

NORTHEAST OHIO AGRI-CULTURE NEWSLETTER

Your Weekly Agriculture Update for
Ashtabula, Portage and Trumbull Counties

Nov 22, 2022

Happy Thanksgiving!



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Hello Northeast Ohio Counties!

Last week brought almost 2 feet of snow to the north coast of Ashtabula, and plenty of snow across the rest of NE Ohio.

Weather seems to always be a Thanksgiving conversation with guest, so be prepared by checking out the first article on future forecast!

We are certainly thankful for all of you who read this newsletter and hope you have a great holiday with friends and family.

Have a great week and a happy Thanksgiving!

Lee Beers
Trumbull County
Extension
Educator

Andrew Holden
Ashtabula County
Extension
Educator

Angie Arnold
Portage County
Extension
Educator

Weather Update: January-like Weather Abates in Time for Thanksgiving

By: Candice Schreiber, RD, LD

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2022-40/weather-update-january-weather-abates-time-thanksgiving>

With a shift in the storm track to the west, the remnants of Hurricane Nicole made their way across the eastern two-thirds of the state on November 11, 2022. This brought 1 to 4.5 inches of rain across the state, decreasing the overall percentage of Ohio currently in abnormally dry to moderate drought conditions according to the [U.S. Drought Monitor](https://droughtmonitor.unl.edu/) (Figure 1). Western counties remain quite dry, however. Temperatures have also been much colder in its wake, as Arctic air spilled into Ohio for the first time this year. Temperatures since November 12th have averaged 6-15 degrees below the long-term mean. Light snow showers have accompanied these cold temperatures as well, with the typical Lake Erie snowbelt areas picking up 4-24 inches of snow over this period. For the latest up-to-date conditions, seasonal outlooks, and monthly climate summaries, please visit the [State Climate Office of Ohio](https://climate.osu.edu/).

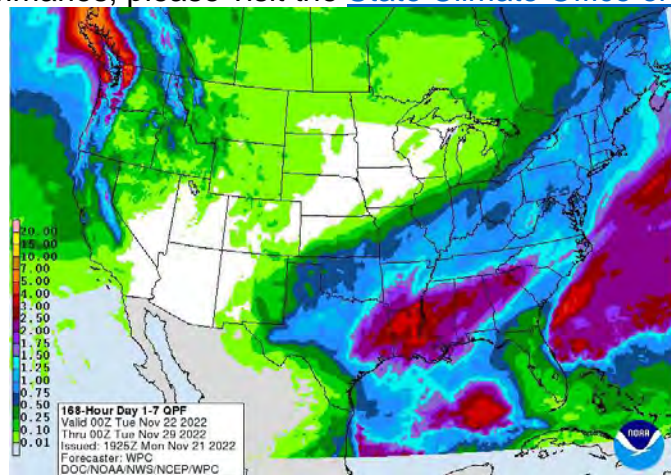
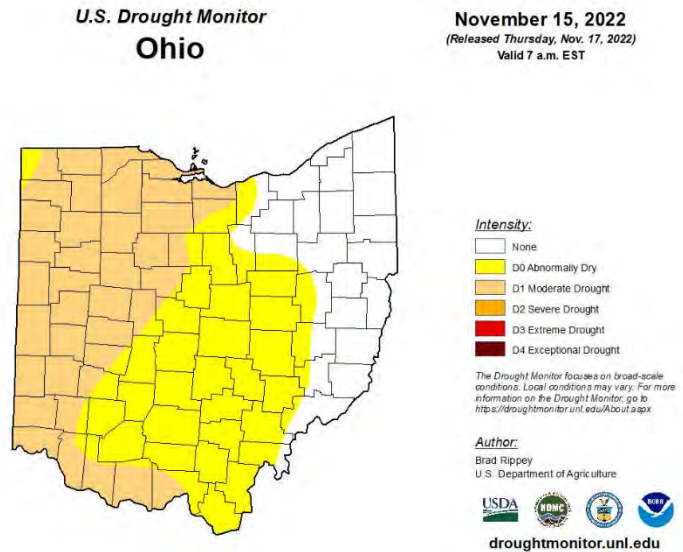


Figure 2). Precipitation forecast from the Weather Prediction Center for 7pm Monday November 21 – 7pm Monday November 28, 2022.

Forecast

High pressure began taking control on Monday and will continue to do so into Thanksgiving. Expect mostly sunny skies through Wednesday with highs warming from the upper 40s to low 50s on Tuesday into the mid to upper 50s by Thanksgiving. Humidity will be low with breezy conditions, so fire danger will be elevated. Clouds will increase on Thanksgiving with a late day rain shower possible, continuing into Friday. There is some question as to whether a secondary system develops for the weekend, which may keep showery weather around for Saturday and Sunday. The [Weather Prediction Center](#) is currently forecasting 0.50-1.00 inch of precipitation across Ohio this week (Figure 2).

The [Climate Prediction Center's](#) 8-14-day outlook for the period of November 29 – December 5, 2022 and the [16-Day Rainfall Outlook from NOAA/NWS/Ohio River Forecast Center](#) have temperatures leaning toward warmer than normal and precipitation leaning wetter than normal (Figure 3). Climate averages include a high-temperature range of 46-50°F, a low-temperature range of 30-32°F, and average weekly total precipitation of 0.65-0.85 inches.

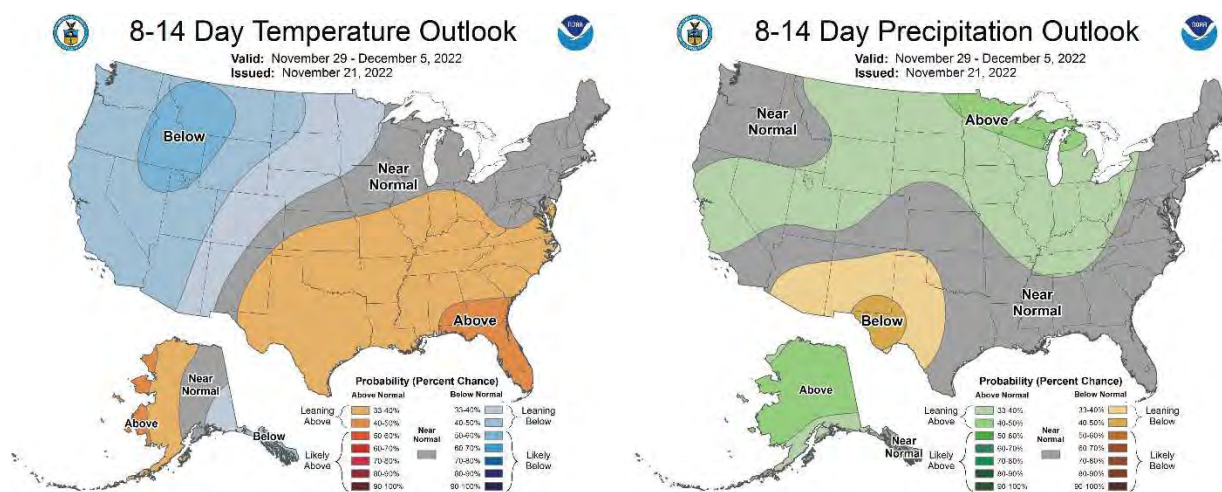


Figure 3) Climate Prediction Center 8-14 Day Outlook valid for November 29 – December 5, 2022, for left) temperatures and right) precipitation. Colors represent the probability of below, normal, or above normal conditions.

Does Eating Organic vs. Conventional Fruits and Vegetables Impact your Health?

By: Candice Schreiber, RD, LD

Source: https://health.osu.edu/wellness/exercise-and-nutrition/is-organic-food-better-for-your-health?utm_source=sfmc&utm_medium=email&utm_campaign=umar_faculty-staff-newsletter_fy23_onscampus-today-20221118&sfmc_id=42946213&sfmc_key=0032E00002tKhqvQAC



SOME OF THE MOST COMMON questions I get asked by cancer survivors are about the safety and health benefits of organic fruits and vegetables versus conventional fruits and vegetables.

- Will eating conventional produce, grown with pesticides, harm my health?
- Is it healthier to buy and eat organic fruits and vegetables?

The truth about health risks from eating non-organic fruits and vegetables

There's a lot of online chatter about 'The Dirty Dozen' and 'The Clean 15' fruits and vegetables. And while the names are catchy, the implications of limiting food choices based on these lists may do more harm than good.

What I tell people is that the science-based evidence to date has found the health risks from the pesticides used in growing conventional, non-organic fruits and vegetables are very low. There's no conclusive evidence that eating conventional fruits and vegetables

with minimal pesticides is harmful. The health benefits from the vitamins, fiber and phytochemicals in fruits and vegetables are a vital part of a healthy diet.

Are organic fruits and vegetables more nutritional?

Buying organic is a personal choice and many choose to do so because they believe it's better for their health and also better for the health of the environment and our food system. When it comes to nutrition, the studies I've read have been mixed about the nutritional benefits of organic produce.

Some studies have shown that organic fruits and vegetables have a higher content of minerals and vitamins, while others have found the nutritional value is the same. Buying organic is often more expensive and isn't practical for many people, so, again, I think it's more important to purchase and eat a variety of conventional or organic fruits and vegetables.

What makes a superfood so super?

The bottom line: Eat more fruits and veggies

Studies by the U.S. Centers for Disease Control and Prevention (CDC) have found that only 12% of people eat enough fruit and just 10% eat enough vegetables.

The recommended amounts are 1.5 to 2 cups of fruit and 2 to 3 cups of vegetables a day. So, no matter if you select conventional or organic produce, eating more and increasing your variety is the best option to enhance your diet and nutrition.

Tips for a healthy grocery list

Try these tips to increase your fruit and veggie intake, enhance food-handling safety and save money ...

- Buy seasonal and local whenever possible. This can help lower the cost, and produce that doesn't travel as far to reach your supermarket shelves will be fresher and may contain more nutrients.
- If you choose to purchase organic, remember that you don't have to shop at a specialty store that might be more expensive, because the standards are the same at every store.
- Frozen and canned fruit and vegetables are another option. They're preserved right when they're picked and retain most of their nutrients. The biggest difference is taste and texture, and some people prefer fresh.
- Wash your fruit and vegetables in running water before you eat or cook them, whether they're organic or conventional, to remove any possible bacteria that can

cause illness. The United States Department of Agriculture recommends a 20-second wash. You should also scrub them with a brush or cloth when possible.

- I always wash melons before I cut them. The knife, as it slices through the unwashed outer shell, can pick up some of the residue and bacteria that can cause illness and deposit it on the tasty fruit inside.

Farm Service Agency Microloan Program: An Opportunity for New, Niche, & Small Farmers

By: Chris Zoller, Extension Educator, ANR, Tuscarawas County

Source: <https://u.osu.edu/ohioagmanager/2022/11/18/farm-service-agency-microloan-program-an-opportunity-for-new-niche-small-farmers/>

Housed in the U.S. Department of Agriculture (USDA), the Farm Service Agency (FSA) provides loan opportunities for agricultural producers. Microloans were developed for and are available to better serve the unique financial needs of new, niche, and small to mid-sized farm operations.

Microloan Types

There are two types of microloans available through FSA: Farm Operating Loans and Farm Ownership Loans. Specifics about each are provided below.

Operating microloans can be used for all approved operating expenses, including but not limited to: start-up expenses; annual expenses such as seed, fertilizer, utilities, land rent, marketing costs, family living expenses, purchase of livestock or equipment, minor improvement costs, hoop houses, tools, irrigation, and delivery vehicles.

Ownership microloans can be used for FSA Farm Ownership Loan approved expenses, such as the purchase of land or a farm, construction of new buildings, improvements to existing buildings, pay closing costs, and implement conservation practices.

Application Process

FSA has simplified the application process. Requirements for management experience and loan security have been made to accommodate veterans, smaller farms, and beginning farmers. Details about the operating loans and ownership loans include the following.

Those applying for a microloan operating loan will need to have some farm experience; however, FSA will consider small business experience or self-guided apprenticeships. The apprenticeships will provide an opportunity to gain farm management experience while working with a mentor.

For the farm ownership microloan, applicants need to have farm experience three of the last 10 years prior to the application being submitted. One of the years can be substituted with any of the following experience:

- At least 16 semester hours of post-secondary education in ag-business, horticulture, animal science, agronomy, or agriculture-related fields.
- At least one year of management experience in a non-ag-related field.
- Military leadership and management.
- Successful repayment of an FSA youth loan may partially satisfy the experience requirement.

Security Requirements

A first lien on farm property or agricultural products having a security value of at least 100 percent of the microloan amount is required for operating microloans for annual operating expenses. Ownership microloans are secured by the real estate being purchased or improved. The value of the real estate must be at least 100 percent of the loan amount.

Rates and Terms

Farm ownership loans and farm operating loans are available up to \$50,000 for each, with a maximum loan amount of \$100,000. Repayment terms for operating microloans vary and will not exceed seven years. Annual operating loans are repaid within 12 months or when products are sold. Interest rates are based on regular FSA operating loan rates.

Repayment terms for farm ownership loans vary, but do not exceed 25 years. Interest rates are based on regular FSA operating loan rates.

Who is Eligible?

An applicant must not be larger than a family-sized farmer, have satisfactory credit history, be unable to credit elsewhere at a reasonable rate, and meet all other eligibility requirements.

What Happened After the Loan Application is Submitted?

FSA will review the application to determine whether the applicant meets the qualifications and is eligible for the loan. Applicants receive written notification during each step of the process. Upon approval, FSA will make the loan funds available as needed. If denied, applicants are notified in writing of the specific reasons for the denial and provided reconsideration and appeal rights.

How to Apply

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Microloan applications are available from the local FSA office or can be printed from the USDA website at: <https://www.farmers.gov/loans>. Not sure where your local FSA office is located? Click this website: <https://www.farmers.gov/working-with-us/service-center-locator>.

A gene from 28 million years ago protects today's plants against caterpillars

Citation: eLife. "A gene from 28 million years ago protects today's plants against caterpillars." ScienceDaily.

Source: www.sciencedaily.com/releases/2022/11/221115113928.htm

The defence mechanisms plants use to recognise and respond to a common pest -- the caterpillar -- has arisen from a single gene that evolved over millions of years, according to a report published today in *eLife*.

The study finds that some plants, such as soybeans, have lost this protective gene over time, and suggests that breeding plants or genetically engineering them to reintroduce the gene could protect against crop failure.

The health status of a plant depends on the immune system it inherits. In plants, this means inheriting certain types of pattern recognition receptors that can recognise distinct pathogens and herbivore-derived peptides, and trigger an appropriate immune response.

"Inheriting the right types of pattern recognition receptors can allow plants to recognise threats and cope with diseases and pests," explains lead author Simon Snoeck, postdoctoral researcher at the Department of Biology, University of Washington, US. "

Although we know many pest-derived molecules which activate immune responses in plants, our knowledge of how plants evolved the ability to sense new threats is limited." To address this gap, the team set out to define the key evolutionary events that allowed plants to respond to a common threat -- the caterpillar. It was already known that species in a group of legumes -- including mung beans and black-eyed peas -- are uniquely able to respond to peptides produced from the mouths of caterpillars as they munch through plant leaves. So they looked at the genomes of this group of plants in depth to see whether a common pattern recognition receptor called the Inceptin Receptor (INR) had changed over millions of years, gaining or losing the ability to recognise caterpillars.

They found that a single, 28-million-year-old receptor gene perfectly corresponds with the plant immune response to the caterpillar peptides. They also found that among the

descendants of the oldest plant ancestors that first evolved the receptor gene, a few species that could not respond to the caterpillar peptides had lost the gene.

To understand how this ancient gene acquired the ability to recognise new peptides from today's pathogens, the team employed a technique called ancestral sequence reconstruction where they combined information from all modern-day receptor genes to predict the 28-million-year-old original sequence. This ancestral receptor was able to respond to caterpillar peptides. However, a slightly older version with 16 changes in the receptor sequence could not.

This genetic history, together with computer models showing how the ancient and current receptor structures may have differed, provide clues to how the receptor evolved. It suggests that there was a key insertion of a new gene into the ancestral plant's genome more than 32 million years ago, followed by rapid evolution of diverse forms of the new receptor. One of these forms acquired the ability to respond to caterpillar peptides, and this new capability is now shared in dozens of descendant legume species.

"We have identified the emergence and secondary loss of a key immunity trait over plant evolution," concludes senior author Adam Steinbrenner, Assistant Professor at the Department of Biology, University of Washington. "In the future, we hope to learn more about genome-level processes that generate new receptor diversity and identify as-yet unknown immune receptors within plant groups. As increasing genomic data becomes available, such approaches will identify 'missing' receptors that are useful traits to reintroduce into plants to help protect crops."

Dr. Mark Sulc Retires

By: Laura Lindsey, Dave Barker

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2022-40/dr-mark-sulc-retires>



Dr. Mark Sulc

Dr. Mark Sulc, Professor and Extension State Specialist for Forage Production, retired from Ohio State University at the end of October 2022 after 30 years of service.

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Mark was an active member of OSU Extension's Agronomic Crops Team. Over his career, Mark authored 443 extension newsletter articles, bulletins, and Fact Sheets and gave 312 in-state presentations and 46 out-of-state presentations. (Yes, Mark gave us his exact numbers before he left ðŸ˜Š) Mark is recognized nationally and internationally for his research on topics including, development of predictive equations for alfalfa quality (i.e. PEAQ sticks for alfalfa management), integrated crop livestock systems, field evaluation of potato-leaf hopper resistance in alfalfa, and (most recently) field evaluations of low-lignin varieties of alfalfa. His program will have a lasting impact on farmers not only in Ohio, but across the globe through his international efforts.

Although Mark's research and extension efforts are notable, perhaps his greatest contribution was through his mentorship. Numerous people have mentioned Mark's careful guidance, attention to detail, and time spent giving thoughtful advice. His office door was always open, and he was always willing to discuss a problem and resolve an issue with a servant-leadership quality. He will be greatly missed by members of the AgCrops Team and Department of Horticulture and Crop Science.

Congratulations on your retirement, Mark! And thank you for all of your efforts over the past 30 years.

Upcoming Ohio Certified Crop Adviser Pre-Exam Preparation Class

Are you interested in becoming a Certified Crop Adviser (CCA), but are intimidated by the exams? You should consider attending the Ohio CCA Pre-Exam Preparation Class offered by Ohio State University Extension on January 11-12, 2023 at the Shelby County Ag Building, 810-820 Fair Rd, Sidney, Ohio 45365.



This class will provide an overview of the CCA program, and help you prepare for the test by covering basic principles in the four competency areas – nutrient management, soil and water management, pest management, and crop management. Even if you are not considering the CCA program, this class is a great basic agronomy course that any farmer, ag retailer, or anyone working with field crops will find valuable. A detailed agenda for each day's topics is below.

The cost for this two-day class is \$250/person which includes the publications listed below, lunch both days, and other program materials. Don't wait to register as class size is limited to 25, and registration closes on December 20, 2022.

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Publications included with registration:

- Ohio Agronomy Guide
- Ohio, Indiana & Illinois Weed Control Guide
- The Ohio Corn, Soybean, Wheat and Forages Field Guide
- 2020 Tri-State Fertilizer Recommendations
- Modern Corn & Soybean Production

Secure online registration via credit card, debit card, or check is available on the Ohio AgriBusiness Association website: <https://go.osu.edu/cca2023>

The Local and International Exams are proctored online tests. You must pass both exams to obtain Certified Crop Adviser status. Both exams are now available on demand. You can register for both exams here:

<https://www.certifiedcropadviser.org/exams/registration>.

For more information about the CCA program, visit <https://www.certifiedcropadviser.org/about-program>

Course contact:

Lee Beers, CCA
Ohio State University Extension
Beers.66@osu.edu
330-638-6783

Wednesday, January 11 <i>Registration 8:30-9:00 Class 9:00-5:00</i>	
Morning – <i>Harold Watters</i>	Afternoon – <i>Amanda Douridas</i>
<i>Crop Management</i> <ul style="list-style-type: none">- Crop Production- Photosynthesis- Crop Physiology- Variety Selection	<i>Nutrient Management</i> <ul style="list-style-type: none">- Soil pH and Liming- Primary Nutrients- Secondary Nutrients- Micronutrients- CEC
Thursday, January 12 <i>Registration 8:00-8:30 Class 8:30-5:00</i>	
Morning – <i>Greg LaBarge</i>	Afternoon – <i>Lee Beers</i>
<i>Soil & Water Management</i> <ul style="list-style-type: none">- Soil Properties- Soil Water- Surface and Ground Water- Soil & Wind Erosion	<i>Pest Management</i> <ul style="list-style-type: none">- Weeds- Insects- Diseases- Fertilizer & Pesticide Math

2022 Ohio Maple Day

Source: <https://u.osu.edu/vegnetnews/2022/11/01/2022-ohio-maple-day/>

We are fast approaching the date for the **2022 Ohio Maple Day** event. Join us on **Dec. 10th** at Ashland University's John C. Meyer Convocation Center for a jam-packed program on all things maple. Updates on red maple research from both Ohio State's Gabe Karns and the University of Vermont's Proctor Maple Research Center's Abby van den Berg. Add to this other talks on reverse osmosis, marketing, and insects impacting maple trees.

A maple-themed lunch and a vendor room that features a variety of maple equipment dealers, consulting foresters, and other associated equipment help round out the day. There are also SAF continuing education credits available for the program.

You can register [here](#)

A poster for the 2022 Ohio Maple Days event. The background is a collage of autumn leaves in various colors (red, orange, yellow, brown) and textures. At the top left, there is a red square with the white text "CFAES". To its right, a grey horizontal bar contains the text "OHIO STATE UNIVERSITY EXTENSION" in white. The main title "2022 Ohio Maple Days" is in a large, bold, white font. Below it, the date "Saturday December 10, 2022" and time "8:30 am - 4 pm" are listed. The location "Ashland University Convocation Center, 638 Jefferson St., Ashland, OH 44805" is provided. Registration costs are listed: "Cost: Regular Registration \$45, Vendor Registration \$100". The registration deadline is "December 1, 2022". Online registration is available at "woodlandstewards.osu.edu". On the right side, a text box describes the event: "Join us December 10th for a one-day event focused on all things maple. There will be a dedicated space for vendors to setup. Learn what is going on in Ohio with maple. Presentations will cover red maples, reverse osmosis, marketing and maple insects. Learn about the maple toolbox and get a 'super sweet' update." Below this, it says "Register at http://woodlandstewards.osu.edu" and "SAF CEU's - 4 hrs. Cat. 1". At the bottom left, the Ohio State University logo is shown next to the text "THE OHIO STATE UNIVERSITY" and "COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES".

CFAES OHIO STATE UNIVERSITY EXTENSION

2022 Ohio Maple Days

Saturday December 10, 2022
8:30 am - 4 pm
Ashland University Convocation Center
638 Jefferson St., Ashland, OH 44805

Cost: Regular Registration \$45
Vendor Registration \$100

Registration Deadline: December 1, 2022

Online registration:
woodlandstewards.osu.edu

Join us December 10th for a one-day event focused on all things maple. There will be a dedicated space for vendors to setup. Learn what is going on in Ohio with maple. Presentations will cover red maples, reverse osmosis, marketing and maple insects. Learn about the maple toolbox and get a 'super sweet' update.

Register at
<http://woodlandstewards.osu.edu>

SAF CEU's - 4 hrs. Cat. 1

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2022

Ashtabula County Plat Book Available


The updated 2022 version of the Ashtabula County Plat Book is available for \$25 + tax at Ashtabula County - OSU Extension Office located at 39 Wall Street in Jefferson. This full color edition makes the perfect gift for the hunter, hiker or outdoorsman! Traditional landownership maps by township and range, a landowner index for easy cross referencing, and other county information are all available in the new plat book. Premium wall maps are also available. Visit mappingsolutionsGIS.com for digital

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versions of Ashtabula County landowner maps. Mapping Solutions is the publisher. Proceeds from the sale of the books benefit the 4-H program.

Limited 2019 books are also available ON SALE for \$10 OFF the original price of \$25 + tax. For more information contact the office at (440) 576-9008.

 THE OHIO STATE UNIVERSITY COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES		
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<small>CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information: http://go.osu.edu/cfaesdiversity.</small>		



Women In Ag Winter Wellness Series

Join us for one or all of this
3-part series focused on
body, mind, and spirit.

We are kicking off our Women in Ag program with a Winter Wellness series to help you manage stress and find balance during the holiday season

November- Yoga

Tuesday, November 29, 2022

6:00 pm at the OSU Extension Office

Cost \$10

The first class of the series will be a yoga class with Leah Hartman of Shanti Love Yoga in Jefferson. Leah's studio offers an accessible yoga experience for those of all fitness levels. She will offer a beginning yoga class for farm women on Tuesday, November 29th. We will meet at the Extension at 6 p.m. and yoga starts at 6:30. The cost is \$10 and you'll need to bring your own yoga mat or purchase one at the studio for \$15. If you have been wanting to try this form of exercise, please plan to join us!



Use this
QR code
to RSVP

December and January session information will be announced soon.

To RSVP please follow the link below or scan the QR code.

<http://go.osu.edu/wiayoga>

Any questions, please email or call or email Abbey Averill 440-576-9008 averill.10@osu.edu



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ashtabula.osu.edu

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information, visit cfaesdiversity.osu.edu. For an accessible format of this publication, visit cfaes.osu.edu/accessibility.

Growing the Idea of Healthy Soil

Friday, December 2, 2022 | 9 a.m. - 12 p.m.

Deerfield Town Hall | 1450 OH-14 | Deerfield, Ohio

Doors open at 8:30 a.m. (light refreshments served)

Carbon Credits: Justin McCullough, Corteva Agriscience

Cover Crops & Livestock: Pete Conkle, Conkle Farms

Leaving Your Legacy & Affording Your Inheritance: Dave Marrison, OSU Extension



Growing the Idea of Healthy Soil

Friday, December 2, 2022 | 9 a.m. - 12 p.m.

*Lunch provided immediately
following the program.*

To help us plan for food, please register by
emailing Lynn: lvogel@portageswcd.org
or call (330)235-6815



PORTAGE COUNTY

8460 Ridge Rd.
North Royalton, OH 44133