

NORTHEAST OHIO AGRI-CULTURE NEWSLETTER

Your Weekly Agriculture Update for
Ashtabula, Portage and Trumbull Counties

March 21, 2023



Last in-person pesticide recertification session in NE Ohio for 2023

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- Will Brazil Emerge as the Number One Corn Exporting Nation?
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- How Drought Impacts Corn Yields
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- Northeast Ohio Agronomy School Returns March 28, 2023
- Upcoming Extension Events

Hello Northeast Ohio Counties!

We're winding down our pesticide recertification session for 2023, but if you still need recertification don't worry! We still have a Last Chance session on March 30th from 5-9PM by ZOOM.

Agronomy Day is back March 28th! That is in two weeks! Sign up today at www.go.osu.edu/neoas23 or call 440-576-9008. (More info in this week's issue)

Have a great week!

Lee Beers
Trumbull County
Extension Educator

Andrew Holden
Ashtabula County
Extension Educator

Will Brazil Emerge as the Number One Corn Exporting Nation?

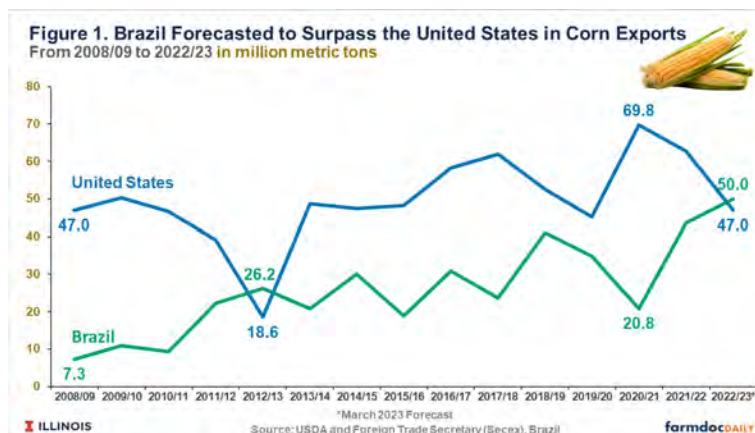
By Joana Colussi, Gary Schnitkey, and Nick Paulson

Source: <https://farmdocdaily.illinois.edu/2023/03/will-brazil-emerges-as-the-number-one-corn-exporting-nation.html>

The United States Department of Agriculture (USDA) forecast that Brazil will export more corn than the United States this year has shaken the global corn market. Brazil exported more corn than the U.S. only once before, in the drought year of 2012/13. If Brazil emerges as the largest exporting nation, its front-runner status might not be temporary. The continued expansion of corn as a second crop and the recent opening to the Chinese market could mean that Brazil will keep competing with the U.S. for the title of world's top corn exporter more often in the coming years. This article examines the main factors that could push Brazil into first place.

China: A New Key Buyer

In its March “*World Agricultural Supply and Demand Estimates* (WASDE)” report, the USDA raised its forecast for Brazilian corn exports to 50 million tons for the 2022-23 marketing year (October-September). That would put Brazil above the United States, the long-established world leader in corn exports. The United States is expected to ship 47 million tons to foreign buyers, two million tons less than the February forecast. Brazilian exports have risen sevenfold in 15 years, jumping from 7 million tons to 50 million tons (Figure 1).



Brazil and China signed an agreement on phytosanitary requirements for corn trade last year, and the first shipment of Brazilian corn to China occurred in November 2022. In the 2021-22 marketing year, the primary destinations of Brazilian corn were Iran, Spain, Japan, Egypt, and Colombia. In January 2023, China became the primary destination of Brazilian corn exports by volume, surpassing the traditional importers, according to trade data from the Brazilian government. The pace of corn exports to China at the beginning of the year exceeded expectations. In January and February 2023, the Brazilian government authorized 90 new companies to export corn to China, reaching

446 companies qualified to ship to the Chinese market. Brazil's exports are expected to fall seasonally beginning in March and continuing until the safrinha harvest later in the year.

By contrast, U.S. corn exports have been off to a slow start. Production in 2022/23 was smaller than initially forecast and Mississippi River conditions in the months after harvest kept U.S. prices relatively uncompetitive. Since mid-January, U.S. price competitiveness has improved but export sales have been slow to respond. According to data from the USDA, the export inspections for January and February combined are about half of the average shipped during the same period in the last two years. Consequently, the U.S. export forecast was reduced by another 2 million tons in March relative to the previous month.

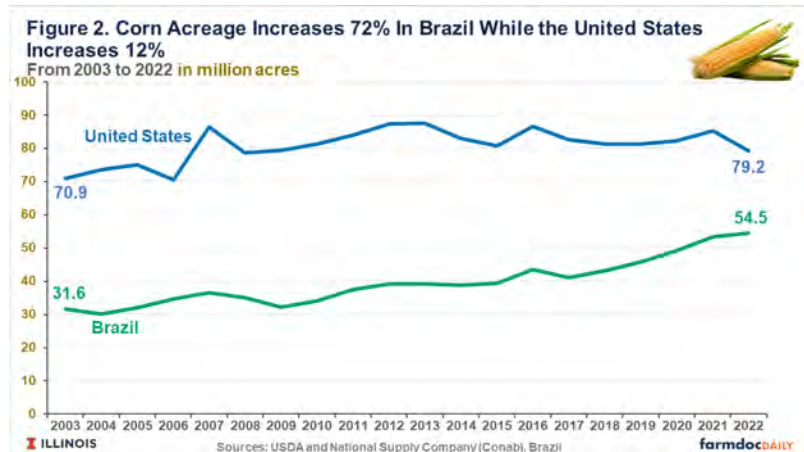
Ukraine, another large player in the global corn trade, has been able to export corn despite the war with Russia, but monthly volumes remain below pre-war levels. Overall, corn exports from Ukraine in the 2021/22 marketing year were down 20% from projections made before the war. For 2022/23, large declines in exports of about one-half to two-thirds were anticipated, but those initial concerns about lost or stranded Ukrainian agricultural commodities have not materialized (*see farmdoc daily*, [February 24, 2023](#)).

Meanwhile, Argentina is facing significant production cuts for the 2022/23 year because of another severe drought. As a result, according to the USDA forecast, Argentina's corn exports are forecast at 29 million tons for the 2022-23 marketing year, the lowest since 2017/18. This year's Argentinian production has been heavily impacted by drought. According to the Rosario Board of Trade, Argentina is projected to produce less than 1.4 billion bushels, a decrease of about 30% compared to the last year. But the forecasts could be revised further downwards in the coming weeks. Argentina has been facing the effects of La Nina for three years in a row.

Continued Expansion of Second Crop (Safrinha)

Even though U.S. corn production and exports are at historically average levels, the United States will likely compete with Brazil to be the world's top corn exporter in the coming years. Brazil is expected to exceed the United States in planted area dedicated to corn in the coming years. In the last 20 years, corn acreage in Brazil has risen 72%,

from 31.6 million acres in 2003 to 54.5 million acres in 2022, according to data from the National Supply Company (Conab), Brazil's food supply and statistics agency. In the same period, the planted area in the United States rose 12%, from 70.9 million acres to 79.2 million acres, according to the USDA (Figure 2).



Brazil's corn production has increased over the past two decades because of the increased production of second crop corn, also known as the safrinha, or "little harvest" in Portuguese. Safrinha corn is planted as a second crop, immediately after the soybean harvest, and typically is harvested between June and August. Currently, the safrinha crop accounts for about 77% of total corn production in Brazil. The growth in the safrinha crop is an opportunity for Brazil to double its corn production in the coming years. In addition, Brazil recently started to have a third crop corn season in the Northeast. Although still very small, it continues to increase (see *farmdoc daily*, [April 12, 2021](#)).

Projections indicate total corn production in Brazil for the 2022/23 crop year will be a record 4.9 billion bushels (equivalent to 125 million tons), an increase of 10 percent over last year. The total includes the first, second, and third crops. The United States produced 13.7 billion bushels (equivalent to 348 million tons) of corn in one crop in 2022, almost three times that of Brazil, according to data from the USDA.

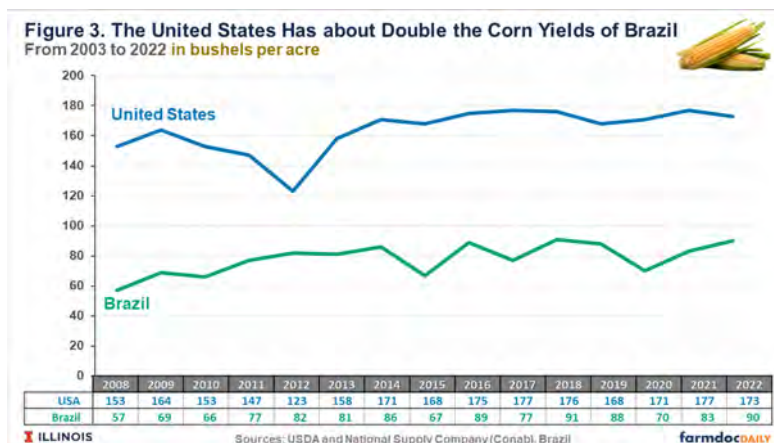
While the first crop of corn faces a severe drought in southern Brazil, the second corn crop (safrinha) is being planted in the Center West, immediately after the soybean harvest. Currently, the second crop corn faces late planting because of a delay in the soybean harvest as a result of rainy weather. By the second week of March, 73% of the second corn crop was planted in Brazil. During the same period last year, 87% of the crop had been planted, according to Conab. The ideal window for planting the safrinha crop has now closed for at least 30% of the area to be planted. This does increase the chances that the crop will face weather conditions that could reduce yields, such as dryness and frost.

Brazilian total corn acreage is expected to grow 4% – to 55 million acres, in the 2022/23 crop season. High prices and profits last season, coupled with the depreciation of the Brazilian currency relative to the dollar, have motivated farmers to increase their planted acreage. In addition, Brazil is expanding its ethanol production. Currently, 18 corn ethanol plants are operating and another five are under construction, most of them in

the center western states, where the second corn crop is concentrated. Currently, about 50% of Brazilian corn production (65 million tons) is consumed by animal feed and 10% by ethanol plants (13 million tons) in the domestic market. The remaining, close to 50 million tons, would be the potential to export.

Yields Challenge Brazilian Production

If corn acreage growth has been an advantage Brazil has had over the United States, the same cannot be said about average yields. The average yield for the 2022/2023 corn season in Brazil is expected to be 90 bushels per acre, almost half the average in the United States, where the average yield was 173 bushels per acre in 2022 crop season. The average yield of Brazilian corn has grown 58% in the last 15 years, but continues to lag far behind the corn yield in the United States (Figure 3).



Although the second corn crop (safrinha) has become Brazil's primary corn crop and an increasing share of world corn production, its yields are more variable than Brazil's first crops (see *farmdoc daily*, [January 12, 2022](#)). Yields for the last five harvested crops (2017/18 – 2021/22), for example, averaged 92 bushels per acre in the first crop and 80 bushels per acre in the second crop, according to data from Conab.

A key factor in safrinha variability is the timing of the onset of the dry season. If the onset is early or if safrinha is planted late, the probability of dry weather reducing yields is higher. Weather almost always makes the second corn crop riskier. On the other hand, safrinha has a number of benefits, including agronomic management (double cropping rotation), production costs (use of the same machinery as the first crop), additional income, and farmer marketing strategies (revenue throughout the year).

Summary

If USDA estimates are confirmed, Brazil will surpass the United States as the world's largest corn exporter in the 2022-23 marketing year. After Brazil and China signed a deal on phytosanitary requirements for corn trade, China became the first destination of Brazilian corn exports by volume in January 2023. The trend is that the growth rates of the area planted with corn in Brazil will continue to exceed that of the United States in

coming years, pushed by the second crop, also known as the safrinha. However, despite the average yield of Brazilian corn having grown in the last years, it is still far from average corn yield in the United States. Even so, possible Brazilian leadership in corn exports may not be temporary.

You Get What You Pay For, Until You Don't

By Garth Ruff, Beef Cattle Field Specialist, OSU Extension

Source: <https://u.osu.edu/beef/2023/03/15/you-get-what-you-pay-for-until-you-dont/>

Are you getting what you pay for?

There are many things I could write about for the Expo issue of the Ohio Cattleman, buying bulls (more on that later), mud (it's been everywhere), cost of raising replacement heifers (not cheap if done right). Instead let's talk about a topic that's been on my mind and the minds of others recently given the economy and other issues: Value.



Meriam Webster defines Value in several different ways 1) the monetary worth of something: MARKET PRICE, 2) a fair return or equivalent in goods, services, or money for something exchanged, 3) relative worth, utility, or importance.

To determine Market Value, I subscribe that it's up to a buyer and the seller/provider to determine value themselves for a good or service and it's up to the buyer to know where their cost threshold is. I would also propose in many instances that you get what you pay for, until you don't. Let me provide some examples.

A colleague of mine just sent me a screen shot of a fellow cattlemen advertising and selling beef on social media. If you're on social media, these kinds of posts have been routine over the past couple of years. What was striking about this post in particular, was the price of the beef and what was being sold for that price. In this instance the producers was selling 1/8th of a beef for \$525.

Now take a minute and do that math, $\$525 \times 8 = \$4,200$! Accounting for what was in that package roughly 45 pounds of beef at \$11.66 a pound, keeping in mind half of that was ground beef. If this producer can sell beef at that price, good on them. In my

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position I'm getting ever more curious as to what the direct to consumer, local beef market can withstand.

I'm never going to tell someone what they should sell their beef for as I get asked that question frequently. I can help them figure out a few ways to price product. What price per pound provides value or a fair return to the consumer?

For the consumer the eating experience of that beef had better be exceptional and even then, does the cost justify the value of the product? When fat cattle are selling for around \$1.50 a pound, multiplied by 1,400 pounds that's only \$2,100 a head, half of the previous example. We know consumers value locally produced product but at what rate? The last thing we want to do as producers is price ourselves out of the market. I would argue that the same conditions apply to buying bulls or bred heifers, in that the buyer often gets what they pay for, and there is a premium for having a relationship with the seedstock producer. As someone who attends several production sales annually I have also seen several cattle undervalued by potential buyers, especially when it comes to bulls.

One could make the argument that most of the quality bulls sold by reputable seedstock producers in Ohio are affordable in comparison to buying yearling bulls in the west or even in Kentucky. Many bulls sold in Ohio are 16-24 months old versus yearlings and on average sell for less money.

Reputable and quality are the key words. Where I've seen things go wrong as an Extension employee is when a farmer buys a bull just because he was cheap. There are probably reasons as to why he sold for what he did. Is the rate on return of that bull comparable to his contemporaries?

Not every producer in Ohio needs an "high dollar" bull due to cow numbers, but I'd recommend that everyone have a bull with quality genetics and EPD's. Genetic data can help determine value and make informed purchasing decisions. If you need help understanding that data, let me know. Hope to see several of you at the 2023 Ohio Beef Expo.

Could AI-powered object recognition technology help solve wheat disease?

By Lauren Quinn, University of Illinois

Source: <https://www.sciencedaily.com/releases/2023/03/230315143839.htm>

A new University of Illinois project is using advanced object recognition technology to keep toxin-contaminated wheat kernels out of the food supply and to help researchers

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make wheat more resistant to fusarium head blight, or scab disease, the crop's top nemesis.

"Fusarium head blight causes a lot of economic losses in wheat, and the associated toxin, deoxynivalenol (DON), can cause issues for human and animal health. The disease has been a big deterrent for people growing wheat in the Eastern U.S. because they could grow a perfectly nice crop, and then take it to the elevator only to have it get docked or rejected. That's been painful for people. So it's a big priority to try to increase resistance and reduce DON risk as much as possible," says Jessica Rutkoski, assistant professor in the Department of Crop Sciences, part of the College of Agricultural, Consumer and Environmental Sciences (ACES) at Illinois. Rutkoski is a co-author on the new paper in the *Plant Phenome Journal*.

Increasing resistance to any crop disease traditionally means growing a lot of genotypes of the crop, infecting them with the disease, and looking for symptoms. The process, known in plant breeding as phenotyping, is successful when it identifies resistant genotypes that don't develop symptoms, or less severe symptoms. When that happens, researchers try to identify the genes related to disease resistance and then put those genes in high-performing hybrids of the crop.

It's a long, repetitive process, but Rutkoski hoped one step -- phenotyping for disease symptoms -- could be accelerated. She looked for help from AI experts Junzhe Wu, doctoral student in the Department of Agricultural and Biological Engineering (ABE), and Girish Chowdhary, associate professor in ABE and the Department of Computer Science (CS). ABE is part of ACES and the Grainger College of Engineering, which also houses CS.

"We wanted to test whether we could quantify kernel damage using simple cell phone images of grains. Normally, we look at a petri dish of kernels and then give it a subjective rating. It's very mind-numbing work. You have to have people specifically trained and it's slow, difficult, and subjective. A system that could automatically score kernels for damage seemed doable because the symptoms are pretty clear," Rutkoski says.

Wu and Chowdhary agreed it was possible. They started with algorithms similar to those used by tech giants for object detection and classification. But discerning minute differences in diseased and healthy wheat kernels from cell phone images required Wu and Chowdhary to advance the technology further.

"One of the unique things about this advance is that we trained our network to detect minutely damaged kernels with good enough accuracy using just a few images. We made this possible through meticulous pre-processing of data, transfer learning, and bootstrapping of labeling activities," Chowdhary says. "This is another nice win for machine learning and AI for agriculture and society."

He adds, "This project builds on the AIFARMS National AI Institute and the Center for Digital Agriculture here at Illinois to leverage the strength of AI for agriculture."

Successfully detecting fusarium damage -- small, shriveled, gray, or chalky kernels -- meant the technology could also foretell the grain's toxin load; the more external signs of damage, the greater the DON content.

When the team tested the machine learning technology alone, it was able to predict DON levels better than in-field ratings of disease symptoms, which breeders often rely on instead of kernel phenotyping to save time and resources. But when compared to humans rating disease damage on kernels in the lab, the technology was only 60% as accurate.

The researchers are still encouraged, though, as their initial tests didn't use a large number of samples to train the model. They're currently adding samples and expect to achieve greater accuracy with additional tweaking.

"While further training is needed to improve the capabilities of our model, initial testing shows promising results and demonstrates the possibility of providing an automated and objective phenotyping method for fusarium damaged kernels that could be widely deployed to support resistance breeding efforts," Wu says.

Rutkoski says the ultimate goal is to create an online portal where breeders like her could upload cell phone photos of wheat kernels for automatic scoring of fusarium damage.

"A tool like this could save weeks of time in a lab, and that time is critical when you're trying to analyze the data and prepare the next trial. And ultimately, the more efficiency we can bring to the process, the faster we can improve resistance to the point where scab can be eliminated as a problem," she says.

How drought impacts corn yields

by Eric Hamilton, American Society of Agronomy

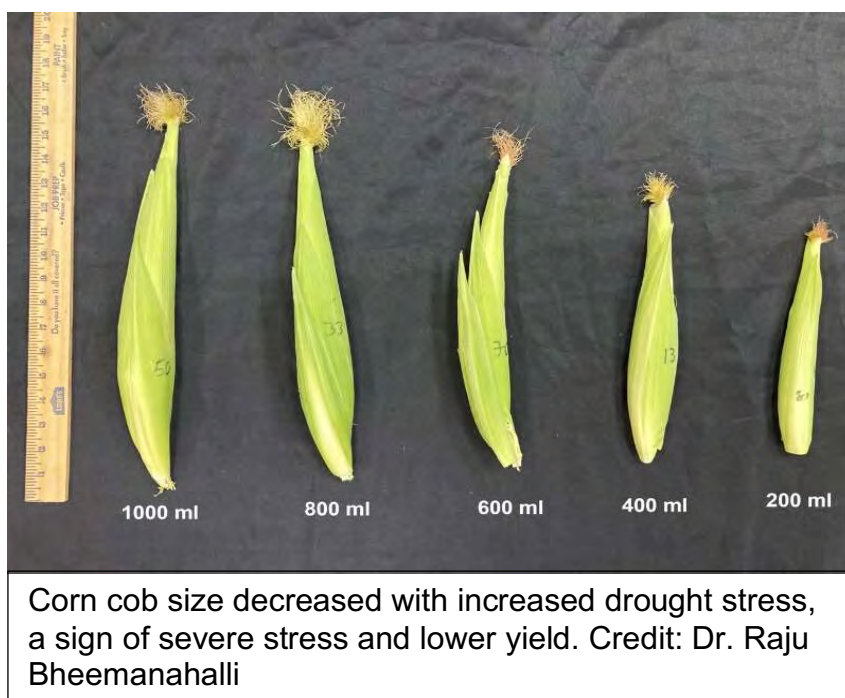
Source: <https://phys.org/news/2023-03-drought-impacts-corn-yields.html>

Corn is a classic American crop. First cultivated in North America thousands of years ago, it now blankets American farmland from coast to coast. The U.S. grows more corn than any other country. And the grain is used for everything from tortilla chips to cow feed, to biofuel.

But like most crops, corn is facing a new risk—climate change. Climate change isn't just making the world warmer. It's also changing when and how much rain falls. This leaves more corn farmers at risk of facing drought during part of the growing season.

Unfortunately, not all droughts are created equal. If it strikes at the wrong time, an entire field can be lost.

"A severe drought during the corn reproductive stage can cause a complete crop failure. Thus, understanding corn responses to drought and managing accordingly is critical for successful corn production," says Ranadheer Vennam, graduate student in the Plant and Soil Sciences department at Mississippi State University.



Vennam studies how corn responds to drought. In his latest research, Vennam and his lab group looked at how sensitive corn flowering is to drought and the impacts it has for farmers.

Vennam presented his work at the 2022 ASA-CSSA-SSSA annual meeting, held in Baltimore, Maryland.

Corn flowering is rather complex. Each individual ovule sends out a very long silk, which must capture pollen from the tassels above the plant in order to produce a kernel. This requires careful coordination. "Successful reproduction in corn is all about timing," says Dr. Raju Bheemanahalli (Vennam's supervisor). "It takes less than two weeks for corn to pollinate, which is extremely sensitive to stressors, including drought."

To track how drought affects the plants, the researchers measured how much the silks grew every day. They also measured the final yield and key quality traits of the kernels, like the amount of starch and protein they had. Vennam's study also tracked key aspects of plant growth, like the leaf chlorophyll content.

When exposed to severe drought, the ears of corn produced much less silk biomass than healthy ears did. The number of silks was also about one-third lower. Without enough healthy silks, corn ears can't grow many kernels. Vennam saw that yield decreased by 90% in the severe drought treatment. This drop in yield came from a severe reduction in both the number of kernels and how much each kernel weighed.

As a comparison, the researchers also tested a month-long drought stress after flowering was over. Even though this drought lasted more than twice as long at this stage, yield wasn't affected that much. "This illustrates the sensitivity of a reproductive stage to drought stress and its timing of it and how stress affects corn production," says Bheemanahalli.

With the information gained from this study, the researchers are now trying to make corn more resilient to drought stress. The next step is finding genetics of corn that are naturally able to handle drought better during flowering. If they can succeed in finding these hardier plants, breeders can work to cross these traits into the varieties of corn that farmers want to grow. The result could be better varieties/ hybrids that can adapt to our changing climate.

Ohio Agritourism Conference is April 1

By Peggy Kirk Hall, Associate Professor, Agricultural & Resource Law

Source: <https://farmoffice.osu.edu/blog/fri-03172023-357pm/ohio-agritourism-conference-april-1>

OSU Extension's **Ohio Agritourism Conference** on April 1 is not an April Fool's Day joke, but it does promise to be fun learning! If you're thinking about adding or expanding agritourism activities on your farm operation, consider joining us as we learn more about what makes a successful agritourism operation. We'll visit two popular agritourism operations in southwest Ohio-- Blooms & Berries Farm Market and The Marmalade Lily -- with touring and talks planned at both locations.

Here's the full agenda for the day:

9 a.m. – Registration at Blooms & Berries.

- *Blooms & Berries, an Inside Look.* Jeff and Emily Probst - Owners. Meet the team and take a closer look at how we serve about 100,000 guests a year by staying authentically true to our brand and our team!

Morning breakout sessions, featuring Blooms and Berries Farm Market personnel:

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- *Love Your Staff.* Erica Clayton - Retail and Events Personnel Manager. Learn how Blooms & Berries uses culture to create buy-in and develop an amazing guest experience while easing the burnout.
- *Ag and Operations Show and Tell.* Ben Autry - Ag Production Manager and Derek Rice - Operations Manager. This Q&A session explores the equipment barn, workshop and organizational systems, and specialized equipment.
- *The Market Barn - Shopping is an Attraction Too!* Emily Probst - Owner. Emily shares top sellers and guest favorites!
- *The Pie Dough \$.* Marie Graves - head baker and Cathy Probst - Owner. Hear how the team makes and sells 5,000 pies from scratch each year, plus cookies and much more.

Noon – Lunch at The Marmalade Lily Event Venue and Floral Farm, with an operation overview from owner Laura Fisher.

- Afternoon general session
- *Pouring a New Revenue Stream for Your Operation: Adding Alcohol to Agritourism* – Peggy Hall, OSU Agricultural & Resource Law Program and Jeff Probst, Blooms & Berries Farm Market
- *Pre-sale Ticketing Trends* – Shadi Hayek, Ticket Spice
- *Minding Your P's and Q's* – Trademark/Copyright Concerns in Marketing Your Business – Hannah Scott, CFAES Center for Cooperatives
- *Employee Hiring, Training, and Empowerment: People Make Your Business* – Rob Leeds, OSU Extension Delaware County
- *Ask Us Anything* – Ask that burning question of our experts and your peers

Registration for the conference is \$50 and is now open at: <https://go.osu.edu/agritourism>.

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

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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 30 – 5PM to 9PM – Online ZOOM

2023 Northeast Ohio Agronomy School

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

Dinner Theater for Mental Health

April 11 – 6:00 PM – Pymatuning Valley Highschool Cafeteria

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

 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

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CFAES

**Thursday
March**

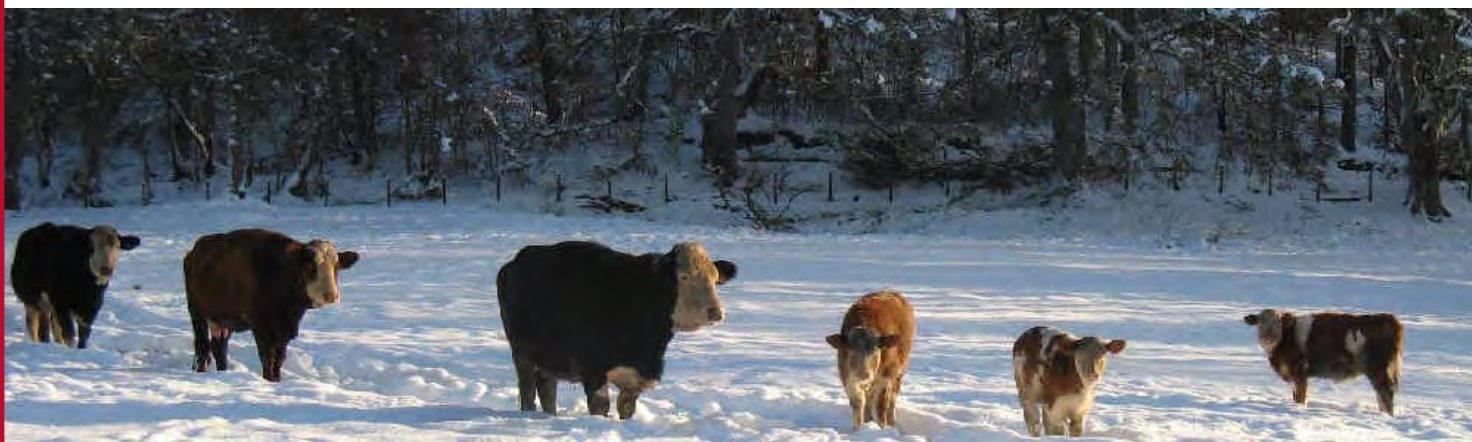
23

6:30 PM – 8:30 PM

Ashtabula County Fair
Grounds - Expo Building

NORTHEAST OHIO WINTER BEEF CLINIC

Join us for an informative night of beef education. The Ashtabula County Cattlemen's Association and Ashtabula County OSU Extension Office are partnering once again to offer another great Winter Beef Clinic.



The first hour will feature Tim Timmons , ABS Beef InFocus Manager, with his presentation, “A better Calf through genetics”. Tim will discuss Beef on Dairy and the services offered by ABS. Born and raised in Geauga County, Tim then went on to attend Ohio State University and has been with ABS for over 25 years.

The second hour will feature Andrew Holden and Julie Wayman, both Educators at the Ashtabula Co. Extension Office. Andrew and Julie will be speaking on knowing your input costs, marketing beef, and the Ashtabula County Local Food Guide. If you would like to receive an electronic copy of the budget tool Andrew will be covering, make sure to sign up with the link provided below.

This event is free to attend, but we ask that you please register by March 20th



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**Register today by visiting
www.go.osu.edu/WBC23
or by calling OSU Extension at
440-576-9008**



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.



NORTHEAST OHIO AGRONOMY SCHOOL

The Northeast Ohio Agronomy School is back for 2023! A wide variety of topics will be discussed throughout the day Soybeans Disease Update, Weather/Climate Update, Farm & Roadway Safety, Precision Ag, and Energy Outlook.
Please see the back for speakers and the agenda.

The Agronomy School will be held at the Colebrook Community Center in Colebrook, OH. The community center is in the old Colebrook School at the intersection of OH-322 and OH-46. 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 for purchase. Pesticide and CCA credits will be available. For more information, please call 440-576-9008. Registration deadline is March 23.

March 28th, 2023 • 9:00 a.m.– 2:30 p.m.

\$15/person includes lunch!

***Colebrook Community Center
682 US-322, Orwell, OH 44076***

To register: www.go.osu.edu/neoas23

*Online registration preferred, checks can be mailed to 39 Wall Street Jefferson, OH 44047 with name and phone numbers of attendees *

Check out the back page for the agenda and this year's sponsors!

2023 NORTHEAST OHIO AGRONOMY SCHOOL AGENDA

- 9:00 A.M. Farm & Roadway Safety
• Dr. Dee Jepsen
- 9:55 A.M. Soybeans Disease Update
• Dr. Horacio Lopez-Nicora
- 10:50 A.M. Break – Visit with Sponsors
- 11:00 A.M. Energy Outlook
• Brent Sohngen
- 11:55 P.M. Lunch – Sponsored by W.I. Miller and Sons
- 12:50 P.M. Weather & Climate Update
• Dr. Aaron Wilson
- 1:40 P.M. Precision Ag & Drones
• Alan Leininger
- 2:30 P.M. Adjourn

EVENT SPONSORS

**W. I. Miller
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LAKE AND TRUMBULL
COUNTIES



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To register:
www.go.osu.edu/neoas23

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Join us at the (Dinner) Theater!

**Tuesday, April 11th
Pymatuning Valley
Highschool Cafeteria**

**Doors Open 6:00 PM
Curtain Time 6:30 PM
Run Time 90 Min**



Talking about mental health can be difficult, but it is an important topic for the agriculture community. Join us for a delicious free meal and enjoy a theatrical performance that addresses common issues that add stress to our lives.

Join Ashtabula County Ohio State Extension and the Ashtabula County Farm Bureau for dinner and a show, all at no cost to you!

No babysitter? No problem! Childcare will be provided by 4-H teen leaders.

This event will be limited to just 50 attendees so sign up today!

Reserve your spot today by visiting www.go.osu.edu/Theater
or by calling OSU Extension at 440-576-9008



THE OHIO STATE UNIVERSITY
EXTENSION



ASHTABULA COUNTY