

VegNet

The Vegetable and Fruit Crops Teams Newsletter

<http://vegnet.osu.edu>

Lead Editor and Contributing Author : Brad Bergefurd

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Muck Crop Update

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



Bell pepper are in bloom and beginning to set fruit Photo by Robert Holthouse



Bell peppers have all been staked and tied Photo by Robert Holthouse

2014 Upcoming Events

- **July 15**-Bramble, Blueberry and Wine Grape Field Night, South Centers at OSU South Centers. For details contact Charissa McGlothlin at 740.289.2071 ext. 132 or mcglothlin.4@osu.edu
- **July 17**– Hops Field Night at Wooster, Ohio. Contact Charissa McGlothlin at 740.289.2071 ext. 132 or mcglothlin.4@osu.edu
- **July 31** - Pepper Field Night. See article on front page for more details.
- **August 12**-Hops Workshop in Cleveland, Ohio. More information 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

Tracking common sweet corn pests

from Celeste Welty,

Corn earworm moths have been recently detected in Ohio, but at low density during the past two weeks; our pheromone traps at Columbus have averaged one moth per trap per week. Cooperators at Fremont, Celeryville, and Springfield report zero moths in corn earworm traps this week. We consider catches of less than 6 corn earworm moths per week to be negligible, however even low density populations can cause damage in sweet corn if the field corn in the area was planted late and sweet corn is the only corn in the silking stage, which is very attractive to the corn earworm.

European corn borer is now present as larvae in corn stalks. The adults of European corn borer are now between generations; moths of the overwintering generation were caught in traps from late May until mid-June in Columbus and Fremont, but are now tapering off. We expect new moths to emerge sometime in late July or early August. The new generation of moths will be laying eggs on late sweet corn and on peppers.

The fall armyworm has been active for the past two weeks as detected by pheromone traps in Columbus and Celeryville. This pest often is not found until late summer but seems to be earlier than usual this year. In sweet corn, it typically begins as infestations in whorl-stage corn, then it moves into tassels and ears as plants develop. It is often found in low spots in a field. It can be scouted for in whorl-stage sweet corn. Scouts should look for ragged feeding and frass in whorls. The worm is sometimes visible or sometimes tucked down deep in the whorl.

Action thresholds and insecticide products used for control of sweet corn pests are listed on pages 194-196 in the Midwest Vegetable Production Guide, <http://www.blny.purdue.edu/pubs/id/id-56/ID-56.pdf>.

Hardin County Report

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

Visited Rohrs Farms in McGuffey. Carrots are grown in a rotation with corn in muck soil near McGuffey in the Scioto Marsh. Talked with Jason Rohrs about the current carrot crop. In a normal year, they plant in April and start harvest in August. They raise soup carrots for Campbell's in Napoleon, while others are sold in North Carolina and Texas. They will soon be doing a preventative spray for aphids, which is usually the primary pest. Other insects will feed on the leaves, but do not damage the carrots like aphids will. A fungicide application will be applied later. Fertilizer program is similar to corn nutrients. Micronutrients are applied by foliar application with carrots. Late in the season, Boron is applied to the crop to prevent splitting of carrots from rapid growth. Primary weeds to manage include giant ragweed and marestail in the carrot fields. These weeds are controlled by a herbicide program and row crop cultivating. They have pivot irrigation and use both pull-type and self-propelled harvesters.



A good stand of processing carrots

Photo by Mark A. Badertscher



Carrots have been cultivated

Photo by Mark A. Badertscher



Mechanical harvester used to dig carrots

Photo by Mark A. Badertscher

Powdery Mildew found in High Tunnel Cucumbers

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

Cucurbit powdery mildew was found on cucumber plants July 8th in an urban high tunnel in Montgomery County. Older plants were covered with the characteristic whitish mycelium on both the top and bottom of the leaf surface. This fungus, unlike most fungi, requires low moisture for development and therefore is commonly seen in greenhouses and high tunnel structures.

To control this disease in structures, refer to the fungicides listed on pg. 40 of the Midwest Vegetable Production Guide (http://mwveguide.org/37_ProductionTables.pdf).

Finding cucurbit powdery mildew in high tunnels should be a reminder that this disease is around and sure to appear in field grown crops in the next few weeks. Be sure to scout any cucurbit crop (pumpkin, melon, squash, cucumber, zucchini, etc.) for this disease by looking at the older leaves in the center to lower canopy. Once powdery mildew colonies are found, begin treatment with an appropriate fungicide program on a 7-14 day schedule. Fungicide options are listed in the Midwest Vegetable Production Guide on page 91 for pumpkin and squash and 100 for melons, cucumbers, and cantaloupe (http://mwveguide.org/90_Cucurbits.pdf).



Powdery mildew disease on high tunnel cucumbers

Photo by Jim Jasinski



Powdery Mildew has colonized these cucumber leaves

Photo by Jim Jasinski

OSU South Centers Update at Piketon

from Thom Harker and Ryan Slaughter, Research Assistants OSU South Centers

The hop yard fungicide applications continue for downy mildew this week. Training of hops bines also continued this week, cleaning of the bottom three feet is complete. This will help with air flow across the yard. With the lack of rainfall, irrigation was running on all crops at South Centers. Tomatoes were fertigated with nitrogen and potassium and had their third tie put on them this week. Tipping and training continues in blackberries; with picking likely to begin next week.



Blueberries begin to ripen

Photo by Ryan Slaughter

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 downpours in thunderstorms 7/7 through 7/9. Supplemental irrigation continues to be run by most growers including trickle irrigation, center pivots and big guns. Sweet corn harvest is in full swing throughout most of the area with great demand and short supply and great yields and quality being reported. Renovation of matted row and plasticulture strawberry fields is finishing up with supplemental overhead irrigation being applied. Black raspberry and blueberry harvest is in full swing throughout the region. Blackberry harvest on rotatable cross arm trellis systems is in full swing. 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, sweet corn, broccoli, cabbage, peas, turnips, red beets, tat-soi, mizuna, head and leaf lettuce, chives, basil, sweet corn, spinach, leeks, continues. Harvest of high tunnel tomato, cucumber, lettuce, spinach and herbs continue. The first new potatoes are now being dug for the fresh market. Suspected disease has been found in high tunnel cucumbers in Dayton area, these have been sent to Dr. Sally Millers lab for culturing and diagnosis.

Watermelon and cantaloupe fruit are beginning to size up nicely, with estimated harvest to begin next week July 15 to 17. Weed pressure continues in all vegetable and fruit fields. Cultivation, hand hoeing and pre and post emergent herbicide applications continue to be performed. Transplanting of sweet potato slips is finishing up. Direct seeding and transplanting of all vegetable crops continues, with the last of the jack-o-lantern pumpkins transplanted this week. Broccoli, cauliflower, and cabbage continues to be transplanted to the field. Seeding of cauliflower, broccoli and cabbage for a fall planting continues. Staking and stringing of tomatoes, cucumbers, and peppers continues. Ground continues to be worked, fertilizer spread, beds formed and plastic and drip lines installed.



Pre and post emergent herbicide application are being made
Photo by Brad Bergefurd



Big Gun irrigation on Sweet Corn
Photo by Brad Bergefurd

Weed Control in Strawberry at Renovation:

From Doug Doohan, Professor Department of Horticulture and Crop Science

Several weeks of excellent weed control following the post-harvest procedures are critical to a successful renovation. Most growers will achieve this through timely herbicide applications selected to control dominant weeds in the field. For most, an application of 2,4-D or clopyralid (Stinger, Clopyr etc.) before mowing the plants and narrowing the rows is needed to control broadleaf perennials. 2,4-D is excellent on plantain and dandelions but is less effective on thistle, knotweeds and vetch. For these clopyralid will be needed. Perennial grasses can be controlled with Poast, or Select. Select will provide better control of fescues and bluegrasses than will Poast. As a rule-of-thumb, grass herbicides should not be mixed with herbicides intended for broadleaf weed control.

After the rows have been mowed off, narrowed and fertilized apply one or more of the following, depending on your weed infestation problem. No single herbicide will control all weeds, and it is best to plan on some mechanical- and hand-weeding to prevent *misses* from becoming your next big weed problem.

Sinbar WDG. Applied PREMERGENCE or early POST (seedling emergence), Sinbar controls most broadleaf weeds and some grasses from seed. Rainfall or ½ inch of irrigation immediately after application of Sinbar will activate the herbicide and reduce the risk of crop chlorosis (yellowing). Apply 3-8 oz/A depending on soil type. For soils with less than 1% OM apply a maximum of 3 oz/A; and for soils with 1-2 % OM apply a maximum of 4 oz/A.

Spartan 4F. Spartan controls many of the same weeds as Sinbar but is used strictly as a PREMERGENCE herbicide. Spartan controls *common groundsel*, *marestail*, *nutsedge*, *pigweeds*, *nightshades* and *yellow toadflax (butter and eggs)*, species that either are not controlled at all, or only poorly controlled by Sinbar. Spartan is weak on dandelions and marestail. Apply 4 to 8 oz/ Acre immediately after mowing and narrowing the rows, and before new crop growth commences. Crop tolerance is good.

Chateau WDG. Chateau controls a number of species poorly controlled by Sinbar including *mallows*, *marestail*, *nightshades*, *pigweeds*, and *morningglories*. Apply 3 oz/ Acre immediately after narrowing and mowing the rows before any new growth starts. Crop oil concentrate at 1% V/V can be added to improve control of any weeds present at application. Crop tolerance is generally good; however, we have observed some instance of delayed/ stunted regrowth following application of Chateau.

Dacthal W-75/ Dacthal F. Dacthal is a very safe herbicide to use on strawberry plantings but only fits if you have certain weeds that cannot otherwise be controlled. Examples are *field violet*, and some *mallows*. I have also seen good control of *yellow wood sorrel* but you won't find it listed on the label. Apply 12 pounds/ Acre of the powder and 12 pt/Acre of the liquid.

Devrinol 50-DF/ Devrinol 2-EC. Devrinol is a PREMERGENCE grass herbicide that also controls a few broadleaf weeds. The most important of these broadleaf weeds to the strawberry grower is *creeping buttercup* a species that occasionally becomes a big problem in fields developed from pastures. Common groundsel is listed as susceptible on the label but is not well controlled in my experience. Apply 8 pounds/ Acre of the 50 DF and irrigate in with sufficient water to wet the soil 2-4 inches deep. Rates for 2-EC and DF-XT are 2 Gallons/ Acre, and 8 lbs/ Acre, respectively.

Prowl H2O. Prowl controls mostly grass weeds and is applied PREMERGENCE after mowing and narrowing the rows. Apply 1.5-3 Pts/ Acre. Do not apply if new growth has started.

Wayne County Update

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

Overview: Most vegetable crops in the area look good. Wet weather and wet soils have continued throughout the area, presenting challenges to growers in terms of cultivating for weed control and controlling bacterial diseases.

Tomatoes: Bacterial canker is present in some fields, and scouts are noting higher incidence of early blight and septoria leaf spot in fields. Timber rot/white mold continues to show up in a few plants in high tunnel production systems.

Onions: Overall the crop is looking very good. Thrip numbers remain low. There are a few scattered incidences of botrytis leaf and neck rot.

Cabbage: Harvest is underway in some of the earlier plantings. Imported cabbage worm and cabbage looper numbers were low to moderate in most plantings.

Fall squash and pumpkins: Most plantings are looking good, vines are running. Angular leaf spot and anthracnose have been found on some plants.

Zucchini and summer squash: Scouts detected some squash bugs and squash bug eggs in a few plantings the past week. Powdery mildew was found on a few plants.

Melons: Softball –sized fruit development is reported in some plantings. Similar to squash and pumpkins, angular leaf spot and anthracnose have been found on some plants.

Cucumbers: Harvest is underway in some earlier plantings and overall the crop looks good with few insect or disease pests at this point.

Potatoes: Most potatoes are looking good, some of the big production fields have been hilled and plants are in bloom. (See photo of large potato field by Christine Smedley, IPM scout). Growers are doing a good job of controlling Colorado potato beetle (CPB) and leaf hoppers.

Eggplant: Scouts found areas in some plantings with heavy defoliation by the CPB. (See photo by Art Sigler, IPM scout).



Potatoes hilled and in bloom in large field
Photo by Christine Smedley, IPM scout



Eggplant with heavy defoliation due to CPB,
Photo by Art Sigler, IPM scout

Southeast Ohio Update

from Mark Landefeld, OSU Extension Educator, Monroe County

Numerous rain events continue to hamper field activities. Late plantings still being installed as ground conditions permit. 1.5 - 2.25 inches of rain were reported last week. More rain is in the forecast for this week.

Green beans are starting to be picked. Onions, beets, peas, and summer squash continue to be harvested, while strawberries are ending. Tomatoes are being staked and strings applied. Some early blight being seen, but under control. Setting up corn earworm and corn borer traps this week. No BMSB's or SWD's in traps.



Good pod set on these green beans

Photo by Mark Landefeld



Excellent stand of green beans

Photo by Mark Landefeld



Sweet onions are sizing up nicely

Photo by Mark Landefeld

Spotted wing drosophila found in Ohio this week

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

Trap cooperators around Ohio have had spotted wing *Drosophila* traps in place for the past month, but the first captures of the target insect were just this week, in southwestern Ohio. Confirmed specimens of the spotted wing *Drosophila* were found on 9 July in Greene County in a blueberry and red raspberry planting, and in Warren County in grapes. Each of these two sites has one trap with plain apple cider vinegar as the bait, and one trap with a bait of a small cup of fermenting flour/sugar/yeast floating on apple cider vinegar. Three positive specimens were found in traps with the fermenting bait, and one positive specimen in the trap with plain vinegar.

Spotted wing *Drosophila* is a new pest that has been invading berry crops in Ohio since 2011. In Ohio it was detected in one Ohio county in 2011, 12 counties in 2012, and 37 counties in 2013.

The spotted wing *Drosophila* is a small fly (Figure 1) that lays eggs in ripening fruit. The eggs hatch into tiny white larvae that burrow into the ripening fruit (Figure 2). If uncontrolled, this pest can render the entire berry crop as unmarketable. It is worst in raspberries, blackberries, and blueberries, but can also attack grapes, peaches, late-bearing strawberries, cherries, and cherry tomatoes.

Spotted wing *Drosophila* can be controlled by an insecticide spray program. The most effective insecticides are Delegate (spinetoram), Mustang Max (zeta-cypermethrin), Lannate (methomyl), and Exirel (cyantraniliprole) for conventional growers, or Entrust (spinosad) for organic growers. Most growers have had good control of spotted wing *Drosophila* with sprays applied every 7 days, starting when the pest is first detected and ripe fruit is present, and continuing until final harvest. Details about which products are allowed on which crops, and pre-harvest restrictions, are listed at the end of this document posted on the internet: http://entomology.osu.edu/welty/pdf/SWD_Ohio_handoutV9.pdf

Samples of fruit can be tested for the presence of spotted wing *Drosophila* by a simple flotation test. A gallon zip-top bag, or a one-quart container, should be filled with about 4 cups of warm water to which $\frac{1}{4}$ cup of common table salt is added. Add a sample of fruit, wait about 20 minutes, then look for small white larvae. If any larvae of spotted wing *Drosophila* were present in the fruit, they will wiggle out and float to the top surface of the salty water (Figure 3).

We are interested in tracking the occurrence of this pest in Ohio. Any growers who find the pest are encouraged to contact Celeste Welty by email at welty.1@osu.edu or by phone at 614-292-2803.



Figure 1. The adult male of spotted wing *Drosophila* has spots on the wings; the female fly does not have these spots.

Muck Crop Update

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



Summer squash close to harvest
Photo by Robert Holthouse



Summer squash continues to be seeded for late crops
Photo by Robert Holthouse



Squash stand damage due to flooding and disease
Photo by Robert Holthouse



Bell peppers are staked and tied to prevent plant breakage
Photo by Robert Holthouse

Muck Crop Update

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



Newly planted squash field

Photo by Robert Holthouse



Drainage ditches allow plastic mulched fields to drain

Photo by Robert Holthouse



Bell pepper are at bloom

Photo by Robert Holthouse



Nice field of staked fresh market cucumbers

Photo by Robert Holthouse



Bell pepper (left) and Eggplant (right) staked and tied

Photo by Robert Holthouse

OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER
OHIO STATE UNIVERSITY EXTENSION

2014 Pepper Field Night



Thursday, July 31 • 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

- Review of the 2014 Pepper Variety Trial
- Herbicides and Weed Control in Peppers
- Controlling Insect Pests in Peppers
- Disease Control in Peppers
- Cantaloupe Perimeter Trapping for Cucumber Beetles
- Cantaloupe Bacterial Wilt Management

Speakers

- Al Gahler, Ohio State University Extension
- Doug Doohan, Horticulture and Crop Science
- Celeste Welty, Entomology
- Sally Miller, Plant Pathology

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



THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL,
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Editor, Brad Bergefurd
bergefurd.1@osu.edu
740.289.2071

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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.



Brad Bergefurd, MS

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