

# VegNet *The Vegetable and Fruit Crops Teams Newsletter*

<http://vegnet.osu.edu>

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## *In this issue:*

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Spotted Wing Drosophila Update	1
Upcoming Events	2
OSU South Centers Update	2
Ohio Food Safety	3
Southern Ohio Vegetable and Fruit Update	4-5
Hops Field Night at Wooster a Success	6
Wayne County IPM Scouting Program Update	7
Muck Crop Update	8
Protein Ponderings	9
Hops Field Night at Marysville, Ohio	10
Muck Crop Workshop	11

## Spotted Wing Drosophila Update

*from Jim Jasinski, Associate Professor, Extension Educator  
Integrated Pest Management Program Coordinator*

Spotted wing Drosophila (SWD) was detected in several counties last week at low levels including Greene, Franklin, Warren, Ottawa, and Sandusky, and is likely to be found in several more counties this week on ripening small fruit crops. Growers are advised to be aware of this pest as they manage this crop. We recommend that each farm with susceptible (ripening/ripe) fruit set up two or more fermented bait or apple cider vinegar traps to monitor for SWD adults, and then begin treatment when the first adult is confirmed.

We have posted a short video on how to set up and check both fermented bait and apple cider vinegar traps on the OSU IPM Program YouTube channel at (<https://www.youtube.com/channel/UCzcWalH3mx7HUKh4OF7bYPA>).

Unusually soft fruit may also indicate an infestation of SWD larvae in the fruit. We have just posted a video on how to run a salt water test to check the fruit for SWD larvae on the same YouTube channel.



Spotted Wing Drosophila

Photo by Eric LaGasa

# 2014 Upcoming Events

**July 29** - Hops Field Night at Marysville, Ohio. See page 10 for full details.

**July 31** - Pepper Field Night. See article on front page for more details.

**July 31** - Muck Crops Field Night. See page 11 for full details.

**August 12**-Hops Workshop in Cleveland, Ohio. Details to come.

**August 14**-Hops Field Night at OSU South Centers in Piketon, Ohio. Contact Charissa McGlothlin at 740.289.2071 ext. 132 or mcglothlin.4@osu.edu

## OSU South Centers Update at Piketon

*from Thom Harker, Research Assistant OSU South Centers*

### Two Spotted Spider Mite Located in Hops Yard

Hop yard work continues at South Centers, with weekly fungicide application. This week, we included an insecticide/miticide in the spray.

Two spotted spider mite damage was noticed in the yard late last week. The two spotted spider mite causes damage to the leaves and cones through its feeding action. Infestations of the mite can be a serious threat in the hop yard, leading to yield and quality loss.

General plot maintenance has been completed across all research trials.



Spider Mite

Photo Courtesy of University of Vermont



Damage on the hop bine from the two spotted spider mite

Photo by Thom Harker

# OSU South Centers Fruit Update

*from Thom Harker & Ryan Slaughter, Research Assistant OSU South Centers*

On Tuesday July 15<sup>th</sup> OSU South Centers held the Blueberry, Bramble, and Wine grape Field Night.

Dr. Gary Gao and Dave Scurlock hosted the event. Topics included, but were not limited to, summer vineyard management, bramble production systems management and establishment of "Super Berry" plantings.

The field night was very successful with around 50 attendees, many of whom traveled from all over Ohio to attend. Attendees ranged from hobby farmers to commercial growers and they all had excellent questions and insight.



**Dr. Gary Gao speaking about bramble production at the OSU South Centers field night**

Photos by Ryan Slaughter

## Ohio Food Safety

*Source-Lindsey Hoover, Food Safety Program Coordinator, Writer-Martha Filipic*

The Aug. 13 Good Agricultural Practices (GAPs) Training program will be held from 6 to 9 p.m. at the Gallia County office of Ohio State University Extension, 111 Jackson Pike, Gallipolis.

Registration is \$20 and is required by Aug. 6. Go online to [go.osu.edu/kkg](http://go.osu.edu/kkg) to download and print the registration form. For information, contact Jeff Moore, OSU Extension educator, at 740-446-7007.

Participants receive a certificate of participation and a recordkeeping binder, said Lindsey Hoover of Ohio State University's Fruit and Vegetable Safety Team, the program's sponsor. The team and OSU Extension are both part of Ohio State's College of Food, Agricultural, and Environmental Sciences. Hoover said the Gallipolis training is the final GAPs training session planned for this year. Throughout 2014, the team offered 20 such sessions throughout Ohio, reaching over 450 growers. Although attending such sessions does not make growers "GAPs Certified," which some retailers require of their suppliers, it does prepare farmers to begin developing on-farm food safety plans and teaches them the basics of what they need to do to provide safe produce for consumers.

In the meantime, the team is planning a series of Ohio agricultural water workshops to further educate fruit and vegetable growers on Food and Drug Administration food safety standards, proper water sample collection and water handling. Hoover said workshops will take place January through April in 2015 and 2016 in Cleveland, Columbus, Wooster and Piketon. Those workshops will be free, thanks to funding from the Ohio Department of Agriculture's More information on the workshops will be available on the team's website, [producesafety.osu.edu](http://producesafety.osu.edu).



# Southern Ohio Vegetable and Fruit Update

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

Growing and field conditions remain very dry for a majority of the growing area. However some locations received isolated thunderstorms 7/13 through 7/15. Supplemental irrigation continues to be run by most growers including trickle irrigation, center pivots and big guns. Cool conditions prevailed for the week, with an unseasonably low of 49 degrees on the morning of 7/17 which resulted in harvest gaps for most vegetable crops resulting in higher wholesale market prices and demand at local produce auctions. Sweet corn harvest remains in full swing throughout most of the area with great demand and short supply being reported due to cool temperatures. Black raspberry harvest has wound down, and harvest of mid and late season blueberry continues. Blackberry harvest on rotatable cross arm trellis systems is in full swing 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 cantaloupe and watermelon is beginning to ramp up. Though crop maturity has slowed with the cool temperatures this week harvest of field cucumber, pickle, summer squash, zucchini, sweet onion, new potato, sweet corn, cabbage, red beets, head and leaf lettuce, chives, basil, , leeks, continues. Harvest of high tunnel tomato and cucumber continues. Disease and insect pressures are increasing and preventive fungicide and insecticide spray applications have been tightened up and are being applied on a regular schedule. Bacterial spot on processing hot wax pepper has been reported in Highland county and confirmed by Dr. Sally Millers lab. 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 and transplanting of all vegetable crops continues with the last of the sweet corn planted this week. Broccoli, cauliflower and cabbage for fall crops continue to be direct seeded and transplanted to the field. Staking and stringing of tomatoes, cucumbers, and peppers continues. Ground continues to be worked, fertilizer spread, beds formed, fumigants applied, herbicides applied and plastic and drip lines installed in preparation for planting of plasticulture strawberry.

Harvest of moderate day-neutral San Andreas strawberry variety is in full swing with good quality and high demand being reported. Harvest of blackberry on Rotating Cross-Arm Trellis Systems is in full swing. With the lack of rainfall in July bird damage has increased, therefore, bird netting has been applied. The bird netting also acts as a shade cloth, but with this week's cooler than normal temperatures sunburn has not been a problem. Irrigation applications have been constant with some areas reporting only a half inch of rainfall so far this month.



**Sweet corn maturity has slowed with this week's cool temperatures**

Photos by Brad Bergefurd

*Photos continued on the next page*



**Bird netting has been applied to Rotating Cross-Arm Trellised blackberry**

Photo by Brad Bergefurd



**Harvest of moderate day-neutral San Andreas strawberry variety is in full swing**

Photos by Brad Bergefurd



**Bacterial leaf spot has been diagnosed in wax pepper**

Photos by Brad Bergefurd



**Spraying of fungicides and insecticides have been ramped up with increased pressure**

Photos by Brad Bergefurd



# OSU Hops Field Night at Wooster a Success

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

The weather cooperated by providing a dry and cool evening last Thursday evening, July 17 at the OARDC in Wooster, Ohio where the 2<sup>nd</sup> Annual OSU Hops Field Night was held. Over 150 growers, microbreweries, hops industry representatives, OSU faculty and staff attended the annual Hops Field Night. Those in attendance received the latest information on Ohio State University hops research, marketing, Ohio Department of Agriculture food safety and recent developments in Ohio's hop and craft brewing industry.

Other highlights of the evening included presentations on hop trellis construction, planting of hops rhizomes, training and pruning of bines, drip irrigation set up and operations, nutrient management, weed control, insect management, disease management, harvesting & processing for craft brewers, Ohio Marketmaker & hop marketing techniques, cultivar evaluations and hop yard establishment

economics.

The evening concluded with walking tours of the ½ acre hop yard devoted to research and demonstration at the OARDC.

Following the field night attendees reconvened at the JAFB Wooster Brewery in Wooster, Ohio for tours of this craft brewery that is using fresh hops in their variety of craft brews.

For more information on what was covered at this years or past years Hop field nights or other hops programs contact Horticulture Specialist Brad Bergefurd, at the OSU Piketon Research & Extension Center

[Bergefurd.1@osu.edu](mailto:Bergefurd.1@osu.edu) or 740-289-3727 extension 136. Information is also available on the new OSU Hops web site <http://southcenters.osu.edu/horticulture/other-specialties/hops> where field research results, pictures and more hops production and marketing information is available.



**OARDC Associate Vice President, Steve Slack speaks to the growers** Photo by Charissa McGlothlin



**Over 150 attendees at the field night** Photo by Charissa McGlothlin



**OSU Hops Team-Brad Bergefurd, Charissa McGlothlin, Chelsea Smith, Mary Gardiner** Photo by Charissa McGlothlin

# Wayne County IPM Scouting Report

from Rory Lewandowski, Extension Educator, Agriculture and Natural Resources,  
OSU Extension Wayne County

## VEGETABLES:

**Cole crops: Cabbage, Cauliflower and Broccoli:** Most cole crops look good. Imported cabbage worm larvae and cabbage looper were found in some fields at low levels.

**Onions and Garlic:** Thrips are generally present but at low levels, well below threshold. Botrytis leaf and neck rot are present in some plantings.

**High tunnel tomatoes:** Botrytis, early blight and fusarium wilt have been found. Timber rot is being identified in some high tunnels. This week scouts found climbing cutworm, tomato fruit worm and corn borer larvae all attacking tomato fruit. See attached photo by IPM scout Chris Smedley of tomato fruitworm larva in a tomato.

**Field tomatoes:** Bacterial speck, spot and canker all being found. Early blight and septoria leaf spot incidence is increasing. Timber rot on a few plants was found. Blossom end-rot is also being found.

**Sweet corn:** Corn is silking and corn pollination is underway in some plantings. Corn borer damage was noted, still below economic treatment threshold. Corn borer moth counts are very low, probably between generations. Although no corn earworm moths have been caught in pheromone traps, scouts did find a corn earworm larva in some silking corn.

**Cucumbers:** Cucumber beetles being found. Some bacterial wilt symptoms are being observed in older plantings. Angular leaf spot, a bacterial disease, is common in many plantings.

**Zucchini and Summer Squash:** Cucumber beetles are light in most fields. Japanese beetles are present and feeding at low levels. Squash bug adults and eggs can be seen in some fields at low levels. Angular leaf spot is common and some powdery mildew has been found. Blossom end rot can be found as well.

**Winter Squash and Pumpkins:** Cucumber beetles were at low levels along with Japanese beetles. Angular leaf spot is common and anthracnose is also being found.

**Melons:** Anthracnose and bacterial wilt have been found. Angular leaf spot has also been detected by scouts and confirmed with lab diagnosis.

**Potatoes:** Colorado potato beetles (CPB) are ever present. If left uncontrolled populations quickly build. Heavy defoliation was found due to CPB in several plantings. There are some natural predators at work. IPM program scout Art Sigler snapped a photo of a spined shoulder stink bug attacking a CPB larva. See attached photo.

**Peppers:** Bacterial spot was found in several pepper plantings this past week. Cercospora leaf spot is present in some plantings.

**Eggplant:** Potato leaf hopper (PLH), CPB, and Japanese beetles were all found on eggplant. Some plantings exhibited heavy defoliation damage due to CPB feeding.

**Green/Snap Beans:** Bean leaf beetles were very light, Japanese beetle feeding damage ranged from light defoliation to moderate defoliation.



**Insect activity on high tunnel tomato**

Photo by IPM scout Christine Smedley



**Stink bug attacking a CPB larva**

Photo by IPM scout Art Sigler



# Muck Crop Update

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



**Elongated bell pepper variety**

Photo by Robert Holthouse



**Bell peppers setting fruit**

Photo by Robert Holthouse



**Summer squash is in bloom**

Photo by Robert Holthouse



**Stacked bell pepper field**

Photo by Robert Holthouse



**Halopino pepper fruit set**

Photo by Robert Holthouse



**Egg plant stacked and tied**

Photo by Robert Holthouse



# Protein Ponderings

*from Stan Ernst, Business & Marketing Specialist/Ag Economist, Specialty Crops Business Program Manager*

Take a close look around your local convenience store or even grocery and you'll see evidence of growing consumer interest in protein. This isn't an Atkin's Diet reboot... the past decade has seen the growth in meat snacks, nut snacks, pork rinds, and, more recently, protein boosting drinks, yogurts, and other foods. The medical profession might say that only the aging and athletes really need more protein in America, but some argue that teens/tweens need more and plenty of folks look at protein as a weight and energy management tool. More than half of Americans surveyed are still looking to up their protein consumption. The International Food Information Council (IFIC) Foundation's Food & Health Survey last year found about 60% of Americans actively trying to eat fiber, whole grains and protein. Specifically, 57% are trying to get either a set amount or as much protein as possible... that's up from 48% a year earlier, the greatest increase among all the nutrients they study. When it comes to packaged food products, the numbers are even higher: 60% of men and 67% of women are looking for protein, according to Mintel International. So what niche (or greater) opportunities are out there for food producers? I see options for growing both end products and ingredients. Some musings to get you thinking:

It doesn't look like we'll see a decline in meat snack introductions any more than decreased interest in easy recipes and new cuts for high-quality, lean animal protein. High-end consumers are looking again at the age-old interaction between feed and meat flavor... brewers' mash-fed pigs yielding whiskey flavor; feeding lambs cull apples or potatoes or different hay mixes. May be some options there for produce producers.

We studied consumer interest in snacking on pumpkin seeds here in Ohio a few years back and found little knowledge or interest, despite 12g protein per serving and a strong dose of needed minerals. I don't see a lot of change since 2011 on the plain/flavored seed front but do see growth for ingredient use in snack mixes, meal bars, baking and even the smoothie markets. Varieties and processing are still a concern, but there's increased demand, particularly for domestic sources.

Rapid growth in cross-ethnic interest in hummus put some spotlight on the lowly chickpea (garbanzo bean) the past couple years. Now we're seeing them as flour in cereals, in flavored spreads, as chips or toasted snacks, and chili ingredients. I use a can of them for an extra protein kick in salad or stir fry. As another case of "everything old is new again" we see nutritionists and chefs trying to revive interest in a number of beans for their low-cost nutrition. But until the average American learns to cook a little again, I guess I see more potential in the aforementioned ingredient markets.

Lots of interest in "ancient grains" over the past 24 months has focused on Quinoa ("keen-wah") seeds. Some of this is in support of gluten-free diets, as a rice replacer, or as a protein punch in baked goods and veggie burgers. As more consumers discover how easily quinoa cooks and takes on flavor, its protein, omega 3's and phytonutrients are likely to be even more attractive. Supplies have been an issue for this (primarily) hand-cultivated South American Andes crop. However, selecting plants with less variable maturity has helped make it a consideration for more mechanized locations in North America in response to consumer interest.

A kilogram of grasshoppers has as much protein as 10 hot dogs ... that probably equals about one of whopper'hoppers I experienced in the Upper Great Plains. Crickets, ant eggs, and some algae are other ready sources of protein. Despite popularity with about 80% of the world's people, none of these sound likely to catch on outside of "experimental" restaurants and entomology conventions here in the U.S. But maybe as a protein-boosting powdered ingredient (research Chapul's Cricket Bars from Utah)? And it is fun to ponder any "double-crop" opportunities for produce growers trying to use fewer insecticides.

## THE OHIO STATE UNIVERSITY EXTENSION



# Starting to Grow Hops Field Day

### Learn about these topics:

- Starting your own hops production
- Startup expenses
- Labor
- Variety selection
- Economics
- Pest control
- Irrigation
- Packaging and processing procedures.

*The first part of the day will include presentations and the afternoon will be in the field.*

**Tuesday, July 29, 2014**

Buckeye Room  
Union County Agricultural  
Center  
18000 St. Rt. 4, Marysville, OH  
43040

**Cost: \$25**

**Time:**

Registration is from  
9:00 a.m. – 9:30 a.m.

Workshop starts  
at 9:30 a.m.

**Contact:**

Amanda Douridas  
[douridas.9@osu.edu](mailto:douridas.9@osu.edu)  
937.644.8117

### REGISTRATION INFORMATION

Name(s) \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

Please mail registration to: Union County Extension, 18000 St. Rt. 4, Suite E, Marysville, OH 43040  
Cash or checks accepted. Make checks payable to OSUE.



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OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER  
OHIO STATE UNIVERSITY EXTENSION

# 2014 MUCK CROPS FIELD DAY



Thursday, July 31 • 10:30 A.M. – 12 P.M.

**Muck Crops Agricultural Research Station**  
4875 State Route 103 South  
Willard, OH 44890

## Program

- IR-4 Trials
- Vegetable Disease Management
- Pest Scouting
- Herbicide Drift
- Simple Sprayer Calibration

## Speakers

- Charles Krause, U.S. Department of Agriculture
- Sally Miller, Plant Pathology
- Celeste Welty, Entomology
- Doug Doohan, Horticulture and Crop Science
- Roger Downer, Horticulture and Crop Science
- Erdal Ozkan, Food, Agricultural and Biological Engineering

## Registration

Free and open to the public

## History

The rich, black soils of Huron County, Ohio, are perfect for OARDC's Muck Crops Station – the oldest location among the outlying stations. It is here, in the heart of fresh market vegetable country, that Ohio State scientist study radishes, parsley, cilantro, green and bulb onions, and many other leaf and root crops. The soil here is almost 45 percent organic matter, whereas most mineral soils only have 3 to 5 percent organic matter.

## For more information

Robert (Bob) Filbrun, Manager

419-935-1201

[filbrun.12@osu.edu](mailto:filbrun.12@osu.edu)

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419-668-8219

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[www.oardc.ohio-state.edu/branches/branchinfo.asp?id=4](http://www.oardc.ohio-state.edu/branches/branchinfo.asp?id=4)



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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 [bergefurd.1@osu.edu](mailto: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.



**Brad Bergefurd, MS**

Extension Educator, Agriculture and Horticulture  
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