Hello Northeast Ohio Counties!

Dry conditions persist here in NE Ohio. Lack of precipitation is partially responsible for the below average algal bloom in Lake Erie this year. You can read more about that in today’s first article!

The 176th Trumbull County Fair starts today! If you’re looking for a great way to support 4-H youth, be sure to attend the livestock auction on July 16th starting at 10:30 AM.

Check out the 2022 Trumbull Co. Fair Book here: https://trumbullcountyfair.com/wp-content/uploads/2022/05/2022-Fairbook.pdf

Stay safe and have a great week!

Lee Beers  Andrew Holden  Angie Arnold
Trumbull  Ashtabula  Portage County
County  County  Extension
Extension  Extension  Educator
Educator

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NE Ohio has seen less rain in the last 30 days than the rest of the state.
Below-average harmful algal bloom predicted for western Lake Erie
By: Jill Jentes Banicki

NOAA and its research partners are forecasting that western Lake Erie will experience a smaller than average harmful algal bloom (HAB) this summer, which would make it less severe than 2021 and more akin to what was seen in the lake in 2020.

This year’s bloom is expected to measure 3.5, with a potential range of 2-4 on the severity index — whereas last year’s bloom was measured at a 6.

The index is based on the bloom’s biomass — the amount of algae — during the peak 30 days of the bloom. An index above 5 indicates more severe blooms. Blooms over 7 are particularly severe, with extensive scum formation and coverage affecting the lake. The largest blooms occurred in 2011, with a severity index of 10, and 2015, with a severity index of 10.5.

“Toxic algae affect not only the health of people and marine ecosystems, but also the health and vibrancy of local and regional economies,” said Nicole LeBoeuf, assistant administrator for NOAA’s National Ocean Service. “Like with the weather, environmental forecasts are an important tool that can empower communities to more effectively prepare for these events, and are a huge part of NOAA’s service to the nation.”

Lake Erie blooms consisting of cyanobacteria, or blue-green algae, are capable of producing microcystin, a known liver toxin which poses a risk to human and wildlife health. Such blooms may force cities and local governments to treat drinking water and close beaches, and can harm vital local economies by preventing people from fishing, swimming, boating and visiting the shoreline.

The size of a bloom isn’t necessarily an indication of how toxic it is. For example, the toxins in a large bloom may not be as concentrated as in a smaller bloom. Each algal bloom is unique in terms of size, toxicity and ultimately its impact on local communities.
“With 10 years of experience with forecasts we understand more about the blooms, including evidence that big river discharge events in mid-summer may matter more than we thought,” said Richard Stumpf, NOAA’s National Centers for Coastal Ocean Science’s (NCCOS’s) lead scientist for the seasonal Lake Erie bloom forecast. “They create more uncertainty, but our models are improving as a result. We will also have to watch to see if these events become more common in the future.”

NCCOS’s Lake Erie Harmful Algal Bloom Forecast website provides predictions and visualizations of the bloom’s location and movement on the lake’s surface as well as where the bloom is located within the water column. This information is especially helpful to water treatment plant operators, because intake structures are usually located below the surface, so the risk of toxins in their source water may be greater when these cells sink.

“The NOAA HABs forecast is a great example of how our partners, like Heidelberg University, Ohio Sea Grant and Ohio State’s Stone Laboratory, can work together with NOAA to bring critical research and expertise to our local coastal communities,” said Christopher Winslow, director of Ohio Sea Grant and Stone Laboratory. Ohio Sea Grant and Stone Lab are both part of The Ohio State University College of Food, Agricultural, and Environmental Sciences (CFAES).

Forecast details
NOAA expects a start of the visible bloom in mid- to late July. The duration of the bloom depends on the frequency of wind events in September, which cannot be predicted this far in advance. The bloom will remain mostly in areas of the Western basin. The Central and Eastern basins of the lake are usually unaffected, although localized blooms may occur around some of the rivers after summer rainstorms. July is expected to have average rainfall, but there is still large uncertainty. Larger rain events could result in increased river flow, and a higher severity index.

NOAA will issue a seasonal forecast update in late July based on observed rainfall in the basin. Recent research has found that a long-term increase in the frequency of heavy rainfall events due to climate change may be causing more runoff during spring and summer months because the soil has less time to absorb the rain. Combined with the increase in bioavailable phosphorus concentration in the early 2000s (as a result of changes in agricultural practices), this rainfall trend may explain the higher-than-average phosphorus loads each spring over the last 14 years.

The Lake Erie forecast is part of a NOAA Ecological Forecasting initiative that aims to deliver accurate, relevant, timely and reliable ecological forecasts directly to coastal resource managers, public health officials and the public. In addition to the early season projections from NOAA and its partners, NOAA also issues HAB forecasts during the bloom season. These forecasts provide the current extent and five-day outlooks of
where the bloom will travel and what concentrations are likely to be seen, allowing local
decision-makers to make informed management decisions. NOAA is actively developing
tools to detect and predict how toxic blooms will be.

Nutrient load data for the forecasts came from Heidelberg University in Ohio, and the
various forecast models are run by NCCOS, the University of Michigan, North Carolina
State University, LimnoTech, Stanford University and the Carnegie Institution for
Science. Field observations used for monitoring and modeling are done in partnership
with a number of NOAA services, including its Ohio River Forecast
Center, NCCOS, Center for Operational Oceanographic Products and Services, Great
Lakes Environmental Research Laboratory, and Cooperative Institute for Great Lakes
Research, as well as Ohio Sea Grant and Stone Laboratory at The Ohio State
University, The University of Toledo and Ohio EPA.

2024 Farm Bill Dilemma, 1981 Farm Bill, and 2018
Farm Bill Price Support Adjustments

By: Carl Zulauf, Ohio State University, & Gary Schnitkey, Krista Swanson, Jonathan
Coppess, and Nick Paulson, University of Illinois
Source: https://farmdocdaily.illinois.edu/2022/07/2024-farm-bill-dilemma-1981-farm-bill-
and-2018-farm-bill-price-support-adjustments.html

He 1981 farm bill made a policy mistake that may inform the next farm bill. It raised
support prices under the assumption that high commodity prices and high inflation
would continue into the future. Instead, both declined as demand for farm commodities
softened and the Federal Reserve raised interest rates to reduce inflation. As a result,
support prices were too high, leading Congress to reduce them in the 1985 farm bill to
bring them into line with market prices. Similar to 1981, considerable discussion is
currently occurring about the need to raise statutory reference prices in response to
higher crop prices, production costs, and inflation. However, unlike the 1981 farm bill,
the 2018 farm bill has adjustment mechanisms that allow for higher support prices while
avoiding a potential 1981 farm bill trap. We examine these price support adjustment
mechanisms in the context of the 2024 farm bill dilemma.

2018 Farm Bill Adjustment Mechanisms

The Agriculture Improvement Act of 2018 included a reference price escalator
clause. Specifically, the effective reference price is the higher of (a) the statutory
reference price listed in the 2018 farm bill or (b) 85% of the Olympic average (excludes
high and low) price for the 5 most recent completed crop years but capped at 115% of
the statutory reference price (US Congress, 2018). The price escalator is discussed in-
depth in a June 29, 2022 farmdoc daily article.
Like the reference price escalator, the price component of the ARC (Agriculture Risk Coverage) commodity program option is calculated as the Olympic average price for the 5 most recent completed crop years. Both the reference price escalator and the ARC price calculation method allow support prices to move higher should market prices move higher for a period of 2 or more years.

Three important differences exist between the ARC price calculation and the reference price escalator:

- ARC price is not capped. Reference prices are capped at 115% of the statutory reference price.
- ARC price is the higher of a crop’s market year price or its effective reference price. The reference price escalator uses the crop market year price with no substitution.
- Price adjustment factor is 86% for ARC vs. 85% for the reference price escalator.

These differences imply that the ARC price has a higher upside than the effective reference price.

Analysis
The ARC price and effective reference price are calculated for the 2024 crop year, the first year under the new farm bill. The 5-year price calculation window for both 2024 support prices is 2018-2022. Support prices are calculated for barley, corn, seed cotton, oats, long grain rice, sorghum, soybeans, and wheat. These crops are selected because total cost of production projections are available for the 2022 crop year from US Department of Agriculture, Economic Research Service (USDA, ERS) (see Data Note 1). Cost of production is used as a comparative benchmark for the support prices. Prices for the 2018-2021 crop years are from USDA, Farm Service Agency (FSA). Prices for 2022 are the projected prices in the June 2022 WASDE (World Agriculture Supply and Demand Estimates). (See Data Note 2)

Findings
The relationships between the support prices and total cost of production per unit of output (see Figure 1 and Data Note 3) suggest the 8 crops can be grouped into 3 categories:

1. Corn, soybean, sorghum, and oats 2024 ARC prices exceed their 2024 effective reference prices which exceed their statutory reference prices. All support prices for these crops are below their 2022 total cost of production per bushel. The range, however, is wide even among ARC prices: -9% for corn’s ARC price to -67% for oats’ ARC price.
2. Wheat and barley 2024 ARC prices are below their 2024 effective reference prices, which equal their statutory reference prices. Their statutory reference prices are below their 2022 cost of production.
3. Peanut, long-grain rice, and seed cotton 2024 ARC prices are below their 2024 effective reference prices, which equal their statutory reference price. Each
crop’s statutory reference prices is near its 2022 total cost of production per pound.

Summary Observations
Both the ARC price calculation procedures and reference price escalator provide a way to raise support prices while avoiding the 1981 farm bill mistake of setting support prices, specifically statutory reference prices, too high in anticipation that commodity prices and inflation will remain high.
Both support price adjustment mechanisms are likely to increase support prices during at least some years of the next farm bill for a number of program commodities, including corn and soybeans.
The 2023 crop year price will be important in writing the next farm bill. Should prices remain high in 2023, market prices will be elevated for at least two years in the support
price calculation window for many program commodities, including corn and soybeans, in each of the expected 5 years of the 2024 farm bill. Current statutory reference price for peanuts, long-grain rice, and seed cotton are near their 2022 total cost per pound. Caution seems in order for any across-the-board increase in statutory reference prices.

A potential transition assistance issue that may arise is a desire to speed up the increase in support prices given the sharp jump in cost of production. A simple way is to convert the 5-year Olympic average to a 5 year average. This change moves the increase forward by not eliminating the first year of a multiple year increase. It also extend the period of transition assistance by not eliminating the last high year from the calculation window when markets move from a multiple year period of higher revenue to a multiple year period of lower revenue. The trade-off is a smaller largest increase in support price. Payments / program cost should thus be similar.

Data Notes
1. USDA reports 2022 costs only for all US rice. To estimate long grain rice total cost, all US rice total cost is multiplied by 93.3%, the ratio of average 2021 total cost for regions where long-grain rice is primarily grown (Mississippi River Delta, Gulf Coast, and Arkansas non-Delta) to 2021 US all rice total cost.
2. WASDE projects cotton lint, not seed cotton, prices for 2022. It does not present information for peanuts. The 2022 price for peanuts was assumed to be the 2021 price. A seed cotton price projection was calculated by multiplying the cotton lint price projection by 50%, the 2017-2021 average ratio of seed cotton price to cotton lint price.
3. Total cost reported by USDA, ERS is divided by the linear trendline harvested yield per acre for 2022 to obtain total cost per unit of output. Trendline harvested yields by crop are barley (75), corn (178), seed cotton (2130), oats (66), long grain rice (7701), sorghum (71), soybeans (50), and wheat (49).

Lep Monitoring Update WBC, CEW, FAW and ECB Updates
Western Bean Cutworm
We are in our third week of monitoring for Western bean cutworm (WBC) and numbers have remained low in all monitoring counties (Figure 1). Eighteen counties reported WBC moth catches, with all counties below an average of 4 moths per county. Scouting for WBC egg masses should begin when county averages are above 7 moths per week.

Western Bean Cutworm Moth Map
July 4 – 10, 2022

Figure 1. Average western bean cutworm (WBC) moths captured from July 4th through July 10th. The large number indicates the average moth count for the week and the small number in parentheses is the total traps set up in the county.

Corn Earworm
Corn earworm (CEW) (Figure 2) numbers have continued to decrease over the past week. Van Wert county continues to report the highest average of 8.5 (Figure 3). Counties with high numbers of CEW and silking corn are at the most risk for CEW, because adult moths are attracted to silking corn. For more


**Figure 2.** Corn earworm (CEW) adult moth. Photo by: Bridger Cline, The Ohio State University

**Corn Earworm Moth Map**

**July 4 – 10, 2022**

**Figure 3.** Average corn earworm (CEW) moths captured from July 4th through July 10th. The large number indicates the average moth count for the week and the small number in parentheses is the total traps set up in the county.

**European Corn Borer**

Two counties reported European corn borer (ECB) adult moths including Fulton and Clark (Figure 4).
European Corn Borer Moth Map  
July 4 - 10, 2022

Figure 4. Average European corn borer (ECB) moths captured from July 4\textsuperscript{th} to July 10\textsuperscript{th}. The first number indicates the average ECB-IA followed by a comma and then the average ECB-NY moth count for the week. The small number in parentheses is the total traps for each species set in each county.

Fall Armyworm
Fall armyworm (FAW) moths are currently being monitored in four counties in Ohio: Clark, Madison, Van Wert and Wayne. Currently both Clark and Madison counties reported FAW catches (Figure 5). In addition to FAW moths, there have been several reports of by-catch in the bucket traps. This moth differs from FAW adults and is known as the Phragmites Wainscot and has a dark bar in the scales of the forewing (Figure 6A & B). Monitoring for FAW in additional counties will begin in August.

Fall Armyworm moth map  
July 4 – 10, 2022

Figure 5. Average fall armyworm (FAW) moths captured from July 4\textsuperscript{th} through July 10\textsuperscript{th}. The large number indicates the average moth count for the week and the small number in parentheses is the total traps set up in the county.
Arrested Ear Development in Corn – How to avoid them?

By: Osler Ortez
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2022-22/arrested-ear-development-corn-%E2%80%93-how-avoid-them

The crop season in Ohio is rapidly gaining progress. Depending on planting dates and hybrid relative maturities corn crop can be anywhere between early vegetative and up to tasseling. However, a vast majority of the crop is expected to be around the mid-to-late vegetative stages (Figure 1).

At this point, field issues can happen and be seen later in the season. If you are familiar with ‘abnormal ears’, many ear symptoms can fall into that, but this is the time when at least one of them can be mitigated: arrested ears (Figure 2). The term ‘arrested’ is used because the development of these ears is interrupted or stopped prematurely due to external factors.
Symptom: arrested ears (ear development arrested or stopped prematurely).
Causal factor: applications of nonionic surfactant (NIS) formulations.
Development timing: during the ear size determination period, from V6–V12; and up to V16.

Figure 2. Arrested ear development likely caused by nonionic surfactant (NIS) applied during mid-to-late vegetative stages (V6 to V16, 6 to 16 collared leaves). Pictures: (a) Osler Ortez, (b) Robert Nielsen, and (c) Peter Thomison.

From field observations, the timing of the causal factor for arrested ears coincided with the timing of pesticide spray applications (e.g., post-emergence herbicide; and pre-tassel fungicide and insecticide applications), which often include nonionic surfactants (NIS) in the tank-mix (note: NIS may be already included in some pesticide products). Researchers started to look closely at nonionic surfactants as the potential cause. Years later, results confirmed nonionic surfactants (not the pesticide!) as the cause when applied anywhere between V6 and up to V16 stage in corn. The percentage of plants affected depended on hybrid, the plant stage when applications were made (e.g., applications at V15 resulting in more arrested ears than V11 applications), and management conditions that promoted faster plant growth (e.g., water and nutrient availability).

The partial solution to this phenomenon is to avoid applications of nonionic surfactants (NIS) during sensitive development stages in corn: V6 to V18 (6 to 18 collared leaves). For this and other reasons, understanding and keeping track of crop growth and development through the season is critical, especially when considering field applications. Development staging misunderstandings and applications at the wrong time can be conducive to these and many other issues. When staging, it is
recommended to use the leaf collar method. At later vegetative stages, younger leaves have often senesced, staging using the split-stalk technique will help.

Regarding abnormal ears in general, several complexities and questions still need answers but with the knowledge available, abnormal ears can be seen as result of an “expression triangle” where susceptible hybrids, conducive environmental conditions, and unfavorable management practices can conduct to abnormal ears. A classic example of this expression triangle is arrested ears. To learn more about this and other issues related to abnormal ears, a review of the literature is summarized here: https://doi.org/10.1002/agj2.20986.

During the growing season, the crop’s exposure to unfavorable conditions can negatively affect ear formation and produce abnormal ears. Abnormal ears decrease yield and can reduce grain quality.

**Drainage Installation Field Day, Tuesday, August 9, 2022**

By: Clint Schroeder  

The Ohio State University at Lima will be the host of a drainage installation field day on Tuesday, August 9th. Field demonstrations by the Ohio Land Improvement Contractors of America (OLICA) will begin at 9:00 a.m. in an open house style format and continue throughout the day.

Registration will be in a tent on Lot G which is accessible off Biddle Drive, and south of the Life and Physical Sciences Building. Campus maps are available online at lima.osu.edu/aboutus/campus-maps-and-directions.html. Parking is free and shuttles will be running to the field site where the demonstrations will be held between 9:00 a.m. and 3:00 p.m. Contractors will be available on-site to help answer any questions about the tile installation process.

There will be a free lunch provided at noon for those who pre-register. After lunch, Bruce Clevenger will make a presentation on the economic benefits of systemic drainage tile. Register for the lunch and learn by emailing schroeder.307@osu.edu or calling 419-879-9108 before August 1st.
THE OHIO STATE UNIVERSITY AT LIMA

Drainage Installation Field Day

Tuesday, August 9, 2022

Ohio State Lima campus, Lima, OH

Join us for open house–style drainage installation demonstrations!

**Agenda**

- **9:00 AM**: Field demonstrations begin
  - OLICA contractors and Ohio State experts available on-site to answer questions
- **12:00 PM**: Lunch sponsored by First National Bank *(register early, as spaces are limited)*
- **Lunch and Learn talk**: Crop yield and economic benefits of drainage and drainage water management (Bruce Clevenger, Defiance County Extension)
- **1:00 PM – 3:00 PM**: Field demonstrations continue

Please RSVP before August 1 by calling 419-879-9108 or emailing schroeder.307@osu.edu

For more information, visit go.osu.edu/tilesdemo

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Sponsors: The Ohio State University at Lima, Overholt Drainage Education and Research Program, Ohio States Department of Food, Agricultural and Biological Engineering, and OSU Extension; in cooperation with USDA-NRCS, USDA-ARS, Soil and Water Conservation Districts, First National Bank, Ohio Land Improvement Contractors Association, and OLICA Associate members

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Northeast Ohio Agriculture

OHIO STATE UNIVERSITY EXTENSION
Ashtabula, Portage and Trumbull Counties
Right of First Refusals

By: Robert Moore, Attorney and Research Specialist, OSU Agricultural & Resource Law Program
Source: https://farmoffice.osu.edu/blog/fri-07082022-358pm/right-first-refusals

A Right of First Refusal (ROFR) is a contract between the owner of the real estate and the person who is receiving the right to purchase (Holder). If the owner wishes to sell or transfer the property, the Holder has a legal right to purchase the property subject to the terms and conditions of the ROFR. If the Holder does not exercise their right to purchase the property, the owner can transfer the property to the third-party buyer. A ROFR can be an effective way to help keep land ownership in the family.

A ROFR can be established in a number of ways including on a deed. However, in most situations the best method of creating a ROFR is a stand-alone document that is recorded with the county recorder. By using a separate document, the terms and conditions of the ROFR can be clearly expressed to avoid future confusion or conflict.

There are a number of terms and conditions to include in a ROFR. Perhaps the most important term is how to determine purchase price. One way to establish the purchase price is by matching a bona fide offer. Upon receiving an offer to purchase the land, the owner offers to sell the land at that same price to the Holder. If the Holder declines to purchase the land at that price, the owner is free to sell to the third party at that price.

Another way to establish the purchase price is by appraisal. If the appraisal method is used to establish the purchase price, a multi-step approach should be considered to avoid the effect of an outlier appraisal. For example, the owner can obtain and appraisal first. If the Holder objects to the owner’s appraisal, the Holder can obtain an appraisal of their own. If the two appraisals do not match or not within a certain percentage of each, the owner and Holder agree on a third appraisal. After the third appraisal is conducted, the middle appraisal of the three establishes the purchase price. Also, any qualifications for appraisers, such a licensed or unaffiliated with the parties, should be included in the terms.

Sometimes both the offer matching and appraisal will be used in a ROFR to establish the purchase price. Terms may include using the lesser of an offer and an appraisal for the purchase price. Or, if there is no offer and the owner would like to sell, then the appraisal method is used to establish the purchase price. The important thing is to make it very clear how the purchase price is established to avoid disputes between the owner and potential buyer.

Timelines should be included in the ROFR. Timelines should be included for:

Number of days to provide an offer to the Holder
Number of days to establish the purchase price by appraisal
Number of days to accept or reject an offer by the Holder
Number of days to close the purchase

An additional term to consider is what transfers are exempt from the ROFR. The owner of the land may want to be able to transfer to their family or spouse without triggering the ROFR. Therefore, the ROFR should specifically state any transfers that are exempt. The most common exempt transfers are those transfers to descendants and spouses.

Another important provision is the length of term of the ROFR. The ROFR should have a limit on its term whether it be a number of years or for the life of the owner. A ROFR that goes on generation after generation can cause big problems for a future owner because the Holder or their heirs may be difficult to find and/or cooperate.

Consider the following example of a common way in which a ROFR is used.

Mom and Dad want to gift five acres to their daughter, Jane, so that she can build a house. Mom and Dad’s only concern is that they do not want the five acres to leave the family because it sits in the middle of their farmland. Mom and Dad gift the five acres to Jane and enter into a ROFR at the same time. The ROFR requires Jane to offer Mom and Dad the first chance to buy the five acres before Jane transfers it. An exception is made that Jane may transfer the land to her children without triggering the ROFR. The purchase price is established by a three-step appraisal price with the appropriate timelines included. The ROFR will be in effect for the next 30 years and then will expire.

The ROFR gives Mom and Dad the assurance that Jane will not be able to simply sell the property to someone outside of the family. Without the ROFR, Mom and Dad may be reluctant to gift the land for fear of Jane transferring the land to someone else. The ROFR allows Jane to have full ownership of the property and the discretion to build a house as she wishes but also protects Mom and Dad from having an unwanted neighbor.

ROFRs can be effective in real estate transfers, particularly among family members, and in estate planning. Keep ROFRs in mind the next time you are considering transferring real estate or as you design your estate plan that includes real estate. A ROFR should be drafted with the assistance of an attorney to be sure that all the important terms and provisions are included, and it is executed and recorded property.
OHIO STATE UNIVERSITY PRESENTS

2022 Grape Field Day: Mulch and Mutton

Join The Ashtabula Agricultural Research Station, Ohio State Extension, and the OSU Small Ruminant Team for a day of education and in field demonstrations! Two alternative practices will be covered, Vineyard Mulching and Vineyard Grazing with Sheep or Goats.

Schedule of Events:
10:30 AM – Mulching Demonstration at Ferrante Vineyard
11:30 AM - 12:15 PM – Lunch at Ferrante or elsewhere (Not included)
1:00 PM – Mulching demonstration from Finn Machinery and Dami lab prototype unit at Ashtabula Ag Research Station
2:00 PM – Vineyard Sheep Grazing Demonstration and Presentations from OSU Ruminants Team
3:00 PM – Grower panel on sheep grazing in vineyard

This event is FREE to attend.
Lunch is not provided, but available at Ferrante for purchase.
Registration is not required but appreciated: go.osu.edu/gfd22

Special Thanks to: Ferrante Winery, OSU Viticulture Team, and the OSU Ruminants Team
Do you have a home, yard, or garden question? Need expert advice but don’t know where to turn?

Call the Ashtabula County Master Gardener Hotline!

Starting May 2nd until October 31st
Every Monday, 9 AM to Noon and every Thursday, 1 PM to 4 PM

To contact the Hotline, call 440-576-9008

Call during listed hours to speak with a volunteer or call anytime and leave a message. The hotline can be also be reached via email at Ashtabula.1@osu.edu and in person by stopping in at the Ashtabula OSU Extension Office – 39 Wall St. Jefferson, Ohio 44047.

For your home horticultural question call the Master Gardener Hotline today!