels in one orchard. (article continued on the next page)



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Wayne County IPM Program: Scouting Summary Continued...

Peaches are also developing with minimal pest issues being noted. Oriental fruit moth trap captures remained high this week, while trap captures for the greater and lesser peach tree borer moths remained at 0 in all orchards. Peach scab was noted on some fruit in one orchard. Fungicide sprays to prevent brown rot and scab must be maintained.

There were positives once again this week in the spotted wing drosophila (SWD) traps. Commercial small fruit growers should be spraying ripe fruit and fruit that are beginning to ripen to protect against SWD infestation. Rotate between chemical classes of approved insecticides.

Other than SWD, powdery mildew is showing up in grapes and growers need to be on a fungicide program to prevent damage from this disease. Black raspberry harvest is wrapping up and red raspberries are being harvested. Blueberries harvest started a couple of weeks ago and continues. Some low levels of phomophsis blight have been seen. Japanese beetles are present in low levels and birds are working on some of the berries.

Vegetables:

The continued wet weather is causing all sorts of issues. Diseases, both fungal and bacterial are present at varying levels in fields, and wet, saturated soils are causing nitrogen loss, root rots, root damage, plant death, and yellow plants in some areas. Going forward, if it turns hot and dry, we can expect to see more negative effects from root damage done during this wet period. Despite this, growers are harvesting and plants are producing. Use of fungicide spray programs, where appropriate, is a key component in production at this point.

The tomato hornworm showed up in scouting reports in both high tunnel and field grown tomatoes. Despite their size they are difficult to actually locate because they blend in to the plant so well. Damage symptoms and frass are the first clues noted. Other insect pests noted in high tunnel production, all below threshold levels, are: aphids, white flies and stink bugs.

The most serious disease problems in both field and high tunnel grown tomatoes are septoria leaf spot and early blight. In warm, wet conditions, septoria can rapidly defoliate a plant if not managed early with an effective and consistent fungicide spray program. Bacterial spot is also showing up, mainly in field tomatoes and growers are being advised to not work with the plants when they are wet, practice good sanitation between infected and non-infected plants and maintain a copper spray program to suppress the disease. In high tunnel production scouts are also finding fusarium crown rot, leaf mold, botrytis gray mold, timber rot and yellow shoulder. On July 20 scouts found late blight on tomatoes and we are waiting on confirmation from the vegetable pathology lab at OARDC.

Garlic is maturing tops are beginning to dry down. In onions, thrip populations have remained low. Onion harvest is also beginning with generally good bulb size being reported.

Cole crops overall look good. The new plantings for a planned fall harvest had both slug damage and imported cabbage worm eggs noted. Established plantings are at the almost ready to harvest to harvest underway stage. Some bacterial soft rot was noted in some plants of one planting by scouts. Imported cabbage worm larvae were found and in some fields were at economic treatment threshold.

In vine crops, many plantings of summer squash and zucchini are at the point of harvest, fall squash and pumpkins are in bloom, melons are at fruit set, and cucumbers range from new plantings to harvest. Downy mildew was found in more cucumber fields this past week. Bacterial wilt is also being found in some cucumbers. Growers are being advised to use a fungicide spray program on a 5-7 day schedule to protect against downy mildew. Cucumbers are most vulnerable followed by cantaloupe and then squash, pumpkins and watermelon. Powdery mildew was noted by scouts in summer squash, fall squash, pumpkins and cucumbers this week. (article continued on the next page)

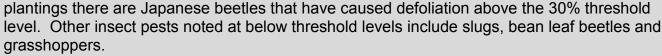
Wayne County IPM Program: Scouting Summary Continued...

Angular leaf spot, a bacterial disease has been found across all vine crops and in many fields. Anthracnose and alternaria leaf spot have also been found and growers need to be on a good fungicide spray program. Bacterial wilt, a disease vectored by cucumber beetles was noted by scouts in both melons and cucumbers this week. Cucumber beetles ranged from low numbers to above treatment threshold levels. Deer damage was noted by scouts in a number of fields.

Peppers are developing fruit with some ready to harvest. In some plantings, bacterial spot is present. Scouts also noted some Fusarium crown rot and mosaic virus in some plants this week. Japanese beetles, zebra caterpillars, stinkbugs and aphids were all found at low levels in some fields. Eggplant is doing well but there are plants with verticillium wilt and anthracnose. Colorado potato beetles were noted at above threshold levels in some field this week. Japanese beetles are present in low numbers.

Green beans vary from newly emerging to harvest.

Overall quality is good, no disease has been noted. In some



Sweet corn, due to staggered plantings, ranges from newly emerging to harvest. Only 2 corn earworm moth was caught between traps at 4 locations this week. European corn borer moth captures ranged from 0 to 2 between 4 trap locations. Feeding by snails, slugs, European corn borer larvae, Japanese beetles, grasshoppers and fall armyworm was noted by scouts this week. In one field the level of Northern corn leaf blight in pre-tassel corn was above threshold level and a fungicide spray was recommended.

Potatoes overall look good. Some plantings are ready for harvest. Colorado potato beetle is at threshold levels in some plantings and under control in others. Low numbers of potato leaf hoppers and flea beetle were noted. Some light levels of early blight were found in one planting.

2015 Upcoming Events

end details to

Southern Ohio Vegetable and Fruit Update

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

Continuous storms and heavy rains the past two weeks have resulted in continued wet and muddy field conditions plaguing the region with over 15 inches of rain reported for some areas. Five inches of rain fell in less than 24 hours alone in the Brown and Clinton County areas from Saturday evening July 18 through Sunday evening July 19, resulting in severe flooding and houses being damaged by flash flooding during these rainfall events. These continued wet field conditions still have prevented side-dress Nitrogen applications, herbicide spraying, fungicide and insecticide applications, cultivation, planting and ground preparation. These wet conditions have caused severe flood damage, onset of disease, and a flush of weed growth. Harvest is in full swing for most produce and specialty crops including spring malting barley, hops, sweet corn, blueberries, blackberry, cantaloupe, watermelon, field and high tunnel tomato, green beans, half runner beans, potato, zucchini, yellow squash, cucumber, pickles, cabbage, broccoli, radish, greens, lettuce, hot and bell pepper, summer apples and peaches. Day neutral strawberry harvest has begun to decline with the high temperatures last weekend July 17, 18 and 19. The wet weather has resulted in harvest gaps for some crops with increased demand from retail farm markets and a continued spike in wholesale prices. Field conditions did dry enough in the region to perform pesticide and herbicide spraying, some ground preparation and planting of sweet corn, cucumbers, squash, beans, and pumpkins and

delayed renovation of matted-row strawberry from Friday evening July 17 through Saturday evening July 18th. Side-dressing of Nitrogen and cultivation was also conducted during this dry spell with strong storms rolling into much of the region on Saturday evening July 18.

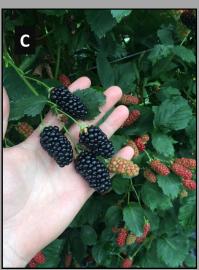
Reports of growth regulator herbicide drift injury symptoms continue to be reported on small fruit, grapes, hops, field vegetables, and tunnel crops. Wildlife damage from deer, raccoon, birds, and skunks are being reported on sweet corn, blackberries and melons.

Planting and transplanting of all vegetable and melon crops continues as field conditions permit with the last of pumpkins being planted. Tight fungicide spray schedules are being applied on tree fruit, small fruit, hops, vegetables, melons, and grapes. Burn down and pre-emerge herbicides continue to be applied when possible.

Scouting and trapping for insects and disease continue. Nutrient deficiencies continue to be reported on hops and vegetables where Nitrogen has leached under isolated heavy rainfall events. Virus and downy mildew are being reported in hops being harvested. Wilt diseases, not yet confirmed, are being reported in all vine crops. Rapid wilting and leaf necrosis has been reported on tomato samples that have been sent to Dr. Sally Miller at the vegetable disease lab but no confirmation of disease has been diagnosed.







Southern Ohio Vegetable and Fruit Update Continued...













- A. Blackberry harvest is in full swing
- B. Sweet corn is in full harvest
- C. Natchez blackberry variety
- D. & E. Hop harvest is in full swing in Ohio
- F. Cascade hops heading to the brewer
- G. Raspberry and Gooseberry harvest is underway
- H. Powdery Mildew is showing up in vine crops
- I. Pumpkins are showing male bloom due to weather stress

Photos by Brad Bergefurd, Rhoads Farms, Witten Farms, Champaign Berry Farm, & Grandpop Hops

Powdery Mildew in Cucurbits and High Tunnel Tomatoes

from Sally Miller, Professor-Agriculture and Natural Resources, The Ohio State University, Department of Plant Pathology

We are finding powdery mildew on field squash and in high tunnel tomatoes. Powdery mildew is a common summertime problem of squash, pumpkins and other cucurbits, lately appearing in early- to mid- July. The fungus that causes cucurbit powdery mildew does not overwinter in Ohio, so the disease does not appear until spores arrive on wind currents from warmer growing areas. Signs of infection are small circular powdery growths (mycelium and spores of the pathogen) on either side of the leaf. These spots enlarge and can eventually cover most of the leaf surface and kill the leaves. Stems and leaf petioles are also susceptible, but the disease is not observed on fruit. In pumpkins, powdery mildew may also attack the "handles", which can be further damaged by secondary pathogens.

Powdery mildew is managed using powdery mildew-resistant varieties and fungicides. Development of insensitivity to overused fungicides is common in populations of the fungus that causes this disease, so it is important that a fungicide resistance management program is followed. Remember to alternate fungicides in different FRAC (Fungicide Resistance Action Committee) groups, indicating different modes of action against the fungus. It is important to apply fungicides when the disease first appears and incidence is low. Fungicides that are effective against cucurbit powdery mildew can be found on page 108 in the Midwest Vegetable Production Guide for Commercial Growers; product ratings are on page 109.



A. squash leaf with powdery mildew

B. pumpkin with powdery mildew

C. tomato leaf with powdery mildew (on next page) **Photos by Sally Miller**

We don't often see powdery mildew of tomatoes in open fields in Ohio, but it can occur and be quite damaging in high tunnels and greenhouses. As with cucurbits, tomato powdery mildew must be managed proactively - by regular scouting and application of fungicides as soon as the disease appears. Signs are white powdery growth (fungus hyphae and spores) on leaves, and symptoms include leaf yellowing and necrosis.

(article continued on the next page)



Powdery Mildew in Cucurbits and High Tunnel Tomatoes Continued...

The fungicides sulfur, Inspire Super, Rally and Switch can be used on tomatoes in greenhouses and high tunnels for powdery mildew management. The Switch label prohibits use on small-fruited tomato varieties in the greenhouse/high tunnel.



Insect Notes

from Celeste Welty, Ph.D., Extension Educator-Entomologist, Associate Professor of Entomology, The Ohio State University

Trap reports for several key vegetable and fruit pests at Ohio locations are posted online. One way to access these is via this link: http://u.osu.edu/pestmanagement/ At that home page, choose the tab 'Trap reports' which will lead you to a 4 menus: vegetable pests, fruit pests, spotted wing drosophila, and brown marmorated stink bug. When you choose any vegetable or fruit pest, the link will take you to a spreadsheet that has one tab for each pest species; the tabs are along the bottom edge of the page.

Trends in vegetable pests: We expect to see emergence of the new generation of European corn borer moths any day now at most Ohio locations, which is important for both sweet corn and peppers. The one location that has had unusual trends for ECB this year is Sandusky County, which is running about 3 weeks behind other locations; in this situation, peppers could be attacked by lingering first generation moths. Corn earworm moth activity is zero to negligible at all sites where we have traps. Squash vine borer activity is now tapering off after peaking in late June to early July. Cucumber beetles continue to be found at high density at many sites and not surprisingly we are now seeing a lot of bacterial wilt in melons as a result of beetle activity. The brown marmorated stink bug is likely to become more noticeable in the next week or two as we are just seeing the start of the emergence of new adults. This pest is being found in catalpa, redbud, and other shade trees, where the majority of individuals this week are late-instar nymphs. As soon as the nymphs molt to adults, we expect to see dispersal into susceptible crops such as apples, raspberries, sweet corn, and peppers. In our blacklight trap in Columbus, we had the highest catch (25 stink bugs) so far this year on 18 July after an unusually warm humid night.

Spotted wing drosophila in its adult stage was detected in traps starting in late June, and has now been reported from many Ohio sites. Growers of berry crops are encouraged to use a salt test to check for infestation, and implement an insecticide spray program as soon as the pest is detected.

In fruit crops, the new generation of codling moth adults is now emerging in central Ohio. Our rebiofix date in Columbus was 10 July, after which our optimal insecticide spray date was 21 July.

OHIO AGRICUTURAL RESEARCH AND DEVELOPMENT CENTER OHIO STATE UNIVERSITY EXTENSION



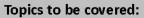




Hops Production Field Night

OSU South Centers Piketon, Ohio

Hosted by Brad Bergefurd



- · View high trellis system
- · Nutrient management
- · Fertigation demonstration
- Drip irrigation
- · Landscape fabric, weed control
- · Insect management techniques
- Harvesting
- · Disease management techniques
- Variety evaluations
- Yard establishment economics



Thursday

July 30, 2015

6:00 p.m. — 9:00 p.m.

Location:

OSU South Centers Endeavor Room 160 1862 Shyville Road Piketon, Ohio

Cost: \$20.00

Dinner will be served at 5:30 p.m.

To Register:

Contact Charissa McGlothin 740.289.2071 ext. 132 mcglothin.4@osu.edu

Deadline to register:

July 28, 2015

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For more information: go.osu.edu/cfaesdiversity

OHIO STATE UNIVERSITY EXTENSION



Plasticulture Strawberry Field Day

What to Plant, How to Start, Disease Management & How to Succeed

The Ohio State University Extension will demonstrate how to plant strawberries using plasticulture. As popularity grows, so do the benefits of using plasticulture, such as increased profit and efficiency.

During this program, we will learn what to plant where and how to keep it disease free. We will also discuss how to keep your strawberries profitable from year to year. This program is **OPEN TO THE PUBLIC**. Our featured speaker will be Brad Bergefurd, Extension Specialist for horticulture. Brad conducts research and extension programs in vegetable crops and plasticulture strawberries.

<u>Date</u>: Tuesday, August 4th

12:30pm - Registration

1pm-3pm – Program

Location: Catalpa Grove Farm,

41473 OH-14, Columbiana, OH

44408

: Cost: FREE

Details: Register by July 31st

Contact: -Eric Barrett at

barrett.90@osu.edu

-Mahoning County Extension at

(330) 533-5538

R EGIST R ATION INFO R MATION. Please mail to 490 S. Broad St. Canfield, OH 44406, fax (330-533-2424), or drop off the registration by **Friday, July 31**st to reserve a spot for the program.

Name:	
Address:	
Email:	Phone:
Number Attending	



www.mahoning.osu.edu

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OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER OHIO STATE UNIVERSITY EXTENSION

2015 Vegetable Crops Field Night



Thursday, August 6 • 6 – 8 P.M.

North Central Agricultural Research Station 1165 County Road 43 Fremont, OH 43420

Corner of County Road 43 and State Route 53, Sandusky County

Program

- 2015 Growing Season Prevalent Diseases
- · Review of Past Research Trials
- Current Market Products for Vegetable Disease Control
- Effectiveness of Market Products for Vegetable Disease Control
- Tips and Tricks for Setting Up Spray Equipment
- Genetics Behind Tomato Disease Resistance
- North Central Agricultural Research Station's Use of Social Media

Speakers

- Al Gahler, Ohio State University Extension
- · David Francis, Horticulture and Crop Science
- · Sally Miller, Plant Pathology
- Representatives from Syngenta and Dupont

History

The rich, fertile soils of Sandusky County, Ohio, are ideal for vegetable production, and in 1979 the North Central Agricultural Research Station of OARDC was established near Fremont on 105 acres of sandy loam and clay loam soils. The research conducted at the Station is of tremendous economic benefit to producers, and the general public located in the tri-state region of Ohio, Michigan, and Indiana

For more information

Matt Hofelich, Manager, 419-332-5142, hofelich.4@osu.edu Al Gahler, 419-334-6340, gahler.2@osu.edu www.oardc.ohio-state.edu/branches/branchinfo.asp?id=2



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OHIO AGRICUTURAL RESEARCH AND DEVELOPMENT CENTER OHIO STATE UNIVERSITY EXTENSION

Ohio Superberry & Winegrape Field Night

at Ohio State University South Centers

Thursday,

August 20, 2015 6:00 — 9:00 P.M.

Hosted by Dr. Gary Gao, Dave Scurlock, & Ryan Slaughter

Location: OSU South Centers 1864 Shyville Rd., Piketon, OH Large Auditorium, Research Building

Cost: \$25.00*
*includes a light dinner

To Register:

Contact Charissa Gardner McGlothin at mcglothin.4@osu.edu or at 740.289.2071 ext. 132

DEADLINE to Register: Monday, August 17, 2015







Learn the basics on these topics:

- Eldeberry, Aronia Berry, and Goji Berry Production and Marketing
- Blueberry Cultivars and Production Techniques
- Summer and Fall Vineyard Management Practices
- Blackberry & Raspberry Production Systems
- Introduction to Elderberry, Aronia, and Goji Berry Production
- Field tour
- And more!





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OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER OHIO STATE UNIVERSITY EXTENSION

2015 PUMPKIN FIELD DAY



Thursday, August 20 • 6 – 8 P.M.

Western Agricultural Research Station 7721 S. Charleston Pike South Charleston, OH 45368

Topics

- Current and Unregistered Fungicides for Powdery Mildew
- Aerial Imagery Used to Advance Early and Late Season Pest Management in Cucumbers and Pumpkins
- Downy Mildew Sentinel Trial
- Impact of Insecticides and Fungicides on Squash Bee and Honey Bee Populations
- Row Covers and Trap Crops

Speakers

- · Sally Miller, Plant Pathology
- Reed Johnson, Entomology
- · Jim Jasinski, OSU Extension
- · Celeste Welty, Entomology

Please note, the speaker lineup is subject to change.

Registration

Please pre-register by sending an email to Jim Jasinski, <u>jasinski.4@osu.edu</u>, by August 13.

History

The Western Agricultural Research Station was established in 1958 on 428 acres north of South Charleston in Clark County. It houses one of the world's oldest no-till experimental plots, started by Ohio State scientists in the early 1960s. The renovated barns that used to house the Station were replaced with new facilities in 2008. Included are offices, a workshop, a conference room, and seed and machinery storage areas.

Directions

3.5 miles northwest of South Charleston on SR 41, Clark County, Ohio

For more information

Jim Jasinski

937-484-1526

Jasinski.4@osu.edu

http://www.oardc.osu.edu/branches/branchinfo.asp?id=9



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OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER
OHIO STATE UNIVERSITY EXTENSION

NORTHWEST OHIO HOPS FIELD DAY



TUESDAY, AUGUST 25 • 9 A.M. – 3 P.M.

Agricultural Incubator Foundation 13737 Middleton Pike Bowling Green, OH 43402

Topics

- New Hop Cultivars
- Pest Control Methods
- · Harvesting and Processing
- Newest Research and Hops Production Techniques

Program

According to event organizer, Alan Sundermeier, "Potential hops growers can learn the requirements for producing hops, the techniques and management tools needed for establishing a successful hops business."

Directions

From the North: Take I-75 south to State Route 582, exit 187, Luckey/Haskins. Turn west (right) on Middleton Pike/582 and continue approximately 2.2 miles. AIF will be on the south (left) side of the road.

From the South: Take I-75 north to State Route 582, exit 187, Luckey/Haskins. Turn west (left) on Middleton Pike/582 and continue approximately 2.2 miles. AIF will be on the south (left) side of the road.

For More Information

Alan Sundermeier • 419-354-9050 sundermeier.5@osu.edu

PRE-REGISTRATION IS REQUIRED. \$50 per person. Registration deadline is August 19. Includes meals and materials. Make checks payable to OSU Extension. Mail to Alan Sundermeier, OSU Extension Wood County, 639 Dunbridge Rd., Bowling Green, OH 45640. Please detach and return this form with your payment. Thank you.

Name(s):	
Address:	
Number attending/amount enclosed:	



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VegNet Newsletter

COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

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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 <u>bergefurd.1@osu.edu</u> 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.



Brad Bergefurd, MS

Extension Educator, Agriculture and Horticulture Specialist with Ohio State University Extension