

NORTHEAST OHIO AGRICULTURE NEWSLETTER

Your Weekly Agriculture Update for
Ashtabula and Trumbull Counties

January 17, 2024



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Hello Northeast Ohio Counties!

Staying warm? I'd say winter has finally arrived in Northeast Ohio! Farm work never takes a break for cold weather, even if schools are canceled. Our Ag Safety Team has some great tips to stay safe in the cold weather at the link below.

Our first Pesticide Applicator Training session will be Thursday night in Trumbull County. We still have space available if you need to recertify your private pesticide license.

<https://agsafety.osu.edu/newsletter/ag-safety-stat/december-2016/injury-prevention/working-cold-weather>

Have a great week!

Lee Beers
Trumbull County
Extension Educator

An Update from Lee

As many of you saw in last week's newsletter, Andrew Holden has moved on to an exciting new opportunity. Andrew will be serving as an Extension Educator with Penn State and Cornell University Extension systems. We will miss him as a part of our OSU Extension Team and wish him the best in his new position.

Scheduled programs will continue as planned such as Pesticide Applicator Training, NE Ohio Agronomy School, etc. Except for the NE Ohio Small Farm Financial College, we will be adjusting the dates to accommodate speaker availability. **The new dates for the Small Farm Financial College will be March 9 and March 16.** We apologize for adjusting the dates, but it is necessary to ensure the best program possible. I will be reaching out to those who are registered this week with the updated dates and more information.

Many of you have asked about when a new Extension Educator will be in Ashtabula County. The process has been started to fill the vacancy, and we will advertise the job posting when it is available. If you have any questions about working for OSU Extension, I would be happy to talk with any interested applicants.

Until the position is filled, I am happy to answer any questions in the meantime. My email address is beers.66@osu.edu and the OSU Extension Trumbull County Office phone number is 330-638-6783.

First Quarter 2024 Fertilizer Prices Across Ohio

By Amanda Bennett, Eric Richer, Clint Schroeder

Source: <https://u.osu.edu/ohioagmanager/2024/01/17/first-quarter-2024-fertilizer-prices-across-ohio/>

[Click here for PDF Version of this Article](#)

In December 2023, OSU Extension launched a quarterly survey of fertilizer retailers in the state of Ohio to better understand local fertilizer prices. The survey was completed by 23 retailers across the state of Ohio from 18 different counties. Respondents were asked to quote spot prices as of the first day of the quarter (January 1st) with payment made by January 15th. Sale types included pickup (ie. freight on board or FOB) at the plant (any quantity), direct-to-farm delivery (truckloads), or delivered and applied (poultry litter only). No blending or application charges were to be included in the spot price.

In general survey participants reported the average price of all fertilizers was lower in Ohio compared to the national prices (Quinn, 2024). In our survey, the fertilizer with the most movement in price was anhydrous ammonia with an average price ranging from

\$700-\$900 per ton with an average of \$786 per ton. This is slightly lower than some news outlets were reporting in December 2023 at \$792 per ton.

Other fertilizers also saw a downward trend including MAP (\$797 per ton); potash (\$490 per ton); urea (\$502 per ton); and UAN-28% (\$327 per ton).

The chart below (Table 1.) is the summary of the survey responses. The responses (n) are the number of survey responses for each product. The minimum and maximum values reflect the minimum and maximum values reported. The last column is the simple average of all survey responses for each product. We recognize that many factors influence a company's spot price for fertilizer including but not limited to availability, geography, volume, cost of freight, competition, regulation, etc.

Table 1. First Quarter 2024 Ohio Fertilizer Prices

Product	Responses (n)	Sale Type	Min \$/ton	Max \$/ton	Average \$/ton
Anhydrous ammonia 82-0-0	8	FOB Plant	\$700	\$900	\$786
UAN 28-0-0	20	Direct to Farm	\$280	\$510	\$327
Urea 46-0-0	17	FOB Plant	\$458	\$530	\$502
MAP 11-52-0	16	FOB Plant	\$710	\$1136	\$797
DAP 18-46-0	13	FOB Plant	\$699	\$785	\$735
APP 10-34-0	15	Direct to Farm	\$495	\$605	\$569
Potash 0-0-60	20	FOB Plant	\$445	\$510	\$490
Ammonium Sulfate 21-0-0-24	14	FOB Plant	\$395	\$606	\$449
Ammonium Thio-Sulfate 12-0-0-26	14	FOB Plant	\$325	\$448	\$385

Another part of the survey focused on organic nutrients. Retailers were asked to report on organic nutrients they sold including poultry litter, sodium nitrate/Chilean nitrate, pelletized feather meal and sulfate of potash. Just four sites reported having organic nutrients for sale. Those data were not analyzed due to low response rate. If you are a retailer, farmer or crop consultant interested in participating in this study, please contact Eric Richer at richer.5@osu.edu.

Weather Update: Winter Weather Finally Arrives, But Will It Stick Around?

By Aaron Wilson

Source:

<https://agcrops.osu.edu/newsletter/corn-newsletter/2024-02/weather-update-winter-weather-finally-arrives-will-it-stick>

For Ohio, December 2023 ranks as the 2nd warmest December on record since 1895 and caps off the 4th warmest year on record over that same period. Dry weather was also the main story in December, ranking as the 45th driest December on record and continued a pattern we experienced over much of the fall. However, even with a weather pattern that typically brings a drier and warmer than average conditions in winter, cold outbreaks are bound to happen. This has certainly been the case over the past week, with temperatures plummeting into the single digits for lows and sub-zero wind chill values. Before the cold snap, widespread 1-3" of liquid-equivalent precipitation (rain and snow) fell across the state as well (Figure 1), helping to alleviate some of the dryness and lift rivers and streams back to normal seasonal levels. As of Thursday January 11, 2024, 47% of the state was described as at least abnormally dry with about 27% of the state in moderate drought conditions according to the [U.S. Drought Monitor](#). With last week's precipitation, improvements are likely when the new report is released later this week. For more information, check out the [State Climate Office](#) and sign up for our [monthly and quarterly climate summaries](#).

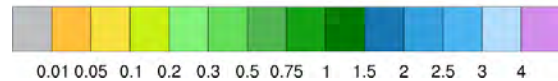
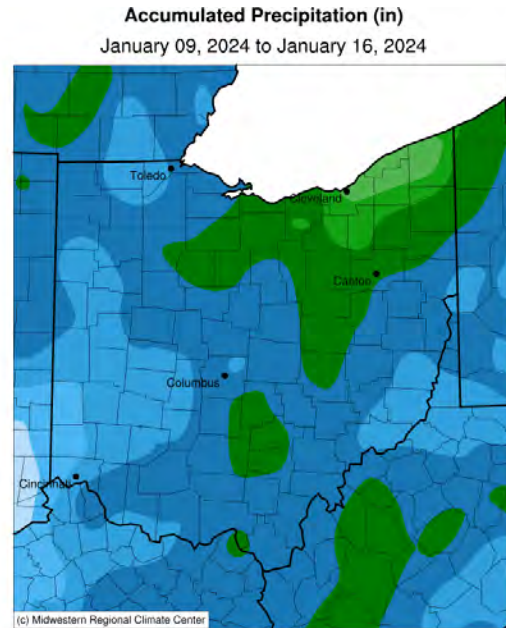


Figure 1: Total precipitation for January 9 – 16, 2024 Figure courtesy of the Midwestern Regional Climate Center.

Forecast

Frigid air remains in place early this week, but southwesterly flow on Tuesday and Wednesday will allow for a brief warm up with highs pushing back into the 20s for much of the state. Our next winter system is set to move in beginning Thursday afternoon through Friday, bringing periods of light, accumulating snow. Another shot of Arctic air will move in for the weekend, with highs falling back into the single digits and teens with overnight lows near zero. A more significant warming trend

will begin early next week. The current forecast calls for between 0.10” and 0.25” of liquid-equivalent precipitation over the next seven days, with much of this falling as snow (Figure 2).

The Climate Prediction Center’s 8-14 Day Outlook and the 16-Day Rainfall Outlook from NOAA/NWS/Ohio River Forecast Center indicate a strong probability that temperatures will be above average with above average precipitation also expected for the period January 24 – 30, 2024 (Figure 3). The average high-temperature range is 33-38°F, the average low-temperature range is 18-23°F, and the average weekly total precipitation is 0.60-0.80 inch.

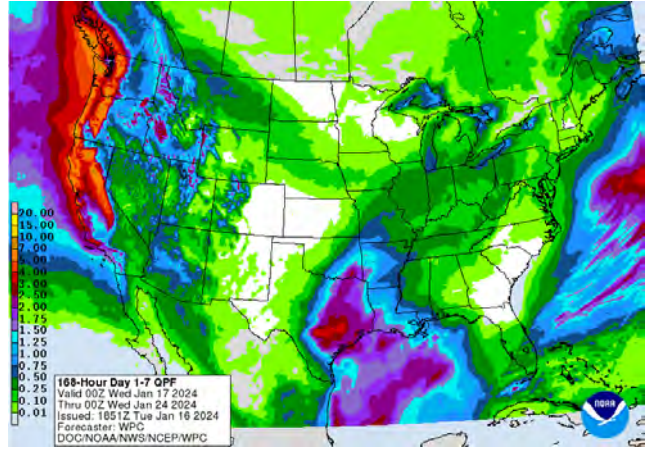


Figure 2). Precipitation forecast from the Weather Prediction Center for 7pm Tuesday January 16 – 7pm Tuesday January 23, 2024.

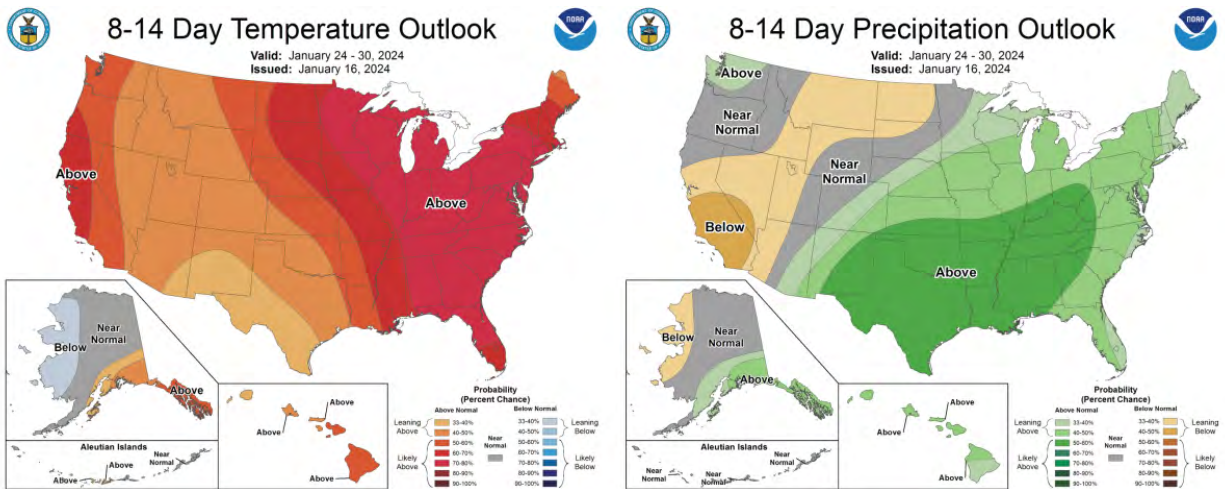


Figure 3) Climate Prediction Center 8-14 Day Outlook valid for January 24 – 30, 2024 for left) temperatures and right) precipitation. Colors represent the probability of below, normal, or above normal conditions.

The Corporate Transparency Act Will Affect Many Farms

By: Robert Moore, Thursday, January 11th, 2024

Source: <https://farmoffice.osu.edu/blog>

On January 1, 2024, The Corporate Transparency Act (CTA) took effect with the primary purpose of combatting money laundering, illicit financial transactions, and financial terrorism. The CTA established the Financial Crimes Enforcement Network (FinCEN) in the U.S.

Department of Treasury to oversee a national registry of information on owners of entities that are exempt from conventional disclosure regulations.

The CTA requires many businesses formed or operating in the United States to report information about their “beneficial owners” to FinCEN. This new law will affect many farms and small businesses.



Any entity that is required to be registered with the Ohio Secretary of State will be considered a Reporting Company and subject to the CTA. Generally, this means LLCs, corporations and limited partnerships, common entities for farms, are all subject to the CTA. There are some types of businesses that are exempt from the CTA, such as banks and accounting firms, but farms are not exempt.

Every Reporting Company must provide FinCEN with information for each and every beneficial owner of the business. A beneficial owner is any owner that exercises substantial control or owns at least 25 percent of the business. The information required for each beneficial owner is as follows:

- Full legal name.
- Date of birth.
- Complete current address.
- Unique identifying number and issuing jurisdiction from one of the following, along with its image:
 - U.S. passport.
 - State driver’s license.
 - Identification document issues by a state, local government or tribe.

Each Reporting Company must submit an initial filing but also must update the filing if there is any change to the required information about the business or beneficial owners. For example, if a beneficial owner has a change of address or

obtains a new driver's license, the Reporting Company must update the report with FinCEN. Both the initial report and updates are filed through the FinCEN website portal at www.fincen.gov/boi.

So, what does this all mean for farm businesses? The CTA and beneficial owner reporting requirements may seem like an intrusion of privacy. It is, in fact, an intrusion of privacy, but Congress has determined that the intrusion is necessary to protect against money laundering, illicit financial transactions, and financial terrorism. Right or wrong, the CTA is now law and farm businesses must follow it to avoid penalties.

The process of reporting should not be overly difficult using the FinCEN online portal. But the reporting will take time, especially for entities with many owners. While the entity should already have each owner's name, address, and ownership percentage, collecting an image of each owner's identification document could be time consuming. All businesses required to report under the CTA should develop a plan to file the initial report, monitor reportable changes, and file updated reports. Attorneys, accountants, lenders, and other professionals working with farms should also help remind their clients of the need for the initial reporting and future, updated reports. The CTA reporting is a significant change in business entity management and it may take the entire business team to ensure compliance.

How much vomitoxin is too much for feedlot cattle?

By Jerad Jaborek, Michigan State University Extension

Source: <https://www.canr.msu.edu/news/how-much-vomitoxin-is-too-much-for-feedlot-cattle>

As ruminants, cattle have a rumen with a diverse microbiome that can breakdown various compounds into less toxic compounds, as demonstrated with vomitoxin (deoxynivalenol). The weather Michigan experienced in 2023 was quite different from the norm and created an ideal environment for fungi that can produce mycotoxins. In the Thumb region, a lack of rain and drought was experienced during the early summer followed by plenty of



Fusarium graminearum is one of the most common species responsible for producing vomitoxin and responsible for gibberella ear and stalk rot of corn.

rain during late summer months. Weather summary data collected from weather stations in Richville/Frankenmuth and Lapeer areas, reported an average temperature of 66 degrees Fahrenheit, average humidity of 75 to 78%, monthly rainfall of 4.5 to 5.9 inches, and 11 to 13 days of rain in the month of August. The weather conditions experienced were prime for fungal and mold growth during the silking stage of corn development.

Fusarium species of mold prefer temperatures of 69 F or less with a relative humidity over 70%. *Fusarium graminearum* being one of the most common species responsible for producing vomitoxin and responsible for gibberella ear and stalk rot of corn. Vomitoxin, also known as deoxynivalenol (DON) is a type B trichothecene (i.e., mycotoxin) that can occur in grains such as corn, wheat, barley, oats and rye, as well as others.

The U.S. Food and Drug Administration (FDA) has set advisory levels for DON concentration allowable in grains allowed for human food consumption or animal feed consumption. The FDA has set advisory levels at 1 ppm DON for grains destined for human consumption, meaning grains with a greater DON concentration need an alternative use. The advisory levels set by the FDA for feeding DON contaminated grains(88% dry matter basis) to ruminating beef cattle greater than 4 months old are as follows:

- 10 ppm DON in grains and grain by-products
- 30 ppm DON for distiller grains, brewer grains, gluten feeds/meals
- Recommended that the TMR not exceed 10 ppm DON

Table 1. Effects of deoxynivalenol (vomitoxin) administration on production performance of growing feedlot cattle.

Reference study	Dose (ppm diet dry matter)	Dose (mg/day)	Duration (days)	Dry matter intake (lb/day)	Average daily gain (lb/day)	Feed:Gain (lb feed/lb gain)
DeHaan and others (1984)	0.0	0	142	18.7	2.5	7.1
	1.0	8.6	142	19.0	2.6	7.1
Nelson and others (1984)	0.2	1.9	126	20.7	3.4	6.2
	2.3	20.1	126	19.2	3.6	5.6
	10.0	78.2	126	17.2	3.0	5.7
Boland and others (1994)	0.9	7.9	84	19.2	2.3	8.4
	3.7	32.7	84	19.4	2.2	9.0
	6.4	54.9	84	18.8	2.3	8.2
	9.2	81.6	84	19.5	2.3	8.3
	1.1	12.1	100	24.2	3.3	7.4
	5.0	54.3	100	23.8	3.3	7.3
	8.8	97.6	100	24.3	3.2	7.7
DiCostanzo and others (1995)	0.0	0	135	24.1	2.7	9.0
	6.0	63.6	135	23.3	2.5	9.3
	12.0	127.1	135	23.3	2.5	9.0
	18.0	190.8	135	23.3	2.7	8.8
Windels and others (1995)	0.0	0	144	22.7	3.2	7.1
	7.0	73.3	144	23.0	3.3	7.0
	14.0	145.2	144	22.8	3.2	7.0
	21.0	221.9	144	23.3	3.3	7.1

Adapted from DiCostanzo et al. (1995). Prof Anim. Sci., 12:138-150.

Research studies conducted in the 1980s and early 1990s investigated the effects of feeding DON contaminated grains to feedlot cattle (Table 1). University of Nebraska researchers conducted two studies feeding DON contaminated wheat to feedlot cattle. In the first study conducted by DeHaan and others, 0 vs. 1 ppm DON in the diet was fed

for 142 days and resulted in no differences in average daily gain (ADG), DMI (dry matter feed intake), or feed to gain ratio (F:G) of steers and heifers. In the second study by Nelson and others, 0.2 (corn control diet), 2.3, and 10 ppm DON concentrations were tested in the experimental diets fed to steers and heifers for 126 days and resulted in no pathological or toxicological differences due to feeding scabby wheat.

Research from North Dakota State University by Boland and others investigated feeding barley contaminated with DON to feedlot cattle in a growing diet for 84 days and finishing diet for the remaining 100 days on feed. Four levels of DON concentration were fed: 1) 0.9 ppm, 2) 3.7 ppm, 3) 6.4 ppm, 4) 9.2 ppm during the growing period and increased to 1) 1.1 ppm, 2) 5.0 ppm, 3) 8.8 ppm, 4) 12.6 ppm during the finishing period. No differences were observed for ADG, DMI, F:G, and carcass characteristics. Anderson and others from North Dakota State University fed either 10 or 15 ppm DON barley diets to heifers during mid/late-gestation and during lactation, respectively, and observed no differences in heifer ADG, DMI and calf birth weight.

Greater concentrations of DON contaminated barley were fed to feedlot steers by researchers from the University of Minnesota. DiCostanzo and others fed 75% barley diets containing either 0, 6, 12 or 18 ppm DON in the diet for 135 days and observed no differences in ADG, DMI, F:G and carcass characteristics. Similarly, Windels and others fed 79% barley diets containing either 0, 7, 14 or 21 ppm DON in the diet for 144 days and observed no differences in ADG, DMI, F:G and carcass characteristics.

Overall, feeding DON contaminated grains in feedlot cattle diets up to 21 ppm did not result in any adverse health and performance effects. Additional data on the effects of DON concentration in diets feed to beef cattle are limited, including the maximum tolerance level of DON contamination cattle can process in their diet. Being ruminants, cattle have a rumen with a diverse microbiome that can breakdown various compounds into less toxic compounds, as demonstrated with DON. It appears that DON can be degraded before being absorbed to illicit its toxicological effects observed in other species, such as swine. The concentration of DON in grains that is willing to be accepted by grain elevators varies, so make sure to inquire. Feeding grain or grain silages contaminated with DON to cattle destined for slaughter is a good alternative compared to a complete loss of a grain crop. If you are looking for additional information, you can reach out to me to discuss this topic further. The [Michigan State University Extension Beef Team](#) webpage contains of list of beef expert contacts and is a great resource for additional beef related questions or inquires.

Statewide and Region Phosphorus Nutrient Use in Ohio

By Greg LaBarge

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2024-02/statewide-and-region-phosphorus-nutrient-use-ohio>

Soil available and added phosphorus (P) nutrient impacts Ohio's crop production and environment. Fertilizer P can increase crop yields. Yet, excessive P can have negative impacts on water quality, resulting in toxic algal blooms. To properly calibrate the use of P for maximum crop yield efficiency and environmental safety, it is important to monitor P use trends, understand the changes to P recommendations from 1995 to today, review changes in soil test phosphorus (STP), and identify the sources of P used. Two recent factsheets examine P nutrient use at two scales: statewide and regional. The regional results were summarized by Crop Reporting Districts (CRD), shown in Figure 1. The two publications and their links are *Phosphorus (P) Nutrient Use in Ohio ANR-0143*, found at <https://go.osu.edu/ohiop>, and *Ohio Phosphorus (P) Use by Crop Reporting District ANR-0144*, found at <https://go.osu.edu/ohiocrdp>.



Figure 1. Ohio Crop Reporting Districts designated by the National Agricultural Statistics Service (NASS). Graphic by Greg LaBarge.

These two reviews of P use reveal several trends impacting agronomic management and environmental outcomes:

- Ohio purchased P fertilizer use is trending downward (Figure 2). During the highest use period (1993–1997), 206,000 tons of P₂O₅ were applied annually. In the most recent period (2018–2022), annual applications averaged 137,000 tons. Agriculture reduced the average yearly P₂O₅ application by 33% between the two periods.

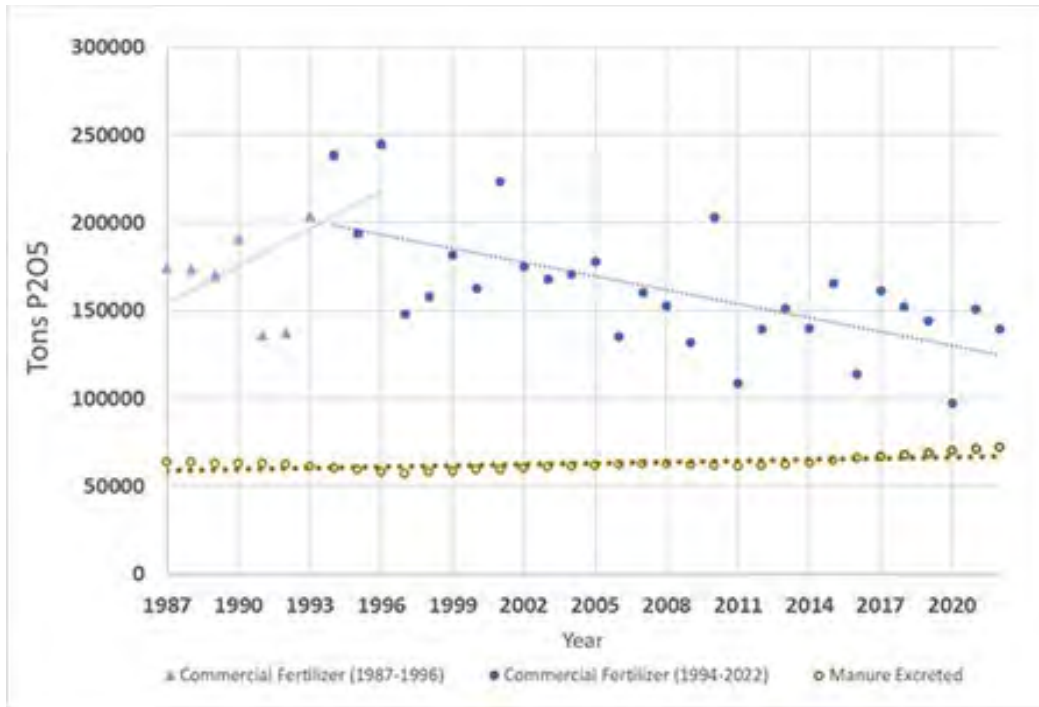


Figure 2. Ohio commercial fertilizer and manure P₂O₅ nutrient applied (1987–2022). Graphic by Greg LaBarge.

- All nine Ohio crop reporting districts (CRDs) show a declining trend in P₂O₅ usage from 1994 to 2022. The reduction rate ranges from 50 to 868 tons annually (Table 1).

Table 1. Annual change in trendline fertilizer usage by Crop Reporting District 1994-2022.

	Annual Change (tons P ₂ O ₅)	R ²
• CRD10	• -868	• 0.56
• CRD20	• -453	• 0.35
• CRD30	• -255	• 0.24
• CRD40	• -657	• 0.44
• CRD50	• -589	• 0.22
• CRD60	• -50	• 0.32
• CRD70	• -98	• 0.05
• CRD80	• -70	• 0.15
• CRD90	• -129	• 0.56

- Seven of nine Ohio CRDs show increased availability of P₂O₅ sourced from manure. CRD 30 and 80 show a decline. The 2017–2022 average annual increase in manure P₂O₅ is 28 to 355 tons for the seven districts with an increase.
- Sixty-five percent of Ohio counties had decreasing trends in mean soil test P (STP) levels between 1993 and 2015. Since 2003, Ohio's P₂O₅ removal through crop harvest has exceeded P applied as a nutrient, resulting in a net annual removal of 8 pounds of P₂O₅ per acre. Continued net removal would indicate that STP should continue trending downward, which has positive environmental impacts.
- The P₂O₅ mass balance of applied nutrients through fertilizer and manure applications minus nutrients removed through crop harvest ranges from -14 to 1 pound per acre in Ohio's nine CRDs (Table 2).

Table 2. Net annual P₂O₅ use for Ohio Crop Reporting Districts for 2003 to 2022.

	• Net (Pounds P ₂ O ₅ per acre)
• CRD10	• -11
• CRD20	• -5
• CRD30	• 1
• CRD40	• -3
• CRD50	• -14
• CRD60	• -1
• CRD70	• -14
• CRD80	• -11
• CRD90	• -11

- P fertilizer recommendations developed in 1995 were modified, resulting in the reduced application of P fertilizer while still meeting crop production needs. Tri-state fertilizer recommendations were validated and re-released without significant changes for P use in a 2020 publication, Ohio State University Extension Bulletin 974 *Tri-State Fertilizer Recommendations for Corn, Soybean, Wheat, and Alfalfa* (Culman, et al., 2020).

Environmental Implications of CRD Data

Northeast Ohio Agriculture

OHIO STATE UNIVERSITY EXTENSION
Ashtabula, Portage and Trumbull Counties

Ohio's nonpoint source goals for improving water quality are related to nutrient management and reducing erosion. Figure 3 shows the map of CRDs, along with Ohio's major watersheds. Several watersheds align with one or more CRDs. For example, CRDs 10 and 20 represent nutrient application activity in the Western Lake Erie Basin. The Great Miami River is impacted by CRD 40 and 70, and CRD 50 represents most of the acreage in the Scioto River basin. The data shown here can be used to anticipate water quality changes around P nutrient use.

The trend toward less applied P reduced the acute P loss around surface applications. One higher P loss scenario occurs when rainfall resulting in concentrated surface flows occurs near the time of application. Reduced application tonnage reduces loss risk from this pathway. The trend to remove more P through crop harvest than is applied in fertilizer and manure should result in continued declines in Soil Test P. Soil test P is one factor that can mitigate chronic P loss at the edge of a field. (LaBarge & Cochran, 2023).



Figure 3. Ohio Crop Reporting Districts designated by NASS and major watersheds

Reason for Reduced P Use

Several factors have impacted farmer decisions in nutrient use since 1987. One factor was a 1995 collaborative effort to regionalize P recommendations (LaBarge, 2023). A second factor is the higher per-unit cost for P fertilizer since 2018. A third factor is increased education on fertilizer use from the implementation of Fertilizer Applicator Certification in 2014. Farmers are required to use the Tri-State Fertilizer Recommendations for Corn, Soybean, Wheat, and Alfalfa, Bulletin 974 for their P recommendations when participating in Natural Resource Conservation Service cost-share programs, the 2017 4R Certified Ag Retailer voluntary third-party audit program, and the 2019 Ohio H2Ohio program. Increased farmer knowledge of P use, technical assistance programs, and economic returns are all factors driving reductions in P use.

References:

Culman, S., Fulford, A., Camberato, J., & Steinke, K. (2020). *Tri-state fertilizer recommendations for corn, soybean, wheat, and alfalfa*, bulletin 974. College of Food, Agricultural, and Environmental Sciences, The Ohio State University. extensionpubs.osu.edu/tri-state-fertilizer-recommendations-for-corn-soybean-wheat-and-alfalfa

LaBarge, G. & Cochran, R. (2023). *Understanding how soil test phosphorus impacts water quality* [Fact sheet]. OhioLine. <https://go.osu.edu/stpwq>
LaBarge, G. (2023). *Phosphorus nutrient use in Ohio* [Fact sheet]. OhioLine. <https://go.osu.edu/ohiop>

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

Northeast Ohio Small Farm Financial College

March 9 and March 16, 2024

Learn more or register at go.osu.edu/NEOSFFC

Private Pesticide/Fertilizer Applicator Training

January 18, 2024 – Trumbull County

February 14, 2024 – Geauga County

March 11, 2024 – Ashtabula County

March 28, 2024 – Online via Zoom

Register at [Go.osu.edu/NEOPAT](https://go.osu.edu/NEOPAT)

Northeast Ohio Agronomy School

March 27, 2024 - Registration Opens Feb. 1st

Pruning Classes

March 2nd – Hartford Orchard LLC

March 30th – Sage's Apple Orchard

CFAES

2024 Northeast Ohio Private Pesticide Applicator Re-Certification & Fertilizer Application Re-Certification Sessions

Private Pesticide Applicator Re-certification:

Does your Private Pesticide Applicator's License expire on March 31, 2024? If so, OSU Extension in Northeast Ohio has planned four pesticide re-certification sessions for producers. Each of these sessions will offer 3 credits for pesticide re-certification for CORE and All Categories (1-7). Private Pesticide Applicators are encouraged to choose the session which best fits their schedule.

Cost: \$40/Person

Fertilizer Applicator Re-Certification:

Does your Private or Commercial Fertilizer Applicators Certification expire soon? A one-hour session will be held after the pesticide session for those who need to renew their Fertilizer Application Certification.

Cost: \$10/Person

2024 Re-certification Programs:

- **Online via Zoom, Tuesday, December 14, 2023, 5:00 PM to 9:00 PM**
 - Pesticide starts at 5:00 PM, Fertilizer starts at 8:00 PM
- **Trumbull Co. Extension Office in Cortland, OH - Thurs, January 18, 2024, 5:00 PM – 9:00 PM**
 - Pesticide starts at 5:00 PM, Fertilizer starts at 8:00 PM
 - For more information call: 330-638-6783
- **Geauga Co. Extension Office in Burton, OH - Wed, February 14, 2024, 1:00 PM – 5:00 PM**
 - Pesticide starts a 1:00 PM, Fertilizer starts at 4:00 PM
 - For more information call: 440-834-4656
- **Ashtabula Co. Extension Office in Jefferson, OH – Mon, March 11, 2024, 1:00 PM – 5:00 PM**
 - Pesticide starts at 1:00 PM, Fertilizer starts at 4:00 PM
 - For more information call: 440-576-9008
- **Online via Zoom, Thursday, March 28, 2024, 5:00 PM to 9:00 PM**
 - Pesticide starts at 5:00 PM, Fertilizer starts at 8:00 PM



To register, please visit

[Go.osu.edu/NEOPAT](https://go.osu.edu/NEOPAT)



2024 Northeast Ohio Private Pesticide Applicator Re-Certification & Fertilizer Application Re-Certification Sessions

If you are unable to register online, please fill out and mail in this form below to register for one of our 2024 in-person re-certification trainings. The registration fee is \$40/per person for the private pesticide applicator re-certification. The registration fee is \$10/per person for the fertilizer re-certification session. *Pre-registration is required 7 days prior to the session date.* An additional late registration fee of \$25 per person will be added for any registration received after the registration deadline listed below.

Name _____ Pesticide Applicator Number _____

Email address _____

Phone Number _____ County _____

Categories Needed for Re-certification _____

Session I will be attending (check one):

___ **Trumbull Co. Extension Office in Cortland, OH**
Thurs, January 18, 2024, 5:00 PM – 9:00 PM

___ **Geauga Co. Extension Office in Burton, OH**
Wed, February 14, 2024, 1:00 PM – 5:00 PM

___ **Ashtabula Co. Extension Office in Jefferson, OH**
Mon, March 11, 2024, 1:00 PM – 5:00 PM

Fee Required (check all the apply):

___ Pesticide Applicator Re-certification (\$40 pre-registration)

___ Fertilizer Applicator Re-certification (\$10 pre-registration)

___ Late Registration Fee (\$25-if applicable)

Total Fee Due \$ _____

Online registration is preferred
To register and pay online please
visit www.Go.osu.edu/NEOPAT

Please make check payable to OSU Extension and mail to:
Ashtabula County OSU Extension, 39 Wall Street, Jefferson, Ohio 44047

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



OSU EXTENSION AGRONOMIC CROPS TEAM PRESENTS

2024 Soil Health Webinar Series

Join us for a webinar series focusing on all things soil health. This series will offer standalone topics, so attendees can attend one, two, or all three sessions. Live webinars will offer CCA continuing education credits, and webinar recordings will be posted to the OSU Agronomy Team YouTube Channel for later viewing.

In this monthly series, farmers, industry, and academic experts will weigh in on practical steps to improve soil health and measure impact on crop yield and farm profitability. Please plan to join us for all three sessions!

DATES: January 11th, February 8th, and March 7th, 2024

TIME: 8:00–9:00 a.m.

LOCATION: Virtual via Zoom. Registration is required to receive the connection link

To register, visit go.osu.edu/SoilHealthWeb

For more information, contact Rachel Cochran at Cochran.474@osu.edu.



THE OHIO STATE UNIVERSITY

EXTENSION

CFAES

SESSION ONE

January 11th, 2024

Who's the J.A.M. at OSU?

Dr. Jim Ippolito, Dr. Asmita Murumkar, & Dr. Manbir Rakkar,
The Ohio State University

SESSION TWO

February 8th, 2024

Cover Crop Info Drop

Grower Panel

SESSION THREE

March 7th, 2024

What's the beef with Soil Health and livestock?

Dr. Anna Cates, University of Minnesota, Dr. Mary Drewnoski, University of Nebraska-Lincoln, and Dr. Doug Jackson-Smith, The Ohio State University

Each webinar will feature speakers on the selected topics, followed by an interactive Q&A Session

SCAN QR CODE OR VISIT WEB LINK BELOW TO REGISTER:



go.osu.edu/SoilHealthWeb

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