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OSU Extension - Auglaize County Weekly Horticulture Newsletter – 6-19-20

Time to Manage Squash Vine Borer

It is that time of the year for the destructive squash vine borer moths to appear, making it time to start managing this pest! Adult squash vine borer moths begin emerging as early as mid-June and continue laying eggs into August. The adult squash vine borer resembles a wasp having metallic green front wings and clear-colored hind wings, but it is a moth. The abdomen is orange with black spots. The moth lays a single brown flattened egg or a few eggs the size of a pencil point onto the stem of summer and winter squash and pumpkins just above the soil surface.

The eggs will hatch in 7 to 10 days and the larvae will begin boring into the stem. The entry point is visible due to the frass (worm excrement) that is pushed out of the hole. Sometimes it is difficult to find the frass. The larvae will tunnel through the stem for about four weeks. The tunneling disrupts water movement through the stem and the plant eventually dies. It is possible to have multiple larvae in a plant stem and the plant still survive while in other instances just a single larvae will kill the plant. When the larvae are ready to pupate they leave the plant and enter the soil where they make a cocoon. The pupa stays in the soil until next June when it emerges as an adult.

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The best way to scout for the presence of adult squash vine borers is to place a solid yellow-colored dish containing Dawn dish soap water near squash and pumpkins. Check the traps daily. The moths are attracted to yellow and will fall into the water and die.

The first sign of damage is the frass at the entry point. As time progresses the plants will wilt during the heat of the day and look normal at night. Eventually the plants will stay wilted most of the day with the plant eventually dying due to a collapsed stem base.

There are two methods of excluding the moths from laying eggs on the plant stems. Method one is to place a floating row cover over the vine crop to exclude the moths. There are two potential problems with this method. One, the row cover will exclude pollinators from the plants when the plants are flowering and second if you are growing squash or pumpkins in the same area as a year ago you may trap the moths under the row cover. The other method is to wrap panty hose around the first eight to 15 inches of the stem to exclude the moths from laying eggs.

Applying insecticides to the first eight to 15 inches of the stem once the moths have been detected will effectively control the hatching larvae. Re-apply the insecticides
every seven to 10 days through the beginning of August. Pyrethrin plus PBO (Japanese Beetle Killer RTU), permethrin, bifenthrin, and esfenvalerate may be used to control squash vine borer. The esfenvalerate has the longest residual activity, so applications are only needed every 24 days.

A last resort method of controlling the larvae is to surgically remove the larvae from the stem. I have done this successfully several times. Scout for the presence of frass to find the entry hole. Make an incision starting at the entry hole going no deeper than half way through the diameter of the stem. Continue cutting until you have reached the larvae, then remove it. As long as minimal damage is done to the plant, it should recover quite well. As a precaution, place soil at the nodes of the vines beyond the entry point to encourage root growth. This will give the plant an alternative source of water and nutrients in case the base of the stem dies or is significantly damaged. This method is most successful when a single borer is present and when done early, for multiple borers this method is less successful.

To reduce future populations do not let any larvae survive and enter the soil. Therefore remove dead plants right away. Squash vine borer larvae do not borer into butternut squash, cucumbers, and melons.

Local Observations

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Last patch of lettuce

Current stage of my carrots

My peas putting on pods

Current stage of my zucchini

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Easter lily

Fushia and begonia

Tricolor sweet potato

Wave petunia

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Virginia sweetspire

Rose

Holly hock

Butterfly milkweed

Good evening! I pray you are well.

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It is getting too dry on the surface!! We received rainfall only 1 day this past week! Rainfall on Saturaaday, June 13th ranged from 0.1" near Sommers and Minster-Ft. Recovery roads to 0.41" near Brown and Pusheta roads. Rainfall for the week was the rainfall for Saturday! The average rainfall for the week was 0.29", 0.14" less than last week. There is greater than a 40% chance of rain Sunday, Monday, and Tuesday, otherwise it will be dry!

A cooler week! The average high temperature now is 82 degrees F, 2 degrees higher than last week. Temperatures were above normal for **1** day and below normal for **3** days this past week. Temperatures ranged from 68 degrees F to 82 degrees F. The average high temperature for the week was 77.3 degrees F which is 7 degrees F cooler than last week and 4.7 degrees F cooler than the historical average high. Temperatures will be above normal through Monday, then below normal the rest of the week.

The vegetables are not growing as fast as they were due to the dry soil condition. The cucumbers, zucchini, green onions, and watermelon have mostly emerged since last week. I planted sweet potatoes, acorn squash, another variety of watermelon and some muskmelon. All of these are just starting to emerge. I caged the tomatoes this week. I have green beans to plant yet. My peas are blooming and setting pods! The early stuff, carrots and red beets look great!

New species of plants still begin to flower each week. The flowers are looking good for many people. Calls this week have been about oak trees, plant identification, and holly hocks.

Weekly Weed Photos

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Blackseed plantain

giant ragweed

Common ragweed

Venice mallow

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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

Wayne County Scouting Notes, June 8 – June 12

June 16, 2020

Wayne County IPM Notes
(From the Week of June 8 – June 12)
Frank Becker, OSU Extension Wayne County

Vegetable Pests

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Young Colorado Potato Beetle larva (F. Becker photo)

The Colorado Potato Beetle is still feeding heavily, especially on potato. The larvae are out in large numbers and many egg clusters are hatching or will soon be. They are most effectively controlled in the larval stage. It is best to coordinate insecticide applications in line with when the egg masses are hatching, and young larva are starting to feed on the foliage.

Flea Beetles are still prevalent and doing damage. Flea Beetles will also utilize weeds as host plants. Keeping your fields free from weeds will help to reduce the populations of flea beetles.

Cucumber Beetles are out in force right now. For growers who use a seed treatment on cucurbit crops, keep in mind that the treatment is typically effective up to the 2-leaf stage, at which point the efficacy starts to decline. Cucumber Beetles vector the Bacterial Wilt disease so early season control of the beetles is vital to the long-term health of the plant.

In sweet corn, cut worm damage has started popping up along with some more significant European corn borer damage.

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Onions are at a point where thrips populations could begin to increase. Consistent rains and small plants had kept the thrips population down, but with some drier weather in the forecast and onions increasing in size and putting on more leaves, this will be a pest to keep an eye on.

Imported Cabbage Worm Larva (F. Becker photo)

The Imported Cabbageworm larvae, among other worm pests of brassicas, are feeding on cole crops and leafy greens such as kale. Severe foliar feeding could stunt the plant growth or significantly reduce yield.

Vegetable Diseases

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Timber Rot on a high tunnel tomato (F. Becker photo)

Timber rot of tomato is being found, especially in high tunnel tomatoes. This disease will take down a plant very rapidly. The survival structure, called a sclerotia, can survive in the soil for several years. It is important to allow for good airflow to avoid excess moisture in the tunnel. Additionally, it is recommended that if you are pruning to sanitize the tools between each cut. Diseased plants may also be removed and disposed of to prevent further spread of the pathogen. Find more details about timber rot and management options in this article by Sally Miller: https://u.osu.edu/miller.769/2016/06/22/white-moldtimber-rot-management-in-tomato-high-tunnels/

Botrytis is still being seen, as is blossom end rot. To manage blossom end rot, it is important to limit moisture stress on a plant, from either too much or not enough moisture. Being consistent in watering and monitoring soil moisture conditions will help to prevent exposing the plant to moisture stress. Proper moisture will also provide conducive conditions for adequate nutrient uptake, given that the nutrients are present at appropriate levels in the soil.

Fruit Pests

Strawberry producers typically are facing several insect pests this time of year. One of these pests is the eastern flower thrips. This small insect feeds on and damages the strawberry blossom. As the berry begins to develop, this damage results in cat-facing on the berry or a russeting/bronzed appearance. When you notice

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these symptoms on the developing berry, the damage has already been done and there are no treatment options. To look for thrips in the blossoms, take a white piece of paper or a plate and shake the blossoms onto the plate and watch for any small, slender yellow thrips to be moving around. Once you have reached 2 or more thrips per blossom, you should move forward with a treatment. Consider the pollinators before applying an insecticide, considering the target of your application is primarily associated with the blossoms. Preventative sprays can also be used in successive plantings. See more on Thrips in this post by Celeste Welty: Beware of thrips on strawberries

Another pest of strawberries and small fruits is the spotted wing Drosophila. The SWD is a small fruit fly that can lay its eggs in ripening fruit while it is still on the plant. As you are picking, do not discard unwanted fruit on the ground right next to the plant. The rotting fruit on the ground will attract SWD. Instead bring a bucket to discard unwanted fruit in and either bury it a foot or so deep in soil or seal the fruit in a clear plastic bag exposed to the sun for about a week to kill any larvae. If culls are discarded in the trash or compost pile, they might attract SWD flies and allow for more generations to be produced. This is also the time to put traps out in your bramble and blueberry patch but if you have June bearing strawberries, they likely won't be affected by this pest. More details about how to set up traps can be in the OSU IPM YouTube page under the SWD playlist at https://www.youtube.com/channel/UCzcWaLH3mx7HUKh4OF7bYPA and on Celeste Welty's page here: https://u.osu.edu/pestmanagement/
Codling Moth and Oriental Fruit Moth traps are showing low numbers right now.

Fruit Diseases

Now is the time to be managing early season diseases in apples. Scab, rust and powdery mildew are the three main diseases of concern at this point in the season. It may also be appropriate to consider looking at managing summer diseases such as flyspeck, sooty blotch, and fruit rots.

Strawberry leaf diseases may appear unsightly right now, however, now is not the time to be managing these leaf diseases. Once harvest is done and during patch renovation it is recommended that you address these concerns, either with a fungicide or with resistant plant varieties. This is also a critical time to be watching for fruit rots such as Botrytis.

Grapes are currently either at pre-bloom or blooming. This stage is the most critical stage of development for controlling diseases. Fungicide applications for black rot, powdery mildew and downy mildew are highly recommended during this time. See more details about grape black rot here.

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What's new with herbicides?

June 16, 2020

What's new with herbicides?

2020 brings new registrations of use to the vegetable producer. Weed control in vegetables usually requires a careful integration of tillage, herbicides, cultivation and mulches. No single herbicide will control all weeds for the entire season. The following summarizes guidelines for use on crops that extracted from product labels, the final authority. If you have further questions please contact me, or your local agricultural educator.

Pumpkin, Squash & Tomato. *Reflex Herbicide* (EPA Reg. No. 100-993). (Ohio Section 24 OH0993019AA0619 OH-200002; for use only in Ohio). Pumpkin, squash and tomato varieties may vary in their tolerance to Reflex herbicide. Be certain of crop tolerance before using Reflex on a new variety. Butternut squash is very sensitive to Reflex. Cold and wet soils during pumpkin and squash germination and maturity may result in delayed maturity and/ or yield. Heavy rain shortly after transplanting may also result in delayed maturity and/ or yield. Reflex persists in the soil for a considerable time providing weed control; however, this characteristic also means that several crops may be damaged if grown in close rotations following use of Reflex.

• Direct Seeded Pumpkin, Summer and Winter Squash (32 day PHI). Apply Reflex at ½ – 1 pint/A broadcast preemergence after seeding and before the crop emerges. If rainfall does not occur before crop emergence, an overhead irrigation will activate the herbicide and reduce the potential for crop injury from splashing soil onto crop leaves.

• Transplant Pumpkin, Summer and Winter Squash(32 day PHI). Apply Reflex at ½ – 1 pint/A as a pre-transplant, non-incorporated preemergence broadcast application up to 7 days before transplanting. Minimize further soil disturbance during transplanting or weed control may be compromised, and avoid any practice that may concentrate the herbicide around the transplant plug.

• Transplant Tomato on bare ground (70 day PHI). Apply Reflex at 1 pint/A as a pre-transplant, non-incorporated preemergence broadcast application up to 7 days before transplanting. Minimize further soil disturbance during transplanting or weed control may be compromised, and avoid any practice that may concentrate the herbicide around the transplant plug.

• Transplant Tomato in plastic mulch (70 day PHI). Apply Reflex at 1 pint/A as a pre-transplant, non-incorporated preemergence broadcast application after the final raised bed has been formed but before mulch has been laid. Do not disturb the soil after laying the mulch.

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Onion (bulb) & Leeks (60 day PHI). *Zidua Herbicide* (EPA Supplemental Label, Registration No. 7969-338). Apply postemergence, after seeded onion emergence or after transplanting leeks but before broadleaf weeds have emerged. Zidua does not control emerged weeds. Apply 1.3 to 1.7 ozs/A to onion and leek in medium or fine textured soils. Apply 1.7 ozs/A to onion or leak in muck soils with 20% or more organic matter. Crop-stage should be 2-6 true leaves. Do not apply to coarse textured soils.

Asparagus & Rhubarb. *QuinStar 4L Herbicide* (EPA Reg'n No. 42750-169). For control of emerged field bindweed and hedge bindweed, apply Quinstar in the fall but before frost to bindweeds that are actively growing. Apply Quinstar at 12.6 ozs/ Acre mixed with crop oil concentrate at 2 pints/ Acre.

Okra (14 day PHI). *Caparol 4L* (EPA Reg'n No. 100-620). For control of broadleaf weeds apply Caparol 4L preemergence after seeding and before crop emergence at the rate of 3 pints/Acre. Alternatively, apply 1.5 pints/ Acre preemergence and a second directed-postemergence application of Caparol when the okra plants have 7-9 leaves and weeds are 2 inches tall or smaller.

Lettuce. *Dual Magnum*. (EPA Reg'n No. 100-816 EPA SLN No. OH-190001; for use in Ohio only). For control and suppression of annual grasses, yellow nutsedge and small-seeded broadleaf weeds.
• Leaf lettuce, seeded or transplant (25 day PHI). Apply Dual Magnum at 0.67-1.0 pints/ Acre preemergence to weeds either before crop emergence or transplanting. Alternatively, an over-the-top- or directed-postemergence application of Dual Magnum at 0.67 pints/ Acre can be made before weed emergence. If pre and post applications are used the total amount of Dual Magnum should not exceed 1.33 pints/ Acre per crop.

• Head Lettuce, seeded or transplant (20 day PHI). Apply Dual Magnum at 0.67-1.0 pints/ Acre preemergence to weeds either before crop emergence or transplanting. Alternatively, an over-the-top- or directed-postemergence application of Dual Magnum at 0.67-1.0 pints/ Acre can be made before weed emergence. If pre and post applications are used the total amount of Dual Magnum should not exceed 2.0 pints/ Acre per crop.

The research behind these new uses was paid for in part by the IR-4 Program, the Ohio Vegetable and Small Fruit Research and Development Program (OVSFRDP), and was only possible because we have a great network of OARDC research stations and personnel in key vegetable producing areas of the state. Thanks also to the various pest management supply companies that supported development of their products for use on specialty crops.

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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/

Turfgrass Times, 06.19.2020

Authors
Amy Stone
Published on
June 19, 2020

Check out this week's Turfgrass Times - lawncare, weeds, diseases and insects oh my!

Participants this week included: Dr. David Gardner; Dr. Ed Nangle; Joe Rimelspach; and Dr. Dave Shetlar (aka the Bug Doc). This week's recording includes common weeds that we are seeing in Ohio with control measures, turfgrass diseases, and insect update including where are the Japanese beetles.

Here is the link for the timely video: https://www.youtube.com/watch?v=6BPf1bmSeW8&feature=youtu.be

Thanks to the OSU Turfgrass Times for this timely information.

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Diagnostic Case Study: It's Another Impala Moonrise

Authors
Jim Chatfield
Curtis E. Young
Published on
June 19, 2020

Soil compaction from peacocks in public gardens. Pines overrun by a buffalo herd in my backyard resulting in dead branches (true story). Taxus injury in a nursery from a doghouse dragged by a dog in pursuit of deer. Sometimes diagnosis is a puzzling matrix, especially from a sample sent in the mail, described in a text, or from an online image: brown leaves, scorched leaves, dead branches may be due to a myriad of causes. But Impala damage: what gives?

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Aepyceros melampus, an impala. Google Image.

It is a reminder of the importance of responding to someone asking for a diagnosis…by asking questions. Of course, we encapsulated this in "The 20 Questions on Plant Diagnostics" (ohioline.osu.edu/factsheet/plpath-gen-3): from "What Is The Plant" to "What Are Our Recommendations" but we are reminded of the necessity of questioning daily.

leaf scorch on leaves in the upper canopy of a newly planted *Acer shirasawanum* 'Moonrise' fullmoon maple

Case Study: Why are these *Acer shirasawanum* 'Moonrise' fullmoon maple leaves scorching? Leaf scorch can be due to so many problems. Too much soil water resulting in root decline and root rot. Too little soil water resulting

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in moisture stress. Frost injury. Evapotranspiration due to high reflective heat and limited root space for parking lot trees.

Physiological leaf scorch on oak due to moisture stress

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Leaf scorch on *Aesculus* due to moisture stress

Anthracnose disease – causing scorchy blotchiness along leaf veins. Leaf mining injury from a range of different insects. Vascular wilt diseases. Insects that damage plant stems. Or simply mechanical injury to plant stems. Necrotic tissue on leaves following earlier chlorotic tissue from severe micronutrient deficiency. And on and on.

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Guignardia leaf blotch disease on *Aesculus*

Leaf miner insect damage on hawthorn

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Blotchy lesions along veins from sycamore anthracnose

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Iron deficiency on pin oak, with necrotic scorching following chlorotic symptoms on leaves

In this case, though, it was loss of water from the maple leaves due to excessive wind whip while the potted maple was transported from its place of purchase to the ChatScape in the ChatMobile – a Chevy “Impala”. So, going back to the 20 Questions of Plant Diagnostics: “What Is The Horticultural History?” “What Is The Environmental History?” “Who Knows The Most About The Plant?” “What Else?” And so on.

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Scorch on this fullmoon maple, newly planted

In our case study, after a wide range of diagnostic postulations on our BYGL Inservice webinar this week, BYGLer Curtis Young asked the right variation of the Environmental History question: “Has this newly planted tree been transported in a vehicle recently?”

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Impala transport of tree. For the re-enactment an elderberry is used, rather than the maple in question

Yes, and quite rapidly. The common impala (a medium-sized antelope), *Aepyceros melampus*, clocks in at 47-56 mph, according to Wikipedia, and the ChatMobile Impala goes even faster!

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The fullmoon maple is planted, with a touch of leaf scorch on the top

Diagnosis confirmed. Prognosis: the maple shall be fine.

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The foliage of this "Moonrise' fullmoon maple, except for scorching on the exposed Impala-speed portion of the tree is fine and all is well.

Dandelion Detectives

Authors
Amy Stone
Published on
June 18, 2020

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The Gardiner Lab at The Ohio State University's Department of Entomology has launched **Dandelion Detectives**, a youth-focused community science program aimed at measuring the distribution of weeds in US lawns and their value for insects. The lab is seeking individuals, school groups, and other youth organizations to participate in this collaborative project!

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Background

Did you know that over 4,000 types of bees live in North America? Some of the best-known bees are honey bees and bumble bees that live in colonies. These species have a queen and many workers that take care of the colony by collecting pollen and nectar to feed developing bees, or larvae. There are also many species of solitary bees that do not live together in colonies, but instead build individual nests in the soil, hollow twigs, or even in wooden decks or roofs! All bees rely on flowers that produce pollen and nectar as their food source and need to collect these resources to feed their developing larvae. Bees get the energy they need from the carbohydrates in nectar, and the protein they need to grow from pollen. As bees collect pollen and nectar from flowers, they provide humans with a critical ecosystem service by pollinating our crops and the trees and flowers we see outside. Without bees, our forests and gardens would lose many types of plants, and we would not be able to eat fruits, vegetables, or nuts like apples, squash, or almonds.

Unfortunately, many types of bees are declining in the United States and scientists want to know why! One possibility is that bees do not have enough food to eat. Weeds could be an important food source for bees and other insects like butterflies, beetles and ants. We need your help as part of our scientific team to see if bees and other insects will feed from common weeds in a yard. If so, these weeds might not be all bad after all! We are focusing on nectar in this experiment because it provides insects with energy to do all the things they need to do to survive.

How You Can Get Involved

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Dandelion Detectives is seeking school age kids (targeting 3-7th graders) to monitor an “Observation Dandelion” and collect data about the richness of blooming weeds (or lack thereof) found in their yard. Dandelion Detectives will take place over the summer of 2020 and is open to anyone who has access to a yard or other mown greenspace like a park or playground.

The project can be completed in one day and involves: taking a pre and post questionnaire about insects; observing insects at an “Observation Dandelion” created using simple provided materials and sugar water mixture; and conducting a lawn weed survey. Participating Dandelion Detectives will be able to upload their findings to a project website. At the end of the project, students will receive a “Student Scientist” certificate and will have access to all of the data collected by the project team!

Toolkits containing all materials to participate in Dandelion Detectives can be ordered for $10 (to cover shipping fees). There is also offer a do-it-yourself option here.

If you’d like to participate and become a Dandelion Detective, you can sign up at: https://u.osu.edu/dandeliondetectives/sign-up/

Dandelion Detectives is supported by the OSU Integrated Pest Management Program through funding from the USDA NIFA Crop Protection and Pest Management Competitive Grants Program (2017-70006-27174).

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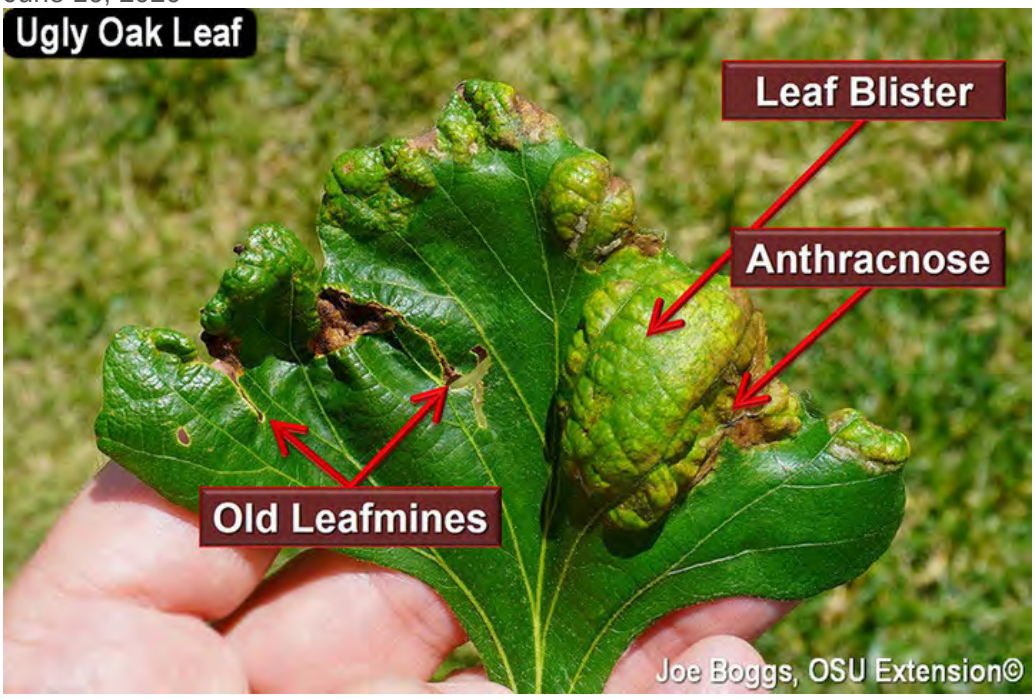
More Information
Dandelion Detective Home Page
https://u.osu.edu/dandeliondetectives/

Ugly Oaks

Authors
Joe Boggs
Published on
June 16, 2020



BYGLers are reporting that four unrelated springtime problems are causing some oaks in Ohio to look pretty ugly. These include the oak shothole leafminer (*Japanagromyza viridula*) with the flies producing holes, necrotic tissue, and missing leaf parts; oak anthracnose with the fungal disease producing necrotic tissue; and leaf blisters produced by either a fungal disease or an eriophyid mite.

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None of these problems cause harm to the overall health of their oak hosts. However, singly or collectively, they certainly affect the tree's aesthetics.

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Holy Oaks

Damage produced by the oak shothole leafmine was described in a BYGL Alert earlier this season titled, "Holy Oaks." You can read the full Alert by clicking on this hotlink:

https://bygl.osu.edu/index.php/node/1576

Holes produced by the female flies in newly expanding leaves or nascent leaves furled in the bud remain evident through the season with the holes becoming larger with leaf expansion. Leafmines produced by the larvae (maggots) are at first light green but turn dark brown once the fly maggots complete their development. The necrotic tissue commonly crumbles away leaving large voids in the leaf.

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Although the name of the genus may imply this is a non-native fly, apparently it is a native fly that is grouped in a genus that also includes several Asian species. However, in recent years, this fly has been behaving in Ohio like a non-native with populations expanding apparently unchecked year-after-year.

We're not alone. Using an entomology listserv, I asked entomologists located around the county what they've been seeing with the shothole leafminer. Several reported that damage was common last year in New England and the Mid-Atlantic States as well as Indiana and Kentucky. Most reported they're seeing a repeat this season.

Oak Anthracnose

Oak anthracnose is produced by the fungus *Apiognomonia quercina*. The oak anthracnose fungus is host-specific; it only infects oaks. The fungus does not infect sycamores to produce sycamore anthracnose, and vice versa. This is also true for other fungal pathogens that produce anthracnose diseases on maple, ash, and beech. Each is specific to a single host type.

A common symptom of oak anthracnose is brown, necrotic tissue that appears to expand from leaf veins. The necrotic tissue may be bounded by a zone of chlorosis which is possibly associated with a defense reaction to fungal infection.

Localized infections occur on newly expanding leaves with the infections restricting normal leaf expansion. This can cause the leaf area around the infected tissue to become curled or distorted.

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Cool, wet conditions support fungal infection meaning that oak anthracnose is more common during seasons with cool, wet springs. Typically, symptoms are more prevalent on leaves growing on lower branches owing to less air circulation.

This appears to be a particularly "good year" for oak anthracnose with symptoms remaining very evident. Fortunately, the environmental conditions conducive to infection typically fade away by the time we see further leaf development in late-spring. This means the symptoms will likewise fade away as the season progresses.

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Blistered Oak Leaves: Fungus or Eriophyid Mite?

Symptoms of the disease known as oak leaf blister caused the fungus, *Taphrina caerulescens*, are appearing on oaks in southwest Ohio. Disease symptoms include irregularly-shaped bulging blister-like spots that occur randomly on leaves or are clustered together to produce leaf distortion.

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The blisters may be found on the upper or lower leaf surfaces with matching pocket-like depressions on the opposite sides of the leaves. The affected tissue is light-green to yellowish-green in early summer, but will eventually turn light brown to brownish-black.

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Like oak anthracnose, fungal infections occur in the early spring on newly expanding leaves and is favored by cool, wet environmental conditions. Infections have been recorded on over 50 different species of oak belonging to both the white oak and red oak groups.

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Look closely at leaves with blister-like symptoms on the upper leaf surface. Hair-like growth appearing in the corresponding depressions on the lower leaf surface are the handiwork of the eriophyid mite, *Aceria triplacis* (family Eriophyidae).

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The eriophyid mite does not have a common name approved by the Entomological Society of America. However, given the number of times this mite has fooled me into believing I had found oak leaf blister, I've chosen to call it the *oak leaf blister mite*.

Oak leaf blister mite may be found on several members of the white oak group, but I've most often found it on burr oak (*Quercus macrocarpa*) and white oak (*Q. alba*). They live and feed within the hair-filled pockets. Of course, don't expect to see spider-like mites if you look closely with a 10x hand lens. As with all eriophyid mites, you have to look very closely using at least 40x magnification to see these odd-looking cigar-shaped arachnids.

Itoh Hybrid Peonies

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Published on
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Itoh peonies, also known as intersectional peonies, are a group of hybrid peonies that have become more popular in recent years. In 2012, Ken Cochran planted two Itoh hybrid peonies at Secrest Arboretum (‘Kopper Kettle’ and ‘Bartzella’). The plant was a novelty for staff an volunteers and is still adored by many visitors to Secrest. Over the last two years Secrest Curator, Jason Veil, has greatly expanded the Itoh hybrid peony collect at Secrest.

Paeonia 'Bartzella'

In 1948 Toichi Itoh, a Japanese peony grower and breeder, successfully made an impossible peony cross. Toichi had been trying for years to make the cross between an herbaceous peony (*Paeonia lactifolia* 'Kakaden') and woody tree peonies (*Paeonia xlemoinei)* with no success. It is reported that this was just one of 20,000 crosses he made during his life. It only took one out of 20,000 to change the peony world forever. Sadly, Itoh passed away in 1956 before his plant flowered.

In 1966 Louis Smirnow, a New York accountant and peony enthusiast, secured the plants from Itoh’s widow and brought them to the United States. Smirnow registered the plants as Itoh Smirnow hybrids. Soon American peony breeders were successful in their attempts to create the hybrid and introduced more selections to the market.

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Paeonia 'Joanna Marlene'

Itoh peonies were hard to come by due to their limited quantities and challenges in propagation. One could expect to pay anywhere from $300-$1,000 for a single plant. This changed in the early 2000's when a Canadian company, Plantek, began producing the peonies in tissue culture, making them readily available to the market. Today, Itoh hybrid peonies are still worth more than other peonies, but their inclusion in a garden is worth the price.

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Paeonia 'Scarlet Heaven'

Itoh hybrids have a finer foliage texture than herbaceous peonies and also have better disease resistance with the foliage remaining attractive throughout the season. Itoh peonies mature around 30” tall and require no staking. Some stems become woody and some are herbaceous, yet the plants can be cut back to the ground in the winter with the plants producing huge flowers (up to eight inches across) in the early summer.

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Paeonia 'Takara'

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Paeonia 'Spring Carnival'
This group of hybrids expands the color palette found in the peony world. They are easy to grow and grow successfully in full sun to part sun in well-drained soil.
Do you enjoy reading the BYGL? If so, consider making a **donation** to support the work that goes into BYGL. **Give today** by clicking **here**.

Learn more

American Peony Society
Oregon State University
University of Arkansas Extension

Asian Longhorned Beetle (ALB) Confirmed in South Carolina

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Joe Boggs
Amy Stone
Published on
June 15, 2020

Asian Longhorned Beetle (ALB) (*Anoplophora glabripennis*) is potentially **the most devastating non-native pest** to have ever arrived in North America. The beetle kills trees belonging to 12 genera in 9 plant families. Maples are the most preferred host. Aside from the economic impact of losing one of the most common trees used in U.S. landscapes, the environmental ripple effect of losing native maples across many forest ecosystems also means the potential loss of other plant species as well as animal species that are dependent upon those ecosystems.

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Clemson University's Department of Plant Industry (DPI) and the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) announced today that ALB has been confirmed in South Carolina. This the latest ALB infestation to be found in North America and emphasizes the need to remain vigilant for this non-native tree killer.

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According to the DPI and USDA APHIS, a homeowner in Hollywood (Charleston County, SC) found a dead beetle on their property and reported it to the DPI on May 29, 2020. The initial identification was made by Clemson's Plant and Pest Diagnostic Clinic. APHIS's National Identification Services confirmed the ID on June 4.

A preliminary survey of the property and surrounding area was conducted by DPI and APHIS inspectors on June 11. It revealed that one tree on the property is infested as well as a second tree on an adjacent property. More surveys are now underway to further determine the extent of the infestation.

ALB has previously been found in North America in Illinois, Massachusetts, New Jersey, New York, Ohio, and Ontario, Canada. The infestations in Illinois, New Jersey, and the New York City Burroughs of Brooklyn, Queens, Manhattan, and Staten Island have been eradicated. The infestation in Toronto, Ontario, was declared eradicated but the beetle was later found in nearby Mississauga. Eradication efforts continue in New York, Massachusetts, Ohio, and Ontario.

The dedicated professionals with the ALB Cooperative Eradication Program in Ohio which includes the USDA APHIS and the Ohio Department of Agriculture (ODA) have also scored their own victories. ALB was first detected in Ohio near Bethel in Tate Township, Clermont County, in June 2011. "Satellite" infestations were found in Monroe Township in September and in Stone Lick Township in 2012; both were declared eradicated in 2018.

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Be Alert to ALB

Successful eradication of ALB is essential to avoiding a catastrophic loss of trees as well as habitat on a scale never before seen in the U.S. Early detection is critical to the successful eradication of ALB both in terms of time and money. Never believe ALB is "somewhere else." ALB can pop-up anywhere, even in our own backyard.

What to Look for with ALB:

1. Host: Focus on Maples. ALB will attack trees belonging to 12 genera; however, maples (*Acer* spp.) are by far the most preferred host.

2. Branch Breakage. ALB larvae tunnel through and feed on the wood (xylem) of trees. This weakens branches causing them to break. Unusually heavy branch breakage on living maple trees should be investigated!

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3. Holes: The "Pencil Test." The big beetles typically emerge from deep inside the wood of a tree (xylem), so the round adult emergence holes extend deep into the tree. Inserting a #2 pencil into the holes will reveal the depth of the emergence holes. However, trees may eventually close the exit holes with woundwood.

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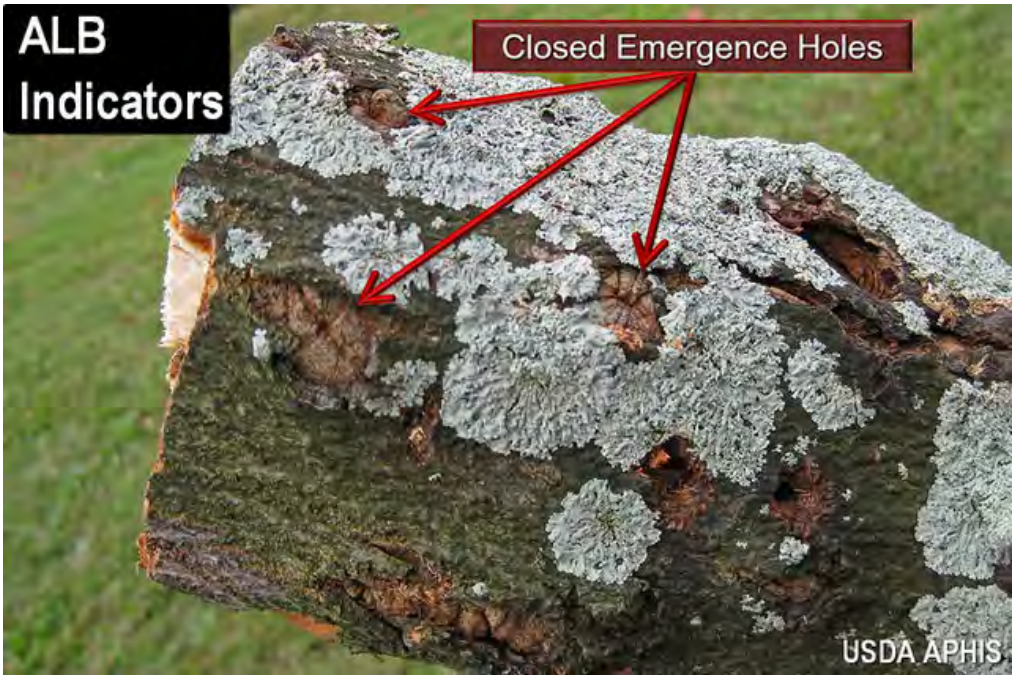

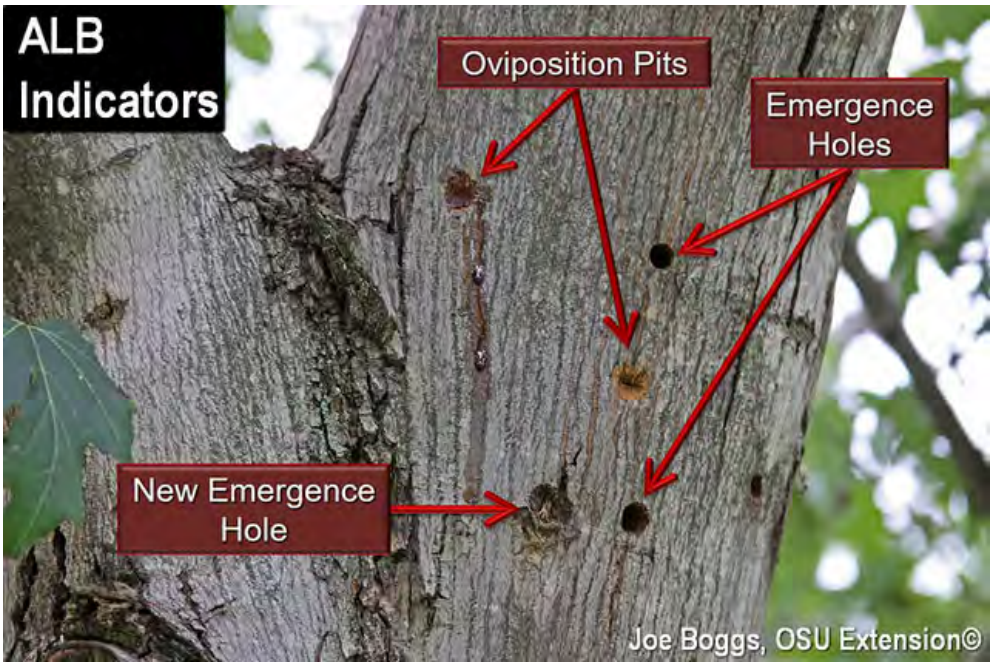

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4. Pits in the Bark. ALB females chew a concave pit through the bark to the xylem where they lay a single egg. The "oviposition pits" may weep sap during the season. However, trees usually close the pits relatively quickly, so you may only see rounded wounds.

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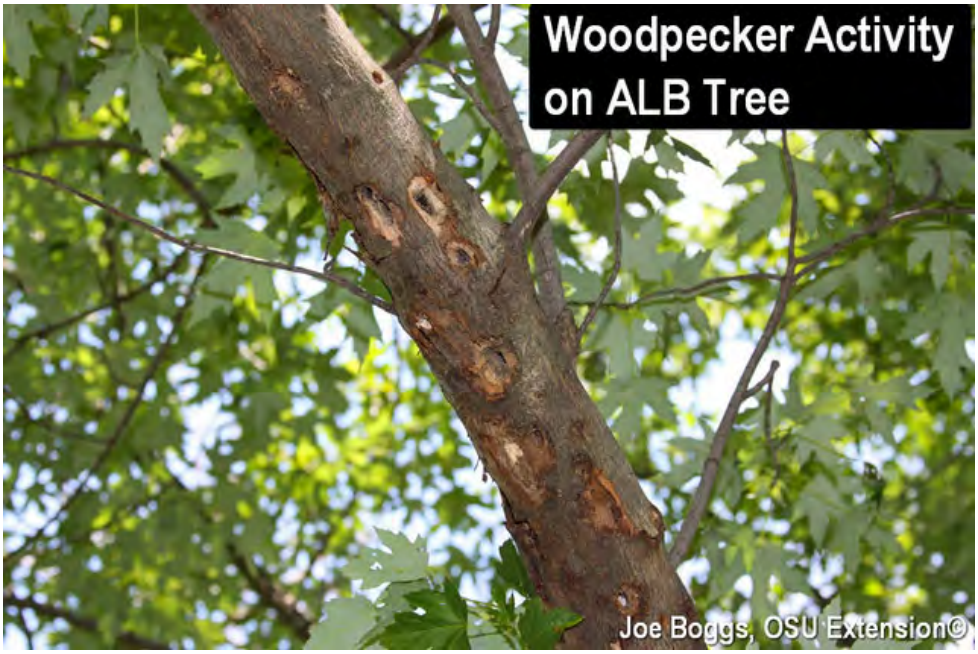
5. Woodpecker Damage. ALB larvae live deep inside the xylem. Woodpeckers excavate deep holes in search of these large tasty meat morsels.



6. Frass: Small Wood Shavings. ALB produces small wood shavings as they emerge from trees or as the females chew oviposition pits.

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7. Bark Cracking. Larval feeding damage may stimulate trees to produce callous tissue then woundwood beneath the bark. The expanding woundwood lifts the overlaying bark producing cracks and fissures.

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8. Big Beetles. ALB is a very large beetle and the adults are emerging in Ohio. The South Carolina infestation was discovered by an alert homeowner who found a dead ALB reported their find to the proper authorities. The Massachusetts infestation was also discovered because an observant homeowner found and reported big beetles in their backyard.

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If you find any of these ALB indicators, report it. Give the ALB professionals a chance to investigate. In fact, if you find ANY suspicious signs or symptoms, report it! There is no harm if it turns out not to be ALB; there is great harm if it is ALB and it's not reported.

You can report by phone by calling 1-866-702-9938, or 513-381-7180. You can also report online by clicking the hotlink below:
https://www.aphis.usda.gov/aphis/resources/pests-diseases/asian-longhorned-beetle/report-it

Fall Webworm

Authors
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Published on
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Overwintered fall webworm (*Hyphantria cunea*) eggs are hatching and first-generation nests are appearing in southwest Ohio. Look for these hairy caterpillars inside small silk nests enveloping just a few leaves. The nests will rapidly expand over the next few weeks to include more leaves and become more evident.

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Fall webworm caterpillars only feed on the leaves enveloped by their silk nest. Early instar caterpillars feed primarily as leaf skeletonizers with later instars consuming all leaf tissue except for the petioles and coarse veins. As caterpillars grow in size, they expand their nest by casting silk over an increasing number of leaves to accommodate their expanding appetites.

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The caterpillars may be found on a wide variety of woody ornamental trees and shrubs as well as fruit trees. Some online references list over 90 tree species as fall webworm hosts.

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Fall webworm is a native moth that ranges throughout North America from southern Canada through Mexico and into Central America. It was accidently introduced into Europe and Asia where it became a serious pest of fruit trees in China.

The number of fall webworms generations depends on their geographical location. We typically see two generations in Ohio; sometimes three. Further north, there is only one generation. There may be as many as four generations in the southern U.S.

What's in a Name?

The common name "fall webworm" is based on when we typically see the largest nests. First-generation caterpillars immediately begin to construct silk nests as soon as they hatch from overwintered eggs.

The female moths that eventually arise from these nests tend to lay their eggs on or near the nests from which they developed. Thus, second-generation caterpillars expand the nests once occupied by first-generation caterpillars. The second-generation nests typically reach their maximum size in the fall (both astronomical and meteorological) which accounts for the common name.

Know Your Biotype

Given its wide geographical range, it's not surprising that there is variability in the appearance of both the adults and caterpillars. For example, caterpillars are divided into two *biotypes* which are named for the color of their head capsules: the red-headed biotype and black-headed biotype.

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Caterpillars of both biotypes are very hairy but differ in body coloration, dates for overwintered egg hatch, nesting behavior, and to some extent, host preferences. Hairs on caterpillars are sometimes used as defensive

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tools. However, fall webworms the hairs on fall webworms are primarily used to help them remain inside their silk nests. You can see this within the following picture. Note that the hairs fold back as the caterpillar appears to "swim" through the nest.

The overwintered eggs of the black-headed biotype tend to hatch earlier than the eggs of the red-headed webworms. In fact, I visited a local park this past Friday where both biotypes occur and only found nests being constructed by first-instar black-headed webworms.

Both biotypes produce communal nests occupied by caterpillars from multiple nearby egg masses. However, black-headed fall webworm nests appear to include caterpillars from only a few egg masses. They tend to produce small, wispy nests that envelop only a dozen or so leaves, but it is common for several of these small communal nests to be found on the same branch.

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Red-headed fall caterpillars are far more cooperative; their communal nests may include caterpillars from a large number of egg masses. Thus, they can produce some truly spectacular multilayered nests enveloping whole branches or even entire small trees.

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The red-headed biotype is the more damaging of the two owing to the caterpillar's ability to produce massive nests. Historically, this biotype was most commonly found in northern Ohio with the black-headed biotype dominating the middle and southern parts of the state. However, I've been finding recurring pockets of the red-headed biotype in southwest Ohio since 2016.

Another important difference between the two biotypes will be observed at the end of caterpillar development prior to pupation. Red-headed caterpillars remain in their silk nests throughout their development. They don't leave their nests until they are ready to pupate and even then, they don't crawl very far. They pupate inside thin cocoons in bark crevices or in the leaf litter beneath their tree. Final instar black-headed fall webworms often leave their nests to go on a wide-ranging crawl-about prior to pupation. They may be found in unusual places far from their nests.

Engineering the Fall of Webworms

Fall webworms typically cause little harm to the overall health of established healthy trees. However, newly planted trees may be at risk, particularly from the red-headed biotype, and heavy defoliation by both biotypes can affect fruit sizing on fruit trees.

However, insecticide applications are problematic. Most are stomach poisons and penetrating the dense silk nests to deposit the insecticide onto the enveloped leaves is a challenge. Of course, applications may also kill

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bio-allies that help keep population densities in check. Fall webworms are native to North America and there are over 50 species of parasitoids and at least 36 species of predators known to make a living on fall webworms.

Indeed, this past Friday, I found two types of predators in a fall webworm nest: a ground beetle (family Carabidae) and a two-spotted stink bug (*Perillus bioculatus*, family Hemiptera). Last season, I came across a large fall webworm nest with no caterpillars, but it was full of fat ground beetle larvae!

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Physically destroying first-generation nests of both biotypes will prevent or at least reduce the development of the larger, more destructive second-generation nests. If first-generation nests are few in number and easily accessible, the most effective control option is to apply digital management. Simply remove the silk nests and caterpillars by hand; gloves are optional. Thus far, no populations have become resistant to this handy pest management tactic.

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Other Articles

Four Easy Ways to Aid Native Bees

NIKI JABBOUR

JUN 16, 2020

- Source: https://www.hortmag.com/edible-gardening/ways-to-aid-bees

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The most successful vegetable gardeners I know are the ones who encourage beneficial insects like native bees. Native bees are fantastic pollinators, and better pollination in your garden means more food for you. Here are four ways to turn your vegetable garden into a native-bee habitat:

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A bee visits lavender in bloom. Ornamental flowers can help draw attention to the smaller blossoms of vegetable plants sited nearby.

1. Go wild! Don't be afraid to leave a few natural areas in and around your garden. In her book *Vegetables Love Flowers*, Lisa Mason Ziegler notes that the "wild island" near her garden is a hot spot for birds and insects.

2. Think like a bee. I love to mulch around my vegetables with shredded leaves to keep the weeds down and the moisture in the soil, but I'm also careful to leave plenty of bare soil throughout the garden for ground-nesting native bees. I've also stopped tilling, in part because I switched to raised beds but also because I learned that tilling affects native bees. If you have to till, leave areas with undisturbed soil in and around your garden for ground-nesting bees.

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3. Leave the trees. I have a few dead and dying trees around my vegetable garden that, thanks to advice from Ziegler, I've left in place. "Old dead wood is often full of leftover tunnels made by wood-boring beetle larvae," she says. "Wood-nesting bees will make good use of them." Just be sure the trees aren't a threat to any structures.

4. Feed the bees! A garden with plants that offer diverse flower shapes attracts the widest variety of native bees. It's also important to provide a selection of early-, mid- and late-flowering plants for a steady supply of nectar from early spring through late autumn.

Nova Scotia gardener Niki Jabbour writes the "Edibles Year-round" column for Horticulture *magazine and she contributes to savvygardening.com. This post was excerpted from* Horticulture*'s November/December 2019 issue. Her books include* Niki Jabbour's Veggie Garden Remix *and* Groundbreaking Food Gardens*, among others.*

Tips for Using Self-seeding Plants in the Garden

MEGHAN SHINN

JUN 16, 2020

- Source: https://www.hortmag.com/smart-gardening/self-seeding-plants

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Sometimes gardeners shy from using plants with a propensity to seed themselves around the garden, for fear that these self-seeders will outcompete neighboring plants or upset the overall planting design. These are valid concerns, yet gardening with self-seeding plants has its upsides:

False indigo (Baptisia australis) is a perennial that gently self-seeds in my garden. Its seedlings are easy to identify because of the plant's unique foliage. Because this is a tall plant, I move chance seedlings when they pop up at the front of the garden, where they will block the view of other plants.

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It can be of great benefit to bees, butterflies and other pollinating insects. Self-seeding plants typically flower abundantly, providing plenty of food for these insects while also creating a lively, colorful display.

It requires less in the way of resources. If plants are happy to "volunteer" in your garden, they are happy with its conditions—no need for supplemental water, soil amendments or fertilizer.

It offers surprises that can be gorgeous, and it's the chance to turn "garden design" into a partnership with nature, rather than a struggle for control.

Creativity is not lost. Although plants will pop up where you didn't plan for them, you don't have to leave them there. You can, but there's always the option to pull or move them.

Getting started with self-seeders:

Experiment with those that may already be in your garden. Allow some seedlings to develop wherever they pop up. If you decide you don't like how they look later, you can still pull them or move them. Ask local gardening friends for chance seedlings that appear in their garden, and for their observations of plants that self-sow and to what degree.

To encourage volunteer seedlings, don't mulch. The mulch that suppresses weed seeds will do the same to desirable seeds. You will need to weed, but the amount of

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weeding could taper off after a few seasons, especially as you encourage a thick tapestry of plants that are ideal for the site. If you can't skip mulch altogether, opt for a shallow layer of a fine material such as shredded leaves or pine needles, and/or wait until summer to apply mulch, so that volunteers have a chance to come up in the spring.

It goes without saying, but avoid including invasive plants in your garden. The goal is to encourage some self-seeding, not overtake a neighboring ecosystem. Research the plants you're adding to your garden and consult with local extension agencies, botanic gardens and wildflower societies for planting ideas and locally native species.

Use straight species or naturally occuring varieties rather than hybrids or cultivars, which often have been rendered sterile to prolong their bloom time and therefore will not produce seed, or if they are fertile, their offspring may be weak or show less desirable traits. If you use non-sterile cultivars, be aware that the seedlings may not precisely resemble the parent, particularly if you are growing more than one cultivar, as they may cross-pollinate. (This isn't necessarily a bad thing.) For more on this topic, see this post from South Dakota State University Extension.

Thin your volunteer seedlings so that they can develop. Sometimes a bunch will pop up in one place; when they begin to crowd against each other, pull some and compost or transplant them.

Familiarize yourself with how your plants look as seedlings vs. how common weeds in your area look, so you won't mistakenly pull a garden plant and leave a

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weed. This knowledge will accumulate over time; when you're starting out, don't be afraid to let a potential weed develop a bit or even flower if you're unsure. (Just don't let it go to seed if you realize it is a weed!)

Related recommended reading

If you want to start gardening more intentionally with self-seeding plants (and take a less controlled approach to gardening altogether), check out these books:

Cultivating Chaos by Jonas Reif, Christian Kress and Jurgen Becker

This book is all about gardening with self-seeding plants. It describes how to choose plants, prepare the soil and edit seedlings so that the garden retains structure. It includes visits to several beautiful gardens of self-sown plants for inspiration and guidance, plus descriptive lists of plants for specific situations.

Plantiful by Kristin Green

This book describes how to create a low-budget yet beautiful garden by propagating your own plants and using spreading plants. There is a great section on making the most of self-seeders. (There's also lots of practical info on wintering tender plants, collecting and storing seed, dividing plants and more, plus recommended plants that self-sow, spread by their roots or overwinter easily.)

Garden Revolution by Larry Weaner and Thomas Christopher

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This book presents an ecological approach to gardening, explaining how to assess your site and create a plan based on ideally suited plants that will evolve to contribute to the surrounding ecosystem while requiring less input from you. Among many other lessons, the book shows how to choose and site appropriate spreading and self-seeding plants, which build on your initial design and eliminate the need for purchasing and installing replacement plants should something fail.

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