

NORTHEAST OHIO AGRI-CULTURE NEWSLETTER

Your Weekly Agriculture Update for
Ashtabula, Portage and Trumbull Counties

February 21, 2023



The sap is flowing in Geauga County! – Courtesy of Les Ober

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Hello Northeast Ohio Counties!

The sun finally returned this week! It's been a nice break to get outside to get some chores accomplished, and I hope you are making the most of the dry weather around your farm.

Our maple syrup producers are boiling away after a good sap run over the weekend. If you have any interest in getting started in Maple Syrup or troubleshooting quality issues, be sure to tap into our local expert, Les Ober. Pun intended. He knows the syrup process in and out.

Have a great week!

Lee Beers
Trumbull County
Extension
Educator

Andrew Holden
Ashtabula County
Extension
Educator

Angie Arnold
Portage County
Extension
Educator

A Look at Nutrient Deficiency

By Lee Beers, CCA, Assistant Professor, Agricultural and Natural Resources Extension Educator, Ohio State University Extension, Trumbull County

Source: <https://ocj.com/2023/02/a-look-at-nutrient-deficiency/>

Q: Last year I noticed some discoloration in my corn crop. I suspect a nutrient deficiency was the cause, but how can I tell which nutrient was lacking?

A: Some nutrient deficiencies are rather easy to spot due to their unique symptoms, but others are more difficult to diagnose. Nitrogen deficiency of corn results in a pale green color that can be relatively uniform throughout the field or follow a pattern like when one anhydrous row unit is plugged. Pale green may also indicate a lack of sulfur, but since sulfur is not as mobile in the plant as nitrogen, you may see yellowing in the younger leaves first. Phosphorus deficiency can result in a purpling of the plant tissues, most seen in corn seedlings in cold soils. Yellowing of older leaves at the base of the corn plant followed by a browning at the leaf margins may indicate a lack of potassium. Iowa State University has a great visual guide on nutrient deficiencies you can find here: <https://crops.extension.iastate.edu/files/article/nutrientdeficiency.pdf>. Unless you have a trained eye, and the plants show textbook symptoms it can be difficult to pinpoint the exact deficiency, if one exists. Your best tool to diagnose suspected nutrient deficiencies will be a tissue test. Tissue testing will tell you exactly what nutrients are in your plant, including micronutrients. Many soil testing labs also offer tissue testing.

Q: I soil sample all my fields, and my phosphorus and potassium levels are adequate. Could I still have a nutrient deficiency?

A: Yes. Nutrient uptake requires moisture and an active root system. Purple corn seedlings are a perfect example of this. The seedlings do not have a fully developed root system to take up phosphorus despite excess nutrients being available in the soil. Once the root system grows, it will be able to uptake the phosphorus. Dry soils also limit the ability of the plant to take up nutrients. Depending on where you are in Ohio, you had too little water or too much during the 2022 growing season. Here in Trumbull County, we were drier than most parts of the state. It was not too difficult to find sulfur deficiency on our sandier soils, but once it rained, the plants were about to take up the mineralized nutrients. In wet years, planting into wet soils may lead to smeared seed furrows, sidewall compaction, and lack of oxygen getting to the root zone. All of these can limit nutrient uptake even with adequate soil test levels.

Q: I am hearing more and more about micronutrients, and how they can boost yield. Should I consider adding micronutrients to my fertilizer program?

A: Micronutrients include boron, zinc, manganese, iron, copper, molybdenum, and chlorine. Plants do not need large quantities of these nutrients, and most Ohio soils have adequate levels for crop growth. There are a few scenarios in Ohio where you should scout for deficiencies. Boron deficiency has been found alfalfa grown in sandy soils with low organic matter. Micronutrient availability in muck soils can vary based on

soil pH. Low pH muck soils may lead to copper deficiencies while high pH may lead to a lack of manganese. The addition of zinc to starter fertilizers has become a common practice, but unless you have low soil test zinc and high pH soils (>6.5) it may not be needed. Many soil testing labs include some micronutrients as part of their standard lab analysis, and it can be a valuable tool to monitor your levels if you have the above conditions. Again, most Ohio soils have adequate levels of micronutrients and the addition of these to your fertilizer program should be done only to address specific problems. Micronutrient trials conducted by Ohio State University showed that there is no consistent yield response with micronutrient fertilization.

Q: I don't want to repeat my mistakes from last year, what strategies can I use to prevent nutrient deficiencies this year?

A: Soil testing is the foundation for successful nutrient management. Make sure you have current soil test results from the last 3 to 4 years. If you can afford it, and have access to variable rate fertilizer application, grid sampling may be a good investment due to high fertilizer prices. Grid sampling will provide detailed information about your fields that you can use to isolate areas that are below, or near the critical nutrient levels. Soil test levels below the critical level may limit yield, but not necessarily show deficiency symptoms. The critical levels for corn, soybean, wheat, and alfalfa are published in the Tri-State Fertilizer Recommendations. This publication was updated in 2020 and can be purchased at most OSU Extension offices or you can download a free PDF copy at <https://go.osu.edu/trumbullfert>. Applying nutrients based on your soil tests will prevent most nutrient deficiency issues. Also pay attention to your soil. Mudding in corn at planting or heavy compaction can also limit nutrient uptake. If nutrient deficiencies do appear this year, identifying it correctly early may allow for a rescue fertilizer application. This means scouting your fields on a regular basis, and consulting with your local Extension Educator or CCA if you suspect an issue. Don't forget to pray for rain, just not too much.

TREES NEAR RURAL PROPERTY BOUNDARIES: WHAT ARE THE LAWS?

By: Peggy Kirk Hall, Associate Professor, Agricultural & Resource Law Friday, February 17th, 2023

It's the time of year when farmers are cleaning up fence rows and boundary lines to prepare fields for planting season. Tree law questions pop up a lot during this time. Here are answers to the most commonly asked questions we receive about trees along boundary lines in Ohio's rural areas. Note that there can be different laws addressing trees within a city or village.

Who owns a tree that's on the property line?

When a tree is on the boundary line between two properties, both neighbors have ownership interests in the tree. However, if only the branches or roots of a tree extend past the property line and into a neighbor's property, the branches and roots do not give that neighbor an ownership interest in the tree.

Can I cut down a tree on the boundary line?

No, not if your neighbor doesn't agree to the removal. Because both you and your neighbor jointly own the tree, you must both agree to cutting down the tree. If you remove the tree without the neighbor's approval, you could be liable to the neighbor or the neighbor's share of the value of the tree, or for three times the value of the tree if you behaved "recklessly," explained further on.

**Can I trim the branches of the neighbor's tree that hang over my property?**

Yes, even if the tree isn't on the boundary line and you don't have an ownership interest in it, you still have the legal right to trim branches that hang over your property. However, you must take "reasonable care" in trimming the branches. Failing to act with reasonable care and causing harm such as disease or death of the tree could result in liability.

How does the law determine liability for harming or cutting down a tree?

Ohio Revised Code 901.51 addresses injury to vines, bushes, trees, or crops on land of another, referred to as the "reckless destruction of vegetation law." The law states that a person shall not "recklessly cut down, destroy, girdle, or otherwise injure a vine, bush, shrub, sapling, tree, or crop standing or growing on the land of another or upon public land." The word "recklessly" means the action occurred with complete disregard to the rights of the landowner. Violations of the reckless destruction law can result in criminal misdemeanor charges or a civil negligence lawsuit by the tree owner. The law provides potential punitive "treble damages" that make the violator liable for three times the value of the damaged tree, crop, or vegetation.

If my neighbor's tree falls onto my property, is the neighbor liable for the damage?

Possibly, if the neighbor had knowledge that the tree was diseased, weak, or "patently dangerous." If the tree was not in a weakened or damaged condition or the neighbor had no knowledge of its condition, the law would not likely create liability for the damage. You'd have to take action against the neighbor to establish liability, however. If there is harm to a structure, your insurance provider might be

involved and take the lead on establishing responsibility under the neighbor's insurance coverage. Even so, there is no law that creates an affirmative duty for the neighbor to clean up the tree. Landowners are expected to use the remedy of “self-help,” i.e., to clean up natural and ordinary tree debris on their property, even if from a neighbor’s tree. Likewise, the neighbor is expected to clean up debris from your trees that fall onto the neighbor’s property.

Can I keep the timber or firewood from the neighbor’s tree or a boundary tree that fell on my property?

Ohio law doesn’t address this issue. The “self-help” remedy for tree debris that falls on the property suggests that you are responsible for removing the debris, which could logically allow you to do as you wish with the debris. But if the tree is valuable or was a jointly owned boundary tree—might the neighbor have rights to the tree or its value? Because Ohio law doesn’t clearly answer this question, it’s wise to talk with the neighbor and provide a reasonable amount of time for the neighbor to claim ownership and remove their share of the tree. Document the notice given to the neighbor as well as the timber or firewood resulting from the tree in case the neighbor fails to respond until after tree removal and claims an ownership interest at that time.

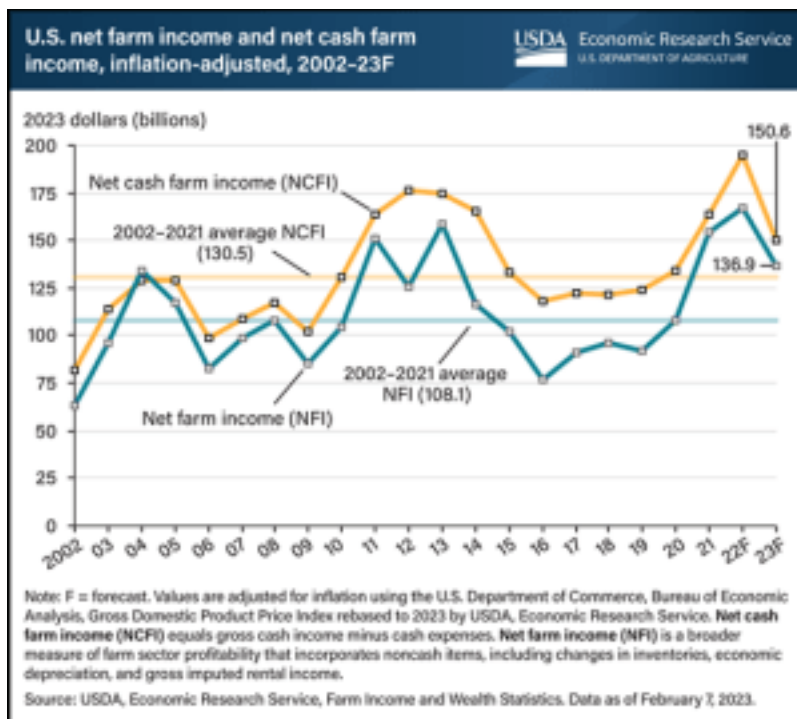
Farm Sector Profits Expected to Decline in 2023

By: Chris Zoller, Extension Educator -ANR in Tuscarawas County, Mike Estadt, Extension Educator- ANR in Pickaway County and David Marrison, Field Specialist - Farm Management

Source: <https://u.osu.edu/ohioagmanager/>

Forecast

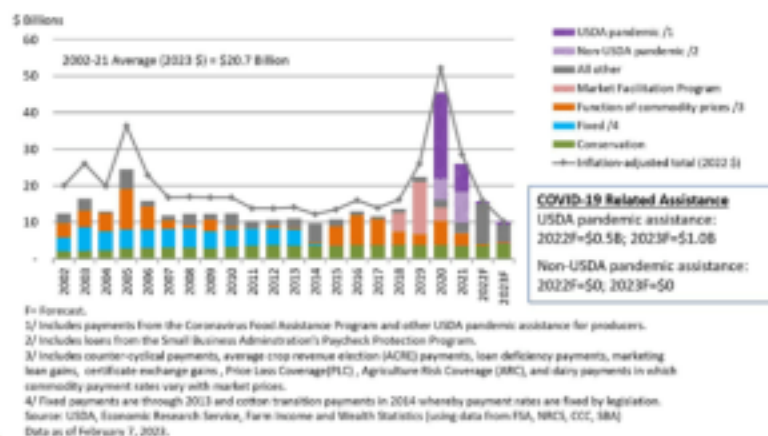
U.S. net cash farm income (NCFI) is calculated by subtracting cash expenses from cash income, and the USDA Economic Research Service (USDA ERS) is predicting a decrease of \$44.7 billion in 2023. If realized, this represents a 22.9 percent drop from the forecast record high of \$195.3 billion in 2022. Net farm income (NFI) is a measure of farm profitability that includes changes in inventories, depreciation, and gross imputed rental income. USDA ERS projects NFI to decrease 18.2 percent or \$30.5 billion in 2023. NFI reached \$167.3 billion in 2022, the highest level since 1973 when adjusted for inflation. While NCFI and NFI are expected to decline when compared to 2022, both are forecast to remain above their 20-year averages in 2023.



Why the Decline?

USDA ERS bases these declines on three factors: (1) farm commodity prices are projected to drop seven percent in 2023 compared to 2022, (2) a 1.3 percent increase in production expenses, and (3) an anticipated 36.2 percent decline in direct Government payments.

Total direct Government payments expected to decline in 2023



After 2020's record high of \$45.6 billion (in nominal terms) of pandemic related payments, the trend of lower government payments will continue into 2023. Producers

making their elections in the ARC-CO/ PLC program will have a very low likelihood of a payment in 2024. Government forecasted payments to farmers in 2023, estimated at 10.2 billion, will be the lowest since 2014 (non-adjusted for inflation)

Any Silver Lining?

Farmers that waited to buy fertilizer in 2023 instead of prepaying in the Fall, have been pleasantly rewarded as fertilizer prices have been in a downward trend since the beginning of the New Year. Farmers refusal to buy at 2022 price levels helped to create greater stocks of fertilizer in the world market. Improved river transportation issues and lower freight costs and downward movement in natural gas prices have brought the prices of commonly used fertilizers down by significant amounts.

Planning for 2023

Communication, planning, and budgeting continue to be critical as we move into 2023. Below we provide suggestions for you to consider.

- Do not rely on government farm programs as income sources as you develop enterprise budgets specific to your operation. Check out OSU budgets at: <https://farmoffice.osu.edu/farm-management/enterprise-budgets>
- Work toward being a low-cost producer by knowing your cost of production. The higher crop prices received recently may be a temptation not to be detailed in tracking expenses. Make sure to track and monitor both variable and fixed expenses. What small steps you can take that will make big changes?
- Enroll in the Ohio Farm Business Planning and Analysis Program to fully understand your farm operations financial strengths and weaknesses. Learn more here: <https://farmprofitability.osu.edu/>
- Hold family meetings – to discuss finances, review your mission statement, complete a SWOT analysis, and develop goals. See this OSU Extension Fact Sheet: <https://ohioline.osu.edu/factsheet/anr-43>
- Form and meet with a farm business advisory team that may include one or more of the following: Extension Educator, accountant, lender, nutritionist, crop advisor, insurance agent, and others important to your business. See this OSU Extension factsheet: <https://ohioline.osu.edu/factsheet/anr-43>
- Utilize OSU Extension resources – Ohio Ag Manager (<https://u.osu.edu/ohioagmanager/>), Farm Office (<https://farmoffice.osu.edu/>), Crop Observation and Recommendation Network (<https://agcrops.osu.edu/>), Beef Cattle Newsletter (<https://u.osu.edu/beefteam/>), and Buckeye Dairy Newsletter (<https://dairy.osu.edu/>).

Truth or fallacy: cattle cannot digest whole shelled corn?

By Jerad Jaborek, Michigan State University Extension

Source: <https://www.canr.msu.edu/news/truth-or-fallacy-cattle-cannot-digest-whole-shelled-corn>

Can cattle digest whole shelled corn? To answer this question, we must first have a basic understanding of corn kernel composition and how it travels through the ruminant digestive tract. Relative to other cereal grains, corn is made up of a greater percentage of starch, which is found in the endosperm. A corn kernel contains 60 to 90% starch depending on the variety of corn. During ruminant digestion, starch is fermented into volatile fatty acids (VFA) in the rumen, and to a lesser degree in the large intestine. Starch is digested into glucose in the small intestine to provide the animal with energy. The starch granules inside the corn kernels are protected by a protein matrix and further protected by a thick multi-layered fibrous shell, called the pericarp, that surrounds the entire corn kernel. In order to access and breakdown the starch from inside the corn kernel, the rumen microbes (i.e., bacteria, protozoa, and fungi) and other digestive enzymes must be able to penetrate the fibrous pericarp and protein matrix that protects the starch contained inside of the corn kernel. For ruminal digestion of the starch from an intact corn kernel to occur, the pericarp of the corn kernel must be damaged by either chewing or some type of grain processing, including grinding, rolling, steam-flaking, ensiling, or tempering.

Research from The Ohio State University set out to answer questions about the digestion of whole shelled corn when fed to beef cattle. Published in the 2005 article, “Effect of cattle age, forage level, and corn processing on diet digestibility and feedlot performance”, by the Journal of Animal Science, the study investigated factors such as animal age, forage level in the diet, time on feed, and grain processing on feedlot cattle performance and starch digestibility.

Younger calves have been known to chew their feed more frequently than their older counterparts, but this may be because they are less efficient at reducing the particle size of their feed. Therefore, one might expect for younger calves to digest whole shelled corn more efficiently when compared with older calves. However, recently weaned cattle or yearling steer calves did not demonstrate any difference in their ability to digest



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whole shelled or ground corn provided at 80% of the finishing diet. Further analysis of the manure indicated that only 8 to 9% of the whole shelled corn kernels remained and the age of steers did not influence the digestibility of the starch being consumed.

According to the 1994 article, “Effects of mastication on digestion of whole cereal grains by cattle”, by the Journal of Animal Science, has shown eating rate can also influence the effectiveness of whole shelled corn being chewed when cattle are limit-fed compared with being full-fed eating as much as they want, as limit-fed cattle eat faster than full-fed cattle. However, cattle that spend more time eating and chewing need to spend less time ruminating, while cattle that spend less time eating and chewing initially, spend more time ruminating to reduce feed particle size. Therefore, differences observed in whole shelled corn digestibility compared with other dry corn processing methods may be largely due to the animal’s ability to effectively chew or re-chew the whole shelled corn kernel.

The forage to grain ratio of cattle diets can greatly affect the digestibility of the various components, such as protein, starch, fiber, fat, and the total diet itself. Certain rumen microbial communities are better suited to digest either forage- or grain-based diets. Additionally, the inclusion of forage in cattle diets increases digesta passage rate which reduces the amount of time digesta can be digested in the digestive tract. In the case of cereal grains, as grain particles become denser, they sink from the rumen to the reticulum where they continue through the remainder of the digestive tract. For finishing diets, forage is often included to maintain digestive tract health and prevent digestive upsets such as acidosis and bloat. This allows the energy density of the diet to be maximized for a greater growth response. It was hypothesized that because a greater level of forage in the diet increases passage rate, that forage level may negatively affect the starch digestibility and feedlot performance of cattle fed whole shelled corn compared with processed corn.

To test this, corn silage was fed at either 5 or 18% on a dry matter basis of the finishing diet and corn was either cracked or left as whole shelled corn. An interaction was observed, where steers fed 5% corn silage with whole shelled corn had the greatest average daily gain (ADG) during the beginning of the finishing period. Feed intake was also greatest for steers fed cracked corn compared with whole shelled corn, but particularly with 18% corn silage compared with 5%. Interestingly, steers that required a different number of days on feed because they entered the feedlot at different body weights resulted in different ADG and feed efficiencies when fed either whole shelled corn or cracked corn. Steers that were heavier at feedlot entry and required fewer days on feed had an ADG of 4.1 lb/d compared with lighter weight steers at feedlot entry that had a 3.5 lb/d ADG and required more time on feed when fed cracked corn. Both groups had similar gain to feed ratios. However, when fed whole shelled corn, light weight steers at feedlot entry that required more days on feed had a 3.6 lb/d ADG, which was similar when compared with heavier weight steers at feedlot entry that

required less time on feed and had an ADG of 3.9 lb/d. Steers that were lighter weight at feedlot entry had a greater gain:feed ratio of 0.21 lb gain/lb feed compared with 0.19 lb gain/lb feed for heavier weight steers at feedlot entry when fed whole shelled corn. The reduced performance for steers consuming processed corn may be due to the long-term exposure of enhanced ruminal starch fermentation, which could increase the chance or frequency of acidosis occurring and comprise the rumen's ability to efficiently absorb nutrients.

Starch digestibility was similar between cracked and whole shelled corn diets with no interaction between forage level and corn processing. Less than 2% of the whole shelled corn kernels were found in the manure from steers consuming either the 5 or 18% corn silage finishing diets. Interestingly, neutral detergent fiber (NDF) digestibility was greater for the 18% corn silage diet compared with the 5% corn silage diet when whole shelled corn was fed, while NDF digestibility was similar between the two different forage levels when cracked corn was fed. Due to greater chewing and salivation when fed whole shelled corn, feeding whole shelled corn compared with processed corn may prevent the rumen pH from decreasing to a level that is unsuitable for a microbial community that is designed to break down forage and fiber.

Overall, ADG, feed efficiency, and starch digestibility of the corn being fed to feedlot cattle did not differ when fed as whole shelled corn or dry processed corn, regardless of the small appearance of whole corn kernels present in the manure. Therefore, grain processing costs do not appear to be justified without an increased response in feedlot performance and or carcass quality. Whole shelled corn may be more appropriate for low forage finishing diets to help buffer the rumen with additional saliva and prevent the rumen from experiencing a greater and/or more frequent occurrence of acidosis or ruminal damage due to a low pH. In conclusion, research has proven that cattle can digest whole shelled corn.

Contact Jerad Jaborek or another Michigan State University Extension beef experts if you would like additional beef cattle nutrition information and other beef related advice.

This article was published by Michigan State University Extension. For more information, visit <https://extension.msu.edu>. To have a digest of information delivered straight to your email inbox, visit <https://extension.msu.edu/newsletters>. To contact an expert in your area, visit <https://extension.msu.edu/experts>, or call 888-MSUE4MI (888-678-3464).

New Mental Health Resource for Ohioans!

By: Bridget Britton, Behavioral Health Program Specialist

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“Have you thought about talking to someone about that?” If you experience anxiety, depression, or another mental health challenge, working with a professional can be very helpful. But navigating the health care system is not always as simple as calling your local counselor and making an appointment. You have to figure out which providers take your insurance, how many sessions are covered, and what your co-pay might be. If you don't have insurance, there are even more questions to ask. It can be a little overwhelming to figure out your benefits on your own, so call the Ohio Mental Health Insurance Assistance office for help.

From their [website](#): ***“This free service is for individuals, families, and behavioral health providers who need help understanding and accessing their mental health and substance use disorder benefits. Whether you have health insurance through an employer, or a government program, purchased it directly through an agent, or are uninsured, we can help. We’ll help you understand your mental health coverage, assist you in getting the most from your mental health insurance for treatment, and facilitate investigations on your behalf if you experience treatment access issues due to insurance.”***

Get started today by calling 1-855-438-6442. Recovery from a mental health challenge is possible and probable, and the Ohio Mental Health Insurance Assistance Office can help you start that journey to recovery!

Northeast Ohio Agronomy School Returns March 28th, 2023

Source: www.go.osu.edu/neoas23

OSU Extension will be hosting the Northeast Ohio Agronomy School again in 2023 on March 28th!

Join us from 9:00 a.m.– 2:30 p.m. at the Colebrook Community Center in Colebrook, OH for a full day of agronomic programming. Cost for the program is \$15/person and includes snacks, lunch, and handouts. We will also have Agronomy Guides, Field Guides, and Weed Control Guides available for purchase. Pesticide and CCA credits will be available for those in attendance. To register for this event, please visit the website: www.go.osu.edu/neoas23 Online registration is preferred, but checks can be mailed to 39 Wall Street Jefferson, OH 44047 with name and phone numbers of attendees. For more information about the event please call 440-576-9008. The registration deadline for this event is March 23.

A wide variety of topics will be discussed throughout the day including Soybeans Disease Update, Weather/Climate Update, Farm & Roadway Safety, Precision Ag, and Energy Outlook. Speakers for this year's event include Dr. Dee Jepsen, Dr. Horacio Lopez-Nicora, Brent Sohngen, Dr. Aaron Wilson, and Alan Leininger.

This workshop is brought to you by the OSU Extension offices in Ashtabula, Trumbull & Geauga Counties with support from W.I. Miller & Sons, Centerra Co-op, Schwartz Farms, and Ohio Corn & Wheat! Thank you to all our sponsors for making this event possible!

Upcoming Extension Events

Pesticide and Fertilizer Applicator Trainings

March 1 – 1PM to 5PM – Portage Soil and Water

March 21 – 1PM to 5PM – Ashtabula County Extension Office

March 30 – 5PM to 9PM – Online ZOOM

Ohio Fertilizer Applicator Certification

February 22 – 6PM to 9PM – Trumbull County Extension Office

March Into Pruning

March 4 – 9AM to 11AM – Hartford Orchards LLC, Trumbull County

Small Farm Conference

March 11 – 9AM to 3PM – OSU Mansfield Campus

2023 Northeast Ohio Agronomy School

March 28 – 9AM to 3PM – Colebrook Community Center, Ashtabula County

Cow-Calf School

April 14 – 3PM to 7PM – Novak Townline Farm, Trumbull County

Chainsaw Safety and Maintenance

April 22 – 9AM to 12PM – Trumbull County Extension Office



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AND ENVIRONMENTAL SCIENCES

Lee Beers

Trumbull County Extension

520 West Main Street

Cortland, OH 44410

310-296-6452

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

330-296-6452

arnold.1143@osu.edu

portage.osu.edu

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information: <http://go.osu.edu/cfaesdiversity>.

Natural Resource Professionals

Save The Date!

Wednesday March 15th

9:00 am - 3:30 pm

Ohio State University Mansfield Campus

Online registration:

go.osu.edu/maple2023

Registration: \$20



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Introduction to Maple Syrup Production

This workshop is for natural resource professionals that need to get a better grasp of what it takes to turn a woods into a functioning maple syrup operation.

Learn how to assess a woodlands potential, what equipment will be needed, what options are available to a landowner interested in maple sugaring, and what else is needed to establish an operation as an income opportunity.

NORTHEAST OHIO WINTER BEEF CLINIC

MARCH 23, 2023

Ashtabula County Fair Grounds - Expo Building
6:30 PM - 8:30 PM

SAVE THE DATE!



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COUNTY CATTLEMEN'S ASSOCIATION
EST. 1990

Pond Management Clinic

Thursday, March 30, 2023

6:00 - 8:00 pm

Centerville Mills Park Dining Hall

Bainbridge Township

8558 Crackel Road, Chagrin Falls, 44023

You won't want to miss this unique opportunity to gain information and ask questions about managing your pond. Our special guest, Eugene Braig, Aquatic Ecosystem Program Director with Ohio State University will present an enlightening overview of the, 'TOP 5 POND MANAGEMENT CONCERNS'.

TOP 5 POND MANAGEMENT CONCERNS!

Free and open to the public.

RESERVATIONS ARE REQUIRED

by March 27th to reserve your seat.

Register at <https://pondclinic2023.eventbrite.com>

or call Portage SWCD at 330-235-6811.



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Districts**

