

## OSU Extension - Auglaize County Weekly Horticulture Newsletter – 7-31-20

### Why the Yellow and Brown Leaves on my Potato and Tomato Plants?



Normally at this time of year the lower tomato leaves are turning yellow with brown circular lesions. I found it on my tomato plants late last week! The symptoms above cause the disease of early blight of tomato and potato. The lowest leaves of the plants start to have these brown circular spots with a yellow halo around the spots. The brown spots have rings in them looking like a bulls-eye. As time progresses the lesions grow larger becoming more angular followed by the leaf turning yellow and then brown (necrotic) and moving up the plant. Lesions will also appear on the stem as circular brown spots having sunken appearance and concentric rings like the leaf lesions. Both the tomato fruit and the potato tuber can be infected. Both will have a sunken leathery appearance with the same concentric rings seen on the leaves and stems and with black fruiting structures. The lesions usually start at the top of the tomato fruit near the stem.

The fungus (*Alternaria solani*) over winters in infected plant material in the soil and on weeds in the nightshade family. Examples of weeds include eastern black nightshade, smooth groundcherry, and horsenettle. Spores infect leaves directly when leaves come in contact with the soil or spores are blown or splashed onto leaves. The oldest and most stressed (water, nutrients) leaves are infected first. Under cool, moist conditions numerous spores are produced that are blown onto nearby leaves and plants leading to new infections. The fungus grows best in areas with warm weather and alternating between dry and wet (dew and fog) cycles. Potato tubers become infected when they are injured during harvest and this injured area comes

in contact with soil or plant material that is infected. If a film of water is on the potato infection is more likely to occur.

How do I manage early blight? Management starts with the removal of all plant material of nightshade species (tomato, potato, eggplant, and peppers) from the garden and destroying it so it never gets to the garden again. As an added precaution deep till the garden in the fall to bury any remaining plant material. Rotate all nightshade crops into a new area not returning to the same area for three to five years. Plant disease free seeds and plants and do not injure the potato tuber during planting. Plant varieties having resistance or reduced susceptibility to early blight. Maintain healthy plants. Plants having deficiencies in phosphorus and nitrogen and too much or too little water are infected first. Water plants to reduce the length of leaf wetness to a minimum. Drip irrigation is best. Add good quality compost to the areas of the garden where planting nightshade crops as this will maintain better plant health thereby reducing early blight. Apply fungicides at the first sign of infection. Fungicides are only protectants, not curative, so applications must be applied before the onset of disease. No fungicide will completely control early blight, but will keep it reduced. Effective fungicides include chlorothalonil, fixed copper, iprodione, mancozeb, and maneb. Spray fungicides every seven to 10 days. The only non-chemical method to controlling the disease is to remove infected leaves, but removing leaves must start at the first sign of the disease and once the stems become infected its nearly impossible to maintain enough leaves to maximize yield. Organic approved fungicides include fixed copper, hydrogen peroxide, potassium bicarbonate, garlic and neem oils, seaweed extract, and compost tea (1:5 compost : water) plus Serenade Max and Sonata.

Be diligent in managing this disease.

**Time for Late-Summer Gardening**



As you are enjoying your tomatoes and cucumbers it is time to start thinking about fall gardening. Hopefully you saved some space in the garden to plant and have some seeds available. If you plant immediately, you could plant a short season green bean or pea. Planting green beans and peas now will have its challenges as the bean leaf beetle will feed on the green beans and powdery mildew will attack the peas.

Carrots and red beets planted now will likely be sweeter than spring planting because a light frost will trigger the plant to produce more sugars. Start carrots and red beets right away. Carrots need lots of water to germinate, so be sure to water them well, until they emerge. Other species that can be planted now include radishes, turnips, lettuce, other greens, scallions (green onions), spinach, swiss chard, and kale. In another three weeks you could plant another crop of spinach and lettuce to continue harvest into late fall. September planted spinach may survive the winter if it is covered and the winter is mild.

Plant lettuce only 1/16 inch deep. Plant carrots and other greens 1/4 inch deep. Plant radishes, turnips, kale, scallions and spinach 1/2 inch deep. Plant swiss chard and red beets 1 inch deep.

If you know the fertility of your soil fertilize as necessary. If you have not soil tested for some time apply a 10-10-10 type of fertilizer at 10 pounds per 1,000 square feet and incorporate the fertilizer at least 3 inches deep prior to planting. This will be enough fertilizer for the rest of the season for most of the vegetables, except lettuce, greens, and red beets. Once the lettuce and greens are close to harvest apply a nitrogen source such as urea. Apply nitrogen to the red beets at the 5-leaf stage. Be sure to incorporate the urea right away with tillage or water it in.

### **What is a vole?**

If you have not been bothered by a vole yet, they may likely begin to appear in your garden to eat produce. A vole is a rodent similar to a mouse, but has a short (1 inch) tail and very small ears. Voles make surface run

ways and tunnels in grass and other vegetation. The most common species in our area are the meadow and prairie voles. Voles have a short life expectancy, but are very productive. One female vole can have 5 to 10 litters a year about every 21 days and average 3 to 6 young per litter. They make shallow grass filled nests on the ground or dig a small tunnel 4 to 5 inches deep. Voles are active the entire year. They are most active at dusk and dawn. Their home range is usually  $\frac{1}{4}$  acre. Vole populations cycle with population booms every 3 to 5 years.

Voles are very devastating when they get into a garden. They will eat almost anything in the garden. Examples include red beet roots, muskmelon, green beans, squash, sweet potato roots and more. They really enjoy sweet potato roots, often eating the entire root. They will put holes in fruits. Take time to spread the canopy of vegetables looking for runs, holes and damaged roots and fruits.

The two ways to control voles is with traps and rodenticides. Place two mouse traps back to back with the triggers next to each other in the center of a run or a single mouse trap placed perpendicular to the run with the trigger end in the run. Place a peanut butter oatmeal mixture or small apple pieces on the triggers for bait. Traps placed in a square tube in the center of a run will work as well. If the vole is not caught completely in the trap they may carry it away.

The other strategy is to use a rodenticide bait. Use a pelleted rat/mouse bait containing chlorphacinone or diphacinone. Place 2 tablespoons of the bait in a covered run way to keep the bait dry. The cover can be a board that is raised up enough for the vole to get under the board. Another way to keep the bait dry is to place it in a 2 inch diameter PVC pipe that is 12 to 24 inches in length with the ends cut at a 45 degree angle and place the pipe in the center of a run. Another rodenticide that is more toxic to voles, but also to other species, including humans is zinc phosphide which can be purchased at Rural King. Special care will need to be taken to keep all other animals away from the bait. Place the zinc phosphide in the run during a 48 hour period of no rain or place it in a bait station or under a board where they have some runs.

## Local Observations



**Purple green beans starting to flower**



**Starry Night acorn squash**



**Sweet potato**



**Muskmelon**



**Muskmelongo crazy while on vacation**



**New shoots of asparagus**



**Sunflower**



**Castor bean**



**Rose of Sharon**



**Trumpet honeysuckle**



**Datura**



**Flower buds of magic lilly**



**Peaches starting to turn**



**Gladiolus**



**Tomato almost ready and early blight of tomato**



**Swarm of honey bees**

Good afternoon! I pray you are well! I'm back from getting married.

Much needed rain has fallen since the last newsletter! We received rainfall 7 days since the last newsletter somewhere in the county! Rainfall for Sunday, July 19th ranged from 0" at 7 locations in northern and



eastern parts of county to 0.3" near Sommers and Minster-Ft. Recovery roads. Rainfall for Monday, July 20th ranged from 0" at 11 locations to 0.05" near Valley and Idle roads and near Lock Two and Tri-Township roads. Rainfall for Tuesday ranged from 0.5" near Fiekert and St. Rt. 385 roads and near St. Rt. 117 and St. Rt. 67 roads to 1.96" near Brown and Pusheta roads. Rainfall on Wednesday ranged from 0" near St. Rt. 66 and Vogel roads to 0.66" near Valley and Idle roads. Rainfall on Thursday, ranged from 0" at 13 locations to 0.1" near Mercer Line and St. Rt. 197. Rainfall on Monday, July 27, ranged from 0.38" near Fiekert and St. Rt. 385 to 1.9" near Sommers and Minster-Ft. Recovery roads. Rainfall on Thursday ranged from 0" near Kossuth, near Townline-Lima and Wapak-Fisher roads, and near Fiekert and St. Rt. 385 roads. Rainfall since the last newsletter ranged from 1.36" near Fiekert and St. Rt. 385 roads to 3.39" near Sommers and Minster-Ft. Recovery roads. The average rainfall since the last newsletter was 2.39", 1.92" more than the last newsletter. Rainfall for the month of July ranged from 1.6" near St. Rt. 117 and St. Rt. 67 roads to 5.79" near Sommers and Minster-Ft. Recovery roads. The average rainfall for the month of July was 3.37", 0.78" below the normal for the month of 4.15". Rainfall for the year to date is 25.48", 2.55" above the normal for the year to date of 22.93". There is at least a 40% chance of rain Saturday, Sunday, Monday, and Tuesday of greater than 1" of rain, otherwise a very low chance of rain for the remainder of next week.

A little warmer week! The average high temperature now is 84 degrees F, the same as last week. Therefore we have reached the summer high temperature. Temperatures were above normal for 4 days and below normal for 3 days this past week. Temperatures ranged from 79 degrees F to 90 degrees F for the week. The average high temperature for the week was 85 degrees F which is 1.1 degrees F warmer than last week and only 1.0 degree F warmer than the historical average high. Temperatures will be way below normal for the upcoming week with the highest temperature being only 78 degrees F!

The soil moisture conditions improved greatly for everyone, although the Waynesfield area continues to be fairly dry!! I have stopped watering the garden. Boy did things grow while I was gone, especially the vine crops, last green beans, and sweet potatoes. I have harvested zucchini and cucumbers and peppers since the last newsletter. Early blight continues to spread in the tomato plants.

More new flower species are flowering.

With being gone, no issues were brought to my attention.

## Weekly Weed Photos



**Velvetleaf seed capsule**



**Prickly lettuce**



**Annual sowthistle**



**Prostate knotweed**

## Special OSU Horticulture Meetings

### Horticulture Lunch and Learn and Horticulture Happy Hour

During this period of COVID-19 OSU Extension is offering a Horticulture Lunch and Learn Program and a Horticulture Happy Hour Program. If you are interested, visit the following web address: <http://go.osu.edu/MGVlearn> The Lunch and Learn occurs every Tuesday and Thursday from noon to 1:00 PM and the Happy Hour is Wednesdays from 4:00 to 5:00 PM.

## VegNet

### Send Unsolicited Seeds to ODA – Please Don't Plant Them!

July 31 2020

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**UNSOLICITED SEEDS ALERT**

**ODA Asks Ohioans to Send in Unsolicited Seeds**

The USDA-APHIS and ODA are asking Ohioans who have received unsolicited packages of seed not to open, plant, or throw the seed away. Instead, citizens should report receiving seeds and then submit the packages to USDA using one of the following methods:

1. If possible, place the materials (including the seeds, original packaging material and your contact information) in a resealable plastic bag and mail them to USDA-APHIS at the following address:  
Attn: USDA-APHS  
1895 East Main Street, Building 23  
Raytown, OH 43081
2. Place the materials, including the seeds, original packaging material and your contact information in a resealable plastic bag and drop them off at your county's OSU Extension Office during business hours. You can find the nearest extension office here: <https://extension.osu.edu/office>. Please note that extension facilities may have COVID-19 specific signage detailing procedures (such as wearing a facel covering) that must be followed.

**The Public Should Report the Seeds and Submit the Packages to USDA or to an OSU County Extension Office**



## Wayne County IPM Notes for July 19-July 25

July 30<sub>2020</sub>

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### Wayne County IPM Notes

#### Vegetable Pests

Hot and dry conditions are often ideal for [spider mites](#) to thrive, and this year is no different. Spider mites proliferate during these conditions and are currently doing so in melon plantings. They feed on the undersides of the leaves and their feeding damage over time can cause chlorosis and stippling, and eventually the leaf will shrivel and die. [More on spider mite management](#)

Cucumber Beetles are feeding again, primarily on young, recently transplanted squash. However, the adults are not the only ones causing damage. The larvae of the cucumber beetles have also been doing damage. I have seen damage to the skin of melons where the melon is sitting on the soil. This contact area between the ground and the melon provides the perfect place for cucumber beetle larva to feed.



Tomato hornworm that was feeding on tomato plants. F. Becker photo.

I have started to see a decent amount of damage from tomato hornworms. Be sure to keep an eye on your tomato plants for large areas of defoliation near the top of the plant, as well as damage to the fruit. Tomato hornworms may also feed on Solanaceous plants such as peppers, eggplant and potato, although not to the extent of which they feed on tomato plants.

Japanese beetles are out in large numbers on a wide range of crops. Sweet corn growers should be especially wary of Japanese Beetles feeding since one of their target areas on sweet corn is the silk. The beetles can clip the silk which limits the silk's receptivity to pollen.

### Vegetable Diseases

Downy Mildew has now been detected and confirmed in Wayne County. Cucumber growers should have started a spray program for cucurbit downy mildew.

Powdery mildew is starting to show up on cucurbit crops around the area. If older plantings of summer squash are heavily infested and you are no longer harvesting from those areas, it would be of your best interest to terminate that crop so that you are not allowing the powdery mildew to have a place to thrive. This is especially important if you have younger, successive plantings of summer squash nearby.

This week, the lab at OARDC confirmed [bacterial leaf spot on pepper](#). Bacterial infections have been limited this year due to the heat and dry weather, however, they should still be managed appropriately. This is one of the most destructive diseases for peppers and will result in a yield reduction due to loss of foliage and infection on the fruit.

Bacterial wilt is starting to show up in older squash plants, unfortunately at this point there is nothing that can be done. The cucumber beetles feeding on the plant while it was young vectored the bacteria responsible for bacterial wilt and the plant is finally being impacted by the infection.

### Fruit Pests

Grape berry moth larvae are starting to feed and cause damage in grape clusters. Scouting grapes and carefully assessing the grape clusters can help you determine management needs. Infestations of grape berry moths are typically higher along the borders, and near woods or hedge lines as compared to the interior of the vineyard.

Spotted Wing Drosophila numbers are remaining high. Other than spraying insecticides such as malathion, it is beneficial to limit the



Grapes damaged by grape berry moth. F. Becker photo.

amount of overripe/cull fruit that is on the ground around the plants. The fruit on the ground only attracts more flies and in encouraging good sanitation in the patch it can help reduce the number of flies being drawn in.

[Codling Moth](#) traps have started to show increasing numbers, with some inconsistency, but nonetheless, the counts have trended up. [Oriental fruit moth](#) traps spiked this week, going from essentially 0 per trap to averaging between 7 and 8 per trap.

Japanese beetles are feeding across the spectrum of fruit crops that I am scouting. I have noticed heavy damage primarily occurring on ripe blueberries and on grape leaves. Left uncontrolled, the Japanese beetles can cause significant damage to blueberries and severe defoliation in grapes.

### **Fruit Diseases**

Apple and peach growers should continue their spray programs to manage fruit rots and diseases such as flyspeck and sooty blotch in apples and brown rot in peaches. Alternaria leaf blotch can be found on some apple trees right now. This can be made worse by red mite infestations. With high populations of mites and the leaf blotch, severe defoliation can occur.

Grapes should be starting to get some color to them as the clusters are starting to increase in size. At this point, most varieties of grapes should be resistant to black rot. Although symptoms of black rot may be

showing up on untreated grapes, it is too late to do anything. Growers with varieties of grapes that are not resistant to downy mildew should consider a spray program. Grape growers should also keep an eye out for [powdery mildew](#), as this is the time of year when powdery mildew is typically found on grapes.

## Cucumber Downy Mildew Confirmed in Sandusky County in Ohio

July 29<sub>2020</sub>

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Downy mildew was confirmed today on cucumbers in our sentinel plot on the OSU North Central Agricultural Research Station in Fremont and a home garden in Clyde, both in Sandusky County. This follows reports for cucumbers in Medina and Wayne Counties earlier this month. As I've indicated in previous posts, we believe that cucumber downy mildew has been present in northern Ohio counties for several weeks; growers should be protecting cucumbers with [recommended fungicides](#). We haven't had reports of downy mildew on melons (cantaloupe) but melons are susceptible to the strain of the downy mildew pathogen circulating in northern Ohio, as are giant pumpkins. So these crops should also be protected now with fungicides.



Garden cucumbers with downy mildew

While downy mildew does not cause lesions on fruit, it does reduce yield significantly by damaging and eventually killing the foliage. Growers who stop harvesting fields with severe downy mildew should destroy the plants as soon as possible to eliminate this source of inoculum. The pathogen does not survive in the soil.

Home gardeners who choose to treat cucumbers or melons with a fungicide should purchase a product containing chlorothalanil and start applications before the disease appears. If the disease becomes severe gardeners should destroy the plants to reduce local inoculum.

## Beware of thrips!

July 25<sub>2020</sub>

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The current hot, dry weather can be conducive to outbreaks of thrips. Thrips are very small, slender, elongate, cigar-shaped insects, about 1 mm (1/25 inch) long. They differ from other insects by having thin strap-like wings that are fringed with hairs. The wings are usually folded lengthwise over the back when they are resting or feeding, as shown in the image below. They have asymmetrical mouthparts that have a well-developed left mandible and an underdeveloped right mandible. They feed by piercing plant cells by the mandible then sucking sap that oozes out of the punctured cells.





THE OHIO STATE UNIVERSITY

**Ohio State University Extension**

**Auglaize County**

Top of Ohio EERA

208 South Blackhoof Street

Wapakoneta, OH 45895-1902

419-739-6580 Phone

419-739-6581 Fax

[www.auglaize.osu.edu](http://www.auglaize.osu.edu)



Smaller, tan thrips on left is the onion thrips (*Thrips tabaci*). Larger yellowish thrips on the right is the western flower thrips (*Frankliniella occidentalis*).

Photo by Alton N. Sparks, Jr., University of Georgia, Bugwood.org

Thrips generally have flowers as their preferred plant part but they also feed on leaves and fruits. They are found in flowers of many ornamental plants but also on various vegetables and fruit crops, including tomatoes, peppers, and cucumbers. Thrips are often overlooked due to their small size and their tendency to hide in protected places. When present at low density, thrips are usually not harmful to crops, but when they reach higher density, they can feed on the surface of fruits and cause injury.

The thrips species that infests many outdoor crops is *Frankliniella tritici*, which has the official common name of 'flower thrips', but which is widely known as the eastern flower thrips. The thrips species that is most common in greenhouses is the western flower thrips, *Frankliniella occidentalis*, which is generally much more difficult to control than other thrips because it is not highly susceptible to most insecticides. A third common species is the onion thrips (*Thrips tabaci*), which is a serious pest of dry bulb onions and green onions as well as cabbage.

Natural enemies of thrips are *Orius* flower bugs, which are very small predatory true bugs that prey on thrips as adults and nymphs. *Orius insidiosus* is a common species in Ohio that is frequently found on the moist fresh silks of sweet corn and on flowers of Queen Anne's lace. There are also several species of predatory mites that prey on thrips.



Insidious flower bug (*Orius insidiosus*) feeding on an insect egg.  
Photo by John Ruberson, Kansas State University, Bugwood.org



*Orius* bug feeding on a thrips.

Photo by Robert Webster / xpda.com / CC-BY-SA-4.0 via Wikimedia Commons.

Thrips can be monitored by shaking flowers over a paper or into a cup or zip-top sandwich bag, which should then be examined for the dislodged thrips running around on the surface. Action thresholds have not been developed for most crops, but on strawberry we use a threshold of 2 thrips per flower.

In the past, pyrethroid insecticides provided control of thrips, but there are widespread observations that pyrethroids are no longer very effective for thrips control at most locations. Newer insecticides used to control thrips on conventional crops include Radiant, Assail, and several others, as shown in Table 1 below. Products for thrips control on organic crops include Entrust and various others as shown in Table 2 below.

If a biological control approach is preferred, natural enemies are available for purchase from commercial insectaries for thrips control: Orius (predatory flower bugs), and two species of predatory mites: *Amblyseius cucumeris* and *Amblyseius swirskii*. Beneficial nematodes such as *Steinernema feltiae* are another option. Microbial options include sprays of the beneficial fungus *Beauveria bassiana*, which is found in several commercial products. Biocontrol is not feasible to begin once the thrips population is large but can be planned in advance at locations that have a consistent problem with thrips.

**Table 1. Insecticides for control or suppression of thrips on specified crops under conventional management.**

PRODUCT	active ingredient	strawberry	tomato	pepper	cucumber	onion	cabbage	green-house
Admire	imidacloprid	(other)	(other)	(other)	control	control	control	some
Apta	tolifenpyrad	control	X	X	X	X	X	silent
Assail	acetamiprid	control	control	control	(other)	control	control	no
Closer	sulfoxafior	suppression	suppression	suppression	suppression	X	suppression	no
Exirel	cyantraniliprole	suppression	suppression	suppression	suppression	suppression	suppression	no
Harvanta	cyclaniliprole	(other)	suppression	suppression	suppression	X	suppression	no
Lannate (RUP)	methomyl	X	(other)	(other)	(other)	control	(other)	silent
Lorsban (RUP)	chlorpyrifos	(other)	X	X	X	(other)	(other)	silent
Movento	spirotetramat	X	suppression	suppression	X	control	suppression	no
Radiant	spinetoram	control	control	control	control	control	control	no
Sivanto	flupyradifurone	suppression	suppression	suppression	(other)	X	(other)	no
Torac	tolifenpyrad	X	control	control	control	control	control	silent
Transform	sulfoxafior	suppression	suppression	suppression	suppression	suppression	X	no
Venom	dinotefuran	X	control	control	control	control	(other)	silent
Verdepryn	cyclaniliprole	suppression	X	X	X	X	X	no
Vydate (RUP)	oxamyl	X	(other)	control	control	X	X	silent
pyrethroids:								
Baythroid (RUP)	cyfluthrin	X	suppression	suppression	(other)	X	control	silent
Brigade (RUP)	bifenthrin	(other)	control	control	(other)	X	control	silent
Danitol (RUP)	fenpropathrin	(other)	(other)	(other)	(other)	X	(other)	silent
MustangMaxx (RUP)	zeta-cypermethrin	X	suppression	suppression	(other)	control	control	silent
Warrior (RUP)	lambda-cyhalothrin	X	control	control	control	control	suppression	silent

RUP = Restricted Use Product

X = not registered for use on this crop.

control = thrips is listed as a target pest for this crop, for control.

suppression = thrips is listed as a target pest for this crop, for suppression only (not for control).

(other) = product allowed on the crop, thrips not listed as target pest on that crop, but is listed as target on other crops on same label.

Greenhouse use: yes means it is allowed in greenhouses or high tunnels; no means not allowed;

silent means that use is not prohibited; some means allowed on some crops but not others.

PRODUCT	active ingredient	strawberry	tomato	pepper	cucumber	onion	cabbage	green-house
Ancora (OMRI); PFR-97 (OMRI); Preferal (OMRI)	<i>Isaria fumosorosea</i>	control	control	control	control	control	control	yes
Aza-Direct (OMRI); AzaGuard (OMRI), Azatrol (OMRI); Molt-X (OMRI); Neemix (OMRI)	azadirachtin	control	control	control	control	control	control	yes
BioCeres (OMRI); Botanigard; Mycotrol (RMOA)	<i>Beauveria bassiana</i>	control	control	control	control	control	control	yes
Captiva Prime (OMRI)	<i>Capsicum oleoresin</i> extract	suppression	suppression	suppression	suppression	suppression	suppression	yes
Ecotrol Plus (OMRI)	rosemary oil, geraniol, peppermint oil	control	control	control	control	control	control	yes
Entrust (OMRI)	spinosad	control	control	control	control	suppression	control	some
Grandevo (OMRI)	<i>Chromobacterium subtsugae</i>	control	control	control	control	control	control	yes
Met52 EC	<i>Metarhizium anisopliae</i>	control	control	control	(other)	control	(other)	yes
Pycana (OMRI)	pyrethrins + canola oil	control	control	control	control	control	control	yes
Pyganic (OMRI)	pyrethrins	control	control	control	control	control	control	yes
Seican (OMRI)	cinnamaldehyde	control	control	control	control	control	control	yes
Tersus	pyrethris	control	control	control	control	control	control	yes
Trilogy (OMRI)	neem oil	suppression	suppression	suppression	suppression	suppression	suppression	silent
TriTec (OMRI)	mineral oil	(other)	control	control	control	control	control	yes
Venerate (OMRI)	<i>Burkholderia</i>	(other)	control	control	suppression	suppression	suppression	yes
OMRI = allowed on organic crops, by Organic Materials Review Institute								
RMOA = Registered Material For Use in Organic Agriculture								
control = thrips is listed as a target pest for this crop, for control.								
suppression = thrips is listed as a target pest for this crop, for suppression only (not for control).								
(other) = product allowed on the crop, thrips not listed as target pest on that crop, but is listed as target on other crops on same label.								
greenhouse: yes means it is allowed in greenhouses or high tunnels; no means not allowed;								
silent means that use in greenhouses and high tunnels is not prohibited; some means allowed on some crops but not others.								
Celeste Welty, Extension Entomologist, Ohio State University, Feb. 2020, revised July 2020								

## BYGL

I did not include all of this week's articles in this newsletter. To see all of them go here:  
<https://bygl.osu.edu/>

# Additional Information From ODA About The Mystery Seeds

**Authors**

[Amy Stone](#)

**Published on**

July 30, 2020



The Ohio Department of Agriculture (ODA) is asking Ohioans to please send in unsolicited seeds. Earlier today the ODA distributed the release that is included in this BYGL Alert.

After increasing reports of Ohio citizens receiving packages of unsolicited seeds in the mail, the Ohio Department of Agriculture (ODA) is again urging the public to report and submit any unsolicited seed packets to ODA. In partnership with the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) Plant Protection and Quarantine Office, ODA is working to investigate the number of seed packets sent to Ohio, what type of seeds they are, and where they were mailed from.

The USDA-APHIS and ODA are asking Ohioans who have received these unsolicited packages not to open, plant, or throw them away. Instead, citizens should report receiving seeds [here](#) and then submit the packages to USDA using one of the following methods:

If possible, place the materials including the seeds, original packaging material and your contact information in a resealable plastic bag and **mail them to USDA-APHIS** at the following address:

Attn: USDA -SITC  
8995 East Main Street, Building 23  
Reynoldsburg, OH 43068

**-or-**

Place the materials including the seeds, original packaging material and your contact information in a resealable plastic bag and **drop them off at your county's OSU Extension Office** during business hours. You can find the nearest extension office here: <https://extension.osu.edu/lao>. ***Please note that extension facilities may have COVID-19 specific signage detailing procedures such as wearing a facial covering that must be followed. Additionally, some offices are open at a reduced schedule, or by appointment only. Please reach out to your local office by phone or email prior to driving out so that you are aware of any office specific information that is important before your visit.***

Unsolicited seeds could be invasive species, contain noxious weeds, could introduce diseases to local plants, or could be harmful to livestock. Invasive species and noxious weeds can displace native plants and increase costs of food production. All foreign seeds shipped to the United States should have a phytosanitary certificate which guarantees the seeds meet important requirements.

ODA will have the latest information regarding this investigation [on their website](#).

# ODA Asks Public to Not Plant any Unsolicited Packages of Seeds

**Authors**

[Amy Stone](#)

**Published on**

July 27, 2020





*This information is from the Ohio Department of Agriculture (ODA) and distributed on Monday, July 27, 2020.*

The Ohio Department of Agriculture (ODA) has been notified that several Ohio residents have received unsolicited packages in the mail containing seeds that appear to have originated from China. The types of seeds in the packages are currently unknown and may contain invasive plant species. Similar seed packets have been received recently in several other locations across the United States.

If you receive a package of this type, please ***DO NOT*** plant these seeds. If they are in sealed packaging, do not open the sealed package. You can report the seeds to [ODA online here](#) or you may contact the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) Anti-smuggling Hotline by calling 800-877-3835 or by emailing [SITC.Mail@aphis.usda.gov](mailto:SITC.Mail@aphis.usda.gov). *Also, if possible, please retain the original packaging, as that information may be useful to trade compliance officers as they work through this issue.*



Photo Provided By The Ohio Department of Agriculture

Unsolicited seeds could be invasive species, contain noxious weeds, could introduce diseases to local plants, or could be harmful to livestock. Invasive species and noxious weeds can displace native plants and increase costs of food production. ODA and APHIS work hard to prevent the introduction of invasive species and protect Ohio agriculture. All foreign seeds shipped to the United States should have a phytosanitary certificate which guarantees the seeds meet important requirements.

We will have the latest information regarding this investigation: <https://agri.ohio.gov/wps/portal/gov/oda/divisions/plant-health/resources/seed-reporter>

# Be Alert for Prowling Walnut Cats

## **Authors**

Joe Boggs

## **Published on**

July 23, 2020

## Walnut Caterpillar, Last Instars Color Phase 4



Joe Boggs, OSU Extension©

Curtis Young (OSU Extension, Van Wert County) showed pictures of late-instar first-generation walnut caterpillars (*Datana ministra*) during our BYGL Zoom Inservice on Tuesday. Like yellownecked caterpillars (*D. ministra*) that were featured in a BYGL Alert posted earlier today, walnut caterpillars feed in "colonies" of 10-30 individuals throughout their development. Their defoliation of their namesake host is often focused on a single compound leaf with the caterpillars ganging up on individual leaflets before moving on to adjoining leaves on the same branch to repeat the process.

## Walnut Caterpillar Defoliation



Joe Boggs, OSU Extension©

**Walnut Caterpillar, First Instars**  
**Color Phase 1**



Joe Boggs, OSU Extension©



Walnut caterpillars practice the same interesting defense behavior that's seen with yellownecked caterpillars. When disturbed, the caterpillars will rear their front and tail ends, often in unison, presumably to confuse predators. Waving your hand near the colonies will solicit this entertaining behavior.

There are at least two generations per year in southern Ohio with some indications there may be only one generation in the northern part of the state. As with yellownecked cats, walnut caterpillars pass through distinct "color phases" during their development meaning they change their colors and markings as they mature. The early instars look nothing like final instar caterpillars which can present a challenge with identification.

**Walnut Caterpillar  
Hatched Eggs**



Joe Boggs, OSU Extension©



**Walnut Caterpillar, First Instars**  
**Color Phase 1**



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**Walnut Caterpillar**  
**Color Phase 2**



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**Walnut Caterpillar**  
**Color Phase 3**



Joe Boggs, OSU Extension©

## Walnut Caterpillar, Last Instars Color Phase 4



There is some debate about whether or not it's 3 or 4 color phases. Regardless, the changes in colors, markings, and furriness may present a challenge with their identification.

Walnut caterpillars practice an unusual molting behavior. When molting, they group together on trunks, branches, or twigs and all of the caterpillars molt at the same time leaving behind a mass of hairy exoskeletons that looks like a patch of fur. Finding these furry patches on or near denuded walnut leaves or on tree trunks is a good way to identify the culprit behind the defoliation.



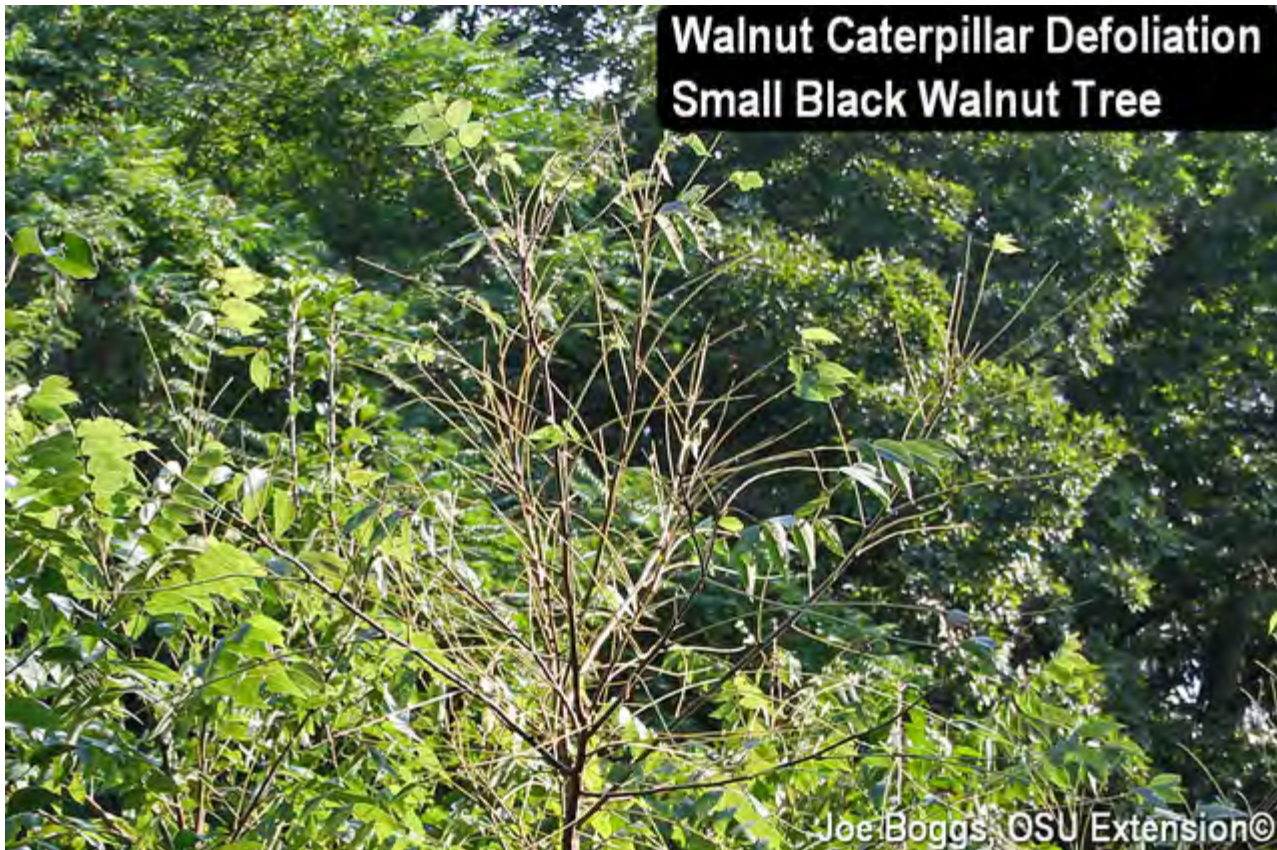


As their common name implies, walnut caterpillars are most often found on walnut trees. However, the literature notes that they will also feed on hickory and pecan trees and will occasionally infest apple, birch, honeylocust, oak, and willow. Large established trees can typically handle the defoliation with little long-term impact on overall tree health; even when infested by multiple colonies. However, multiple colonies on small trees can cause significant harm.

**Walnut Caterpillar, Last Instars  
with Defoliation**



Joe Boggs, OSU Extension©



## A Word from Management

Walnut caterpillars have a wide array of natural enemies from birds to insect predators to insect parasitoids and insect pathogens. These natural controls can keep populations in check; however, there may be occasionally caterpillar outbreaks as is common for native insects.

All instar stages can be effectively controlled on small landscape trees using a two-step control method. Step one involves knocking the caterpillar colonies onto the ground. Step two consists of performing the "caterpillar stomp." Thus far, no walnut caterpillars have become resistant to this control method.

As with many general defoliating caterpillars, early instar walnut caterpillars can be effectively controlled using the naturally occurring biological insecticide *Bacillus thuringiensis* var. *kurstaki* (Btk) (e.g. Dipel, Thuricide, etc.). Btk does not kill bio-allies that help provide natural control of the caterpillar populations.



Btk is a stomach poison which means it must be consumed to kill the caterpillars and it has relatively short residual activity. Thus, two applications may be required.

Btk is most effective on small caterpillars and becomes much less effective when caterpillars reach the middle instar stages. Larger caterpillars can be controlled using standard insecticides; however, this approach also risks killing bio-allies important for naturally controlling these caterpillars. Given that small, newly planted trees are most vulnerable to suffering negative impacts on overall tree health, and the caterpillar colonies are reachable by hand or broom to be knocked onto the ground (see above), it's hard to justify using standard insecticides.

## Be Alert for Yellownecked Cats

### **Authors**

Joe Boggs

Jim Chatfield

### **Published on**

July 23, 2020



Jim Chatfield sent a picture on Tuesday of a group of middle-instar yellownecked caterpillars (*Datana ministra*) devouring leaves on a witch-hazel (*Hamamelis* sp.) in Secret Arboretum. Yellownecks feed in groups, sometimes called "colonies," numbering 10 – 30 individuals throughout their development. The colonies tend to consume leaves one branch at a time unless populations are high and multiple colonies are feeding on many branches.

## Middle Instar Yellownecked Caterpillars





Yellownecked caterpillar moths produce one generation per year in Ohio. However, female moths lay eggs from around mid-June to mid-July meaning early instar caterpillars may be found at the same time as late instars giving the impression there is more than one generation.

## Yellownecked Caterpillar Moth and Pupal Skin



Joe Boggs, OSU Extension©

## Hatched Yellow Necked Caterpillar Egg Mass



The caterpillars pass through three distinct "color phases" during their development which means colors and markings change as the caterpillars mature. Their "yellownecked" common name comes from a yellowish-orange "neck," or prothorax, located just behind their black head capsule. This feature becomes more apparent during the later instar stages.

**Newly Hatched First Instar  
Yellownecked Caterpillars**



Joe Boggs, OSU Extension©

## Early Instar Yellownecked Caterpillars



Joe Boggs, OSU Extension©



## Mature Yellownecked Caterpillars Devouring Leaves



Yellownecks practice an interesting defense behavior when disturbed: the entire colony will rear their front and tail end in unison presumably to confuse predators. You can see this by wiggling a finger near a colony; the caterpillars have great entertainment value!



Yellownecked caterpillars are general defoliators and may be found on a wide variety of trees and shrubs including beech; boxwoods; crabapples and other ornamental fruit trees; elms; hickories; honeylocust; maples; and oaks. Newly hatched 1st instar caterpillars feed as skeletonizers on the underside of leaves. Later instar caterpillars devour all of the leaf tissue except for the midveins.

**Yellownecked Caterpillar  
1st Instar Feeding Damage**



Joe Boggs, OSU Extension©



A highly effective management approach for all instar stages is to take advantage of the gregarious nature of the caterpillars. Colonies can be knocked onto the ground and dispatched using the "caterpillar stomp." This satisfying control method that will preserve beneficial insects. Thus far, no caterpillar populations have become resistant to the caterpillar stomp.



Early instar yellownecked caterpillars can be effectively controlled using the naturally occurring biological insecticide *Bacillus thuringiensis* var. *kurstaki* (Btk) (e.g. Dipel, Thuricide, etc.). Fortunately, Btk does not kill bio-allies that help provide natural control of the caterpillar populations. Unfortunately, Btk is most effective on small caterpillars and becomes much less effective when caterpillars reach the middle instar stages, so it's probably too late for Btk applications throughout much of Ohio.

The older caterpillars can be suppressed using standard appropriately labeled insecticides. However, it's hard to justify the risk of wiping out beneficial insects given that the caterpillars are nearing pupations, so most of the damage has already been done, and there is only one generation per season.

# Friday In the Forest - Beech Leaf Disease History, Treatment and Surveys

**Authors**

Amy Stone

Kathy Smith

Marne Titchenell

**Published on**

July 23, 2020



Join the Ohio Woodland Stewards Program for tomorrow's (Friday, July 24, 2020, beginning at 10:00 am) virtual program, Beech Leaf Disease History, Treatment and Surveys. The program is free, but participants must register today, July 23 to receive log-in information. Does the time not work for your schedule? The session will be recorded and available for viewing at your convenience and will be posted on the Woodland Stewards website - <https://woodlandstewards.osu.edu/>

American beech have been declining in the presence of beech leaf disease (BLD) over the past eight years. BLD was first found in Lake County, Ohio in 2012 but has now been seen in more than 40 counties across multiple

states as of 2019. In this webinar, you'll learn about the short history of BLD and what we're doing to combat this devastating issue. The presentation will be given by Daniel Volk from the Cleveland Metroparks. Continuing education credits will be available for ISA and SAF.

**More Information**

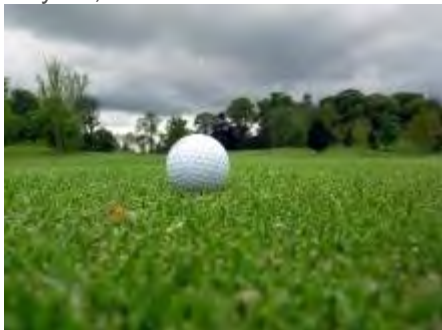
Registration Link:

<https://woodlandstewards.osu.edu/events/beechn-leaf-disease-bld-history-treatmen...>

# Turfgrass Times, 07.18.2020

**Authors**Amy Stone**Published on**

July 17, 2020



Check out this week's Turfgrass Times.

Participants this week included: Dr. David Gardner; Dr. Ed Nangle; Joe Rimelspach; Dr. Pam Sherratt; Dr. Karl Danneberger; and Dr. Dave Shetlar (aka the Bug Doc). This week's recording includes dormant turfgrass - summer patch, thatch, ground nesting wasps, billbugs, green june beetles, crabgrass, pre-planning stage for fall seeding, and sports turf management updates.

Here is the link for the timely video: <https://youtu.be/kU472iKdPJo>



## Other Articles

# Plan Ahead in Summer for Fall and Winter Harvests

NIKI JABBOUR

JUL 22, 2020



Winter seems far away now, but if you want to enjoy a bounty of homegrown vegetables this autumn and winter, it's time to begin planning. For a successful cold-season garden, you'll need to grow the right crops at the right time, and pair them with the right season extenders.



A mini hoop tunnel shelters spinach, lettuce, leeks and other cold-tolerant vegetables for harvest from fall through winter.

The right crops are the cool- and cold-tolerant vegetables like kale, leeks, carrots, celeriac, spinach, mache, scallions and endive. Many of these should be planted in mid- to late summer. Planting times will vary based on your geographic location. In Nova Scotia I transplant autumn broccoli and kale seedlings into the garden the first of August. At that time, I also direct-sow carrot seeds for winter harvesting. Quicker-growing salad crops like spinach, arugula, lettuce, mizen and tats are planted in early to mid-

September; they will eventually be sheltered beneath a range of season extenders. I rely on several types of devices:

**Row covers.** These look flimsy, but they can easily extend the autumn harvest by about a month. Lay them directly on the crops or float them on hoops.

**Mini hoop tunnels.** These are useful and easy and inexpensive to build. We make our hoops from half-inch PVC or metal conduit. The hoops are then placed over our garden beds and covered with row cover or six-mil greenhouse poly.

**Cold frames.** Essentially bottomless wooden boxes equipped with clear tops, these are year-round food factories. We use them to shelter root crops like carrots and beets, plus a wide range of cold-tolerant salad greens.

**Finally, mulch.** It's perhaps the easiest and cheapest way to extend the harvest of root and stem crops. In late autumn, top carrot, beet, celeriac and leek beds with a 12- to 18-inch-thick layer of shredded leaves or straw. Cover this with a piece of fabric to hold it in place and harvest all winter long.

**Prepared by Jeff Stachler**  
**Ohio State University**  
**Agriculture and Natural Resources Extension Educator, Auglaize County**