**Lab Closed for Short Time**

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

Dr. Sally Miller’s Vegetable Pathology Lab will be presenting at a Conference until August 8th. It would be best to submit your plant disease samples to her lab for diagnosis after that date. By doing so your samples will not go bad before she returns to the lab for diagnosis on August 8th. Thank you.
According to the USDA drought monitor web site, Wayne County (along with all of northeastern Ohio) is in a moderate drought. This is certainly reflected in crop conditions and in comments scouts are making on grower field report sheets. Irrigation systems and water sources are being stretched. Today one of the scouts made a comment to the effect that they didn’t see how growers could keep up with moisture needs. Another scout replied, “They can’t; that’s why we are seeing so much blossom end rot.” Indeed, uneven watering does trigger blossom end rot (BER) and scouts are noting BER in tomatoes, fall squash, summer squash, zucchini, eggplants, and peppers. Another result of all the sunny skies and high temperatures is sunscald being noted on tomatoes and peppers.

Disease-wise, scouts continue to note early blight in tomatoes, downy mildew in cucumbers and melons, powdery mildew in fall squash, pumpkins, summer squash, zucchini and melons, and anthracnose in fall squash, pumpkins and melons. Leaf mold continued to be a problem on tomatoes in one high tunnel and some bacterial spot and speck symptoms were noted in some field tomatoes. Some rust was found in one field of sweet corn that was beginning to be harvested.

Insects are doing well in the heat and dry conditions. This week, scouts found hornworms in both field and high tunnel tomatoes for the first time this season. Stink bugs are becoming more prevalent and scouts found both the insects and the stinkbug feeding damage in tomatoes, pumpkins and eggplant. Cucumber beetles continue to be present, typically this past week at light levels although scouts did note cucumber beetles doing some chewing damage on the rinds of watermelons. Japanese beetles are still being noted on a variety of crops including cauliflower, fall squash, pumpkins, eggplant, green snap beans and sweet corn. In one field of sweet corn, Japanese beetles were doing enough silk feeding and clipping in one area of the field that scouts recommended some spot treatment. Pheromone trap counts for corn earworm moths remained at 0 for the week. Five European corn borer (ECB) moths were caught at 3 trapping locations in the past week and in one sweet corn field ECB damage was at 14% for corn in tassel, over the treatment threshold. Colorado potato beetles (CPB) were noted in both potatoes and eggplant. Additionally, scouts noted some biological control when they found a beneficial insect, the spined soldier bug attacking CPB larvae in eggplant. Finally, in an oddity that scouts find occasionally, millipedes were found chewing on the underside of some cantaloupe.

Still, despite the dry conditions, growers are reaping a bountiful harvest of vegetables and the produce auctions at Mount Hope and West Salem (County Line Produce Auction) are offering a range of high quality produce. (Pictures continued on next page)

Photos:
A. Downy mildew symptoms on melon leaves. Photo by Chris Smedley, IPM program scout.
B. Hornworms on tomatoes. Photo by Levi Myers, ACRE program intern.
Photos:
A. Twice-stabbed stink bugs. Photo by Chris Smedley IPM program scout.
B. Spined soldier bug attacking CPB larva. Photo by Chris Smedley, IPM program scout.
C. Japanese beetles feeding on and clipping corn silks. Photo by Levi Myers, ACRE program intern.
D. Millipedes on bottom of cantaloupe. Photo by Chris Smedley, IPM program scout.
E. Extension specialists Celeste Welty, Matt Kleinhenz, and Sally Miller working on vegetable diagnostics at Mount Hope Produce Auction crop walk. Photo by Rory Lewandowski, Extension educator Wayne County.
Infestations of the two-spotted spider mite have been showing up in many crops during the recent droughty conditions in Ohio. Because mites are tiny, they are often overlooked or misdiagnosed as a disease. Infested leaves have fine webbing on the leaf undersides. Tomato leaves damaged by spider mites usually have yellow blotches, while bean leaves show white stipples or pin-prick markings from mite feeding. Pumpkins can tolerate moderate levels of mites, but watermelons are more sensitive to injury from mite feeding. Mites can be noticeable on sweet corn on the flag leaf. A simple method of diagnosing spider mites is to shake leaves over a piece of paper and look for moving specks that are visible to the naked eye. A closer look with a magnifier can show the tiny mites that are white marked with two large dark spots.

In some fields, the mite infestation is worst on a field edge by a dusty road, and effects can be suppressed by overhead irrigation. Mites have many natural enemies that kill them, such as specialized predatory mites or generalist lacewings, ladybugs, and pirate bugs, but these helpful predators are often killed by pesticides. Chemical intervention can be needed to keep the crop alive if spider mites are abundant. When a mite infestation is limited to field edges, infested fields should be scouted, and a miticide applied as a spot treatment to isolated infestations. Mite control is better when higher volumes of water are used; 25 gallons of water per acre is better than 10 gal/A. Several pesticides are registered for spider mite control; some are restricted use and some are for general use, as shown for vegetable crops in Table 1 and for hops and fruit crops in Table 2. (Continued on next page)

<table>
<thead>
<tr>
<th>Product name (common name)</th>
<th>Use</th>
<th>Pre-harvest interval, by crop</th>
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<tbody>
<tr>
<td></td>
<td>Beans</td>
<td>Melons</td>
</tr>
<tr>
<td>Acramite 50WS or 4SC (bifenazate)</td>
<td>general</td>
<td>3 days</td>
</tr>
<tr>
<td>Dimethoate 4EC (dimethoate)</td>
<td>general</td>
<td>0 days</td>
</tr>
<tr>
<td>Dicofol 4E (dicofol)</td>
<td>general</td>
<td>21 days</td>
</tr>
<tr>
<td>Oberon 2SC (spiromesifen)</td>
<td>general</td>
<td>not registered</td>
</tr>
<tr>
<td>Onager (hexythiazox)</td>
<td>general</td>
<td>not registered</td>
</tr>
<tr>
<td>Portal 0.4EC or FujiMite 5EC (fenpyroximate)</td>
<td>general</td>
<td>1 day</td>
</tr>
<tr>
<td>Zeal 72WDG or 72WSP (etoxazole)</td>
<td>general</td>
<td>not registered</td>
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<tr>
<td>Agri-Mek 0.7 SC or 0.15EC (abamectin)</td>
<td>restricted</td>
<td>7 days</td>
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<tr>
<td>MSR (Meta-systox-R) 2EC (oxydemeton-methyl)</td>
<td>restricted</td>
<td>not registered</td>
</tr>
<tr>
<td>Vydate L 2WSL (oxamyl)</td>
<td>restricted</td>
<td>not registered</td>
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Table 1. Products for spider mite control on specified vegetable crops.
*Product registered for use on this crop but mites not on list of target pests for this crop, however mites listed as target pest on other crops.
*7 days outdoors, or 1 day for commercial greenhouse tomatoes.
At some locations, organophosphates are still effective for mite control, with Dimethoate being the best bet and MSR as another choice. Dimethoate is an option for melons but is not allowed on squash or cucumbers; it has been a preferred product for mite control on soybeans. Dimethoate is prohibited from use on ornamental crops in high tunnels and greenhouses but is not prohibited from vegetable crops in high tunnels and greenhouses.

Where organophosphates are not effective, Agri-Mek is generally the most effective product for mite control, while Acramite and Oberon are nearly as good. Although Brigade (bifenthrin) and Danitol (fenpropathrin) are labeled for spider mite control when used at the high end of the rate range, they are generally not very effective for mite control. Dicofol is an old miticide that is still effective at some sites, but does not perform well at sites where resistant populations have developed. Vydate is registered for use on eggplant for mite control, but on cucurbits it is registered only for aphid control. On organic farms, insecticidal soap can be used for mite control but thorough coverage of the undersides of leaves is needed for good control.

<table>
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<th>Product name (common name)</th>
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<tr>
<td></td>
<td>Hops</td>
<td>Straw-berry</td>
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<tr>
<td>Acramite 50WS or 4SC (bifenthrin)</td>
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<td>14 days</td>
</tr>
<tr>
<td>Apollo (clofentezine)</td>
<td>general</td>
<td>not registered</td>
</tr>
<tr>
<td>Envidor (spirodiclofen)</td>
<td>general</td>
<td>14 days</td>
</tr>
<tr>
<td>Kanemite (acequinocyl)</td>
<td>general</td>
<td>7 days</td>
</tr>
<tr>
<td>Nealta (cyfluimethofof)</td>
<td>general</td>
<td>not registered</td>
</tr>
<tr>
<td>Nexter (pyridaben)</td>
<td>general</td>
<td>not registered</td>
</tr>
<tr>
<td>Onager (hexythiazox)</td>
<td>general</td>
<td>not registered</td>
</tr>
<tr>
<td>Portal 0.4EC or Fuji-Mite 5EC (fenpyroximate)</td>
<td>general</td>
<td>15 days</td>
</tr>
<tr>
<td>Savey (hexythiazox)</td>
<td>general</td>
<td>up to burr</td>
</tr>
<tr>
<td>Zeal 72WDG or 72WSP (etoxazole)</td>
<td>general</td>
<td>7 days</td>
</tr>
<tr>
<td>Agri-Mek 0.7 SC or 0.15EC (abamectin)</td>
<td>restricted</td>
<td>28 days</td>
</tr>
<tr>
<td>MSR (Metasystox-R) 2EC (oxamyl)</td>
<td>restricted</td>
<td>not registered</td>
</tr>
<tr>
<td>Vydate L 2WSL (oxamyl)</td>
<td>restricted</td>
<td>not registered</td>
</tr>
</tbody>
</table>

Table 2. Products for spider mite control on hops and specified fruit crops
Across much of Southern Ohio, harvest of onions, cabbage, lettuce, greens, and early cucumbers has dwindled down. However, tomatoes, peppers, cantaloupe, watermelon, zucchini, squash, beans, sweet corn, blackberries, and peaches are in the peak of harvest and are producing decent yields. As pumpkin plants continue to form lateral plant structures and set fruit, problems with disease have become a problem in certain areas. Bacterial wilt and sclerotinia stem rot have been found in a few instances on pumpkin farms. Bacterial wilt is most easily preventable by early control of the cucumber beetle. The only way bacterial wilt can survive the cold winters is in the digestive system of cucumber beetles. The bacteria is transmitted to the plant through the insect damage on the leaves. As for sclerotinia, the best prevention method is crop rotation and the removal of diseased plants. The fungus can overwinter in plant matter and soil, so it is recommended to burn the affected plants to ensure that the fungus does not return in the future. These diseases are erratic, as most pumpkin producers have not experienced many problems with their pumpkins so far this season. Many of the pumpkin fields are thriving in the heat and recent rains of Southern Ohio. Spotted Wing Drosophila have been observed in blueberry farms in Pike and Ross counties. Trap observations over the past two weeks have revealed the insects, and traps will continue to be monitored weekly for population counts.

Photos:
A. Bacterial wilt on a pumpkin plant.
B. Sclerotinia stem rot at the base of a pumpkin plant.
C. Supersweet varieties starting to emerge expected to be ready for Labor Day.
D. Peaches awaiting to be picked.
Southern Ohio Vegetable and Fruit Update
July 18-28, 2016

From Brad Bergefurd, OSU Extension Educator Agriculture and Natural Resources, OSU Extension Scioto County and OSU South Centers

Field work and harvest remains in full force. Some pockets throughout the region have been irrigating due to dry conditions. Most areas have been experiencing abnormally high rainfall patterns with some areas of Brown and Adams counties receiving over 5 inches of rain the past 10 days (7/23-7/28) making it difficult to perform harvest and field work. Harvest of all produce is in full swing with daily harvests being made and excellent quality, yields and market demand being reported. Harvests include sweet corn, peaches, day-neutral strawberries, green beans, half-runner beans, red beets, radishes, high tunnel tomatoes, peppers, cucumbers, pickles, field tomatoes, cucumbers, cabbage, sugar peas, zucchini and summer squash, lettuce, sweet onion, new potatoes, bell and hot peppers, blueberries and blackberries. The first orange pumpkins have been harvested with full harvest estimated to begin 8/15. Hops are maturing about 2 weeks ahead of normal, with harvest to begin in early August.

Field work between rains has included plowing, working ground, spraying, bed shaping for hops and plasticulture strawberry planting, laying plastic for plasticulture strawberries, staking and tying tomatoes and staking and tying peppers. The last direct seedings of sweet corn, cucumbers, beans, summer squash, cucumbers, pickles, pumpkins, gourds and winter squash were finished the week of 7/11-7/17. Transplanting of cauliflower and broccoli continues. Spraying fungicides on tree fruit, hops, brambles, blueberries, grapes, and all vegetable crops continues. New plantings of hops continue to be hand-planted and new high trellis hop systems are being installed.

Leafhoppers and spider mites are reaching threshold levels in some hop plantings requiring a tight insecticide and miticide program. Cucumber beetles continue to reach threshold levels in melons, cucumbers and squash. Flea beetles continue to cause damage to eggplants. Tomato hornworms continue to be reported in tomato plantings. With the recent excessive rainfall and saturated field conditions, along with high humidity and high temperatures, vegetable crops are showing more pronounced fungal and bacterial disease symptoms. Bacterial wilt is being reported in cucumbers, melons, and pumpkins. (Photos continued on next page)

Photos: Some areas are irrigating. Photos by Brad Bergefurd
Southern Ohio Vegetable and Fruit Update
July 18-28, 2016 Continued
From Brad Bergefurd, OSU Extension Educator Agriculture and Natural Resources, OSU Extension Scioto County and OSU South Centers

Photos:
A. Pumpkin crops are looking very good with a few orange fruit harvested 7.26, main harvest is estimated to begin week of 8/15. Photos by Brad Bergefurd
B. Hops are maturing nicely but about 2 weeks ahead of normal with main harvest estimated to begin early August. Photos by Brad Bergefurd
C. Fungicides are being applied weekly by ground sprayers or air. Photo by Brad Bergefurd
Hardin County Crop Walk

Fruit & Vegetable Production

Jim Jasinski – OSU Extension Horticulturist
Dr. Sally Miller – OSU/OARDC Plant Pathologist
Mark Badertscher – OSU Extension, Hardin County

Hardin County Crop Walk program will consist of a diagnostic table and walk through a produce patch to learn solutions of common fruit and vegetable problems. Topics include plant nutrition and soil fertility, plant diseases, and insect pest management. Bring along your specimens for questions and answers along with a lawn chair. Location is about three miles northeast of the Scioto Valley Produce Auction.

Tuesday
August 9
6:00-8:00 pm

15460 County Road 209
Kenton, Ohio 43326
Bring plant problems, plant disease and insect specimens
Hardin County OSU Extension
419-674-2297

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What’s New in Fruit & Vegetable Production?
Presented by OSU Extension Greene County

Join Extension specialists for an update on the latest news in fruit and vegetable production! Topics include:

- **10:00 -11:00 What’s eating my produce?**
  Keep up to date on high impact insect pests and how to better control them in fruits and vegetables.

- **11:00-12:00 Hydroponics 101**
  Learn why cultivating plants in water is gaining popularity, and how to get started using these systems!

- **12:00-12:30: Lunch**

- **12:30 – 2:00 Agritourism and Marketing Local Foods**
  Get an update on the new agritourism bill, and an overview of alternative marketing opportunities

- **2:00 – 2:30: Tour Caesar Creek Vineyard**
  Learn about Xenia’s local vineyard and winery!

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**FRIDAY**
**AUG 12**
**10 A.M. – 2:30 P.M.**

Caesar Creek Vineyard
962 Long Rd, Xenia, OH 45385

Cost: $20 includes lunch

**Registration Required by August 8:**
**Register online:**
[https://www.regonline.com/osuccfruitandvegetable](https://www.regonline.com/osuccfruitandvegetable)

Contact hiatt.32@osu.edu or 937-372.9971x123
Orchard Sprayer Technology Field Day
THURSDAY, AUGUST 18 • 3:00 - 7:30 pm
Moreland Fruit Farm • 1558 Moreland Rd, Wooster OH 44691

Featuring:
- Sprayer demonstrations with new and current sprayer technology
- Education and discussion on how sprayers can be used more effectively and efficiently
- A glimpse of the future: Introducing the Intelligent Sprayer technology
  - Prototype sprayer designed by USDA-ARS/OSU using laser guidance to automatically adjust spray volume and nozzle pattern based upon tree size, leaf density and plant spacing.
  - Trials have shown reductions in pesticide use of 47-70% compared to conventional orchard air blast sprayers
  - Annual chemical savings can amount to $140 to $280 per acre
- Sponsor displays, orchard equipment and supply exhibits

Registration: includes handout materials, refreshments, and a light supper for only $5.00 per person, pre-register by Thursday August 11

For more information:
Rory Lewandowski, 330-264-8722, Lewandowski.11@osu.edu, wayne.osu.edu

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Orchard Sprayer Technology Field Day
Registration cost is only $5/person. Pre-registration requested to the Wayne County Extension Office at 330-264-8722 or email Lewandowski.11@osu.edu by Thursday, August 11. Make checks payable to Ohio State University Extension and mail to Ohio State University Extension – Wayne County, 428 W. Liberty St. Wooster, OH 44691. Please detach and return this form with payment. Thank you.

Name:________________________________________

Address:______________________________________

Phone Number:_______________________________ E-mail:_______________________________

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Attention Specialty Crop Producers!
Free NAP Workshop
Non-Insured Crop Disaster Assistance Program (NAP)

August 18, 2016
6:30pm - 8:00pm
Madison County USDA Service Center
829 US Highway 42 NE
London, Ohio 43140

What is NAP?
The Farm Service Agency administers NAP which provides financial assistance to producers of non-insurable crops when low yields, loss of inventory, or prevented planting occur due to damaging weather.
To read more about NAP coverage visit www.fsa.usda.gov/nap.

Workshop Highlights
Workshop highlights include:
- Explanation of NAP requirements, benefits, coverage levels, application, & payment processes.
- Discussion of reporting requirements and presentation by loss adjustor
- Overview of other FSA programs

To register, contact your local Farm Service Agency County Office, or email joseph.howard@oh.usda.gov by August 5th.
Registration is encouraged, though walk-ins are welcome!

Persons with disabilities who require accommodations to attend or participate in this meeting should contact Joe Howard at 740-852-4003 or Federal Relay Service at 1-800-877-8339 by August 5, 2016.

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PUMPKIN / UAV FIELD DAY

TOPICS:
UAV and imagery basics
Update on UAV / Downy & Powdery mildew project
UAV flight & mapping demonstration
Insect update
Disease update
8 Powdery mildew fungicide demonstration plots
12 Powdery mildew tolerant/resistant hybrids variety trial

PRESENTERS:
Logan Dyer        Lisa Fiorentini
John Fulton       Jim Jasinski
Sally Miller      Wladimiro Villarroel
Claudio Vrisman   Celeste Welty

THURSDAY
AUG. 18TH
6 - 8 P.M.

Western Ag Research Station
7721 South Charleston Pike,
South Charleston, OH 45368
Cost: $5 / person
Pre-register by August 15th

send email to:
Jasinski.4@osu.edu
OSU Vegetable Workshop Series

Join the staff at the North Central Ag Research Station near Fremont and OSU Extension on the 2nd Thursday of each month, April through October for catered breakfast, industry updates, and in-depth tips, tricks, and information from researchers to help make your 2016 growing season a profitable one! Attend when the topic suits you, or come each month and stick around after the speaker to view the OARDC field trials or network with peers and industry reps.

2nd Thursday: April – Oct.

*Bring your plant disease and insect samples for identification and same day delivery to the OARDC lab, free of charge!

7:00 a.m. Breakfast
with OSU and industry updates

7:30 a.m. Featured speaker

8:00 a.m. Field walk / networking
Held at NCARS office, No rsvp, No cost!

For more information contact:
Allen Gahler, OSU Extension Sandusky County
419-334-6340
gahler.2@osu.edu

Matt Hofelich, North Central Ag Research Station
419-332-5142
hofelich.4@osu.edu

Aug. 4: Sweet Corn Evaluation/tasting and insect management
Mike Gastler, Extension Educator – Huron County
Celeste Welty, Extension Entomologist

Sept. 8: Pepper Evaluation and field walk
Allen Gahler, Extension Educator – Sandusky County
Non-Insured Crop Disaster Assistance Program Briefing
Brenda Turley, CED – Henry County Farm Service Agency

Oct. 13: Soil Health and Water Quality - How does it affect me?
A look at edge of field studies and NCARS water samples
Libby Dayton, OSU Soil Scientist

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Ohio State University
Direct Marketing
Food & Agriculture

2016 Webinar Series
One-hour webinars will be offered to bring exceptional speakers to your home, office or local Extension center. If you’re interested in finding out more about marketing issues, visit the website for details.

2016 Direct Marketing Webinar Series
All webinars begin at 12 noon

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http://directmarketing.osu.edu

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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.