Agriculture & Natural Resources

New USDA Hardiness Zone Map

The United States Department of Agriculture (USDA) recently announced it has updated its Plant Hardiness Zone Map. You will see that Ohio has 4 zones, including: 5b; 6a; 6b; and 7a.

Learn more on page 4

Schedule of Events

- 1/4 Social in the Insect World
- 1/12 Friday's Escape to the Woods - Non-timber Forest Products
- 1/16 Farm On! Farm Financial College in Belmont
- 1/19 Ohio Beef Herd Health Seminar in Jackson
- Planning the Future of Your Farm in Lisbon
- 1/23 Farm On! Farm Financial College in Adena
- Ohio Beef Feeding School in Bucyrus
- 1/26 Ohio Beef Herd Health Seminar in Caldwell
- 1/30 Farm On! Farm Financial College in Cadiz
- Ohio Beef Feeding School in Bowling Green
- 1/31 Water Quality Wednesday
- 2/6 Farm On! Farm Financial College in Cambridge
- 2/7 Native vs Non-Native Landscape Plants
- 2/8-9 Basics of Grain Marketing Workshop in Marysville
- 2/15 Ohio Beef School
- Plant Propagation Basics
- 2/16 Friday's Escape to the Woods - Vernal Pools
- 2/21 Pesticide & Fertilizer Exam in Steubenville
- Boxwood Moth Update
- 2/28 Water Quality Wednesday
- 2/29 Landscape Design
- 3/1 Ohio Cow/Calf School in Adams County
- 3/6 Precision Tech & RFID on Beef Management
- Common and Emerging Soil Contaminants
- 3/8 Ohio Cow/Calf School in Licking County
- Fruit Production Walk & Pruning Workshop in Irondale
- 3/20 Spotted Lanternfly on the Move - An Update in Ohio
- 3/21 Ohio Beef School
- 3/26 Artificial Insemination Workshop in Woodsfield
- 3/27 Water Quality Wednesday
- 3/28 Songbirds - Creating Habitat
- 4/3 Virtual Spring Wildflower Hike
- 4/8 Plant Propagation & Media Workshop
- 4/10 Pesticide & Fertilizer Exam in Carrollton
- Home Gourmet Mushroom Production in Steubenville
- 4/11 Beef Quality Assurance Certification and Re-certification in Cadiz
- 4/18 Ohio Beef School
- 4/27 English Garden Tea Party in Scio
- 4/30 Spotted Lanternfly - Where We Go from Here in Steubenville, Toronto
- 5/1 Garden Pest Management Strategies in Steubenville, OH
- 6/3 Annuals, Perennials & Bulbs Walk
- 6/11 Pesticide & Fertilizer Exam in Steubenville

WEBINAR LOCAL PROGRAM

MAXIMIZE SUCCESS WITH SUMMERTIME HIGH TUNNEL CROPS BY ENHANCING SOIL CONDITIONS FALL TO SPRING

By Matthew Kleinhenz, Professor and Vegetable Crop Specialist, Ohio State University Extension

The April 29, 2023 addition of the OSU Fruit, Vegetable, and Specialty Crop News included a short video summarizing challenges associated with maintaining the productivity of soils in high tunnels (see u.osu.edu/vegnetnews/2023/04/29/maintaining-soil-productivity-health-in-high-tunnels-whats-the-problem). This article focuses on specific examples of those challenges and steps that can be taken to address them from fall to spring.

So, tomato harvest and other chores are complete, and the high tunnel may be taken out of production until next spring. What can be done fall to spring to help maintain or improve high tunnel soil productivity before the next cash crop is established?

First, consider how productivity and profit potential may be lost if nothing is done. Many high tunnels contain tomatoes soon before they are taken out of production in the fall and, chances are, the same high tunnels contained tomatoes for at least one season, if not multiple seasons, before that. Importantly:
a) most core stand establishment, fertilizer/input application, irrigation, and other cultural management practices occur in the same places in the high tunnel each season;
b) fertilizer use can be high;
c) spaces between rows may be covered or uncovered and receive variable amounts of foot and equipment traffic;
d) crops remove major and minor nutrients selectively, in different amounts and ratios; and
e) water lost to evapotranspiration differs by location and depth in the high tunnel.

Combined, these factors can lead to significant variation in soil physical, chemical, and biological characteristics depending on position on the floor (crop row or between) and depth. Crop access to soils with optimal characteristics may be limited. Fertilizer may be present in excess where it does not mineralize. Salt levels may rise where evapotranspiration rates are greatest relative to water supply. Compaction may develop. And, beneficial soil microbial activity may decline or cease due to these conditions and/or a lack of water.

Second, take one or more steps to help correct or limit the development of these and other unwanted soil conditions.

1. Mix soil comprising the footprint of the high tunnel. Move soil past crop row-furrow, if possible, and to below rooting depth. Add organic matter (e.g., green manure, compost) and other key materials (e.g., lime) before or during the process.

2. Consider deep tillage. Past research completed at Penn State Univ suggests that occasional deep tillage in a high tunnel can be beneficial, especially when plow-pans, salt layers, or other symptoms of sub-optimal soil status develop.

3. Regardless of approach, test soil before and after mixing and other interventions, keeping samples separate when submitting them for analysis (e.g., see u.osu.edu/vegnetnews/2021/02/20/soil-sampling-and-analysis-for-high-tunnel-production). Soil test reports from samples taken from the same locations (in and between crop rows) before and after mixing and other steps can be informative.

4. Establish and incorporate a suitable green manure and/or subsoiling cover crop(s) that can perform some of the same functions as machinery and provide many other benefits. Resources for selecting cover crops for high tunnels include: a) projects.sare.org/wp-content/uploads/CoverCropsHT-fact-sheet.pdf, b) www.sare.org/resources/managing-cover-crops-profitably-3rd-edition c) https://www.midwestcovercrops.org/getting-started-correct/, and d) mdc.itap.purdue.edu/item.asp?Item_Number=ID-433.

5. Flood the high tunnel slowly. Move water through the profile carefully to dissolve and disperse salts and help mineralize and increase the future availability of remaining fertilizer without contributing to runoff or unwanted leaching. Moist soils may also remain more biologically active, and mix and open pores by freeze-thaw action, providing other benefits. Some of the same benefits of purposeful fallow period irrigation can be achieved by removing the high tunnel cover to allow precipitation and natural freeze-thaw cycles to work for you.

Please contact Matt Kleinhenz (kleinhenz.1@osu.edu; 330.263.3810) with questions or for more information.

USDA UPDATES THE PLANT HARDINESS ZONE MAP IN 2023

By Amy Stone, Agriculture & Natural Resources Educator, Lucas County

The United States Department of Agriculture (USDA) recently announced it has updated its Plant Hardiness Zone Map. You will see that Ohio has 4 zones, including: 5b; 6a; 6b; and 7a. In addition to the national map, you can drill down to your state, as shown in the lead photo. There are also links to learn more about how to use the maps. They have also provided an email address if anyone needs additional information or have any questions specific to the updated map.

The hardiness map looks at low temperatures and indicates and average low for each of the zones. Information on the updated map can be found at the USDA website at: planthardiness.ars.usda.gov

Below is the USDA Press Release from earlier in November announcing the updated map. Everything below, is from the release that provides additional information.

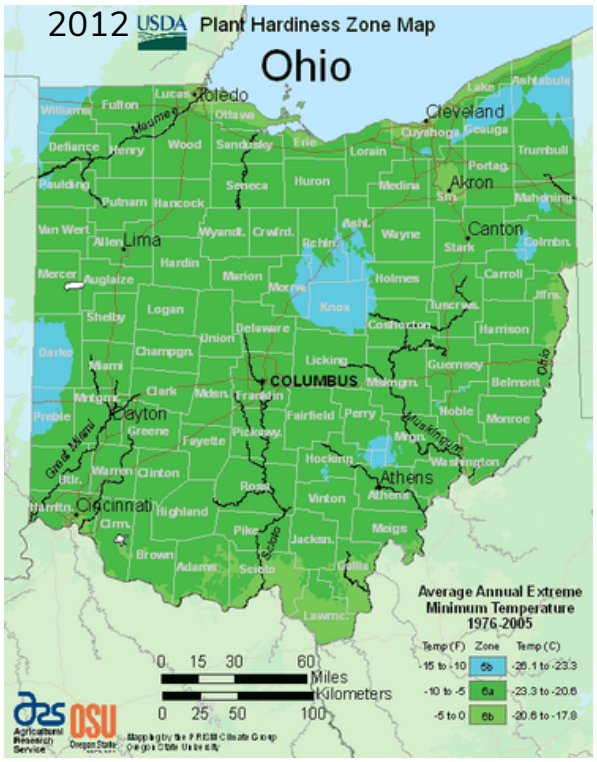
USDA Unveils Updated Plant Hardiness Zone Map
Contact: Jan Suszkiw
Email: Jan.Suszkiw@usda.gov

WASHINGTON, DC, Nov. 15, 2023—The U.S. Department of Agriculture (USDA) today released a new version of its Plant Hardiness Zone Map (PHZM), updating this valuable tool for gardeners and researchers for the first time since 2012. USDA's Plant Hardiness Zone Map is the standard by which gardeners and growers can determine which plants are most likely to thrive at a location. The new map—jointly developed by USDA's Agricultural Research Service (ARS) and Oregon State University's (OSU) PRISM Climate Group—is more accurate and contains greater detail than prior versions.

It is available online at planthardiness.ars.usda.gov. In addition to the map updates, the Plant Hardiness Zone Map website was expanded in 2023 to include a "Tips for Growers" section, which provides information about USDA ARS research programs of interest to gardeners and others who grow and breed plants.

The 2023 map is based on 30-year averages of the lowest annual winter temperatures at specific locations, is divided into 10-degree Fahrenheit zones and further divided into 5-degree Fahrenheit half-zones. Like the 2012 map, the 2023 web version offers a Geographic Information System (GIS)-based interactive format and is specifically designed to be user-friendly. Notably, the 2023 map delivers to users several new, significant features and advances. The 2023 map incorporates data from 13,412 weather stations compared to the 7,983 that were used for the 2012 map.

Furthermore, the new map's rendering for Alaska is now at a much more detailed resolution (down from a 6 ¼ -square-mile area of detail to a ¼ square mile). "These updates reflect our ongoing commitment to ensuring the Plant Hardiness Zone Map remains a premier source of information that gardeners, growers and researchers alike can use, whether they're located in the continental United States, Alaska, Hawaii or Puerto Rico," said ARS Administrator Dr. Simon Liu.



HARDINESS ZONE continued....

Approximately 80 million American gardeners and growers represent the most frequent users of the USDA Plant Hardiness Zone Map. However, they're not the only ones with a need for this hardiness information. For example, the USDA Risk Management Agency refers to the map's plant hardiness zone designations to set certain crop insurance standards. Additionally, scientists incorporate the plant hardiness zones as a data layer in many research models, such as those modeling the spread of exotic weeds and insects.

The 2023 Plant Hardiness Zone Map is now available as a premier source of information that gardeners, growers and researchers alike can use.

Plant hardiness zone designations represent what's known as the "average annual extreme minimum temperature" at a given location during a particular time period (30 years, in this instance). Put another way, the designations do not reflect the coldest it has ever been or ever will be at a specific location, but simply the average lowest winter temperature for the location over a specified time. Low temperature during the winter is a crucial factor in the survival of plants at specific locations.

As with the 2012 map, the new version has 13 zones across the United States and its territories. Each zone is broken into half zones, designated as "A" and "B." For example, zone 7 is divided into 7a and 7b half zones. When compared to the 2012 map, the 2023 version reveals that about half of the country shifted to the next warmer half zone, and the other half of the country remained in the same half zone. That shift to the next warmer half zone means those areas warmed somewhere in the range of 0-5 degrees Fahrenheit; however, some locations experienced warming in the range of 0-5 degrees Fahrenheit without moving to another half zone.

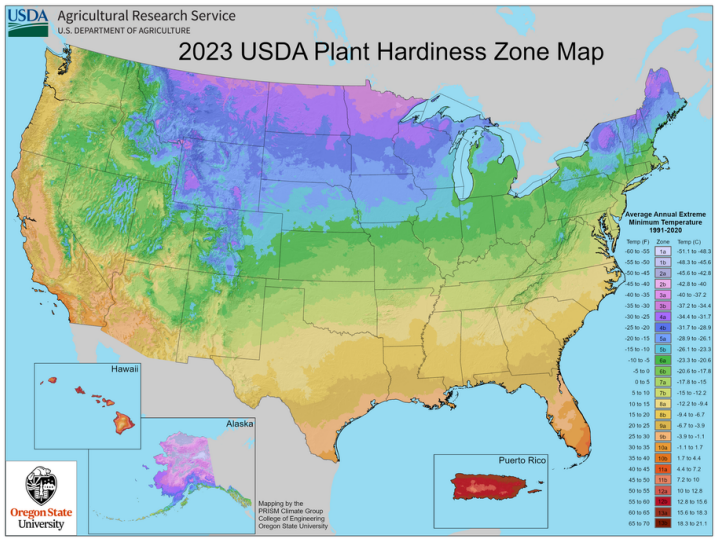
These national differences in zonal boundaries are mostly a result of incorporating temperature data from a more recent time period. The 2023 map includes data measured at weather stations from 1991 to 2020. Notably, the 2023 map for Alaska is "warmer" than the 2012 version. That's mainly because the new map uses more data representing the state's mountain regions where, during winter, warm air overlies cold air that settles into low-elevation valleys, creating warmer temperatures.

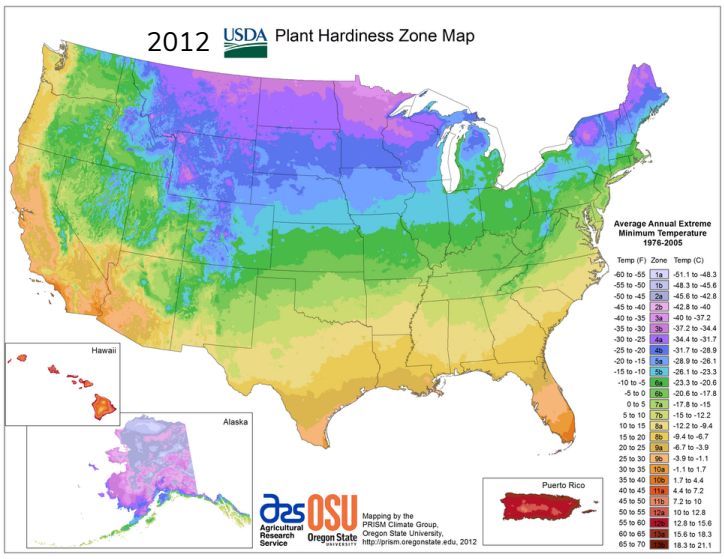
The annual extreme minimum temperature represents the coldest night of the year, which can be highly variable from year to year, depending on local weather patterns. Some changes in zonal boundaries are also the result of using increasingly sophisticated mapping methods and the inclusion of data from more weather stations.

Temperature updates to plant hardiness zones are not necessarily reflective of global climate change because of the highly variable nature of the extreme minimum temperature of the year, as well as the use of increasingly sophisticated mapping methods and the inclusion of data from more weather stations. Consequently, map developers involved in the project cautioned against attributing temperature updates made to some zones as reliable and accurate indicators of global climate change (which is usually based on trends in overall average temperatures recorded over long time periods).

Although a paper version of the 2023 map will not be available for purchase from the government, anyone may download the new map free of charge and print copies as needed.

The Agricultural Research Service is the U.S. Department of Agriculture's chief scientific in-house research agency. Daily, ARS focuses on solutions to agricultural problems affecting America. Each dollar invested in U.S. agricultural research results in $20 of economic impact.





SLF UPDATE - OHIO'S SPOTTED LANTERNFLY QUARANTINE EXPANDED

By Amy Stone, Agriculture & Natural Resources Educator, Lucas County

As spotted lanternfly (SLF) adult activity winds down for the 2023 season, the Ohio Department of Agriculture (ODA) has updated the Ohio SLF quarantine.

Currently there are 11 Ohio counties that are quarantined as a way to reduce, or hopefully eliminate, the artificial spread of SLF to other non-infested areas. Those quarantined counties include: Columbiana, Cuyahoga, Erie, Franklin, Hamilton, Jefferson, Lorain, Lucas, Mahoning, Muskingum, and Ottawa.

While there have been single finds of SLF in several other Ohio Counties, a quarantine is enacted when a reproducing population is discovered. This includes finding multiple life-stages, and often includes egg masses, not just a single find.

As temperatures have dipped below the freezing point in much of Ohio, a temperature that would normally kill the adult stage of SLF, there could be microclimates that could have slowed the adult stage and not killed them, but as temperatures warm, so does their activity. Recently, I collected several SLF adults in one of the infestations in Toledo. They weren't moving on the tree. I placed them in a baggie, and when temperatures warmed that day, they began moving in the baggie.

Sooner of later, all of the SLF adults will be killed by cold temperatures, but the egg masses will survive Ohio's winters. As we transition to looking for egg masses, know that they can easily blend into their surroundings.

The female will lay between 30 and 50 eggs. This eggs are arranged in rows and often covered a creamy-white, putty-like substance that becomes more gray as it dries.

Photo Credit: Emelie Swackhamer, Penn State University, Bugwood.org

The covering starts out very smooth and almost glossy, but as it ages over the winter, it cracks and looks almost like dried mud. It is important to realize that egg masses can be laid on a variety of surfaces that don't have to be plant related.

If you happen to see what you suspect is a SLF egg mass this winter or early spring, capture a photo and document the location. Suspect reports can be made through the ODA's Plant and Pest Reporter (survey123.arcgis.com/share/1b36dd2cf09e4be0a79776a6104ce1dc) or using the Great Lakes Early Detection Network (GLEDN).

A NEW PEST FOR YOUR RADAR - ELM ZIGZAG SAWFLY (*Aproceros leucopoda*)

From Ohio Woodland Stewards OHIO Woodlands, Water, & Wildlife Newsletter

Photos by Tom Macy, Ohio DNR Division of Forestry, Bugwood.org

Recently Kathleen Knight a researcher at the U.S. Department of Agriculture's Forest Service Northern Research Station in Delaware and northern Franklin County found the elm zigzag sawfly infesting a research plot of elm trees. After the initial discovery, a team with the U.S.Forest Service and the Ohio Department of Natural Resources (ODNR) Division of Forestry also conducted surveys. The results of the surveys showed that the species was also located on other nearby properties.

"Elm zigzag sawfly is an invasive insect native to Asia that was first found in Canada in 2020 and in multiple eastern U.S. states in 2021 and 2022," ODNR Division of Forestry, Forest Health Program Manager Tom Macy said. "This is the first detection of the species in Ohio."

While this pest can significantly defoliate elm trees, the impact of this species in forest and urban landscapes isn't well documented but is currently under active research.

Elm zigzag sawfly larva are typically one and a half inch long, they're light green and resemble caterpillars. The larvae feed solely on the leaves of elm trees, whether it's native or introduced. Most noticeably, the larvae create a unique zigzag pattern through the leaves as they feed.

Adults of this species are less likely to be observed but are small, shiny black, and winged.

"The Northern Research Station has conducted important research on Dutch elm disease-tolerant elm at the Delaware lab for several decades. Because we manage multiple acres of elm plantations and monitor them closely, we were able to detect this infestation of elm zigzag sawfly," Northern Research Station Ecologist Kathleen Knight said. "Northern Research Station scientists worked with the appropriate regulatory agencies to confirm the identification of the insect and identify infested areas."

There is extensive research on Dutch elm disease-tolerant elms at the Delaware lab. Because these plantations are heavily monitored the sawfly was discovered in early July. They were officially confirmed by the U.S. Department of Agriculture's Animal and Plant Health Inspection Service on July 21.

The species was officially confirmed in Franklin County on August 18, 2023. If you find an elm zigzag sawfly or signs of their infestation, report them using the Great Lakes Early Detection Network (GLEDN) free app. Download the app at go.osu.edu/GLEDN.

Meet Dr. Kayla Perry, New Forest Entomologist

I am an insect ecologist who studies how disturbances influence the structure and function of insect communities in natural and urban forests. I grew up in Ashtabula, Ohio, and received a B.S. in Biology from Baldwin-Wallace College. As an undergraduate, I had the opportunity to participate in a research program (REU) at the Rocky Mountain Biological Laboratory where I studied ant-aphid interactions. I received my Ph.D. in Entomology from the Ohio State University where I studied the responses of ground-dwelling insect communities to disturbance in forests ecosystems. After graduation, I had several postdoctoral researcher positions focusing on urban insect ecology, invasive species, and insect decline, including at Kent State University. In August 2022, I became an Assistant Professor of Forest Entomology in the Department of Entomology at the Ohio State University where I have a split research, teaching, and extension appointment. My research program aims to understand how natural disturbances such as native insects and windstorms and human-induced disturbances such as invasive species, land use change, and climate change impact forest health and management. My taxonomic expertise includes ground- and soil-dwelling arthropod communities, particularly ground beetles (Coleoptera: Carabidae). As part of my extension appointment, I work with a variety of stakeholder groups interested in forest insect ecology and management in response to invasive forest pests. My teaching responsibilities include insect ecology, entomological techniques and data analysis, and the nature and practice of science.

SHOULD WE USE SMALLER FRAME CATTLE FOR THE FREEZER BEEF BUSINESS

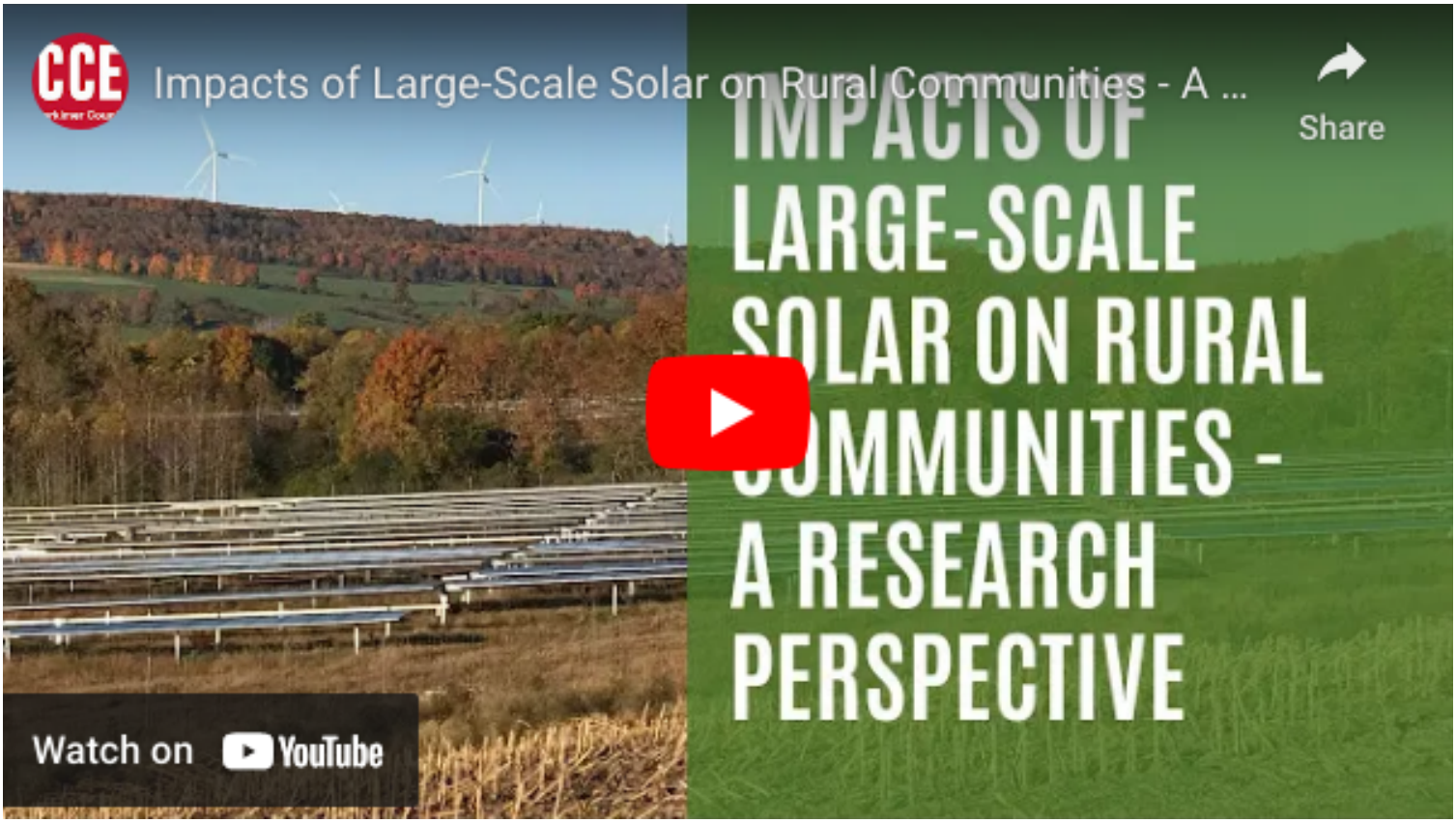
By Dr. Andrew Griffith, Assistant Professor, Dept. of Agricultural and Resource Economics, University of Tennessee

Should we use smaller frame cattle for the freezer beef business? If a person knows they can sell every animal as a freezer beef then smaller frame cattle have the benefit of finishing at a lighter weight, more quickly than larger frame cattle, and at a lower cost than larger frame cattle. Thus, there can be some efficiencies in feeding smaller frame cattle if all cattle are sold as freezer beef.

The other side of the coin is when not all cattle are sold as freezer beef and have to be sold through the traditional market. Small frame cattle will be heavily discounted in the traditional market, which in many cases is a loss to the producer.

An alternative strategy would be to manage a herd of moderate frame cattle that produce calves that will finish between 1,100 and 1,250 pounds. In this scenario, producers can benefit from feeding and finishing animals that will still finish fairly quickly, but the producer also has an animal that can fit the traditional production system.

It is a balancing act that will take effort, but it provides multiple outlets for the calf crop.



IMPACTS OF LARGE-SCALE SOLAR ON RURAL COMMUNITIES - A RESEARCH PERSPECTIVE

By Dr. Brady Campbell, Assistant Professor, State Small Ruminant Extension Specialist

Vegetation management, regardless of the application, has been a hot topic it seems for the year of 2023. Thankfully for small ruminant producers, sheep and goats seem to fit the needs of various industries as it relates to controlling forages and or weeds/brush in a given area. A month ago I had the opportunity to speak with a group of researchers that are focusing on the impacts of utility-scale solar within rural landscapes. For those that are interested in the topic, I encourage you to have a look this series of presentations focusing on the various aspects of solar power generation in the Midwest and eastern United States. You may even recognize a presenter at time stamp 26:20 in the video. Enjoy!

WATCH @ go.osu.edu/ChB7

CALCULATE LONG-TERM CARE RISKS

By Robert E. Moore, Attorney, OSU Agricultural & Resource Law Program, Ohio State University

One of the biggest risks to the continuation of family farms is potential Long-Term Care (LTC) costs. On average, about two-thirds of us will need some type of LTC during our lives. The average nursing home in Ohio costs around $100,000/year. A few years in a nursing home can put severe strain on the finances of a farming operation.

There are several strategies that can be implemented to help reduce the threat of LTC costs on farming operations. However, a risk assessment must be completed before it can be determined which strategy is best. For example, a farming operation with significant income and financial resources may have low risk to LTC costs and thus may not need aggressive planning. A farming operation with limited income and financial resources may need aggressive planning to help protect farm assets.

To help with the LTC risk assessment, the OSU Agricultural and Resource Law Program has developed a calculator to help determine LTC risks to farm assets. The calculator determines the assets that will be depleted if LTC costs are incurred. Income, LTC costs and the assets owned by a farmer are all factored into the analysis.

After using the calculator and analyzing the risk of LTC costs to farm assets, a decision can be made as to the appropriate LTC strategy to implement. Deciding upon a strategy before assessing LTC risks can lead to overly aggressive planning or leaving farm assets unnecessarily exposed. A risk analysis is the best way to ensure that the proper LTC strategy is implemented for each specific farming operation.

The Long-Term Care Risk Calculator is available at farmoffice.osu.edu/law-library/estate-transition-planning. The calculator includes a video explaining how to use the calculator and how to interpret the results. For information on LTC costs and their impact on farming operations, see the Long-Term Care and the Farm publication available at farmoffice.osu.edu.

NEW LAW LIMITS WHO CAN OWN AGRICULTURAL LAND IN OHIO

By Peggy Kirk Hall, Attorney and Director, OSU Agricultural & Resource Law Program, Ohio State University Extension

The State of Arkansas made history last month when it took steps to enforce its new law restricting foreign ownership of land in the state. Arkansas ordered Northrup King Seed Co., a subsidiary of Syngenta held by China-owned company ChemChina, to give up 160 acres of Arkansas farmland it owned. The State also assessed a $280,000 fine against Syngenta for failing to disclose the land ownership. The actions are the result of a new foreign ownership law enacted by the Arkansas legislature earlier this year.

Joining Arkansas and ten other states, Ohio also passed a law restricting foreign ownership of land earlier in 2023. Ohio's new "Save our Farmland and Protect our National Security Act" quietly became effective last month. The law limits who can own agricultural land in the state and requires persons or entities who cannot own Ohio farmland to forfeit title to the property, which the State will then sell. The purpose of the law, according to the legislature, is "to

AGRICULTURAL LAND IN OH continued...

recognize that Ohio has substantial and compelling interests in protecting its agricultural production."

Who the law restricts from owning agricultural land in Ohio

The law is not an absolute restriction on foreign ownership of land. Instead, the law prohibits agricultural land ownership by any "person" listed on a registry compiled by Ohio's Secretary of State. A "person" can include an individual, firm, company, trust, business or commercial entity, organization, joint venture, non-profit, or non-U.S. government. The prohibition applies not just to the person listed on the registry, but also to any agent, trustee, or fiduciary of the person.

The Ohio Secretary of State must compile the "registry" by identifying and including any person that constitutes a threat to the agricultural production of the state. To develop the registry, the Secretary of State must consult several federal sources, including the list of foreign adversaries, terrorist exclusion list, list of countries that have provided support for acts of international terrorism, and persons designated by two presidential Executive Orders. In accordance with the law, Ohio's Secretary of State has compiled the registry and published it online at www.ohiosos.gov/publicintegrity/save-our-farmland.

Exceptions to the ownership restrictions

The ownership restriction does not apply to any agricultural land a person acquired before the act's effective date of October 3, 2023. There is also a limited exception that applies when a person on the registry receives the land through inheritance, a gift, collection of a debt, a foreclosure, or enforcement of a lien on or after the law's effective date. In those cases, the person can recieve the land but must divest itself of the title and any interest in the land within two years of receiving it. And while holding the land until divestiture, the person cannot use it for any purpose other than agriculture or lease it to any person on the registry.

Enforcement of the law

Enforcement involves both the Secretary of State and the Ohio Attorney General. If the Secretary of State finds that a person listed on the registry has acquired title or an interest in land in violation of the law, the Secretary of State must report the violation to the Attorney General. Others can report land ownership by a person on the registry via the Secretary of State's web page for the registry, www.ohiosos.gov/publicintegrity/save-our-farmland.

Upon learning of the violation, the Attorney General must initiate a legal action in the county where the land is located. If the court agrees that the ownership violates the law, it shall file an order allowing the state to take ownership of the land and ordering the land to be sold at public auction, following required legal procedures. Proceeds from the sale are to be applied first to any court costs and expenses, then to the registered person. That amount is limited, however, to the actual cost paid by the registered person for the land. If any sale proceeds remain, the funds are to be paid to the general fund of each county where the land is located, proportionate to the acreage in the county.

Read the primary provisions of Ohio's Save Our Farmland and Protect Our National Security Act in Ohio Revised Code Section 5301.256. The Ohio Legislature enacted the law in House Bill 33, the biennial budget bill.

Certified Livestock Manager Webinar Series

The OSU Extension Water Quality Team is working with the Ohio Department of Agriculture to kick off a bi-monthly, year-round webinar series. These webinars will specifically target topics related to our Certified Livestock Managers, but everyone is welcome. Each webinar will provide 1.5 CLM continuing education credits as well as create a space for communication between all parties involved. To register for this series, visit go.osu.edu/CLM.

THE EPA'S PROPOSED HERBICIDE STRATEGY AND WHAT IT MEANS FOR HERBICIDE USED

By Alyssa Essman, Assistant Professor, Weed Science, Dept. of Horticulture and Crop Science, Ohio State University Extension

The Endangered Species Act (ESA) of 1973 was passed by Congress in an effort to protect endangered species and their habitats. In recent years the Environmental Protection Agency (EPA) has been under fire for not meeting the obligations outlined within the ESA, which ultimately left them vulnerable to legal ramifications. In early 2022 the EPA released the ESA workplan to address this issue. The herbicide strategy is one part of this larger workplan to protect the 900 plant and animal species classified as endangered. The proposed herbicide strategy was released in July 2023 and outlined the EPA's plan for meeting ESA obligations with respect to herbicide drift, runoff, and/or erosion.

The proposed method of meeting ESA obligations is through the use of various mitigation strategies. For spray drift, mitigation strategies largely refer to the use of spray drift buffers. The required size of these buffers depends on application equipment, droplet size, and level of species impact, and can be reduced with the use of hooded sprayers or windbreaks. Runoff and erosion mitigation measures include the categories of field management, field characteristics, application parameters, and areas adjacent to the field or between field and habitat. These strategies would be assigned a value specific to the chemical, crop, and potential influence on the species in question. The more effective a mitigation measure is considered to be in preventing off-target movement, the higher the point value. Mitigation measures would be selected by the grower, and a certain number of points would be needed to meet label requirements for the herbicide in question. A few examples from the proposed "mitigation menu" include:

- Grassed waterways
- Cover crops
- Fields with <2% slope
- Soil incorporation
- Water retention systems

Growers could potentially be exempt from runoff or erosion mitigation measures if fields are >1000 ft from potential habitats of listed species, the field has subsurface drainage, or the field has a site-specific management plan for runoff or erosion from a conservation program or expert.

Where mitigation measures are required across the US, the measures would be listed on the product label. In instances where only part of the US is required to implement mitigation measures, the measures for locations affected would be available through the EPA's Bulletins Live! Two system. Herbicides would be assigned mitigation strategies as they go through the EPA registration review process. The upcoming registration review schedule can be viewed here. Any new active ingredients would undergo the required biological evaluations and receive mitigation strategies during the registration process.

The final herbicide strategy is expected to be released early in 2024. The full draft herbicide strategy framework is available here. For a further breakdown of the proposed herbicide strategy, the USDA hosted a webinar which can be viewed here. The War Against Weeds podcast has two episodes covering the topic, which can be viewed in part one and part two.

CFAES

WEDNESDAYS

JANUARY
31

FEBRUARY
28

MARCH
27

10:00 a.m.– 11:30 a.m.

Last Wednesday of the month from January to March 2024, via Zoom

THE OHIO STATE UNIVERSITY EXTENSION WATER QUALITY TEAM PRESENTS

Water Quality Wednesday Webinar Series

Join OSU's Water Quality Extension Associates for their fourth annual winter webinar series focusing on the interaction between agriculture and water quality. Each webinar will have a unique topic and speakers. Continuing education credits (CEUs) will be offered for Certified Crop Advisers (CCAs) for each webinar. Certified Livestock Manager (CLM) CEUs will be offered for relevant topics. All webinars will be recorded and posted to the OSU Agronomy Team YouTube channel (go.osu.edu/AgronomyYouTube) for later viewing. CEUs will not be available from the recordings.

For more information, contact Rachel Cochran, Cochran.474@osu.edu, (567) 344-5016 or visit waterqualityextension.osu.edu.

THE OHIO STATE UNIVERSITY
EXTENSION

Register at go.osu.edu/WQW24 to receive the connection link

College of Food, Agricultural, and Environmental Sciences

Statewide Sheep Shearing School

Date: Spring, 2024 (Date TBD)
Time: 9:00 a.m. – 4:00 p.m.
Location: Dave Cable Farm: 10491 Canal Rd., Hebron, OH 43025

Stay tuned at
u.osu.edu/sheep/eventsprograms

The Ohio State University Extension

REGISTRATION NOW OPEN

BASICS OF GRAIN MARKETING WORKSHOP

February 8 & 9 | 2024
Location: Marysville, Oh.

This event is possible thanks for generous support from:

Ohio Corn&Wheat

Ohio Soybean Council

Register at
go.osu.edu/grainmarketing

FARM ON! FARM FINANCIAL COLLEGE

and Beginning Farmer Certification

*$25/person/session, which includes program materials and a meal; $100/person to attend all 4 sessions. *If you are seeking your Beginning Farmer Certification, there will be additional assignments to turn in for review. Cost to receive certification is $300, which is eligible for a tax credit.*

Sponsored by Jefferson County Farm Bureau, Harrison County Farm Bureau, Rory E. Stelzer - Edward Jones

CFAES

Tuesdays 6-8:30PM
Meal provided

January 16:
Getting Started on Your New Farm Business
@ The Pike 40, Belmont, OH

January 23:
Recordkeeping, Budgets and Taxes
@ Black Sheep Vineyard, Adena, OH

January 30:
Managing Your Small Farm's Finances
@ Christopher's Farm Goods & Provisions, Cadiz, OH

February 6:
The Legal Side of Farm Finance
@ Deerassic Park, Cambridge, OH

Register at
go.osu.edu/2024eohsmallfarm

or by calling 740-264-2212

Jefferson County Extension

Pesticide & Fertilizer Licensing

EXAM INFORMATION

The 2024 pesticide & fertilizer exam schedule is now available at go.osu.edu/pesticideexam!

Visit the registration link to view scheduling and locations available.

Exams are scheduled for the following dates in Jefferson and Harrison Counties January through June:

February 21st 9AM-1PM
Jefferson Co. Towers Building/OSU Extension, 2nd Floor Conference Room, 500 Market Street, Steubenville, OH

April 10th 9AM-1PM
Carroll County Extension
540 High Street NW
Carrollton, Ohio 44615

June 11th 9AM-1PM
Jefferson Co. Towers Building/OSU Extension, 2nd Floor Conference Room, 500 Market Street, Steubenville, OH

Photo IDs will be required. Pencils and calculators will be provided.

Per OAC 901:5-11-08(A)(7), applicants must wait five (5) business days between testing sessions.

Multiple exams may be taken during a session, however, due to limited space, you may only register for one session per week.

Register for exams at pested.osu.edu/PrivateApplicator/testing

STUDY MATERIALS

Study materials may be purchased online at extensionpubs.osu.edu. Applicators may also request additional study packets from the Jefferson County Extension office - call 740-264-2212 to put in a request.

For more information on obtaining a pesticide license, visit pested.osu.edu. For fertilizer certification, visit nutrienteducation.osu.edu. You can also contact the Jefferson or Harrison County Extension offices with any questions.

Study materials can also be found on these websites. Hard copies of study materials may be in stock at your local Extension office - call ahead to check availability.

Friday's

Escape to the Woods Webinar Series

January 12

Non-Timber Forest Products

February 16

Vernal Pools

Visit woodlandstewards.osu.edu to learn more and watch webinar recordings

Spotted Lanternfly: Where We Go From Here

Tuesday, April 30th @ Public Library of Steubenville & Jefferson County

1PM - Downtown Branch

6PM - Toronto Branch

Call 740-282-9782 to register

The Woods in Your Backyard Partnership

Become a

Woodland Health Professional

The Ohio Woodland Health Practices for Service Providers online course provides an introductory training to managing small woodlands, assisting woodland property owners to meet their individual goals and improving woodland and ecosystem health. This course is for green industry professionals - such as arborists and landscape architects - working on private properties of <10 acres. The training will focus on the why and how of addressing common woodland health issues. Cost of the course is $90, and participants will have the option to be added to the online directory of service providers as well as receive a certificate upon course completion.

Enroll today to become a woodland health professional at

go.osu.edu/ohiowhp

OHIO BEEF CATTLE HERD HEALTH SEMINARS

Join OSU Extension and the Ohio State College of Veterinary Medicine for a day focused on beef cattle herd health and preventative care.

Presenters and topics include:
Dr. Risa Pesapane - Tick Borne Disease
Jan. 19 - Dr. Joe Lozier -
Jan. 26 - Dr. Andy Niehaus -
Calving and Dystocia Management & Foot and Hoof Care
Seth Clark - Vaccination Programs for Cow Calf Herds
Garth Ruff - Marketing Herd Health Programs

The sessions will be offered in two different locations:

JACKSON COUNTY January 19, 2024
10:00-2:30 P.M. RSVP by 1/12/2024
OSU Extension Jackson County
17 Standpipe Rd.
Jackson, OH 45640

NOBLE COUNTY January 26, 2024
10:00-2:30 P.M. RSVP by 1/19/2024
Caldwell Extension Operations
16714 Wolf Run Rd.
Caldwell, OH 43724

PRICE: $10.00 for both locations. Meal Provided
If traveling to either Jackson or Noble Counties is not feasible, there may be an option to join online or at a location hosted by the county Extension office.
Complete the form available at go.osu.edu/24herdhealthseminar
CONTACT: For questions, contact Garth Ruff, Beef Cattle Field Specialist at 740-305-3201

OHIO BEEF CATTLE FEEDING SCHOOLS

This years Cattle Feeding School will focus on risk management within the cattle feeding enterprise. Each evening we will have a speaker discuss how Livestock Risk Protection (LRP) can be used as a tool to manage risk when feeding cattle. What is the outlook for feeding beef cattle in this cattle cycle? Garth Ruff, Beef Cattle Field Specialist will cover how the beef supply looks for the coming year and what goals with regards to quality has the industry set for itself on the long term. To wrap up each of the programs, Allen Gahler, OSU Extension Sandusky Co. and Jason Hartschuh Dairy Management and Precision Livestock Field Specialist will deliver a Beef Quality Assurance Training.

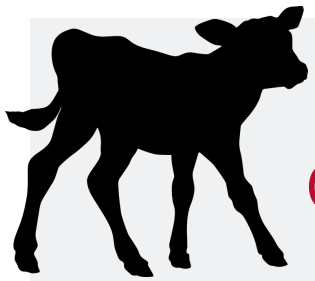
CRAWFORD COUNTY January 23, 2024
6:00-8:00 P.M.
OSU Extension Crawford County
808 Whetstone Street Bucyrus, OH 44820

WOOD COUNTY January 30, 2024
6:00-8:00 P.M.
Wood County Fairgrounds
13800 W Poe Rd. Bowling Green, OH 43402

PRICE: FREE. Refreshments Provided.
Complete the form available at go.osu.edu/24beeffeedschool
CONTACT: For questions, contact Crawford Co. - Kendra Stahl 419-562-8731 OR Wood Co. - Nick Eckel 419-819-3084

Save the Date!

Stay tuned for updates at u.osu.edu/beefteam/events-programs



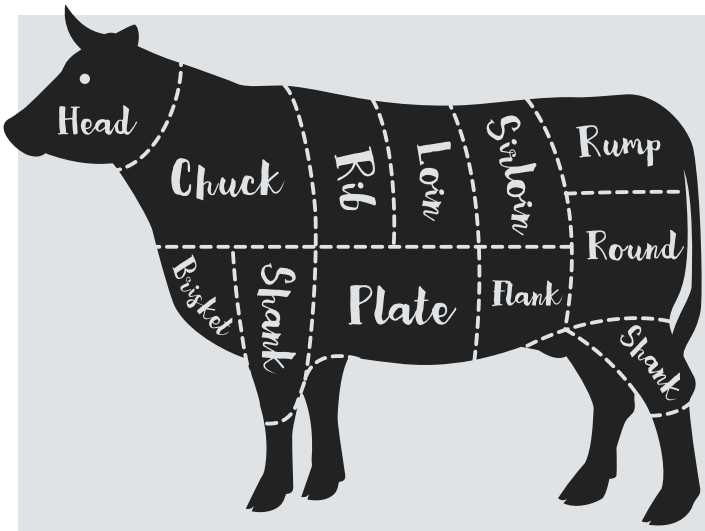
OHIO COW/CALF SCHOOLS

March 1: Adams County
March 8: Licking County

Beef Quality Assurance

CERTIFICATION & RE-CERTIFICATION

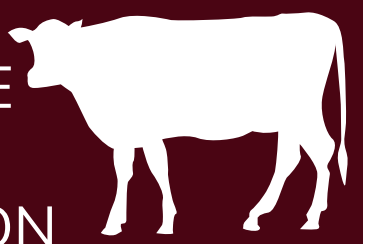
April 11 7-8:30 PM
Harrison County Fairgrounds, Commercial Building



BEEF SCHOOL WEBINAR SERIES

Breeding, Growing, Processing and Marketing Local Beef
February 15
March 21
April 18

Introduction to
BEEF CATTLE ARTIFICIAL INSEMINATION



Monroe County Extension Office, Woodsfield
Tuesday, March 26
6-9PM
$20 per person
Space is limited to first 20 people to register - payment due prior to program. Call 740-472-0810 to register

PRECISION TECH & RFID ON BEEF MANAGEMENT

March 6



Jefferson & Harrison MASTER GARDENER VOLUNTEERS

The Jefferson & Harrison Master Gardener Volunteer training consists of both online modules, hands-on labs and tours, and either a writing or presentation project. Interns are expected to attend an orientation session and a minimum of 5 labs but can pick and choose either by topic or date that best fits into their schedule. Labs run monthly from March through September. Modules must be completed within 6 months and lab requirements must be completed within a year from date of application. Cost of the training is $100 per person and includes the online course and labs/tours. Classes are open year-round - apply at any time! Send questions to Erika Lyon at lyon.194@osu.edu or call 740-461-6136.

Master Gardener Volunteers in Ohio offer assistance with home horticultural questions, pest identification, school programs, demonstrations, research, and continuing education programs. Working with county Ohio State Extension personnel, Master Gardener Volunteers provide educational services to their communities. If you are a garden enthusiast, this is a great opportunity to share your gardening know-how and skills with others in your community.

To learn more about the application process, visit go.osu.edu/becomejeffharrmgv.

Interested in gardening but not necessarily in becoming a volunteer? Master Gardener labs and tours will be open to the general public. Cost to attend is $15/person/session. Call 740-461-6136 for more information.

Jefferson & Harrison
MASTER GARDENER
VOLUNTEERS

SAVE THE DATE!

English Garden Tea Party

SATURDAY

APRIL 27 8AM-1PM

Scio Branch Library, Scio

Join the Jefferson & Harrison Master Gardener Volunteers the last Saturday in April to learn about growing herbs and flowers used to make teas! Complimentary breakfast bar available. Lunch included.

Visit harrison.osu.edu for updates.

MASTER GARDENER VOLUNTEERS

2024 Hort Happy Hour & Lunch and Learn Webinar Series

THURSDAY, JANUARY 4
4 - 5 PM
WHAT IT MEANS TO BE SOCIAL IN THE INSECT WORLD
DR. JOE RACZKOWSKI, ASSISTANT PROFESSOR, DEPARTMENT OF ENTOMOLOGY, THE OHIO STATE UNIVERSITY

WEDNESDAY, FEBRUARY 7
12 - 1 PM
NATIVE VERSUS NON-NATIVE LANDSCAPE PLANTS
DR. DAVE SHETLAR, PROFESSOR EMERITUS, DEPARTMENT OF ENTOMOLOGY, THE OHIO STATE UNIVERSITY

THURSDAY, FEBRUARY 15
4 - 5 PM
PLANT PROPAGATION BASICS
DR. WENDY KLOOSTER, ASSISTANT PROFESSOR, HORTICULTURE AND CROP SCIENCES, THE OHIO STATE UNIVERSITY

WEDNESDAY, FEBRUARY 21
12 - 1 PM
BOXWOOD MOTH UPDATE: OHIO'S NEWEST INVASIVE INSECT PEST
MARIA GULLEY, HORTICULTURE PROGRAM COORDINATOR, HAMILTON COUNTY, THE OHIO STATE UNIVERSITY

THURSDAY, FEBRUARY 29
4 - 5 PM
LANDSCAPE DESIGN: GETTING STARTED
ERIKA LYON, EXTENSION EDUCATOR, JEFFERSON/HARRISON COUNTIES, THE OHIO STATE UNIVERSITY

WEDNESDAY, MARCH 6
12 - 1 PM
COMMON AND EMERGING SOIL CONTAMINANTS, FROM ARSENIC TO PFAS
MAGGIE RIVERA, EXTENSION EDUCATOR, SUMMIT COUNTY, AND JEFF HATTEY, PROFESSOR, SOIL SCIENCES, THE OHIO STATE UNIVERSITY

WEDNESDAY, MARCH 20
12 - 1 PM
SPOTTED LANTERFLY IS ON THE MOVE: AN UPDATE IN OHIO
AMY STONE, EXTENSION EDUCATOR, LUCAS COUNTY, THE OHIO STATE UNIVERSITY

THURSDAY, MARCH 28
4 - 5 PM
SONGBIRDS: CREATING HABITAT AND SAFE SPACES FOR BIRDS IN YOUR BACKYARD
MARNE TITCHENELL, PROGRAM DIRECTOR, WILDLIFE, THE OHIO STATE UNIVERSITY

WEDNESDAY, APRIL 3
12 - 1 PM
VIRTUAL SPRING WILDFLOWER HIKE
CARRIE BROWN, EXTENSION EDUCATOR, FAIRFIELD COUNTY, THE OHIO STATE UNIVERSITY

Register at
mastergardener.osu.edu/HHHLNL23-24

Become an

OHIO CERTIFIED VOLUNTEER NATURALIST

Classes start June 2024

visit go.osu.edu/jeffharrocvn to learn more

2024 Spring Horticulture Series

Fruit & Vegetable Production Walk and Pruning Workshop

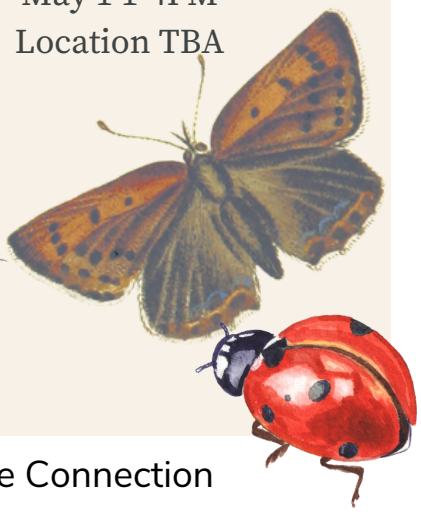
Friday, March 8 1-4PM
Kolb Orchard, Irondale

Plant Propagation & Soils Lab

Monday, April 8 1-4PM
Kolb Orchard, Irondale

Garden Pest Management Strategies Lab

Wednesday,
May 1 1-4PM
Location TBA

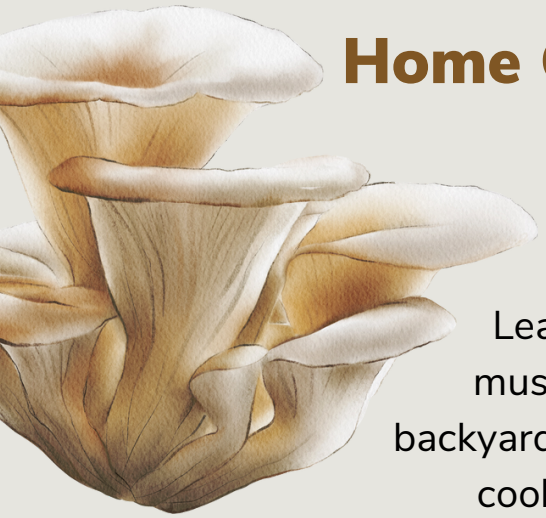


Annuals, Perennials & Bulbs Walk

Wednesday, June 3 1-4PM
Location TBA

Cost per person per session: $15
Register by calling 740-264-2212

*No cost for Master Gardener Volunteers. Each session will count toward one Master Gardener Volunteer Lab credit



Home Gourmet Mushroom Production

Wednesday, April 10 6-7PM

Public Library of Steubenville &
Jefferson County - Downtown Branch

Learn how to get started growing your own gourmet mushrooms like oysters, shiitake and lions mane in your backyard! This session will also include a short oyster mushroom cooking demonstration. Call 740-282-9782 to register.

Are You MarketReady?

Check out the recordings and resources from the 2023 MarketReady program
Available at u.osu.edu/jeffharrmarketready

Learn about how to get started marketing your farm products:

- Roadside farm and farmers markets
- Restaurants
- Farm-to-school programs
- Specialty retailers and grocery stores
- Marketing plans
- Media marketing
- Local regulations
- Certifications
- Local directories and community connections
- and more!

Check out the Buy Local Directory from Jefferson County Farm Bureau: sites.google.com/ofbf.org/jeffersonbuylocal/add-your-product!

PLANNING FOR THE FUTURE OF YOUR FARM

JANUARY 19 9AM-4PM
COLUMBIANA COUNTY EXTENSION
7989 DICKEY DR, LISBON, OH

WEBINAR VERSION

Attend the workshop from the comfort of your home on February 5, 12, 19 and 26, 2024 from 6:30 to 8:30 p.m. via Zoom. Pre-registration is required so that a packet of program materials can be mailed in advance to participating families. Electronic copies of the course materials will also be available to all participants. The registration fee is $75 per farm family. Register by January 22, 2024 in order to receive course materials in time. For more information about these programs, contact David Marrison at 740-722-6073 or by email at marrison.2@osu.edu.

This workshop is designed to help farm families learn strategies and tools to successfully create a succession and estate plan that helps you transfer your farm's ownership, management and assets to the next generation. Learn how to have the crucial conversations about the future of your farm.

Base registration fee is $85 for 2 members from a family to attend. Additional members may attend at $20 per person. Additional materials may be purchased for a fee. Pre-registration is required as seats are limited. Contact Haley Shoemaker at shoemaker.306@osu.edu or visit go.osu.edu/farmsuccession to learn more.

Avian Influenza has not gone away. Practice good biosecurity and keep waterfowl separate from backyard flocks. Learn more at go.osu.edu/defendtheflock

Learn at your own pace with

Online Courses

in ScarletCanvas

Good Agricultural Practices (GAPs)

go.osu.edu/onlinegaps

Forages for Horses

go.osu.edu/23f4h

Backyard Poultry Certificate Course

go.osu.edu/backyardpoultrycourse

Farm On: OSU Farm Financial Management Course

go.osu.edu/farmon

BOX TREE MOTH

Cydalima perspectalis

Box tree moth is now in Ohio! This moth is a notorious defoliator of the prized boxwood shrub, one of the oldest ornamental plants used in U.S. gardens. While not immediately killing boxwoods, heavy damage to stems and leaves over multiple generations of this moth can lead to the plant's eventual demise. In Ohio, it may produce three generations a year, and in areas where it has been found, it can lead up to 95% loss in boxwood stands in under a decade! We are especially concerned about this moth in Ohio since the state is ranked in the top three states for boxwood production, along with Oregon and California.

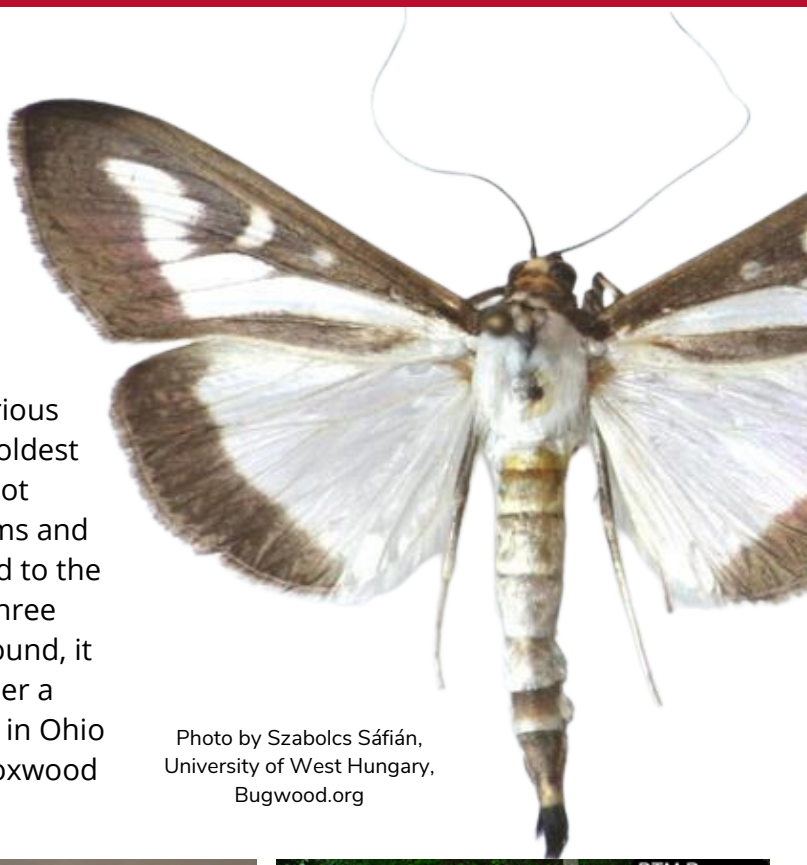


Photo by Szabolcs Sáfián, University of West Hungary, Bugwood.org

What is NOT Box Tree Moth Damage