

## OSU Extension - Auglaize County Weekly Horticulture Newsletter – 4-17-20

### Ticks and Tick Borne Diseases



•  
**American Dog Tick**



**Blacklegged tick**



## Lone Star Tick

When warmer weather returns there will be a great desire to spend time outdoors. As we spend more time outdoors in the spring we must begin thinking about ticks. There are 12 tick species known to occur in Ohio. The most prevalent species is the brown dog tick. The three most dangerous species, because they transmit diseases, are the lone star tick, blacklegged tick, and the American dog tick!

The American dog tick is most abundant from mid-April to mid-July. The blacklegged tick or deer tick is active year-long when temperatures are warm enough. The lone star tick is found throughout the warm months of the year.

The lone star tick is most prevalent in southern Ohio and persists in shaded areas. The lone star tick prefers shady areas along roadsides, meadows, and grassy and shrubby habitats. The lone star tick crawls to the tip of low growing vegetation waiting for a host to pass by. The American dog tick is found throughout Ohio in grassy areas along roads and paths, particularly next to woody or shrubby habitats. The blacklegged tick is primarily found in eastern Ohio although it has been found in Auglaize County. It is found mostly in or near forested areas.

The life cycle of ticks include egg, larva, nymph, and adult. Only the adult stage of the American dog tick affects humans. However, the larva, nymph and adult stages of the lone star tick and blacklegged tick can harm humans and other animals. The larval and nymph stages are fairly difficult to see and especially difficult to identify.

The adult blacklegged tick is the smallest of the three most harmful ticks and the largest is the American dog tick. For more information on how to identify these ticks we have a credit card sized colored handout at the extension office or you may visit the following website: <http://ohioline.osu.edu/factsheet/HYG-2073>.

The American dog tick is the primary transmitter of Rocky Mountain spotted fever (RMSF), but can also transmit tularemia and tick paralysis in humans and dogs. The blacklegged tick is the only vector of Lyme disease in eastern and midwestern United States. The lone star tick is the primary transmitter of human monocytic ehrlichiosis and southern tick-associated rash illness (STARI). Lone star ticks may also transmit tularemia and Q-fever.

When removing a tick do not crush or puncture it. Grasp as close to the head as possible using a tweezer or finger and pull it straight with steady even pressure. Thoroughly wash the bite site, hands, and tools. Place tick in container with rubbing alcohol. Take the tick with you to a doctor if you develop flu-like symptoms/rash.

To prevent ticks from attaching, conduct frequent checks. Apply a tick repellent (25% DEET or permethrin) and follow directions. Wear light-colored clothing, a long-sleeved shirt, and long pants when in tick habitats. Tuck the pants into your socks and your shirt into your pants. Protect pets with an anti-tick product recommended by veterinarians and keep dogs on a leash and avoid weeds.

## Local Observations



**The start to my garden**



**Tulip about to flower**



**Daffodil and tulip flowering**



**Lilac buds**



**A red bud budding!! (my favorite tree)**



**A mint species flowering**

Good afternoon! I pray you are well.

We received rainfall 4 days this past week. Rainfall on Saturday, April 11<sup>th</sup> ranged from a 0" near Mercer Line and St. Rt. 197 roads to 0.15" near Fort Recovery-Minster and Sommer roads. Rainfall on Sunday ranged from 0.07" near Bloody Bridge to 0.31" near Valley and Idle roads. Rainfall on Monday ranged from

0" and six locations across the county to 0.03" near Santa Fe-New Knoxville and Kettlersville roads, Valley and Idle roads, Lock two and Tri-Township roads. Rainfall on Wednesday ranged from 0" near St. Rt. 66 and Vogel roads to 0.2" near Kossuth. Rainfall for the week ranged from 0.19" near Bloody Bridge to 0.45" near Kossuth. The average rainfall for the week was 0.31", 1.3" less than last week.

The average high temperature now is 61 degrees F, only 2 degrees higher than last week. Temperatures were above normal for 1 day and below normal for 6 days this past week. Temperatures ranged from 42 degrees F to 67 degrees F. The average high temperature for the week was 50.7 degrees F which is 10.3 degrees F colder than the historical average high. After tonight we may be done with freezing temperatures and just flirt with 32 degrees F for the low temperature.

Flowering continues for many species including weeds. The garden was dry enough last night that I planted some spinach and lettuce, my first planting of 2020. I had to cancel my Weed ID and Management program for later in April.

## Special OSU Horticulture Meetings

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

Are you a local food producer?

April 15, 2020



Are you a local food producer? We are in the process of compiling a list of local food producers by county and want to include you! Use this [link](https://osu.az1.qualtrics.com/jfe/form/SV_eRLSBXp9CE7Urat) ([https://osu.az1.qualtrics.com/jfe/form/SV\\_eRLSBXp9CE7Urat](https://osu.az1.qualtrics.com/jfe/form/SV_eRLSBXp9CE7Urat)) to be added to the list. If you are searching for places to purchase local foods, be on the lookout for our updated list.

## OSU Plant Disease Diagnostic Services for Commercial Vegetables Will Resume April 13

April 11, 2020



Septoria leaf spot on tomato transplants

The OSU Vegetable Pathology Lab will resume plant disease diagnostic services in Wooster on Monday April 13 on a limited basis (see below). This service is provided at no cost to **Ohio commercial vegetable growers**. Dr. Francesca Rotondo will carry out the usual diagnostic procedures during the limited time she is in the lab. If possible, please contact us with digital samples before sending physical samples:

1. Send photos or short videos that represent the problem via text or email to Dr. Sally Miller (330-466-5249/miller.769@osu.edu) **AND** Dr. Francesca Rotondo ([865-640-5621/rotondo.11@osu.edu](mailto:865-640-5621/rotondo.11@osu.edu)). If we can't diagnose the problem from the digital samples we will ask you to send a physical sample. Growers who can't access/don't use digital technology should call Dr. Miller or Dr. Rotondo.
2. No drop-off samples can be accepted. **Ship samples Monday through Thursday via overnight delivery (USPS, FedEx, UPS or other courier) to the OSU Vegetable Pathology Lab, c/o Dr. Francesca Rotondo, 234 Selby Hall, 1680 Madison Ave., Wooster, OH 44691 (330-466-5249).**

Please see the [Vegetable Pathology Lab website](#) before sending samples, for more information and to access the [Plant Sample Submission Form](#).



## BYGL

There are additional articles that I did not include. To see them go here: <https://bygl.osu.edu/>

# Plant More Pachysandra

### Authors

Paul Snyder

### Published on

April 17, 2020



Pachysandra. We should be planting more of it. Many of you reading this are repulsed by the thought of someone wanting to plant Pachysandra. And you should be. Before you close your browser I want you to know I'm talking about the good kind, *Pachysandra procumbens*, Allegheny Pachysandra, not the non-native species that you're most familiar with, *pachysandra terminalis*, Japanese Pachysandra. Jim Chatfield mentioned Allegheny Pachysandra in a **BGYL article** a couple weeks ago and inspired this article.



*Pachysandra procumbens*

*Pachysandra procumbens* is an excellent low-growing groundcover only six to ten inches tall. The plant is native to the southeastern United States (not native to Ohio), though it's hardy to zone 5. Allegheny *Pachysandra* differs from Japanese *Pachysandra* in that it forms clumps rather than forming impenetrable rhizomatous mats.



One of many plantings at Secret Arboretum



*Pachysandra terminalis*, Japanese Pachysandra. Note the terminal flowers.

The leaves of the Allegheny *Pachysandra* emerge green in the spring and soon turn blue-green. By late summer the leaves develop white mottling, which adds to the beauty of this plant. In fall *Pachysandra procumbens* can turn light red or plum purple.



Foliage



*Pachysandra procumbens* male flowers

In early spring fragrant white flowers emerge from the center of the plant. The showy male flowers are loved by many native bees. Male flowers are borne above the female flowers, which remain close to the ground and lack showy petals. The plants are self-incompatible meaning that they require pollen from another plant in order to produce seed. For this reason *Pachysandra procumbens* rarely produces seed.



Female Flowers

*Pachysandra procumbens* grows best in part shade to shade in soils that slightly acidic, moist but well drained, and high in organic matter.

Several cultivars have been selected but their availability in the nursery industry is limited. Cultivars include 'Silver Streak', 'Eco Treasure', 'Forest Green', and 'Pixie'.

#### Further Reading

Dirr, Michael. *The Manual of Woody Landscape Plants*

[The Morton Arboretum](#)

[Mt. Cuba Center](#)

[Ladybird Johnson Wildflower Center](#)

# Invasive of the Week - Japanese Knotweed Popping Up

## Authors

Amy Stone

## Published on

April 16, 2020



Often we take notice of invasive plants when they are most obvious when they are in bloom, have put on their yearly growth and are standing tall or maybe wide in some cases, and really can't be missed. But today, I wanted to share an early view of an invasive perennial, Japanese knotweed (*Fallopia japonica*). That review includes last year's left-overs, hollow stems standing leafless. No new growth will be initiated from these above stems and soon will be masked or hidden by this year's new growth.



Photo Credit: Amy Stone

Below is this year's new growth. Noticed the arrow shaped leaves.



Photo Credit, Amy Stone

The photo below was taken last year as the plant growth is progressing. Note the hollow stem from a stalk from last year, and stem color from this year's growth.





Photo Credit: Amy Stone

Plant Characteristics:

- Perennial, herbaceous type-shrub that can grow from 3-10 feet high each year
- Stalks are hollow and persistent through winter, looks similar to bamboo

- Stems have a fine white coating that rubs off easily
- Stems have purplish specks or small spots
- Flowers arranged in spikes near the end of the stem are small, numerous, and creamy white in color
- Flowers bloom later in the summer in Ohio
- Prolific seed producer

The Ohio Invasive Plant Council (OIPC) has an Fact Sheet that could be a useful tool if people are trying to manage this invasive plant. <https://www.oipc.info/uploads/5/8/6/5/58652481/10factsheetjapaneseknotweed.pdf>

We are encouraging folks to report locations of where this plant is growing using the Great Lakes Early Detection Network (GLEDN) app. If you have not used the app before, it is an easy app that includes invasive plants, insects, diseases, and wildlife. The app uses the EDD maps where locations of the reported species are indicated once verified. For additional information about the GLEDN app, check out the website or search your app store on either your iPhone or android phone at <https://apps.bugwood.org/apps/gledn/>

# Tree Benefits Analysis of Maple by Claudia Winslett

## **Authors**

Claudia Winslett

Jim Chatfield

## **Published on**

April 16, 2020



Jim Chatfield, OSUE

{As the Horticulture and Crop Science 3410 “Sustainable Landscape Maintenance” class went virtual in late March, one of the assignments was to do an i-Tree analysis of a tree that students could access and measure somewhere they could do safely self-distance. This analysis is by OSU student Claudia Winslett. You can check out how the i-Tree models work by going to [treebenefits.com](http://treebenefits.com) for individual trees, and for far more robust options to [itree tools.org](http://itree.tools.org) }

Tree Benefits Analysis: i-Tree Analysis of Maple – by Claudia Winslett

For my chosen tree I picked a maple in a single residential home in Brunswick, Ohio. This tree has a trunk diameter of 42 inches and has an expanding root system throughout the backyard. Trees manage erosion and contribute largely to storm water control. As our rainfalls and weather events become more extreme, trees are essential to control mass water flow that can cause flooding and other damage.

This maple intercepts 2,867 gallons of rainwater each year which would have flowed into a runoff reservoir or storm drain. Tree roots also allow the soil some protection from being constantly poured on. This could potentially damage soil structure and limit infiltration over time. Another essential component of tree benefit is their ability to sequester carbon from the atmosphere.

Even though \$152 doesn't seem like a large sum of money, the worth adds up as the years do. This tree is approximately 30 years old so over time the net benefits of this tree adds up to a couple thousand dollars. Each

year the value of this tree only increases as it stays healthy and continues to infiltrate more storm water, reduce energy costs and remove pollutants from the air.

{Note from Chatfield: I thought I could display an i-Tree pie chart showing the various components of tree benefits (storm water remediation, energy benefits, carbon sequestration, air quality benefits, property values) in this bygl-alert format, but I fear not, at least for now. To check out how cool this is - put in values for Claudia's tree in [treebenefits.com](http://treebenefits.com) and you shall see for yourself!}

For a little visual stimulation, here is some fall color on a large sugar maple tree in Doylestown Ohio



Jim Chatfield, OSUE

Large sugar maple tree, relatively color-coordinated with road signs: a true urban tree.

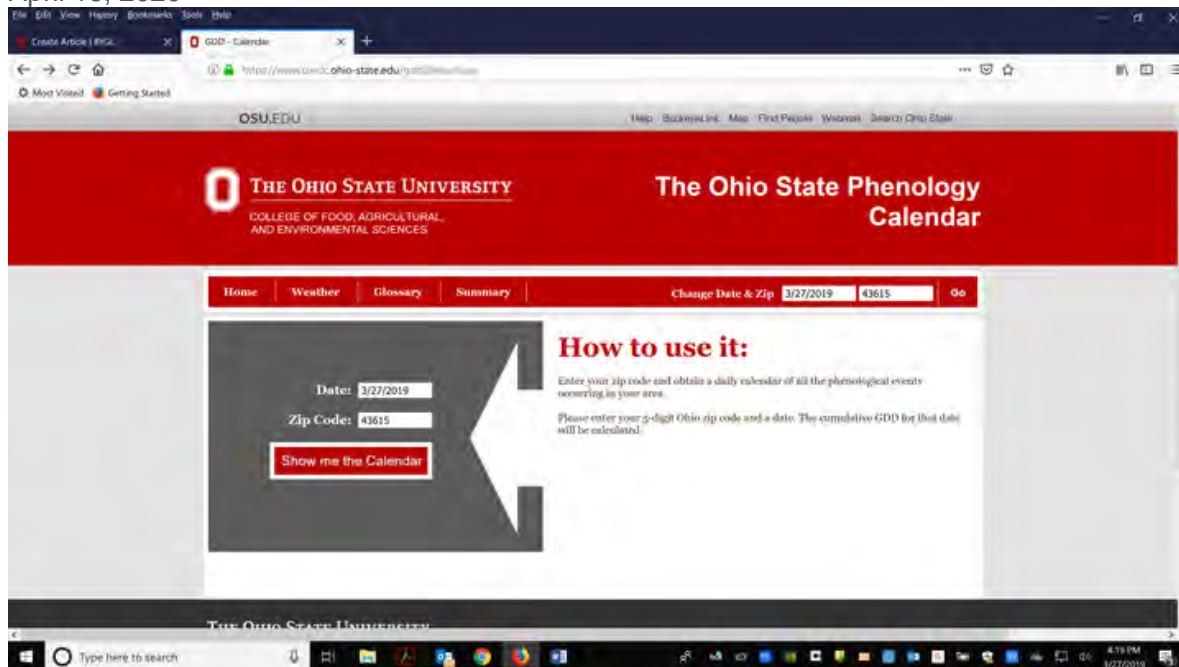
## Growing Degree Days, Part 3

## Authors

Amy Stone

Published on

April 16, 2020



Last month, a BYGL Alert was written as an intro or refresher to growing degree days followed by a second alert, *Growing Degree Days (GDD) – Part 2*, (March 16, 2020), <https://bygl.osu.edu/index.php/node/1455> . And earlier this week, Joe Boggs authored a BYGL Alert, *Observations on Phenology* (April 13, 2020), <https://bygl.osu.edu/node/1504> highlighting the sequence of plant bloom, insect activity and optimal timing for pest management.

Here is a look at GDD accumulations across the state as of April 16, 2020. While I couldn't do every Ohio zip code – *but you can easily do your own* – this gives you a taste of where others are at in Ohio.

Toledo (43615) - 89 GDD  
Cleveland (44120) - 91 GDD  
Canfield (44404) - 86 GDD  
Athens (45701) - 230 GDD  
Ironton (45638) - 251 GDD  
Cincinnati (45223) - 241 GDD  
Lima (45804) - 108 GDD  
Mansfield (44906) - 135 GDD  
Columbus (43210) - 178 GDD

Chillicothe (45601) - 242 GDD

Once you have your own GDD, you can click on the 'summary' tab and it will provide the last 6 years of GDD accumulations on that same date. I used the zip code of the office in Toledo as an example.

Toledo (43615) – this year, plus 6 past years

2020, April 16 - 89 GDD  
2019, April 16 - 93 GDD  
2018, April 16 - 83 GDD  
2017, April 16 - 219 GDD  
2016, April 16 - 137 GDD  
2015, April 16 - 84 GDD  
2014, April 16 - 80 GDD

Just as you can change the zip code on the website, you can also manipulate the date if you would like to explore what was the GDD on a specific date in the past. If you have any questions, or need additional guidance to navigate the website if you are a newbie, send an email to [stone.91@osu.edu](mailto:stone.91@osu.edu) and in the subject line include: GDD

#### **More Information**

National Phenology Network USGS (U.S. Geological Survey) Video

<https://www.usanpn.org/usa-national-phenology-network>

Nature's Notebook

[https://www.usanpn.org/natures\\_notebook](https://www.usanpn.org/natures_notebook)

# The OSU C. Wayne Ellett Plant & Pest Diagnostic Clinic Will Reopen April 15, 2020

## Authors

Joy Pierzynski, PhD

Amy Stone

## Published on

April 14, 2020



Beginning Wednesday, April 15, 2020 the Ohio State University (OSU) C. Wayne Ellett Plant & Pest Diagnostic Clinic, located in Reynoldsburg, will reopen on a part-time basis. The Clinic will be accepting plant samples for disease diagnosis via package deliver only (USPS, UPS, etc.). No face-to-face drop off of samples can be accepted at this time.

You will need to complete a form that should accompany the sample or samples that are being sent to the lab. There are three different forms - general, turf and nematode. The forms can be found on the clinic's website and we have provided a link for the the general form at: <https://ppdc.osu.edu/submit-sample/forms/general-form>

The clinic's mailing address is:

C. Wayne Ellett Plant & Pest Diagnostic Clinic

8995 E. Main Street  
Building 23  
Reynoldsburg, Ohio 43068-3399

Insect samples received will be held for identification until the OSU Columbus campus is reopened. Digital images of samples for diagnosis are currently being accepted and can be e-mailed to: [ppdc@osu.edu](mailto:ppdc@osu.edu)

In addition, both the OSU Vegetable Pathology and the Fruit Pathology Laboratories are open on a limited basis as of Monday, April 13, and accepting samples for diagnostics from commercial vegetable and fruit growers. For complete information before sending samples to either Pathology Laboratory, see:

<https://u.osu.edu/vegetablepathologylab/diagnostic-submission/>

<https://u.osu.edu/fruitpathology/diagnostics/>

**More Information**

OSU C. Wayne Ellett Plant & Pest Diagnostic Clinic  
<https://ppdc.osu.edu/>

# Dandelions for Dinner by Zoe Eads-Scofield

**Authors**

Zoe Eads-Scofield

Jim Chatfield

**Published on**

April 16, 2020





Zoe.Eads.Scofield06419

{This is a creative Plant Profiles BYGL-alert contribution from Zoe Eads-Scofield in the Horticulture and Crop Science, "Sustainable Landscape Maintenance" class.}

#### Dandelions for Dinner by Zoe Eads-Scofield

*Taraxacum* is a large genus of flowering plants in the Asteraceae family, which consists of species commonly known as dandelions. Dandelions are native to Eurasia and were introduced from Europe, and now are widely distributed as wildflowers. Like other members of the Asteraceae family, dandelions have small flowers collected together into a composite flower head.



Dandelions growing in a yard

Each single flower in a head is called a floret. Due to their abundance along with being a generalist species, dandelions are one of the most vital early spring nectar sources for a wide host of pollinators. Raw dandelion greens contain high amounts of vitamins A, C, and K, and are moderate sources of calcium, potassium, iron, and manganese.



Zoe Eads-Scotfield 03410

Ingredients for fried dandelions

The entire plant, including the leaves, stems, flowers, and roots, is edible and nutritious. I have been seeing recipes for fried dandelion flowers so I decided to try them out. I picked the flowers, thoroughly washed them, dipped them in seasoned egg, then in seasoned flour, and fried them until slightly brown. They were pretty good and very easy to make!



Zoe Eads | Sci file | 03410

Almost time to eat!

# Seeing Coltsfoot?

## Authors

Ashley Kulhanek

## Published on

April 15, 2020



From afar, COLTSFOOT (*Tussilago farfara*) may be confused as a dandelion (*Taraxacum officinale*) due to its yellow fluffy flower. Both are herbaceous perennial members of the Asteraceae family. Both non-native plants are thought to originate in Eurasia and are now naturalized species to North America.

However, where dandelion has a deep taproot and grows a single plant (shown below)...



...coltsfoot grows from rhizomes that can grow an extensive root system and spread to form thick patches of flowers. It also spreads by seed. This allows it to invade disturbed areas and outcompete native plants.



Coltsfoot flowers emerge **FIRST**, before the foliage does. The flower stalks that emerge have a scaly texture that may be reminiscent of asparagus. These purplish scales are bracts covered in a faint pubescence. They are different from the true leaves of the plant. The true leaves, which emerge after the flower matures, are heart shape and slightly serrated.





It will also produce a white fluffy seed head, similar to common dandelion.



It is commonly found along stream banks and near other bodies of water, disturbed areas, or generally moist, clay soils. It can tolerate a lot of shade and has been documented in fields to forests. It's considered flood-tolerant and salt-tolerant making it a fairly hearty little flower. The photos above are in a pile of fill dirt that has been stored behind a garage for several years. It's likely the fill dirt was contaminated with seed or a rhizome and has continued spreading.

If control is desired, you can pull and dig the plant if caught early, but remember it can reproduce from remaining rhizomes in the soil. Broadleaf herbicides such as glyphosate may also be an option. Read all label instructions for application and target susceptibility.

**More Information**

Coltsfoot Information

<http://www.misin.msu.edu/facts/detail/?project=misin&id=130&cname=Coltsfoot>

USDA Forest Service

<https://www.fs.fed.us/database/feis/plants/forb/tusfar/all.html>

# Asian Longhorned Beetle (ALB) Update: A FREE Zoom Webinar

**Authors**

Joe Boggs

**Published on**

April 13, 2020



Check Out This FREE Online Webinar

by Yours Truly: Joe Boggs

Tomorrow – Tuesday – April 14  
12:00 pm. – 1:00 pm.

**Abstract:** Asian longhorned beetle (ALB) is potentially the most devastating non-native pest or disease to have ever arrived in North America. The **beetle kills trees belonging to 12 genera** in 9 plant families **including ALL MAPLES**. Early detection is essential to the success of eradication; both in terms of time and money. This presentation provides an ALB overview including host range, basic biology, and key points for detection. Learn what you need to know to help us stop ALB!




## Instructions for Accessing the Webinar:

### Option 1:

Click this hotlink about 10-15 minutes before 12:00 pm., then click on "Enter Arena" to directly access the Zoom portal:

<https://go.osu.edu/agmadness>

## Agriculture and Natural Resources Madness

<div style="background-color: #c00; color: white; padding: 5px; text-align: center; font-weight: bold; margin-bottom: 10px;">           A Tournament of Education         </div> <p style="font-size: small;">64 educational events broken into daily brackets (topics). Each day, a virtual educational session will be held at 9:00 a.m., noon and 3:00 p.m. at no charge. Find links under Today's Schedule.</p> <div style="background-color: #c00; color: white; padding: 5px; text-align: center; font-weight: bold; margin-top: 10px;">           Farm Office Live Replays and Registration         </div>	 <p style="font-weight: bold; font-size: 1.2em;">Up Next!</p> <p style="font-weight: bold; font-size: 1.2em;">Tree ID</p> <p style="font-weight: bold; font-size: 1.2em;">9:00 a.m. tip-off</p> <div style="border: 2px solid red; border-radius: 50%; padding: 5px; display: inline-block; font-weight: bold; font-size: 1.2em;">Enter Arena</div> <div style="background-color: #c00; color: white; padding: 5px; text-align: center; font-weight: bold; margin-top: 10px; font-size: 1.2em;">Click This</div>	<p style="text-align: center; font-weight: bold; margin-bottom: 10px;">Monday, April 13</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <td style="width: 20%;">Bracket</td> <td><b>Sheep Production &amp; Management</b></td> </tr> <tr> <td>9:00 a.m.</td> <td>Marketing Sheep; Breeds of Sheep <b>Watch Replay</b></td> </tr> <tr> <td>Noon</td> <td>Basic Sheep Nutrition <b>Watch Replay View Slides</b></td> </tr> <tr> <td>3:00 p.m.</td> <td>Basic Health Management <b>Watch Replay</b></td> </tr> <tr> <td colspan="2">Arena opens 1/2 hour prior to start</td> </tr> </table> <p style="text-align: center; font-weight: bold; margin-top: 10px;">Catch replays!</p>	Bracket	<b>Sheep Production &amp; Management</b>	9:00 a.m.	Marketing Sheep; Breeds of Sheep <b>Watch Replay</b>	Noon	Basic Sheep Nutrition <b>Watch Replay View Slides</b>	3:00 p.m.	Basic Health Management <b>Watch Replay</b>	Arena opens 1/2 hour prior to start	
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### Option 2:

March Madness was canceled, but OSU Extension has stepped up with "Agriculture and Natural Resource (ANR) Madness." These are a series of online educational events you can tap into and enjoy – free of charge - in the privacy of your own home. There's no need to distance yourself from educational opportunities as you social distance.

Click this hotlink to see the Full Bracket of ANR Madness educational opportunities, including some you may have missed:

<https://agnr.osu.edu/events/agriculture-and-natural-resources-madness/full-bracket>

Then scroll down to the ALB Update and click on the "Join." Again, do all of this 10-15 minutes before the scheduled program.

Tuesday, April 14	Bracket: Horticulture	Return to Top
9:00 a.m. tip-off	<b>Tree ID</b> <i>Kathy Smith, Program Director, Forestry, OSU SENR</i>	Join
Noon tip-off	<b>Asian Longhorned Beetle Update</b> <i>Joe Boggs, Horticulture Educator, OSU Extension Hamilton County</i>	Join
3:00 p.m. tip-off	<b>Ornamental Horticulture Update</b> <i>Jim Chatfield, Horticulture Specialist, OSU Extension</i> <i>Tom DeHaas, Agricultural and Natural Resources Educator, OSU Extension Lake County</i>	Join

Join

Click This

**NOTE:** you can also join Kathy at 9:00 and Jim and Tom at 3:00 pm.



# Observations on Phenology

**Authors**

Joe Boggs

**Published on**

April 13, 2020



The screenshot shows the Ohio State Phenology Calendar website. At the top left is the Ohio State University logo and name, along with the College of Food, Agricultural, and Environmental Sciences. The main title is "The Ohio State Phenology Calendar". A navigation bar includes links for Home, Weather, Glossary, and Summary. There is a "Change Date & Zip" section with a date input field set to 4/13/2020 and a "Go" button. Below this is a "How to use it:" section with a large arrow pointing to the left. On the left side of the arrow, there are input fields for "Date:" (4/13/2020) and "Zip Code:" (45223), and a red button labeled "Show me the Calendar". To the right of the arrow, text explains that users can enter their zip code to get a daily calendar of phenological events, and that cumulative GDD can be calculated by entering a 5-digit Ohio zip code and a date.

Amy Stone (OSU Extension, Lucas County) posted an informative BYGL Alert earlier this season on Growing Degree Days (GDDs) [click this hotlink: <https://bygl.osu.edu/node/1448>]. She highlighted and described our Ohio State Phenology Calendar that was developed by Dan Herms (Davey Tree) and during his time with us at OSU [click this hotlink: <https://www.oardc.ohio-state.edu/gdd/default.asp>].

Here's a quick review of the two components of the OSU Phenology Calendar: GDDs and Plant Phenology. GDDs are a mathematical measure of "heat units" accumulated over time, so they are commonly referred to as *accumulated* GDDs.

Accumulated GDDs are used to predict biological events that are governed by temperature such as the appearance of damaging stages of insect pests, or the bloom of certain plants. This mathematical tool has been with us in one form or another since the 1950s.

The predictive value is much more accurate than using calendar dates because the seasonal appearance of important events can vary from year-to-year. For example, over the past 17 years in southwest Ohio, the overwintered eggs of the eastern tent caterpillar moth (*Malacosoma americanum*) have hatched as early as March 17 and as late as April 9. Knowing when the eggs are hatching is important if you're targeting early instar caterpillars using products based on the naturally occurring bacterium, *Bacillus thuringiensis* serotype *kurstaki* (Btk) which works best on small caterpillars.





What did people do before there were thermometers; before there were calendars; before we even had mathematics? They used observations of one biological event to connect to another important event. For example, my Native American great, great grandmother taught my family to "plant corn when oak leaves are the size of mouse ears." My grandfather used a huge white oak (*Quercus alba*) at the end of one of our pastures to time planting sweet corn.

We were using the white oak as a *phenological indicator plant*. "Phenology" is the practice of relating one recurring biological event to the timing of another event. The term has its origins with the Greek word "phaino" meaning "to show," or "to appear." Of course, the connector between the events is temperature which is where phenology and GDDs cross paths.

## Names Matter

I've found our OSU Phenology Calendar to be very useful for increasing my success in taking pictures of particular stages of insect development. Instead of making multiple visits to various sites in the hope of catching eggs hatching or adults emerging, I use accumulated GDDs coupled with phenological indicators to guide my visits. It's become a real time saver.

Of course, I've also found that names matter. We used a white oak to time planting corn, not a red oak. And it was a true white oak, not just a tree in the "white oak group." I've found that **the greatest challenge with successfully using *phenological indicator plants* is making certain we're observing the correct plant!**

The first phenological event listed in the Phenology Calendar is the first bloom of silver maple (*Acer saccharinum*) at the accumulated GDD of 34. Full bloom of red maple (*A. rubrum*) occurs at 75 GDD and is a good predictor of when overwintered white pine weevil (*Pissodes strobi*) females start moving from the duff beneath trees to main leaders where they feed and lay their eggs (84 GDD). This is the "straight species;" not a red maple cultivar and certainly not a hybrid with silver maple.

Species <span>Select Filter ▼</span>	Phenological Event	GDD
Silver Maple - <i>Acer saccharinum</i>	first bloom	34
Corneliancherry Dogwood - <i>Cornus mas</i>	first bloom	40
Silver Maple - <i>Acer saccharinum</i>	full bloom	42
Red Maple - <i>Acer rubrum</i>	first bloom	44
Speckled Alder - <i>Alnus incana ssp. rugosa</i>	first bloom	52
Northern Lights Forsythia - <i>Forsythia x intermedia</i>	first bloom	58
Japanese Pieris - <i>Pieris japonica</i>	first bloom	60
Red Maple - <i>Acer rubrum</i>	full bloom	75
Star Magnolia - <i>Magnolia stella</i>	first bloom	83
<b>White Pine Weevil - <i>Pissodes strobi</i></b>	adult emergence	84
Border Forsythia - <i>Forsythia x intermedia</i>	first bloom	86
<b>Eastern Tent Caterpillar - <i>Malacosoma americanum</i></b>	egg hatch	92

**Silver Maple**  
**(*Acer saccharinum*)**



Joe Boggs, OSU Extension©

**Red Maple**  
**(*Acer rubrum*)**



Joe Boggs, OSU Extension©



I also use the full bloom of red maple to get prepared for taking pictures of eastern tent caterpillars hatching from overwintered eggs (GDD 92). I've refined the timing by also paying attention to the full bloom of Corneliancherry dogwood (*Cornus mas*) (GDD 98). This "bracketing" strategy has never failed me. Of course, note that I'm using a specific dogwood, not just "full bloom of dogwoods."

Red Maple - <i>Acer rubrum</i>	full bloom	75
Star Magnolia - <i>Magnolia stella</i>	first bloom	83
<b>White Pine Weevil - <i>Pissodes strobi</i></b>	adult emergence	84
Border Forsythia - <i>Forsythia x intermedia</i>	first bloom	86
<b>Eastern Tent Caterpillar - <i>Malacosoma americanum</i></b>	egg hatch	92
Manchu Cherry - <i>Prunus tomentosa</i>	first bloom	93
Northern Lights Forsythia - <i>Forsythia x intermedia</i>	full bloom	94
Speckled Alder - <i>Alnus incana</i>	full bloom	97
Corneliancherry Dogwood - <i>Cornus mas</i>	full bloom	98



Non-native boxwood leafminer (*Monarthropalpus flavus*) midge fly adults emerge at a GDD of 440; doublefile viburnum (*Viburnum plicatum*) reaches full bloom (444 GDD). It's important to monitor the right viburnum! Koreanspice viburnum (*V. carlesii*) reaches full bloom at 205 GDD. While Koreanspice is a good phenological indicator plant for the first egg hatch of the non-native viburnum leaf beetle (*Pyrrhalta viburni*) (210 GDD), it blooms way too early to be a useful predictor of boxwood leafminer adult emergence.

Koreanspice Viburnum - <i>Viburnum carlesii</i>	full bloom	205
<b>Azalea Lace Bug - <i>Stephanitis pyrioides</i></b>	egg hatch	206
Spring Snow Crabapple - <i>Malus x spring snow</i>	full bloom	209
<b>Viburnum Leaf Beetle - <i>Pyrrhalta viburni</i></b>	first egg hatch	210

Red Horsechestnut - <i>Aesculus x carnea</i>	full bloom	440
<b>Boxwood Leafminer - <i>Buxus sempervirens</i></b>	adult emergence	440
Doublefile Viburnum - <i>Viburnum plicatum</i>	full bloom	444



## Sequence Matters

The Phenological Calendar is linear, just like astronomical calendars. Astronomical calendars are governed by the unidirectional movements of our Earth spinning on its axis and orbiting the sun; the Earth never moves

backward. Thus, the chronological sequence of days and months never moves backward. March always follows February and February 3rd follows February 2nd. Unless you're Phil Connors.

Likewise, the Phenological Calendar does not move backward. Just as March follows February, the predicted sequence of phenological events remains the same from year-to-year. The full bloom of red maple (75 GDD) never happens **after** eastern tent caterpillars hatch from eggs (GDD 92). If you think you've seen this, you were looking at the wrong maple.

The events depicted in the OSU Phenological Calendar are governed by temperature which is quantified using GDDs and qualified using plant bloom. However, a cold day doesn't mean we lose some accumulated GDDs for the same reason that it doesn't cause flowers to draw back into flower buds.

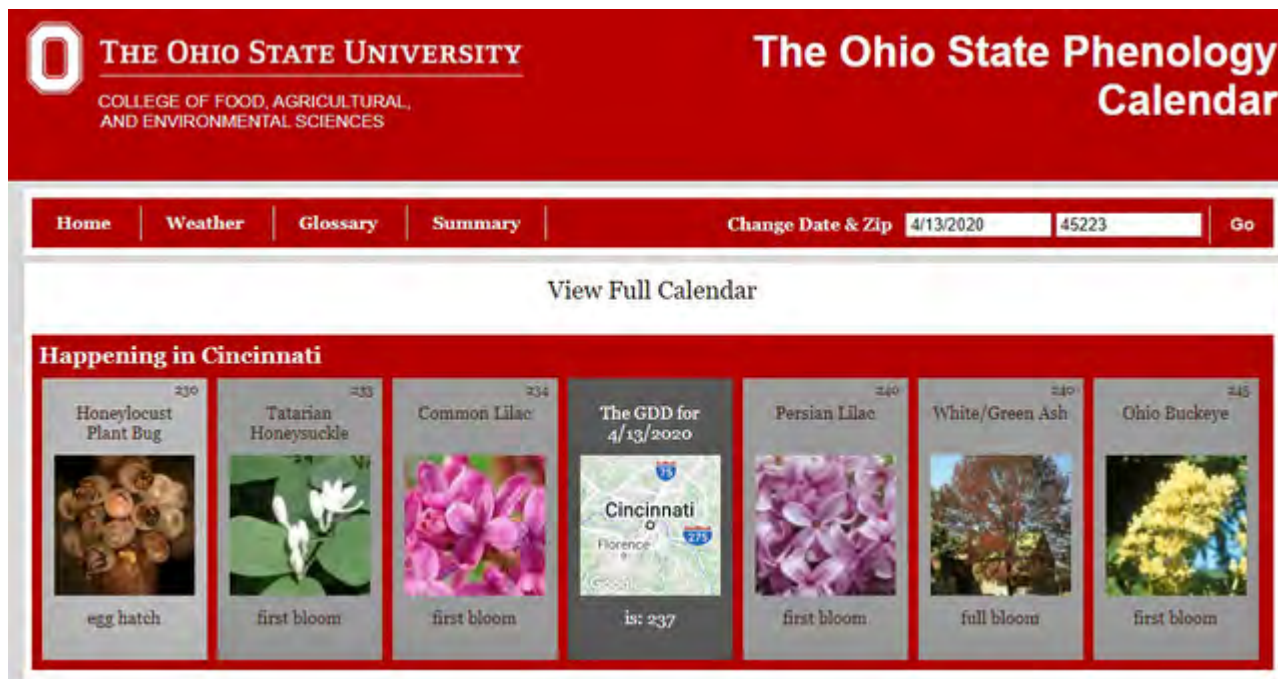
On the other hand, temperatures do affect speed. Hot temperatures are like pressing a car's accelerator pedal and cold temperatures are like hitting the brake. The rate of accumulated GDDs can speed up and slow down. A warm spring means GDDs accumulate faster compared to a cool spring; plants bloom earlier. In COVID-19 parlance, the curve steepens.

This is where the comparison to an astronomical calendar falls apart. The chronological sequencing of phenological events remains the same from year-to-year, but the speed at which they arrive can vary considerably from year-to-year.

However, localized micro-climates can muddy the waters. I've sometimes seen differences in the timing of phenological events in Greater Cincinnati between the hilltops and nearby river valleys. The plant flowering sequence within a given location was consistent with the Phenological Calendar, but the arrival of bloom events across the locations were different. Of course, it's always important to remember that names matter.



This brings up a wrinkle with using our OSU Phenological Calendar. You can find your local GDD by typing your zip code into a field on the Calendar website. However, if you click on the "Weather" tab at the top of the website page, you'll see the CFAES Weather Stations aren't located in post offices.



The screenshot shows the website header with the OSU logo and name, and the title "The Ohio State Phenology Calendar". Below the header is a navigation bar with tabs for "Home", "Weather", "Glossary", and "Summary". To the right of the navigation bar is a "Change Date & Zip" section with input fields for "4/13/2020" and "45223", and a "Go" button. Below the navigation bar is a "View Full Calendar" link. The main content area is titled "Happening in Cincinnati" and features seven cards:

Indicator	GDD	Event
Honeylocust Plant Bug	230	egg hatch
Tatarian Honeysuckle	233	first bloom
Common Lilac	234	first bloom
The GDD for Cincinnati	4/13/2020	is: 237
Persian Lilac	240	first bloom
White/Green Ash	240	full bloom
Ohio Buckeye	245	first bloom

Does this matter? In terms of absolute GDD accuracy, yes. However, it matters less if you consider the value of predictive mathematical models. During Ohio COVID-19 updates, Dr. Amy Acton (Director, Ohio Department of Health) has been demonstrating the effective use of mathematical models to *predict* an outcome. Although Ohio has not yet "flattened the curve," Dr. Acton has been presenting a gradually flattening curve based on *extrapolations* derived from a mathematical model.

The same approach applies to our Phenological Calendar. For example, I'm based in Cincinnati and the two closest CFAES Weather Stations used to calculate GDDs for my location are in Clark and Pike Counties. They aren't close by, but the temperature data is coupled with isothermal data in the mathematical model to predict what is happening in Cincinnati.

Of course, no mathematical model is ever perfect. However, the results provide useful touchstone information for **monitoring** with the timing being **further refined using phenological indicator plants**. I use GDDs to provide a "heads-up" on what's about to happen; I start looking at my personal calendar to plan for my drives. However, I use phenological indicator plants to tell me when I should get in my car and drive and to confirm that my arrival at a location will be rewarded.



Finally, accumulated GDDs should be used to schedule your appointments for monitoring and phenological indicator plants used to confirm what you're expecting to observe. However, neither of these predictive tools should be used to schedule insecticidal treatments.

**Properly timed insecticide treatments should be based on monitoring.** You need to assess what's happening with your own eyes, not what appears on a computer screen. Second, **insecticides should only be used if pest populations threaten the overall health of a tree.** There was a time when it was common to base applications on calendar dates. Thankfully, the days of blindly applying insecticides to woody ornamentals based solely on calendar dates are gone.

However, if you look closely at our OSU Phenological Calendar, you will find there is one notable exception regarding using the Calendar to time an insecticide application. You will see that the first bloom of black cherry (*Prunus serotina*) (GDD 368), which is when flower buds are first showing color, is followed by "Optimal time to spray for gypsy moth" (GDD 370). Also, note that the full bloom of Ohio buckeye (*Aesculus glabra*) occurs at GDD 374; a nice example of "bracketing" for an event.

Black Cherry - <i>Prunus serotina</i>	first bloom	368
<b>Optimal time to spray for gypsy moth -</b>		370
Common Sweetshrub - <i>Calycanthus floridus</i>	first bloom	371
<b>Lesser Peach Tree Borer - <i>Synanthedon pictipes</i></b>	adult emergence	372
Ohio Buckeye - <i>Aesculus glabra</i>	full bloom	374



I recently talked with Dan Herms about this and he said the specific gypsy moth (*Lymantria dispar*) recommendation came after many years of working with the Ohio Department of Agriculture to better time aerial suppression applications targeting the caterpillars. Aerial applications require a considerable amount of logistical planning.



The Calendar shows that gypsy moth eggs hatch at a GDD of 192. Eastern redbud (*Cercis canadensis*) has long been a dependable indicator plant for egg hatch with first bloom occurring at 191. However, this is far too early for suppression applications.

Eastern Redbud - <i>Cercis canadensis</i>	first bloom	191
<b>Gypsy Moth - <i>Lymantria dispar</i></b>	egg hatch	192
Donald Wyman Crabapple - <i>Malus angustifolia</i>	first bloom	197



Dan noted that the exception to the rule was only added after multiple years of data consistently showed black cherry to be a very accurate predictor of when gypsy moth caterpillars arrive at a developmental stage that is most susceptible to the suppression products. The important operative words are "multiple years of data."

# Turfgrass Times, 04.10.2020

## Authors

Amy Stone

## Published on

April 13, 2020



Check out the latest video from the OSU Turfgrass Team - Turfgrass Times. The recording was made on Friday, April 10, 2020. Thanks to Dr. David Gardner, Dr. David Shetlar, Joe Rimelspach, Dr. Pamela Sherratt and Dr. Ed Nangle.

Here is the link to the recording on YouTube: <https://youtu.be/g6Pqrc0NvOE>

These updates give us a pulse of what is happening in turfgrass across the state from OSU experts. You will get a taste of insects, diseases, weeds and more! Stay tuned for future videos as well.

# Plant Profile: *Magnolia campbellii*

## Authors

Jim Chatfield

Stephen D Fang

## Published on

April 13, 2020



[This BYGL-alert is written by Stephen Fang, a student in OSU's Horticulture and Crop Science 3410, "Sustainable Landscape Maintenance" class. This magnolia, though not hardy to Ohio is present here in its own way, in its frequent hybridization with other magnolias.]

Campbell;s Magnolia by Stephen Fang



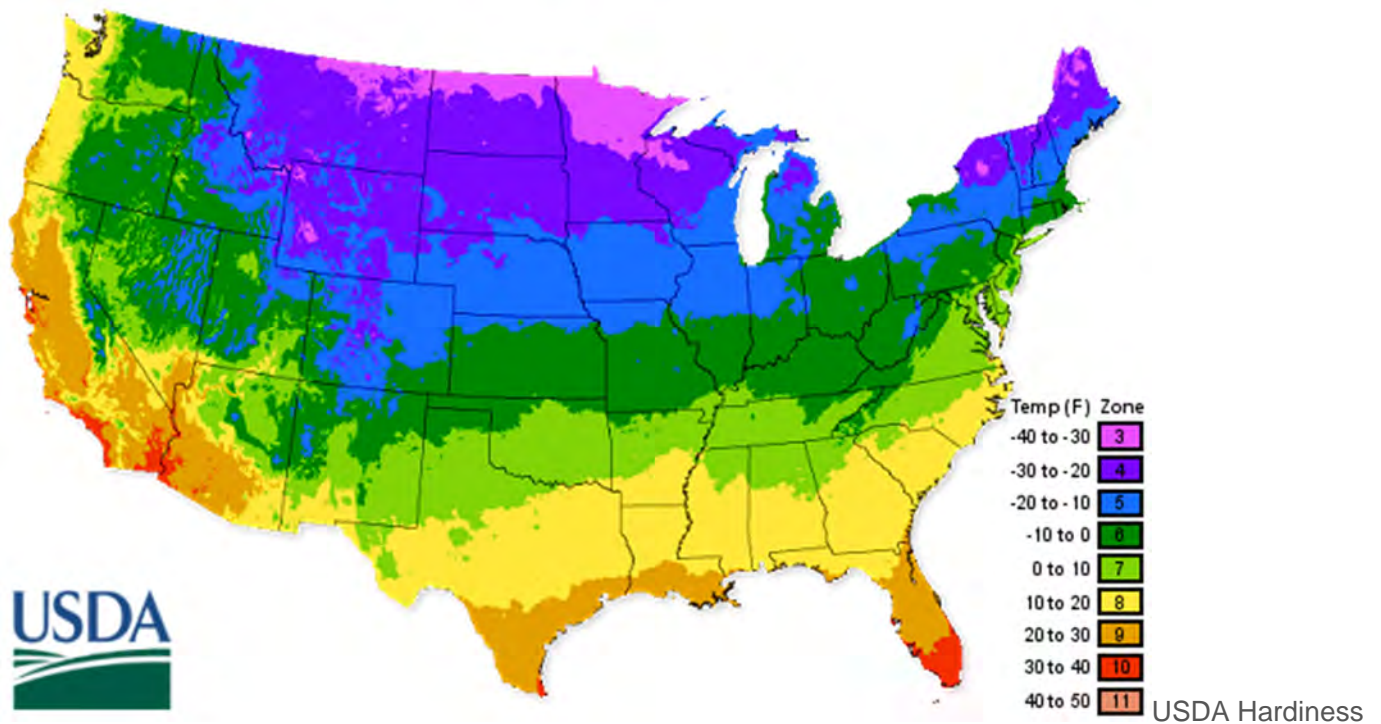
*Magnolia campbellii* from flicker.com images

*Magnolia campbellii* is a large deciduous tree in the family Magnoliaceae that may grow to 60 feet tall and more. The bark texture is smooth and is a gray color, the leaves are a lustrous green, with a fuzzy underside. The most attractive part of this tree are the flowers; from 6-10 inches in diameter. Flower color varies from white to a dark pink, with outer "saucer" tepals splayed and inner "cup" tepals recurved. The tree flowers early in the season, from late winter to early spring.



*Magnolia campbellii* flowers from alamy.com images

This tree is native to the Himalayas at elevations of 7,000 to 11,000 feet and has a hardiness zone of 8-9. The preferred soil type is in moist, acidic, deep soils where the temperature is stable seasonally.



Zone map



*Magnolia campbellii* fruits from Wikipedia.com images

One of the books for the class is “The Tree Book” by Michael A. Dirr and Keith S. Warren. Here is their take on this magnolia: “...consider it and its cultivars the most spectacular of all magnolias. It is a humbling and inspirational experience to walk under these most noble magnolias in spring, their pink flowers in full glory on bare branches. Emotion clouds judgment, for all who experience subsequently desire.”

[ If you do move southward and grow this plant, as Dirr and Warren note: if you grow in from seed instead of cuttings/cultivars, it will be a few decades before it flowers. Worth it, though. ]

## BYGL MailBag: April 10, 2020

### Authors

[Jim Chatfield](#)

[Joe Boggs](#)

Published on



April 10, 2020



Here is another set of a few of your responses to recent bygl-alerts  
First:

Re: <https://bygl.osu.edu/index.php/node/1475>, "Loebner Magnolias Bloom in Columbus"  
<https://bygl.osu.edu/index.php/node/1489>, "Chinese/Saucer Magnolia"

[From: Mark Hoenigman of Busy Bee Tree Services, Ltd., owner and arborist from northeast Ohio]

*"I believe your students could do BYGL with supervision (all you regulars). They could interject new views and thought processes that we might not see"*

[Mark was talking about the BYGL-alerts written by students in OSU's Horticulture and Crop Science 3410, "Sustainable Landscape Maintenance" class, taught by the OSU Extension Nursery Landscape and Turf Team. One of the virtual assignments as the course developed this spring was to do two bygl-alerts. Mark is referring to two excellent alerts by Claudia Winslett, who taught us all about two magnolias. The Loebner hybrid and the saucer or Chinese magnolia. The only exception I will take with Mark's note is that the students will probably do better without "supervision" with us regulars.]



**Claudia Winslett**

Saucer magnolia from Frankfurt Kentucky earlier this spring

Second:

Re: <https://bygl.osu.edu/index.php/node/1491>, "Backyard Beauty and Beyond", in which I posted a picture of a plant from Wooster Memorial Park and noted: "Not sure yet but is it our native pachysandra, *Pachysandra procumbens*?"

[From Paul Snyder, Secrest Arboretum]

*"I enjoyed the wildflower pictures. The mystery plant is not Pachysandra procumbens. I'm not sure what it is. Here is Pachysandra procumbens." <http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=e692>*

[Followed by former OSU Department of Plant Pathology chair, Randy Rowe and his wife Sandra, a few days later]:

*"Jim: We enjoyed seeing your spring flower observations on your blog. You've been out and about this spring. Very lovely photos.*

*You asked about the possibility of Pachysandra procumbens at Wooster Memorial Park. The photo that you have is Cardamine diphylla, which goes by various common names, including two-leafed toothwort, broadleaf toothwort, and crinkleroot. It is a common native plant in the park.*

*Fritz Schmitthenner headed up an extensive list of WMP plants, and that list is on the Friends of Wooster Memorial Park website. As you know, he and Alice were great botanizers. However, the plant list has not been updated since the addition of the Kenwood, Roller and Tooley properties, although I would not expect much to be added as far as existing native plants.*

*Pachysandra procumbens is not native to Ohio. From the Internet, it is native to NC & KY south to FL & TX. We acquired some from the OARDC plant sale long ago for our beds and like it's growth habit. Unlike the common pachysandra, it does not encroach areas where we don't want it. And, it propagates easily!"*

[Alright, BYGL readers to the rescue! Will get more pictures as it develops this springtime.]



Jim Chatfield, OSUE

*Cardamine diphylla*, along with some bedstraw and mosses

Third:

Re: <https://bygl.osu.edu/index.php/node/1477>, "Point Counter Point: What's In a Name – Dutch Elm Disease. Well considering who this was from, I ask: "If plant pathologists come through, can entomologists be far behind?"

[From John Lloyd, entomologist and owner of Plant Health Doctors in Minnesota. Also: Dan Herms first PhD student at Ohio State University]

*"Now that we are in lock down, I have enjoyed going through the BYGLs. Point Counter Point was enjoyable as always. In your next discussion of Agrilus please go into the two-lined chestnut borer. It's my favorite of a species specialist where the species no longer exists as a major host. Maybe a Point Counter Point on why it can't be renamed the two-lined oak borer... I'm sure it has something to do with obtuse and obstinate entomologists. After all, it's the same group that named an entire Order Phthiraptera....Keep safe and virtual hugs all around."*

[What a "lousy, nitpicking" thing for John to say about his own entomology tribe! Though appropriate, as I subsequently learned. The name of this Order (group of related insect families) comes from the Greek *phthir* for "lice" and *aptera* for "wingless". The almost 5,000 species of lice in this Order are all obligate parasites, living on a wide range of warm-blooded host animals, including us (but not me, not me).

Lice vector a number of disease-causing pathogens, including *Rickettsia prowazekii*, the cause of epidemic typhus. Other forms of typhus are vectored by different types of organisms (scrub typhus by mites known as chiggers, and murine typhus by flea insects).

But back to John's plea: Joe and I will indeed do a Point Counter Point soon on *Agrilus* species, and not just emerald ash borer (*Agrilus planipennis*) and bronze birch borer (*Agrilus anxius*). We will include other species such as the two-lined chestnut borer (*Agrilus bilineatus*), and many more, and shall address John's contentions]

[And indeed, hugs for all]



A Googled image of bronze birch borer, *Agrilus anxius*, from bugwood



A Googled image of emerald ash borer, *Agrilus planipennis*



Jim Chatfield, OSUE

D-shaped exit hole of emerald ash borer from Louisville , KY

Fourth:

Re: <https://bygl.osu.edu/index.php/node/1479>, "The Rose Garden: And Its Not About the Genus Rosa"  
[From Charles Tubesing, Plant Collections Curator, Holden Forests and Gardens, holdenfg.org]

"I've just been enjoying the current BYGL. I wanted to point out that in the Rose Garden entry, The pale lavender early rhododendron is *Rhododendron mucronulatum*, common name Korean rhododendron. <http://hort.uconn.edu/detail.php?pid=400>...I am working from home, planning to venture in to the arboretum for specific solo tasks such as grafting. Stay healthy." (Holden Arboretum is currently closed).

[But, Charles, what are you talking about? If you look at the relevant bygl-alert, I have it right: I say *Rhododendron mucronulatum*, not something weird like *Rhododendron mucronatum*.

Actually, as ever, Charles has it right, I did have it wrong. But it is an aspect of the easy editability of our bygl-alert platform, designed by OSU Horticulture and Crop Science professor Tim Rhodus and his OSU collaborator Bud Witney.

After learning from Charles, (and earlier from Randy Rowe with the *Cardamine diphylla* correction), I went back in and changed the bygl-alert. The Latin binomial for the species pictured was edited from *R. mucronatum*, a different Asian rhododendron to what the plant actually was in The Rose Garden, to *R. mucronulatum*, and the corrected version is what you now see. Shades of "Nineteen Eighty-Four" and the Department of Truth! ]



*Rhododendron mucronulatum*, from The Rose Garden

I see that once again I have exceeded two pages, and there is much more to include from the BYGL MailBag. Oh, well, another MailBag soon, including posts from the eponymous Rose, from the former Secret Arboretum curator Joe Cochran, writing from his Granny Creek paradise in Knox County, from Brad Bonham in southwest Ohio, and from bookman David Wiesenberg from Wooster.

## Other Articles



# Seeds to Sow in the Garden in Spring

MEGHAN SHINN

APR 13, 2020

- Source: <https://www.hortmag.com/edible-gardening/seeds-to-direct-sow>

Afraid you missed the boat on starting seeds for a vegetable garden because you didn't start any indoors earlier this season? Never fear. Some vegetables are perfectly happy to be sown outdoors, directly into garden soil or large containers in the spring. Here are a few of Horticulture's favorites to direct sow:



Pole beans can be seeded once the soil warms up.

## **BEANS**

Seeds of bush beans and pole beans should be sown outside when the soil has warmed and dried. Both types are easy to plant and quick to sprout, but bush beans mature more quickly overall. Beans do not like cold, damp soil and will rot in those conditions. Wait until after the last frost to sow bean seeds.

## **BEETS**

Beet seeds can be sown once the soil has warmed to above 50 degrees. They may sprout slowly, but the process can be hastened by soaking the seeds in water overnight before planting them. Once the seed germinates, beets grow quickly. They prefer cool weather and can also be sown in late summer as a fall crop.

## **CUCUMBERS**

Cucumbers can be started indoors or outdoors. They like warm weather and grow rapidly once it arrives. If you're sowing cucumber seed in the garden, wait until after the last frost.

## **LETTUCE**

Sow lettuce seeds in the garden once the soil temperature remains between 40 and 50 degrees (F). Lettuce loves the cool temps of spring. Seed can also be sown in late summer for a fall crop.

## **RADISH**

Sow radish seeds outside when the soil temp remains above 45 degrees. They mature quickly and they'll loosen the soil as they develop. Because spring radishes grow so quickly, you can sow seed every couple of weeks until the weather turns hot.

These aren't the only vegetables that can be direct sown into the garden; they're just our favorites. If there's something you'd really like to try growing from seed, check with your preferred seed company or local cooperative extension for planting methods and dates in your area.

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