

VegNet *The Vegetable and Fruit Crops Teams Newsletter*

<http://vegnet.osu.edu>

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Hops Research Update, Wooster

Chelsea Smith, Research Assistant, OSU Department of Entomology

Harvest has just started in Wooster. The yields are already noticeably higher than last season! There have been a number of pests and diseases in our hop yard this season. We are hopeful that our management of them will allow less harm on the quality of quantity of our yield. Japanese beetle pressure has been exceptionally high this season, particularly on our Nugget and Mt. Hood varieties.



Characteristic Japanese beetle damage in both photos
 Photos by Chelsea Smith

2014 Upcoming Events

- Aug. 13** Good Agricultural Practices (GAPs) Training. See page **6** for details.
- Aug. 14** Hops Production Twilight Tour (field night) at OSU South Centers in Piketon, Ohio. See page **12** for details.

Northwest Ohio Processing Cabbage, Pepper and Tomato update

from Jeff Unverferth, Agricultural Manager at Hirzel Canning Co

Processing cabbage harvest began 2 weeks ago in northwest Ohio with outstanding yields and quality being reported. Average yields of 55 to 60 ton per acre are being reported. Hirzel canning will be opening one of its tomato processing plants this week and processing tomato harvest is scheduled to begin Friday August 8th with harvest ramping up at all locations by August 15th. Hot, no heat and sweet banana pepper harvest has begun in the Fremont area and harvest will ramp up for all areas in the next 2 weeks.



Processing cabbage harvest began 3 weeks ago with great yields and quality reported
photos by Jeff Unverferth



Bacterial canker (right rows) has been diagnosed in some processing tomato plantings
photo by Jeff Unverferth

Wayne County IPM Scouting Program Update

from *Rory Lewandowski, Extension Educator, Agriculture and Natural Resources*

Cole crops: Cabbage, Cauliflower and Broccoli: Young fall harvest plantings have some light levels of flea beetles while cabbage worm levels increased to above treatment thresholds in several fields this past week.

High tunnel tomatoes: Early blight continues to progress in many high tunnels, growers are encouraged to maintain a regular and consistent spray program. Septoria leaf spot is being noted in many high tunnels. Yellow shoulder, blossom end rot and zippering, primarily abiotic conditions are also being noted by scouts. Damage by tomato hornworm, tomato fruit worm and variegated climbing cutworm were all found by scouts this week. In addition some yellow striped armyworm were found.

Field tomatoes: Bacterial speck, spot and canker all being found on plants. In some plantings bacterial spot, speck, and canker are being found on the tomato fruit. Early blight and septoria leaf spot incidence is increasing. Blossom end-rot, zippering and catfacing are also being found. Damage by variegated climbing cutworms was noted.

Sweet corn: Development stages range from some v4 for late planted corn to harvest on some plantings. Trap counts for corn earworm moths remained at zero. Corn borer moths were caught in 2 out of 3 trap locations, with 8 at one location and 14 in the other. Western bean cutworm larvae were found in one field at numbers above the treatment threshold. Some corn rootworm beetles were noted in some sweet corn fields. Caught our first brown marmorated stink bug in a trap checked on August 5 along with 3 other brown stink bugs.

Cucumbers: Harvest is under way in some plantings and there have been some plantings made for intended fall harvest. Cucumber beetles were reported at high levels in some of the young cucumber plantings. Angular leaf spot, a bacterial disease, is common in many of the older plantings.

Zucchini and Summer Squash: Development ranges from plantings a couple of weeks old to full harvest. Cucumber beetle numbers were up significantly this past week, triggering treatment in the new plantings. Scouts noted cucumber beetle feeding damage on fruit in older plantings. Squash bug adults and eggs can be seen in some fields at low levels. Angular leaf spot is common and powdery mildew incidence is increasing. Bacterial wilt and anthracnose are present in some plantings.

Winter Squash and Pumpkins: Japanese beetles and grasshoppers at mainly low levels were noted by scouts. Grasshoppers were heavier in grassy areas of the field. Angular leaf spot, anthracnose and powdery mildew are present in many plantings. Bacterial wilt and fusarium wilt are being found in some plantings. Scouts noted feeding damage by deer and groundhogs.

Melons: Anthracnose and bacterial wilt have been found. Angular leaf spot has also been detected by scouts and confirmed with lab diagnosis. This week scouts also found fusarium wilt and phytophthora blight. Cucumber beetles were found chewing on melon fruit, damaging the rind.

Eggplant: Many plants are setting fruit. CPB, and Japanese beetles are commonly found on eggplant. Some plantings exhibited heavy defoliation damage due to CPB feeding. Anthracnose was found on some plants.

Article continued on the next page.

Wayne County IPM Scouting Program Update Continued..

from *Rory Lewandowski, Extension Educator, Agriculture and Natural Resources*

Green/Snap Beans: Beans generally look very good. Bean leaf beetles, potato leaf hopper, grasshoppers and Japanese beetle levels were all reported as light.

Potatoes: Some early harvest of potatoes has started. Scouts found bacterial soft rot in some of those early harvest potatoes (see photo taken by IPM scout Christine Smedley). Possibly the harvest method damaged those potatoes, opening them up to infection by the soft rot organism. Early blight was noted in some plantings. Colorado potato beetles (CPB) were causing heavy defoliation in some plantings. Potato leaf hoppers were detected in some plantings at numbers that triggered a recommendation to treat.

Peppers: Bacterial soft rot is being found in some fields. (See photos by IPM scout Christine Smedley). In some cases, corn borer larvae entered first, then the soft rot developed. Bacterial spot continues to be a problem in some fields. Anthracnose was also found in some plantings along with cercospora leaf spot. Blossom end rot can also be found. Tomato horn worm damage was noted by scouts on some peppers.



Above: Bacterial soft rot on pepper fruit
Photo by Christine Smedley, IPM scout



Right Top: Collapse of pepper fruit from soft rot
Photo by Christine Smedley, IPM scout



Right Bottom: Bacterial soft rot in potato tuber.
Photo by Christine Smedley, IPM scout

Southern Ohio Vegetable and Fruit Update

from Brad Bergefurd, Ohio State University Extension Educator, Ohio State University Extension Scioto County and OSU South Centers

Isolated rain fell throughout portions of the growing region this week with localized amounts ranging from .4 inch to over 3 inches. With these rains came some areas of severe thunderstorms, torrential downpours and hail damage. Some areas around Chillicothe received these severe storms Saturday afternoon with 10 minutes of pea to dime sized hail, up to 40 mph winds and 3.5 inches of rain in 20 minutes. This storm caused damage to grain, sweet corn, tomato, apple, blackberry and other vegetable crops especially on the north facing sides of crops. For a majority of southern Ohio growing areas the drought conditions of the past 8 weeks persist with non-stop operation of center pivots, drip and big gun irrigation on field corn, soybean, vegetable and berry crops. Somewhat higher daytime



Non-stop Irrigation continues on all grain and vegetable crops under continued drought conditions. Photo by Brad Bergefurd

temperatures have accelerated crop maturity a little but continued cool nights and mornings in only the mid 50's continue to slow crop maturity. Harvests of cantaloupe, watermelon, sweet corn, cabbage and green beans continues with outstanding yields, demand and quality being reported. Demand remains high for all crops although prices have become sluggish for #2 and canner grades of produce at local produce auctions. Blackberry harvest on rotatable cross arm trellis systems

continues with high yields, high prices and great demand being reported. Pinching and training of primocanes continues on standard trellis and rotatable cross arm trellis blackberry systems. Harvest of field cucumber, pickle, summer squash, zucchini, sweet onion, new potato, tomato, sweet corn, cabbage, red beets, head and leaf lettuce, chives, basil, leeks, continues. Harvest of high tunnel tomato, cucumber, blackberry and raspberry continues but yield and quality has dropped. Disease and insect pressures continue especially bacterial wilt on cucurbits, fungal and bacterial disease on pepper, tomato and cucumber and preventive fungicide and insecticide spray applications continue to be tightened up and are being applied on a regular schedule. Weed pressure continues in all vegetable and fruit fields. Cultivation, hand hoeing and pre and post emergent herbicide applications continue to be performed. Direct seeding of fall greens, radishes and lettuce crops continue. Planting of cucumbers, pickles, fall onions and green beans continue. The last of the fall broccoli was transplanted to fields in Pike and Highland county this week. Staking and stringing of tomatoes, cucumbers, eggplant and peppers continue. Harvest of moderate day-neutral San Andreas strawberry variety continues. The first truck load of strawberry runner tips from Canadian nurseries arrived last Thursday July 31 and tips were stuck and placed under mist propagation systems over the weekend and this week. Ground continued to be worked, fertilizer spread, beds formed, fumigants applied, herbicides applied and plastic and drip lines installed this week in preparation for planting of plasticulture strawberry in about a month. **Article continued on the next page.**

Southern Ohio Vegetable and Fruit Update Continued...



The last of the fall broccoli crop was transplanted this week in Pike and Highland counties

Photo by Brad Bergefurd



Cauliflower planted in July is growing well with cool nights

Photo by Brad Bergefurd

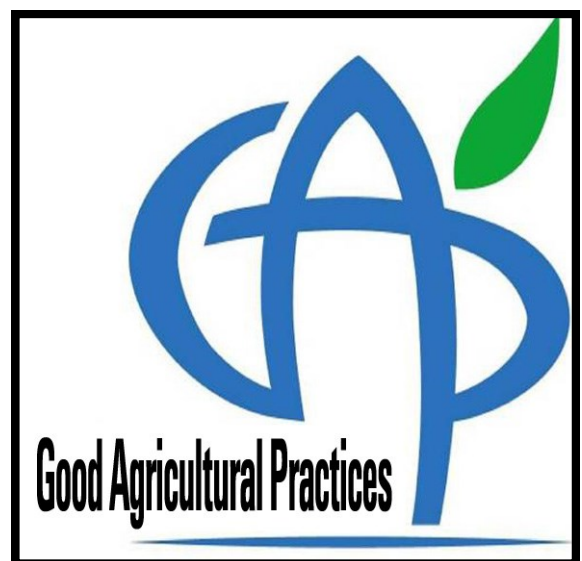
Ohio Produce Safety

from Lindsey Hoover, Food Safety Program Coordinator, Department of Horticulture

Good Agricultural Practices (GAPs) Training will be offered on August 13th, from 6-9 p.m. in Gallia county. The class will be held on Wednesday, August 13 from 6:00-9:00 PM at the extension office, located at 111 Jackson Pike, Gallipolis, OH 45631. Pre-registration is required. The registration fee is \$20 per person. For the registration form go to <http://producesafety.osu.edu/sites/d6-prsafety.web/files/Gallia%20Co%20GAPs%208-13.pdf>.

If you have any questions about this class, contact Jeff Moore at 740-446-7007 or moore.3036@osu.edu.

For more information about the OSU Fruit and Vegetable Safety Program, contact Lindsey Hoover at 330-202-3555 ext. 2918 or hoover.482@osu.edu.



OSU South Centers Update at Piketon

from Thom Harker, Research Assistant OSU South Centers

Strawberry plug production has started at the South Centers and around the state. Strawberry tips are cut and shipped out of Canada for plug production in the United States. Tips are started in fifty cell plug trays and placed under a mist system outdoors or in a greenhouse. After sticking the tips they are placed under a mist system. The tips are then watered for 20 seconds every 2 ½ - 3 minutes for the first three days from 7 am to 7 pm. By day 4-5, you want to cut the water back, some watering 10-15 seconds every 5 minutes. You don't want the trays to be saturated with water (you can lift the trays and look to see if water is dripping out the bottoms, or heavy if saturated). Day 6 and 7, you can reduce the water back to 10 seconds every 15 minutes and change the time frame to 9am to 6pm. Strawberry tips should have root development by day six. After day seven, you can start to reduce the water more, depending on the root development. Strawberry plug plants will be ready for transplant in 4-6 weeks after sticking in plug trays.



Sticking of strawberry tips into plug tray
Photo by Thom Harker



Strawberry tips being placed in the propagation tray
Photo by Thom Harker



Strawberry tips day 1
Photo by Thom Harker



Strawberry tips day 3
Photo by Thom Harker

Hardin County Report

from Mark A. Badertscher, Agriculture and Natural Resources Educator, OSU Extension Hardin County

The annual fruit and vegetable crop walk program was held this week near Kenton at the farm of Sam Troyer. Approximately 57 people attended this program to learn about soil fertility, insect management, and plant diseases. Integrated pest management was the focus as South Centers and Scioto County OSU Extension Educator-Horticulturist Brad Bergefurd discussed physiological disorders of tomatoes and nutrient management principals based on soil testing and crop needs. OSU Entomologist Dr. Celeste Welty focused her presentation on Stinkbugs, European Corn Borer, Spotted Wing Drosophila, and management of other pests. OSU Plant Pathologist Dr. Sally Miller taught a lesson on Bacteria Spot infection in peppers and how plant diseases spread through a garden, produce patch, or field. Van Wert County OSU Extension Educator-Entomologist Curtis Young assisted with the diagnostic question and answer part of the program.

Several Crop Walk attendees brought in fruit and vegetable problems to be diagnosed by the specialists as part of the program. These insect, disease, nutrient deficient, and other related problems made for teachable moments and created a need for further questions and learning. There was also a walk through a produce patch and field, pointing out problems and discussing how to manage these situations. Other topics of discussion during the evening included Ohio's new Sensitive Crop Registry and how growers could sign up to help protect their bees, fruits, and vegetables from possible pesticide drift. There was also discussion about the possibility of holding a private pesticide applicators course to prepare growers for becoming certified to apply restricted use pesticides. **Article continued on the next page.**



Above: Brad Bergefurd and Curtis Young teaching in the field. Photo by Mark Badertscher
Left: top-Local growers learn about insect management soil fertility, and plant disease
Left: bottom-Celeste Welty teaching local growers Photos by Brad Bergefurd

Hardin County Report Continued...



Brad Bergefurd diagnosing a plant sample

Photo by Mark Badertscher



Sally Miller teaching local growers

Photo by Mark Badertscher

North Central Update

from Timothy Malinich, Extension Educator, Agriculture and Natural Resources, Erie County

SWD

The first Spotted Wing Drosophila was found in our region this week. The single male turned up in a grower's trap in blackberries. There have been two other reports of brambles with larvae but no samples were saved or provided. Generally traps are being monitored in areas where weekly preventative sprays are being used—they have been turning up empty of SWD. The two verbal reports and the one positive find were in unsprayed blocks. This year, growers are carefully choosing and rotating products for SWD control. No SWD in vineyard traps yet this year.

Crops

Early apples are still coming in after a relatively early start. Local sweet corn is now in the farm markets. Tomatoes are ripening slowly but at least they are available. Grapes are beginning to color.

Weed Control

Annual grasses are going to seed and summer annuals like ragweed, giant ragweed and lambsquarters are 2 – 3' tall and just beginning to bloom.



Spotted Wing Drosophila damage to blackberry; note larva near top edge

Photo by Timothy Malinich

Northwest Ohio Report

from Brad Bergefurd, Ohio State University Extension Educator, Ohio State University Extension Scioto County and OSU South Centers

A Pepper Field Night was held on July 31 at the North Central Agricultural Research Station in Fremont, Ohio. Over 40 local growers were in attendance. Several pepper field research trials were showcased. Machine harvested pickling cucumber harvest is underway with good yields and quality being reported.



Machine harvest processing pickle harvest is in full swing Photos by Brad Bergefurd and Debra Deis



Left and Above-Many pepper research projects and new varieties were showcased at the North Central Agricultural Research Station OARDC in Fremont on July 31

Photos by Debra Deis

Muck Crop Update

from Robert Holthouse of D.R. Walcher Farms and Holthouse Farms



Cubanelle harvesting
Photo by Robert Holthouse



Cubanelle's are producing large quantities
Photo by Robert Holthouse



Cubanelle harvesting in the fields
Photo by Robert Holthouse



Cubanelles continue to grow
Photo by Robert Holthouse



Cubanelle picking
Photo by Robert Holthouse



Long Hot Pepper
Photo by Robert Holthouse



Hops Production Twilight Tour

**OSU South Centers
Piketon, Ohio**

Hosted by Brad Bergefurd



Topics to be covered:

- Trellis construction
- Planting of hops rhizomes
- Training of bines
- Drip irrigation
- Landscape fabric, weed control
- Insect management
- Food Safety & Good Agricultural Practices (GAPS)
- Hops for Ohio craft brewers
- Harvesting
- Processing
- Ohio MarketMaker & marketing techniques
- Disease management
- Variety evaluations
- Yard establishment economics

Special Guests:

- The Ohio Department of Agriculture
- Columbus Irrigation Co. LLC



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Thursday

August 14, 2014

6:00 p.m. — 9:00 p.m.

Location:

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

Cost: \$15.00

To Register:

Go to <http://go.osu.edu/hopsfieldnight>
You may also contact Charissa
McGlothlin at 740.289.2071 ext.
132 mcglothlin.4@osu.edu

Deadline to register:

August 12, 2014

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Submit Articles:

To submit an article to the **VegNet** newsletter please send the article and photos to Brad Bergefurd at bergefurd.1@osu.edu or for questions regarding the newsletter contact Charissa McGlothlin at mcglothlin.4@osu.edu or at 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

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