

NORTHEAST OHIO AGRI-CULTURE NEWSLETTER

Your Weekly Agriculture Update for
Ashtabula, Portage and Trumbull Counties

March 22, 2022



Great things are happening in the hay making industry at Norden MFG

In This Issue:

- Specialty Crop Virtual Listening Session Set
- Expanding Your Herd? Frequently Asked Questions About Johne's Disease and How To Keep It Off The Farm
- LLCs For Farm Machinery, Not The Liability Barrier You Might Think
- Greenhouse Study Confirms Flood-Tolerant Varieties Of Soy
- Why Can't Alfalfa Tolerate A Low Soil pH?
- Northeast Ohio Agronomy Breakfast Weekly Webinar Series
- Upcoming Extension Programs

Hello Northeast Ohio Counties!

Welcome to spring! Now is a great time to get out to scout your wheat fields for damage. Soggy field conditions last fall resulted in some pale wheat and less than optimal stands heading into winter. Cold temperatures also may have further contributed to the stress. With high wheat prices be sure to accurately assess the damage before making the decision to tear it out. We'd be happy to come out if needed.

With spring field work right around the corner, take a minute and give your equipment an extra safety check. Train new employees and family on all equipment, even if they won't be operating. You never know when an emergency will occur and they may need to know how to turn off a PTO, shut off an engine, or generally be safe around equipment.

Stay safe and have a good week!

Lee Beers
Trumbull County
Extension Educator

Andrew Holden
Ashtabula County
Extension Educator

Angie Arnold
Portage County
Extension Educator

Specialty crop virtual listening session set

COLUMBUS—Ohioans with an interest in specialty crops are invited to participate in an upcoming virtual listening session on Friday, March 25.

Sponsored by The Ohio State University College of Food, Agricultural, and Environmental Sciences (CFAES), the free event is set for 9:30–11 a.m. and will be of benefit to many in the specialty crop industry.



Participants should register online no later than Thursday, March 24, at go.osu.edu/2022speccroreg.

Designed specifically for Ohio specialty crop partners, the session will feature CFAES researchers and Ohio State University Extension educators with updates on priorities, existing support for specialty crops, and actions underway related to research and education.

“We will also take time to explore emerging trends for specialty crops agriculture in the state, listen to industry needs, and discuss how CFAES plays an important role in the industry,” said Sam Custer, interim assistant director of OSU Extension, agriculture and natural resources.

The specialty crop industry in Ohio includes hundreds of acres of flowers, nursery crops, fruits, vegetables, and related products including tomatoes, radishes, beets, lettuces, parsleys, southern greens, sweet corn, asparagus, grapes, onions, celery, melons, eggplant, green beans, pumpkins, bell peppers, cabbage, cilantro, cucumbers, squash, kale, turnips, zucchini, jams, jellies, herbs, apples, cider, berries, peaches, and maple syrup. Other important segments of the specialty crop industry include vegetable seed, canners, and food processors.

Expanding your Herd? Frequently Asked Questions about Johne's Disease and How to Keep it Off the Farm

By Dr. Michelle Arnold, Ruminant Extension Veterinarian, University of Kentucky

Source: <https://u.osu.edu/beef/2022/03/16/expanding-your-herd-frequently-asked-questions-about-johnes-disease-and-how-to-keep-it-off-the-farm/>

What is Johne's Disease?

Johne's (pronounced Yo-knees) Disease is a slow, progressive disease of profuse, watery diarrhea and weight loss or "wasting" in adult cattle (Figure 1) caused by the bacterium *Mycobacterium avium* subsp. paratuberculosis, also known as "MAP". This disease begins when calves (not adult cattle) are infected with MAP-contaminated colostrum, milk, feed, or water, most often around the time of birth. Once MAP enters a calf, the organism lives permanently within the cells of the large intestine where it multiplies and



Figure 1: Recently calved cow with signs of Johne's disease; dull hair coat, profuse watery diarrhea, and weight loss. Photo from "Management and Control of Johne's Disease in Beef Sucker Herds" by Drs. Isabelle Truysers and Amy Jennings. In Practice July/August 2016/Volume 38, page 348.

causes the intestinal lining to slowly thicken. Over years of time, the thickened intestine loses the ability to absorb nutrients, resulting in watery diarrhea and weight loss despite continuing to eat well. There is no blood or mucus in the feces, no straining, and no fever. These symptoms do not show up in adult cattle until 2-5 years of age or even older. There is no treatment available, and the animal eventually dies due to starvation and dehydration.

Why should a commercial beef producer care if they have Johne's Disease in the herd?

Economically, Johne's disease can be costly in a beef operation. It is believed that for

Northeast Ohio Agriculture

OHIO STATE UNIVERSITY EXTENSION
Ashtabula, Portage and Trumbull Counties

every clinical (sick) cow with Johne's in a herd, there may be 10-20 more who are infected but not yet showing signs. Obviously, death loss and premature culling will mean higher replacement costs to keep herd numbers stable. Perhaps less obvious is that MAP-infected cows showing no signs of disease are less fertile and produce less milk, resulting in lighter calves at weaning and more open cows at pregnancy check.

Why worry about buying Johne's Disease? No beef producer in his or her right mind would buy a cow or bull with diarrhea and weight loss to add to their own herd!

Very true but the infection can be spread long before diarrhea and weight loss begin. In a typical case, an infected cow starts shedding the MAP bacteria in her manure after delivering her first calf, but she doesn't develop diarrhea until after her third calf, resulting in 2 years of "silent" disease spread. In almost all cases, the MAP bacteria arrive on the farm when an infected but healthy-looking animal is purchased and added to the herd. The bacteria can be hiding in replacement heifers, cows, breeding bulls, recipients used for embryo transfer, or even in an infected calf purchased to graft on a cow. It is easy to buy (and sell) infected, young breeding age animals with no obvious symptoms even though they are already incubating and spreading the disease. These infected animals will shed the MAP organism in increasing numbers as the disease progresses, contaminating the farm environment and increasing the risk of infection spread within the herd. Unfortunately, infected animals will often test negative when young and may not have a positive blood test until they reach 3-5 years old.

How do calves get infected with MAP bacteria?

Johne's infection is mainly caused by calves ingesting MAP-contaminated manure when nursing dirty teats. Most infections (75+%) occur around the time of birth up to 6 months of age but very rarely after 12 months. In beef cattle, mud and manure are frequently splashed on the udder when calving cows in dirty sheds or barns, in high traffic areas (around hay rings, feeding areas) or when cattle are held in close confinement. MAP is also shed in colostrum and milk of infected cattle. There is great opportunity for transmission thru colostrum and milk in beef calves since they remain with dams 6-7 months or more and many calves steal extra milk from cows other than their own dams. Colostrum from other herds, especially from dairies, is another potential source of MAP. There can be MAP transmission from an infected cow to her fetus during pregnancy, but this rarely occurs unless the dam has already developed diarrhea. Infected bulls can contaminate the environment with their MAP-infected feces. To date, transmission by bulls through infected semen has not been proven.

Diagnosing a clinical case: Does this animal exhibiting weight loss and diarrhea have Johne's disease? Options for testing individual cattle:

- Best test if animal is dead or near death: Submission of a dead animal to a veterinary diagnostic laboratory. The affected animal should be humanely euthanized then promptly taken to the lab for a necropsy. Histopathology (with special staining) on

necropsy-collected tissue is definitive confirmation of Johne's.

- Best test in a live animal: If this is the first suspected case of Johne's disease in the herd, PCR on a fecal sample is the best primary diagnostic test to confirm the disease. PCR is an "organism detection test" meaning it detects the DNA of the MAP bacteria in the feces. The PCR result is very accurate and also a good indicator of the amount of MAP being shed in the feces (see Figure 2). If the PCR is positive, the first question to consider is was this infected animal born and raised in this herd? If the answer is yes, there are likely to be other infected animals in the herd.
- The blood test (known as a "Serum ELISA") is an "antibody detection test". It is not the preferred test for confirmation of an individual clinical case but can be used if the herd is already known to be Johne's-infected. The test is not perfect; cattle with Johne's disease can test negative on serum. However, the blood test is considered a good herd screening test for MAP antibodies and positives should be confirmed with PCR.

Specimen	Test Name	Result	Ct Value
No ID - Mammalian - Bovidae - Bovine - Angus - Female - Adult			
Small intestine - Scraping - 9	Mycobacterium paratuberculosis (Real Time PCR) - 10/25/2018 1:39 PM	POSITIVE	17.50
<p>Mycobacterium paratuberculosis (Real Time PCR):</p> <p>Cycle Threshold (Ct) provides an estimate of the amount of <i>M. avium</i> subsp. paratuberculosis (MAP) DNA in the fecal material. Generally the lower the number, the more DNA in the fecal material. MAP DNA can then be correlated to the number of organisms shed in the fecal material.</p> <p>General guidelines per USDA are as follows:</p> <p><25 Ct = Very Heavy Fecal Shedder</p> <p><30 Ct = Heavy Fecal Shedder</p> <p><33 Ct = Moderate Fecal Shedder</p> <p><36 Ct = Light Fecal Shedder</p> <p><40 Ct = Suspect Fecal Shedder - DNA was detected, but at a low level. Without epidemiological information, correlation to fecal culture is not consistent.</p>			

Figure 2: Sample result from a Mycobacterium paratuberculosis real time PCR test for detection of the MAP organism (UKVDL)

Once a diagnosis of Johne's Disease is made, what are the next steps?

Once a diagnosis is made, the next steps depend on the type of beef operation involved. For registered herds selling seed stock, the goal should be to classify as test-negative or work towards it as quickly as possible. Farms that sell any breeding stock should enter a rigorous testing program using fecal PCR to eradicate this disease once identified. Many producers are reluctant to test for Johne's Disease for fear that a positive diagnosis will ruin their reputation. However, a seed stock herd's reputation may be damaged much more severely by selling a MAP-infected animal to a customer and introducing a contagious, incurable disease into a buyer's herd. Commercial operations, on the other hand, may opt to reduce the disease prevalence gradually through blood testing and herd management changes to improve hygiene, especially during calving.

After the goal is established, decisions on which animals to test and what test to use will depend on the answers to the following questions. What management changes will be made based on test results? Will positive animals be culled or will test positive, and test

negative herds be established based on results? How much money will be allocated for testing? How quickly is progress needed towards goals? Remember that herd testing is done on healthy animals over multiple years so decisions should be made in advance on how positive results will be handled. It takes at least 5 years of consistently following a written plan to control this disease. If no management changes will be instituted, then testing is a waste of time and money.

How does a producer avoid buying MAP-infected cattle?

The safest option is to have a “closed” herd with no purchased animals. If this is not possible, the next best option is to buy from low-risk herds with Johne’s test results available within the last year. Since low-risk beef herds are uncommon, a good rule of thumb is to purchase animals from as few different herds as possible and test them prior to mixing with the home herd. Remember that infected cattle, especially young cattle under 3 years of age, may test negative although they are actually positive. Purchased animals should test negative at least 3 years in a row (begin testing no younger than 2 years old) before calling them “negative” or “low risk”. The number of cattle purchased is not as important as the number of herds these animals came from. However, buying randomly sourced cattle from random herds is not a question of if, but when, your herd will become MAP-infected.

Where can someone learn more about Johne’s Disease?

First and foremost, talk with your veterinarian about detection and prevention strategies tailored for your specific operation. The Johne’s Information Center at the University of Wisconsin maintains an excellent website full of information at <https://johnes.org>.

LLCs for Farm Machinery, Not the Liability Barrier You Might Think.

By: Robert Moore, Attorney, OSU Agricultural & Resource Law Program

Source: <https://farmoffice.osu.edu/blog/wed-03162022-1201pm/llcs-farm-machinery-not-liability-barrier-you-might-think>

A common business strategy for farming operations is to place their machinery in a separate, stand-alone LLC. The idea behind this strategy is that by putting the high-liability machinery in its own LLC the other farm assets are protected. Unfortunately, the liability protection of a machinery LLC is sometimes overstated and may not provide as much protection as intended.

The compromised liability protection of a machinery LLC is not due to a defect in LLCs, but rather it is a result of who is operating the machinery. Typically, the persons operating the machinery are the owners or employees of the farming operation. Many liability incidents involving farm machinery are the result of operator error which pulls the liability back to the farming operation.



Consider the following example. XYZ Farms is a grain operation. To mitigate the liability of having large machinery traveling on roadways, XYZ Farms establishes Machinery LLC and transfers all machinery to the LLC. An employee of XYZ Farms causes an accident while driving machinery on a roadway. Because employers are liable for the actions of employees, XYZ Farms is liable for the accident even though the machinery was held in Machinery LLC. A machinery LLC does provide some liability protection. If the liability incident is caused solely by an issue with the machine and not the operator, the LLC may prevent liability from transferring to other assets. Again, most accidents are caused by operator error so relying on this liability protection is planning against the odds.

As seen in the example, machinery LLCs do not completely insulate owners and other assets from liability. In fact, no entity used in a farming operation is guaranteed to prevent liability exposure for the owner. Therefore, liability insurance should always be the primary liability management plan for farm operations. Business entities should be used as the backup plan if liability insurance fails to cover liability exposure. Machinery LLCs do have other beneficial uses. One of the more common uses is to consolidate various machinery ownership among family members. Having one entity own, buy, and sell all machinery is often a simpler plan than multi-ownership. For example:

Mom and Dad, Son, and Daughter each own some machinery. Each time they need to buy a new piece of equipment, it is a challenge to determine how the trade-in is handled and who should be the new owner. Instead, they establish a machinery LLC and put all their machinery in the LLC. They each receive ownership in the LLC in proportion to the ownership in the machinery. For all future purchases, the LLC provides the trade-in and buys the new machine.

The liability protection provided by machinery LLCs may not be as thorough as sometimes expected but they can still be a valuable component of a business structure plan. They do provide some liability protection and are useful in other ways such as consolidating ownership. Before establishing a machinery LLC, be sure to have a thorough discussion with legal counsel to fully understand it's benefits and limitations.

GREENHOUSE STUDY CONFIRMS FLOOD-TOLERANT VARIETIES OF SOY

By Raleigh Darnell and Susan V. Fisk

Source: <https://www.agronomy.org/news/science-news/greenhouse-study-confirms-flood-tolerant-varieties-soy>

If you've ever looked at food labels in your local grocery store, you've probably seen soy listed as an ingredient. Even though soy is widespread in our foods, that doesn't make the production of soy any easier for growers. One challenge facing soy growers is flooding.

Flooding is a major cause of crop loss worldwide. As weather patterns change, experts expect severe weather events like flooding to occur more often. Luckily, the growers aren't alone in facing this challenge. A study [recently published in Crop Science](#) found some answers which may be helpful to soy growers on land that is flood-prone.

Derrick Harrison and a team at University of Arkansas worked on the project. They conducted studies in greenhouses, which previous studies have shown to be reliable in breeding studies. This team was testing the reliability and consistency of screening germplasm in hydroponic systems in the greenhouse. The end goal was to determine how different varieties of soy react to flood conditions.



Plants three days after planting. The plants were grown in a soilless medium with water (a hydroponic system). The control group had ambient air pumped into the water, and the experimental group had carbon dioxide pumped into the water. Carbon dioxide in the water creates conditions similar to flooding. Credit: Derrick J. Harrison.

Greenhouse studies can control more variables than field studies, which are subjected to variable conditions. Uncontrollable conditions in the field, such as fungus or insects, produce symptoms in soy similar to flood stress. This can make the results of field trials less reliable than greenhouse studies. Greenhouse studies can be performed year-round, and yield results as quickly as five weeks, versus the typical 90-day cycle time for field system flood screening of soy in the Midsouth.

With these benefits in mind, the research team for this study designed several experiments. All experiments relied on hydroponic systems and were self-contained, offering more control. What first seemed like a tangle of tubing, air tanks, and potted plants, was organized and maintained by the team.

“In flooded conditions, plants are deprived of oxygen,” says Harrison. “Our system pumped carbon dioxide into the water under controlled conditions. Carbon dioxide can displace oxygen in the solution that would otherwise be available for plant uptake. Ambient air was pumped into the solution for the control group.”



Carbon dioxide was pumped into the hydroponic system using a flowmeter. This delivers a specific amount of gas to the water. The research was conducted in a greenhouse, allowing for better control of variables, and faster research results than typical field studies. Credit: Derrick J. Harrison.

The team tested four scenarios. The first test examined soilless mediums for starting soy from seed. The second test assessed the system’s reliability with a variety of soy known to be sensitive to flooding. The third test compared multiple varieties of soy for flood tolerance. Finally, the fourth test compared greenhouse trials with field trials.

“The greenhouse hydroponic system showed reliability, efficiency, and promise as a method for selecting soy based on flood tolerance,” says Harrison. “When compared to similar field trials, the greenhouse hydroponic system outperformed field trials. The new method allows for better viewing of results in a controlled setting.” This will help find flood-tolerant varieties in a faster, more reliable setting.

Importantly, the study confirmed prior research that determined six varieties of soy that were tolerant of flooding conditions. It also confirmed four that do poorly in low-oxygen environments. This can help inform soy farmers who live in flood-prone areas when choosing flood-tolerant varieties.

Although further validation of results is needed, this study marks an important resource for improving the water-logging tolerance of soybean. Screening for flood tolerance under hydroponics allows for the control of other abiotic and biotic stresses, is effective year-round, and is fast with a five-week cycle time.

The next plan is to test more varieties of soy plant materials in USDA collections using this hydroponic greenhouse system.

This research was supported by grants from the Arkansas Soybean Promotion Board, the Mid-South Soybean Board, and the United Soybean Board.



Soybean plants in the hydroponic greenhouse study at University of Arkansas. This cultivar was previously shown to be flood-sensitive in field settings. Plants in the front row are growing well in systems infused with ambient air, providing oxygen like typical field conditions. The plants in the background are being grown in a solution that was infused with carbon dioxide, recreating low-oxygen conditions, like flood conditions. Those plants show signs of distress like poor growth habit and yellowing leaves. Flooding is expected to become more common, so finding soy varieties that are tolerant to flooding is important. Credit: Derrick J. Harrison.

Why can't alfalfa tolerate a low soil pH?

By Mike Rankin

Source: <https://hayandforage.com/print-article-3863-permanent.html>

As a county extension agronomist, I worked in a region where the native soil pH hovered around 7. It was a great economic advantage to alfalfa growers because the crop demands a pH somewhere north of 6.5.



Unlike my situation, many regions of the U.S. have acidic soils. A major problem with low soil pH is aluminum toxicity. In acidic subsoils, aluminum becomes soluble and more available for plant uptake.

Too much available aluminum has the effect of slowing and pruning alfalfa root growth. This, in turn, reduces the activity and ability of Rhizobia bacteria to inhabit root nodules and fix nitrogen for the plant.

Aluminum toxicity is best mitigated by correcting a low soil pH with an application of agricultural lime — preferably six months to a year before an alfalfa seeding is made.

Gypsum may help, too

Research has shown that even with a lime application, subsoil pH may remain low and aluminum toxicity can still be an issue. To resolve this situation, gypsum applications may help.

Gypsum, which is calcium sulfate, won't raise the soil pH, but the high volume of calcium will displace the aluminum on subsoil particles; this allows it to be leached below the rooting depths when enough moisture is available.

Research from the University of Georgia showed that alfalfa root growth increased 200% at a depth of 2.5 feet where gypsum had been applied. A subsoil (deeper than 15 inches) soil test is recommended to confirm if a gypsum application is warranted to reduce potential aluminum toxicity issues from low pH and high aluminum availability. Toxicity is likely when the subsoil pH trends below 5.5.

To ensure proper root growth, alfalfa needs moisture, an abundance of calcium at the root tip, and an absence of aluminum. The sulfate in the gypsum binds and precipitates out the aluminum. Coupled with the added calcium, this enhances the subsoil rooting environment, especially in fields where soil pH has been low for an extended period of time.

Gypsum applied alone will have no impact on soil pH. It must be used in conjunction with agricultural lime and a recommended fertilizer program. A well-drained site is also important for sustained alfalfa production, which is true regardless of the native soil pH.

NORTHEAST OHIO AGRONOMY BREAKFAST WEEKLY WEBINAR SERIES

The Ohio State Extension Offices of Northeast Ohio is excited to offer The Northeast Ohio Agronomy Breakfast - Weekly Webinar Series. Start the morning off right with a quick one-hour presentation each Wednesday starting on February 23, 2022. Each webinar will cover a different topic and offer time to ask questions to the speakers. **There is no cost to attend**, and everyone is welcome to join. You can register easily online at Register at: <https://u.osu.edu/neoab/> For any question or for help with registration or zoom, contact Andrew Holden at the Ashtabula County Extension Office at 440-576-9008.

This series will feature a variety of experts on a variety of important agronomic topics, including grain bin fires and safety, farm drainage, corn leaf diseases, soybean disease, and 2022 weather outlooks!

Schedule:

- ☐ March 23rd, **8:30 AM** –Dr. Vinayak S. Shedekar on Farm Drainage
- ☐ March 30th, 8:00 AM – Dr. Aaron Wilson on 2022 Weather Outlook

Register or watch recordings here:

<https://u.osu.edu/neoab/>

Upcoming Extension Programs

The following programs have been scheduled for NE Ohio farmers. Check back each week as more programs are added to the calendar

Private Pesticide/Fertilizer Applicator Training

March 28, 2022 – Ashtabula County


NE Ohio Agronomy Breakfast Webinar Series Register at <https://u.osu.edu/neoab/>

March 23rd, 8:30 AM –Dr. Vinayak S. Shedekar on Farm Drainage

March 30th, 8:00 AM – Dr. Aaron Wilson on 2022 Weather Outlook

Women in Ag Conference

March 25, 2022

 THE OHIO STATE UNIVERSITY COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES		
Lee Beers Trumbull County Extension 520 West Main Street Cortland, OH 44410 330-638-6783 beers.66@osu.edu trumbull.osu.edu	Andrew Holden Ashtabula County Extension 39 Wall Street Jefferson, OH 44047 440-576-9008 holden.155@osu.edu ashtabula.osu.edu	Angie Arnold Portage County Extension 705 Oakwood St., Suite 103 Ravenna, OH 44266 330-296-6432 arnold.1143@osu.edu portage.osu.edu
<small>CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information: http://go.osu.edu/cfaesdiversity.</small>		

**CFAES**

OHIO STATE UNIVERSITY EXTENSION

NORTHEAST OHIO AGRONOMY BREAKFAST WEEKLY WEBINAR SERIES

STARTING FEB 23

The Ohio State Extension Offices of Northeast Ohio are excited to offer *The Northeast Ohio Agronomy Breakfast - Weekly Webinar Series*. Start the morning off right with a quick one-hour presentation each Wednesday starting on February 23, 2022. Each webinar will cover a different topic and offer time to ask the speaker questions. There is no cost to attend, and everyone is welcome to join. For any question or for help with registration or zoom, contact Andrew Holden at the Ashtabula County Extension Office at 440-576-9008.

Schedule:

- ❑ February 23rd, **9:00 AM** – Peter Dahl speaking on Grain Bin And Dryer Fires
- ❑ March 2nd, 8:00 AM – Jason Hartschuh speaking on Corn Leaf Disease and Tire Pressure
- ❑ March 8th-9th, 8:30 AM - 4:30 AM - **Conservation Tillage and Technology Conference***
*More information on this separate event can be found here: <https://www.allenswcd.com/cttc/>
- ❑ March 16th, 8:00 AM – Dr. Horacio Lopez-Nicora on Soybean Disease
- ❑ March 23rd, **8:30 AM** – Dr. Vinayak S. Shedekar on Farm Drainage
- ❑ March 30th, 8:00 AM – Dr. Aaron Wilson on 2022 Weather Outlook

Location: Online via Zoom

Cost: Free

More info: Contact Andrew Holden at 440-576-9008 or Holden.155@osu.edu

Register at: u.osu.edu/NEOAB



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

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.

CFAES**ASHTABULA AND PORTAGE COUNTIES PRESENTS**

Pigweed Identification and Management

Pigweeds have become resistant to an increasingly high number of pesticides and can produce over 1 million seed per plant. These factors result in them having the potential to cause major issues to agronomic production in our area. Both Palmer amaranth and Waterhemp have recently been found here in NE Ohio Counties. Keeping these weeds from spreading and negatively impacting our crop yields will require local producers to take a proactive approach to managing them.

Two programs on identification and management will be offered in both Ashtabula and Portage Counties. Both sessions will be presented by Andrew Holden and Angie Arnold, Agriculture and Natural Resources Educators for Ashtabula and Portage Counties, respectively.

There is no cost to attend this program, but we ask you to please RSVP as space is limited

ASHTABULA COUNTY

DATE: March 31, 2022

TIME: 6:00 PM – 7:30 PM

LOCATION: OSU Extension – Ashtabula County
Office 39 Wall Street, Jefferson, Ohio 44047

COST: Free, RSVP by calling 440-576-9008

PORTAGE COUNTY

DATE: April 6, 2022

TIME: 1:00 PM – 2:30 PM

LOCATION: 705 Oakwood St. Suite 101,
Ravenna OH 44266

COST: Free, RSVP by calling 330-296-6432

For more information, call Andrew Holden at 440-576-9008 or email at Holden.155@osu.edu



THE OHIO STATE UNIVERSITY
EXTENSION

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.

CFAES

COLLEGE of FOOD, AGRICULTURAL, and ENVIRONMENTAL SCIENCES

East Ohio Women in Agriculture Conference

**Who should attend:**

Women and Young Women (high school age) who are interested, involved, or want to become involved in food, agriculture, natural resources, or small business.

This one-day conference is a great place to learn, share and network. Be surrounded by other women who are facing the same day-to-day ups, downs, adventures and dilemmas as you.

AGENDA

- 9:00 Registration, Network Fair & Breakfast
- 9:30 Welcome
- 10:00 Breakout 1
- 11:00 Breakout 2
- 12:00 Buffet Lunch
- 12:45 Keynote
Stoic or Stressed? Talking through difficult topics in a safe space
Bridget Britton
Behavioral Health Field Specialist
- 1:45 Breakout 3
- 2:45 Breakout 4
- 3:30 Closing and Door Prizes

**THE OHIO STATE UNIVERSITY**
EXTENSION**Friday****March 25, 2022****9 A.M. – 3:30 P.M.**

Ohio FFA Camp Muskingum
3266 Dyewood Rd SW
Carrollton, OH 44615
<https://ffacamp.com/>

\$55 Adults/ \$30 Students

Registration Deadline: March 11

For more information call 330-264-8722

Register online at
go.osu.edu/eowia2022
or complete & send this registration form.

Cancellation Policy: In the event of an unforeseen emergency, the conference will be cancelled by 11:59 PM, March 24, 2022. Attendees will be notified by email. The event will not be rescheduled. No registration fees will be refunded.

Break Out Tracks & Sessions

	Natural Resources	Plants & Animals	Home & Family	Special Interest
Session 1	1-A Sharpen your Skills: Chainsaw Maintenance and Safety – Lee Beers, OSU Extension <i>Learn about safe operation, sharpening, and maintenance of chainsaws. Stay safe with personal protective equipment. Get cutting!</i>	1-B Forages for Horses: The Crash Course – Haley Zynda, OSU Extension <i>Managing horses also means managing grass or hay. From equine nutrition to forage species selection, the course has it all.</i>	1-C He Said, She Said – Emily Marrison, OSU Extension <i>Explore what research reveals about male and female communication. Learn ways to achieve more productive work settings and peaceful home environments.</i>	1-D Being the Boss: 2022 Ag Labor Update – Dr. Margaret Jodlowski, Ohio State University <i>A look at up-to-date data on agricultural labor availability and wages, and research on labor management specifically for female operators!</i>
Session 2	2-A Preparing to Hunt – Janessa Hill, OSU Extension <i>Are you interested in hunting for recreation or food? Learn about resources, equipment, and more to be successful in the field!</i>	2-B Raising Livestock on 5 Acres or Less – Sandy Smith, OSU Extension <i>So, you have some land, and you want some extra income or a supply of food for your family. This session will investigate all your options and possibilities.</i>	2-C Charcuti...what? Everything old is new again! – Kate Shumaker, OSU Extension <i>No matter how you say it, charcuterie has been around for centuries. Learn history, shortcuts, money savers, tips and more!</i>	2-D Real Women, Real lives: Making Professionalism Purposeful. – Cassie Mavis, Morgan Anderson & Mackenzie Ott, State FFA Officers <i>Identify, observe, and implement female leadership principles. We will dive into the driving forces in strengthening a women's professional presence.</i>
Session 3	3-A Get Out: How Nature Improves Our Health – Laura Stanton and Shari Gallup, OSU Extension <i>Did you know that nature is beneficial to every aspect of wellbeing? We'll explore all the reasons to get out! (May be outdoors weather permitting.)</i>	3-B A complete approach to raised bed gardening – Jim Jasinski, OSU Extension <i>Are raised beds right you? Learn about construction, soil mixes, plant selection, and ways to minimize weeds, diseases, and insects!</i>	3-C Canning & Freezing Venison – Melinda Hill, OSU Extension <i>A successful hunt includes safely storing the harvested meat. Learn how to properly pressure can venison, review freezing tips, and more.</i>	3-D Real Women, Real lives: Making Professionalism Purposeful. – Cassie Mavis, Morgan Anderson & Mackenzie Ott, State FFA Officers <i>Identify, observe, and implement female leadership principles. We will dive into the driving forces in strengthening a women's professional presence.</i>
Session 4	4-A Mushroom Mania – Erika Lyon, OSU Extension <i>Learn the basics of the biology, ecology and identification of some common spring mushrooms while venturing on this outdoor fungal foray. (In the event of bad weather, this session will be moved indoors.)</i>	4-B Humane Euthanasia in Livestock – Dr. Sarah Finney, Tri-County Animal Clinic <i>How to recognize when it's time to euthanize and approved methods of euthanasia in livestock animals.</i>	4-C Basic Clothing Repair – <i>Learn basic sewing repair and what to look for when purchasing clothing that's long-lasting to help prevent wear and tear.</i>	4-D Cut Flowers for Income – <i>Learn how to grow, harvest, arrange and market cut flowers.</i>

Registration Form

Name _____

Address _____

Phone _____ Email _____

Breakout Sessions: 1 _____ 2 _____ 3 _____ 4 _____

Payment Enclosed: \$ _____ for _____ Adult(s) and/or _____ Student(s)

Please register on-line at go.osu.edu/eowia2022 or mail registration and payment to:
OSU Extension Harrison County, ATTN: Women in Ag, 538 North Main St., Ste H, Cadiz, OH 43907

Last Chance Virtual Pesticide and Fertilizer Applicator Recertification

Private Pesticide and Fertilizer Applicator Recertification:

The 3-hr. pesticide re-certification session will offer 3 credits for CORE and All Categories (1-7). One-hour fertilizer sessions will be held for those who need to renew their Fertilizer Application Certification.

DATE: March 30th , 2022

TIME: 5:00 PM – 9:00 PM (Pesticide Recert begins at 5PM, Fertilizer Recert is 8PM - 9PM)

COST: \$35.00 for Pesticide Only & \$10.00 for Fertilizer Only (\$45.00 for Both)

To register: <https://go.osu.edu/2022recertificationpatfact>

Be sure to select the correct date when registering. If you have any issues, please call the Trumbull County Extension Office, 330-638-6783



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

[Portage.osu.edu](https://portage.osu.edu)

— *We Sustain Life* —

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.