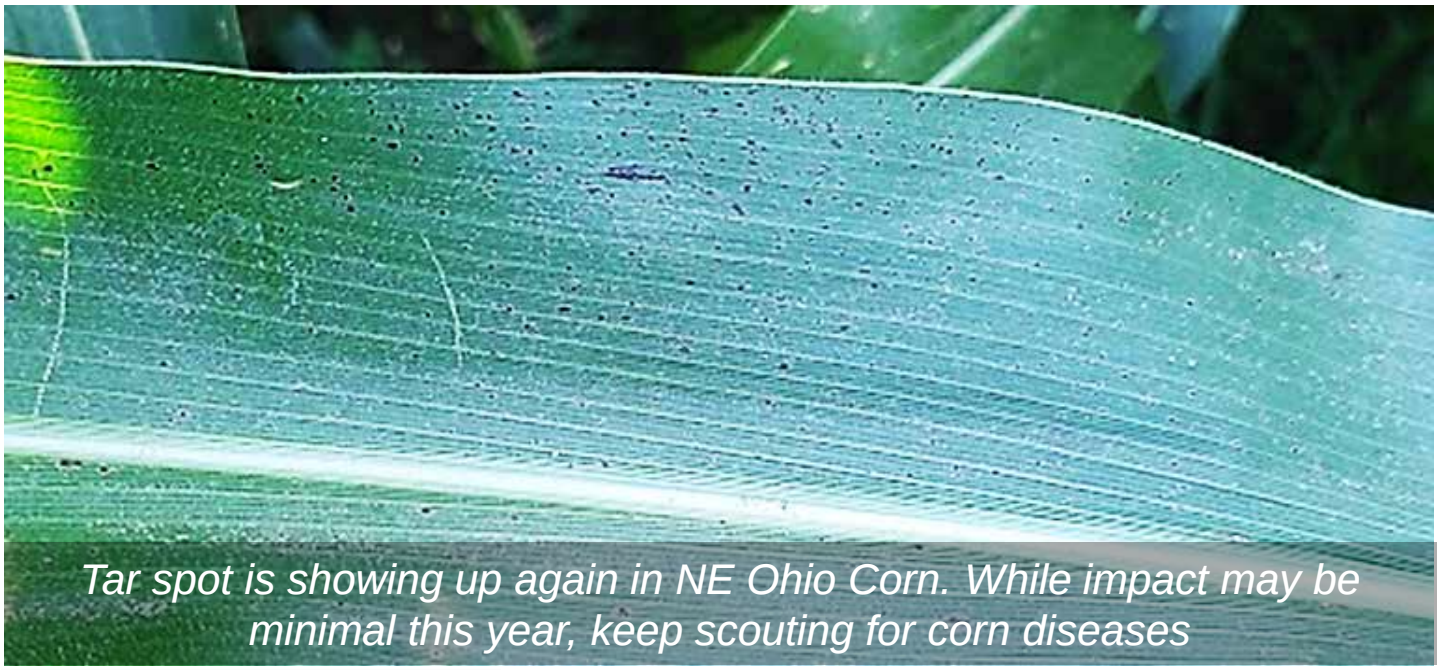
CFAES

OHIO STATE UNIVERSITY EXTENSION

NORTHEAST OHIO AGRI-CULTURE NEWSLETTER

Your Weekly Agriculture Update for Ashtabula and Trumbull Counties

August 29, 2023



Tar spot is showing up again in NE Ohio Corn. While impact may be minimal this year, keep scouting for corn diseases

In This Issue:

Hello Northeast Ohio Counties!

The last week of August featured above average rainfall and below average temps, but the upcoming week has a forecast for warmer and drier weather. Many hay producers here in NE Ohio will be taking advantage and making dry hay.

As the growing season moves even closer to harvest, keep scouting for disease and weeds in your crops to help prepare for next years crop season. Todays first article features pigweed scouting, so take a look to see how to handle them late in the season!

Have a good week and stay safe!

Lee Beers
Trumbull County
Extension Educator

Andrew Holden
Ashtabula County
Extension Educator

Late-season Pigweed Scouting

By: Alyssa Essman
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2023-29/late-season-pigweed-scouting

Pigweed plants that escaped POST applications or emerged after can now be seen above soybean canopies. Especially important are waterhemp and Palmer amaranth, as these species pose increased economic and management concerns. Waterhemp and Palmer plants can produce upwards of one million seeds per plant in certain situations.

Managing these weeds often starts with preventing introductions. Anything we can do from now through harvest to prevent seed from being deposited into the soil seed bank will pay dividends down the road. At this point there are limited control options beyond scouting and hand pulling. Just a few plants left in the field can lead to a total infestation if they produce seeds.

Viability of pigweed seed is greatly reduced after 3-5 years. Management over a couple of growing seasons can drastically reduce populations. Aside from tremendous seed production, fast growth rates, and lengthy emergence windows, what makes us most nervous about these weeds is their propensity to develop herbicide resistance. In other states, waterhemp has exhibited the ability to resist up to seven different herbicide sites of action, and Palmer amaranth up to nine.

Resistance to more than one site of action within a single population is not uncommon. Metabolic herbicide resistance may increase the prevalence of populations with resistance to multiple herbicide groups. Experience would tell us it's only a matter of time until we have these types of resistance issues in Ohio. The status of herbicide resistance in Ohio waterhemp populations was covered in this article.

We have a ton of resources that can be helpful for scouting, including a pigweed ID guide, pigweed management fact sheet, and YouTube video. More helpful information on the management of pigweeds can be found on the OSU weed science website.

Late-season scouting will allow us to evaluate how well our programs worked this year and forecast issues for next year. Below are some guidelines for scouting as we approach harvest.

- Scout all fields at some point between now and harvest. Evaluations of the weed species present and level of infestation can take place from the road or field edge. This can also be a good use of drones and other technology. At this time of year corn mostly hides weed infestations, but weeds can be seen above the soybean canopy.

- Fields that are suspected to have any level of Palmer amaranth or waterhemp should be evaluated more closely. If you are unsure of whether or not you are dealing with one of these problematic pigweeds, send pictures to us or your local extension educator.

- Remove waterhemp and Palmer amaranth plants by hand. Cut plants at the soil surface, and where mature seed is present, bag seed heads before removing them from the field. This will help reduce the spread of seed.

- Where there are severe infestations and hand removal is not realistic, the decision then becomes whether it is best to mow or harvest, both between and within fields. Harvesting fields with waterhemp or Palmer with mature seed heads will contaminate equipment and increase the likelihood of spreading seed to other fields or operations. Mowing before seed is mature can help reduce future populations. Where the decision is made to harvest infested areas, harvest these areas last and thoroughly clean equipment afterwards.

- Waterhemp is increasing in prevalence across the state. If you discover waterhemp, feel free to reach out to the OSU weed science program or your local extension educator for management recommendations. Palmer amaranth is not quite as widespread at this time. If you discover Palmer amaranth, please reach out to us so we can monitor its location in the state.

Feel free to reach out to Alyssa Essman (Essman.42@osu.edu, 614-247-5810) for questions regarding this topic or other concerns related to the identification and control of weeds.

Meet Your Soil Fertility Extension State Specialist- Dr. Manbir Rakkar

By: Laura Lindsey, Stephanie Karhoff, CCA, Amanda Douridas, CCA
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2023-29/meet-your-soil-fertility-extension-state-specialist-dr-manbir

We are excited to introduce Dr. Manbir Rakkar as the new Soil Fertility Extension State Specialist. Manbir started her position in the School of Environment and Natural Resources on August 15 and will be an active member of Extension's AgCrops Team.

Manbir has expertise in soil fertility and health, nutrient management, cropping systems, and agroecology. She received her PhD in Agronomy from University of Nebraska-Lincoln in 2018 and MS in Soil Science from North Dakota State University in 2015. Prior to her appointment at Ohio State University, Manbir was an Assistant Research Professor at Montana State University.

We are very excited to have Manbir as part of our Extension team! Welcome, Manbir!

Ag Law Harvest

By: Jeffrey K. Lewis, Esq., , OSU Income Tax Schools & ANR Extension
Source: https://farmoffice.osu.edu/blog/fri-08252023-1021am/ag-law-harvest

With just over a week left until echoes of "Hang on Sloopy" and chants of "O-H" and "I-O" can be heard from Buckeye faithful across the nation, we thought we would provide you with some light reading to hold you over until that long awaited 3:30 kick off. In this edition of our Ag Law Harvest, we focus on three recent Ohio Supreme Court cases that could potentially impact business owners, Northern Ohio landowners, and Ohio taxpayers.

Assault and Battery: Is it Covered Under an Insurance Policy?
A victim of a stabbing at an Ohio adult care facility is unable to collect judgment from the facility's insurance company after a recent decision by the Ohio Supreme Court. The victim was living at the facility when another resident stabbed him. The perpetrator was later indicted on criminal charges but found not guilty by reason of insanity.
The victim then filed a civil lawsuit against the perpetrator and the facility to recover for damages resulting from the stabbing injuries. The victim ultimately dropped his lawsuit against the perpetrator and entered into a settlement agreement with the facility. As part of the settlement agreement, the victim agreed not to pursue the judgment against the

facility, and instead, sought to collect his judgment from the facility's insurance company.

At the time of the stabbing, the adult care facility had a commercial general liability policy. When the victim sought judgment from the facility's insurance company, the insurance company refused to provide coverage. The insurance company explained that the insurance policy contained a provision that specifically excluded coverage for any bodily injury resulting from an assault or battery. The specific provision at issue stated:

"1. This insurance does not apply to 'bodily injury,' * * * arising out of or resulting from: (a) any actual, threatened or alleged assault or battery; * * *."

The victim argued that because the perpetrator was found to be not guilty by reason of insanity in the criminal trial, the exclusion provision was nullified because the perpetrator lacked the subjective intent to commit any assault or battery.

The Ohio Supreme Court disagreed. The Court explained that the plain language of the exclusion provision of the insurance policy at issue is clear – there is no intent requirement included in the exclusion language. Therefore, the Court held that coverage did not exist for the willful assault on the victim. The Court sympathized with the victim but ultimately could not interpret the insurance policy language to include a subjective intent requirement where none existed.

This case demonstrates the importance of reading and understanding your business insurance policy. Insurance policies are, at the core, contracts between two parties and the language contained within the policy will usually govern that contractual relationship. What you assume is covered under your policy may not necessarily be the case. Furthermore, not all insurance policies are the same. We have seen Ohio cases where an insurance policy does require the presence of some subjective intent in order for an assault and battery exclusion to apply. Speak with your insurance agent and/or attorney to make sure you understand when and where coverage exists, knowing this can be critical to protecting you, your farm, and/or your business.

Ohio Supreme Court Approves Northern Ohio Wind Farm.
Residents of Huron and Erie Counties along with Black Swamp Bird Conservatory (the "Plaintiffs") recently lost their battle in court to prevent the construction of a new wind farm in Northern Ohio. The Plaintiffs argued that the Ohio Power Siting Board (the "Board") failed to satisfy Ohio law before granting the new wind farm its certificate of environmental compatibility and public need. Specifically, the Plaintiffs assert that the wind farm could "disrupt the area's water supply, create excessive noise and 'shadow flicker' for residents near the wind farm, and kill bald eagles and migrating birds."

The Ohio Supreme Court found otherwise. The Court concluded that the Plaintiffs failed to establish that the Board's granting of the certificate was unlawful or unreasonable. As approved, the new wind farm will consist of up to 71 turbines and cover 32,000 acres of leased land. To read more about the Ohio Supreme Court's decision visit: *In re Application of Firelands Winds, L.L.C.*

Ohio Supreme Court Sets New Precedent on Interpreting Ohio Tax Law.
In Ohio, most retail sales are subject to sales tax unless a certain exemption applies. Ohio law does have a sales tax exemption for equipment used directly in the production of oil and gas. A fracking business recently challenged a decision by Ohio's Tax Commissioner and Board of Tax Appeals that levied the sales tax on certain equipment purchased by the business. The fracking equipment at issue included: a data van, blenders, sand kings, t-belts, hydration units, and chemical-additive units.

The Tax Commissioner concluded that the fracking equipment was not used directly in the extraction of oil and gas, only indirectly, and therefore, did not qualify for the tax exemption. The Ohio Supreme Court felt differently.

The Court found that all the equipment, except the data van, is used in unison to expose the oil and gas. Because the equipment is used to expose the oil and gas – a necessary part of fracking – the Court had little difficulty concluding that the equipment is being used directly in the production of oil and gas.

In addition to the equipment's direct use in the production of oil and gas, the Court also recognized that the fracking equipment may also have a storage or delivery function/purpose. However, the Court reasoned that a piece of equipment's function must be viewed through the "primary purpose" lens. For example, the Court held that although the blender equipment in this case performs a holding function, the primary use of the blender is to mix "the critical ingredients in the fracking recipe seconds before the mixture is inserted into the well." Therefore, the Court found that the blender's holding function did not disqualify it from Ohio's sales tax exemption.

Additionally, in this case, the Court also issued an opinion on how Ohio courts should interpret tax law moving forward. Normally, courts use the ever-important legal principal of *stare decisis* to help it decide on new cases. *Stare decisis* is the principal that courts and judges should honor the decisions, rulings, and opinions from prior cases when ruling on new cases. Here, the Court took its opportunity to acknowledge that in the past the Court interpreted tax exemptions against the taxpayer, favoring tax collection. But the Court made clear that from here on out, the Court "will apply the same rules of construction to tax statutes that [it applies] to all other statutes" without a slant toward one side or the other. The Court concluded that its task "is not to make tax policy but to provide a fair reading of what the legislature has enacted: one that is based on the plain language of the [law]."

To read the Ohio Supreme Court's decision visit: *Stingray Pressure Pumping, L.L.C. v. Harris*

Mineral Supplementation on Pasture

By: Ted Wiseman
Source: https://u.osu.edu/beef/2023/08/23/mineral-supplementation-on-pasture/

Grazing livestock require minerals to promote growth, milk production and several metabolic functions. How do we know that our mineral program is adequate to meet the needs of our grazing livestock? In previous articles we have stressed the importance of analyzing hay samples for winter feeding. But how many of us have sampled our pastures for nutrient content? We know that magnesium in early spring is important to prevent grass tetany, but what about the rest of the year?

Minerals are separated into two categories. Minerals that are needed in higher amounts are called major or macro minerals. These are listed on feed tags as a percentage and include calcium, phosphorus, chlorine, magnesium, potassium, sodium, and sulfur. Minerals needed in lesser amounts are called minor or micro minerals which are copper, chromium, cobalt, iodine, iron, manganese, nickel, molybdenum, selenium, and zinc. These minerals are often listed in parts per million (ppm). Regardless of the type of mineral all are equally important for metabolic functions. A deficiency of any mineral can have major effects on animal health and performance regardless of amount needed. The mineral requirement is dependent upon specie, animals age, growth rate, stage of pregnancy and stage of lactation. Copper for example is recommended at much higher levels for cattle, horses, and goats, but these levels would be toxic for sheep. Therefor grazing sheep with another specie, one must be cautious of what mineral mix is used. There have been several studies conducted looking at pasture forages and the mineral content. Often the mineral levels are a reflection of soil fertility, but forage species will also be a contributing factor. In many of the studies calcium levels were adequate, whereas very few fields had sufficient phosphorus to meet the animals requirements. Many of the other trace minerals were shown to be marginally deficient. In general, most minerals found in forages are considered to be only 50% available to the animal. Forages with high levels of Iron, Molybdenum and Sulfur can have a strong antagonistic effect on copper absorption. Iron levels above 400 ppm and Molybdenum levels above 3ppm are considered high enough to interfere with copper. Sulfur levels of more 0.25% of the daily dry matter intake from feed or water can reduce copper availability.

Mineral supplements are available in many different forms. Inorganic trace minerals can be an Oxide, Sulfate, Chloride or a Hydroxy form. Organic can be Complexes, Chelates, Proteinates, Polysaccharides or Propionates. The bioavailability of each

of these minerals are very different. The Organic forms are absorbed most readily, followed by the Hydroxy, Carbonate, Sulphate and finally the Oxides. The only exception to this is Magnesium oxide, which is bioavailable as an oxide. Typically, mineral mixes that are highly bioavailable are more expensive.

Vitamins in a mineral mix, especially an inorganic form, will lose their potency over time. Most recommendations are not to buy or mix more than what will be used within approximately 90 days. You may want to check with your supplier or manufacturer before purchasing.

Take the time to read the mineral product label. Look for intended specie, mineral levels, feeding method, targeted intake, source of each mineral. Taking the time to test your forages and matching them with a proper mineral mix can ensure good animal health and reproductive efficiency.

Corn Silage Pricing Tool

Tool: https://kx.osu.edu/ffmpi/corn-silage?utm_campaign=faes_kx_awareness_fy24_newsletter&utm_source=email&utm_medium=email

Introduction

Unlike corn grain, quoting the price of silage is challenging with no public market providing official prices. This online decision tool for corn silage sales in Ohio was developed to help producers determine pricing for corn silage sales, based on various resources including extension tools from several land-grant universities and agronomy research.

Some values are guided based on localized and timely information including Ohio county-level cash corn prices from Barchart.com and operation costs in Ohio from Ohio State University Extension. These values will be updated yearly. This tool should only be used for reference and users are encouraged to adjust the value of silage based on their individual circumstances. The full spreadsheet is available for download here if users want to manipulate more values.

Spreadsheet Creators

Dr. Seungki Lee, assistant professor in the Department of Agricultural, Environmental, and Development Economics, is an agricultural economist with expertise in environmental and resource economics and industrial organization.

Jason Hartschuh, assistant professor, is the OSU Extension field specialist in dairy management and precision livestock. His areas of expertise include dairy risk management, managing the cost of production, feed quality, and adoption of precision livestock technology.

Questions about the spreadsheet? Contact Jason (hartshuh.11@osu.edu) or Seungki (lee.10168@osu.edu).

Ask The Experts take the stage at FSR

By: Wm. Bruce Clevenger, Osu Extension Field Specialist, Farm Management

Source: https://u.osu.edu/ohioagmanager/2023/08/29/ask-the-experts-take-the-stage-at-fsr/

Agriculture is information driven and growers and industry always have great questions. Who should you ask for trusted answers? Ask The Experts at Farm Science Review! Three days of Experts have been scheduled to take center stage again this year at the 2023 Farm Science Review. This conversational dive explores hot/current topics between the moderator, Experts, and the audience. The 30-minute sessions give 15-20 minutes of information from the Experts and 5-10 minutes of Q&A with the audience. It is the best place to stop and take a sit-down break at FSR. Grab some food and enjoy. Experts include ag economists, weather scientists, Women in Ag leaders, veterinarians, agricultural attorneys, agronomists.

Topics include: weather whiplash, empowering Women in Agriculture, USDA Farm Bill, farm property insurance gaps, grain markets, beginning farmer education course, ticks on pasture effecting people and livestock, mold and feed, mental health, carbon markets, an average farm may not be profitable, farm labor, death's impact on the family business, financial health of Ohio farms, and agronomy vs. economics.

Plan you day(s) at Farm Science Review at:
https://fsr.osu.edu/ , click Visitor Information, click Mobile App/Digital Directory.

2023 Ask The Expert Schedule

Date	Time	Speaker	Topic
9/19/2023	10:00	Aaron Wilson	Weather Whiplash – Dealing with Weather Extremes
	10:30	Gigi Neal & Linda Vernon	Celebrating 20 Years of Empowering Women in Agriculture – Annie's Project
	11:00	AEDE Dept	The Farm Bill and Beyond
	12:00	Barry Ward	Economic View From The Farmgate
	12:30	Robert Moore & Jeff Lewis	Farm Insurance – Covering Your Assets
	1:00	Seungki Lee	How Is The Market Doing?

	1:30	Eric Richer	What is OSU's Farm On Course?
	2:00	Tim McDermott	Managing Asian Longhorned Ticks on Pasture
	2:30	Scott Kenney	Is Hepatitis E Virus a Risk to Ohioans?
9/20/2023	10:00	Gustavo Schuenemann	Molds and Mycotoxins in Cattle
	10:30	Mike Estadt	How Smart Are Your Commodities? Carbon Intensity Scores and More
	11:00	Clint Schroeder	Utilizing Benchmarking Data: It Doesn't Pay to be Average
	11:30	Aaron Wilson	Weather Whiplash – Dealing with Weather Extremes
	12:00	Barry Ward	Economic View From The Farmgate
	12:30	Robert Moore & Jeff Lewis	Farm Insurance – Covering Your Assets
	1:00	Seungki Lee	How Is The Market Doing?
	1:30	Margaret Jodlowski	Who is Working (or Will Work) Ohio's Farms?
	2:00	David Marrison	Is Your Farm Business Ready for Your Death?
	2:30	Margaret Jodlowski	The Farm Bill and Beyond
9/21/2023	10:00	Luciana da Costa	One Health and Livestock Farming
	10:30	Ani Katchova	How Are Ohio Farms Doing Financially?
	11:00	Bridget Britton	Sit down, Take a load off, and Let's have a Chat. Life can be Stressful.
	11:30	Aaron Wilson	Weather Whiplash – Dealing with Weather Extremes
	12:00	Barry Ward	Economic View From The Farmgate
	12:30	Robert Moore & Jeff Lewis	Farm Insurance – Covering Your Assets
	1:00	David Marrison	Is Your Farm Business Ready for Your Death?
	1:30	Lindsey, Ortez, Ward	Agronomy + Economics = Agronomics. What Comes First in the Equation?

Ask The Experts is located at the corner of Kottman and Friday Avenues, Exhibit Area 425, across from the Firebaugh building. Seating is available under the tent. In addition to the Ask The Expert sessions, Review goers can explore OSU Extension Farm Management Resources in the Firebaugh building across from Ask

The Expert area all-day, each day of the Review. OSU Extension Farm Management resources can also be found online at: https://farmoffice.osu.edu/

Corn Yield Forecasts as of August 23, 2023

By: Osler Ortez
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2023-29/corn-yield-forecasts-august-23-2023

Most of the corn acreage in Ohio is now at grain filling stages. On the last USDA crop progress report (week Ending 08/27/23), it was estimated that corn dough (R4) progress was 79 percent complete, and corn dented (R5) progress was 30 percent complete (a few average points *behind* schedule but *almost* on track with last year and the 5-year average).

A new simulation of 2023 end-of-season corn yield potential and crop staging was performed on August 23, using the UNL Hybrid-Maize crop model in collaboration with faculty and extension educators from 10 universities. Forecasts help researchers, growers, and industry stakeholders to make management, logistics, and marketing decisions during the crop season. Forecasts cover 40 locations across the Corn Belt, including South Charleston (Western Ohio), Custar (Northwest Ohio), and Wooster (Northeast Ohio). Table 1 and Figure 1 summarize the results for the state of Ohio as of August 23, 2023.

Table 1. Simulations of 2023 end-of-season corn yield potential and crop stage on August 23. Adapted from Grassini et al., 2023.

Location		Long-term average yield (bu/ac) §	Range of Yp forecasts as of August 2 (bu/ac)¶ 25th	Range of Yp forecasts as of August 2 (bu/ac)¶ 75th	Probability (%) of 2023 yield to be: Below (relative to the long-term Yp)†	Probability (%) of 2023 yield to be: Near (relative to the long-term Yp)†	Probability (%) of 2023 yield to be: Above (relative to the long-term Yp)†	Simulated crop stage*
OH	Custar	208	219	239	3%	45%	53%	R3, Milk
	South Charleston	216	220	248	3%	55%	42%	R4, Dough
	Wooster	210	194	229	16%	66%	18%	R2, Blister

§ Long-term (last 20+ years) potential yield at each location and surrounding area.
¶ Range of forecasted 2023 potential yields based on average planting date in 2023, indicating the potential yields in the 25th and 75th percentile of the potential yield distribution (associated with respective adverse and favorable weather scenarios during the rest of the season).
† probability of obtaining a 2023 yield below (<10%), near (±10%), and above (>10%) than the long-term potential yield at each location.

Table 1

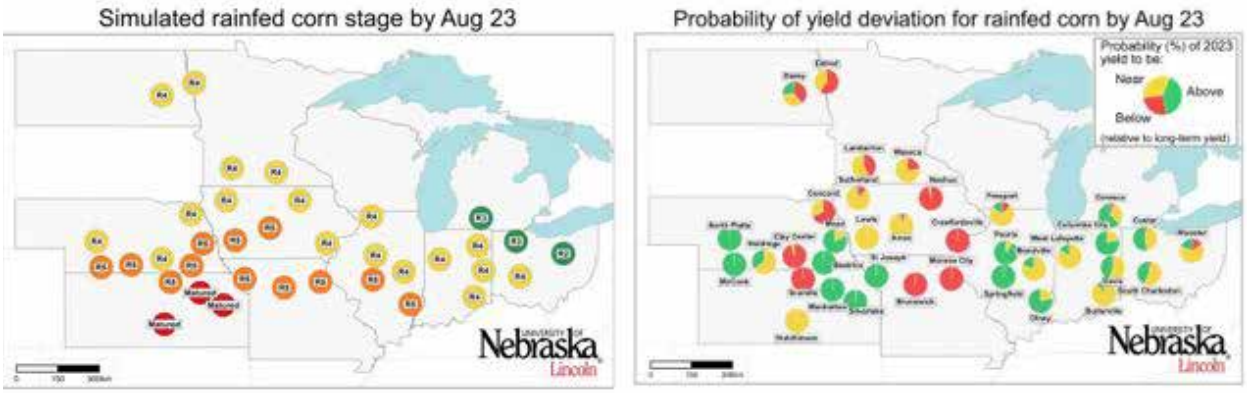


Figure 1

Figure 1. *On the left figure*, simulated developmental stage for rainfed corn at each location (left figure). R1: silking; R2: blister; R3: milk; R4: dough; R5: dent; R6: physiological maturity.

On the right figure, probability of the 2023 yield potential to be below, near, and above the long-term (2005-2022) average yield potential at each location. Larger color sections within the pie chart indicate higher probability that end-of-season corn yield will be in that category. Source: Grassini et al., 2023.

Summary
As of August 23, 2023, the projected results for Ohio have improved. Despite a rough growing season with development variability and dry periods, the chances of below-average yield potential are low (3% for Custar, 3% for South Charleston, and 16% for Wooster). Current projections show 45% to 66% probability of near-average yield potential for Ohio. The Custar and South Charleston sites show 53% and 42% probability of being above the long-term average yield potential, respectively. Wooster's conditions are not as optimistic as the other two locations, only 18% chances of above long-term average yield potential.

Adequate solar radiation, temperatures, and precipitation during the rest of the grain fill period will determine the final outputs. Regionally projections show that yield potential is highly variable, but most sites in the eastern part of the Corn Belt have increased chances for near or above-average yields, compared to earlier forecasts this season. On the other hand, places in the western/central Corn Belt show high chances of below-average yields (northern MO, eastern IA, south-central NE, and north-central KS).

The forecasts do not consider other yield-limiting factors such as crop stand issues, storm damage, replanting, disease, or nutrient losses. Likewise, results can deviate with varying planting dates or hybrid maturities. Yield forecasts are not field specific and represent an average yield estimate for a given location and surrounding area. As more corn yield and phenology forecasts become available this crop season, short briefs will be released via the OSU C.O.R.N. Newsletter.

Battle for the Belt: Episode 25

By: Taylor Dill, Laura Lindsey, Osler Ortez, Amanda Douridas, CCA, Grant Davis, CCA
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2023-29/battle-belt-episode-25

Episode 25 of Battle for the Belt is now available: https://www.youtube.com/watch?v=YxBTpyfpSZo

In Episode 25, we walk through the Farm Science Review agronomic crops plots with Madison County and Champaign County Extension Educators, Amanda Douridas and Grant Davis.

The Agronomic Crops Team is at the Farm Science Review (FSR) every year showcasing demonstration plots that are representative of the research questions being evaluated across the state. These research projects can be from eFields, on-farm research, or small plot research done at the University. This year, there are 17 crop plots demonstrations at FSR Ag Crops Team, some of which include Xyway,

Pivot Bio, Nitrogen Rates, Soybeans Disease, Biostimulants, and Battle for the Belt.

Tickets for FSR are sold at local county extension offices, online (here), and at the gate of the FSR. If you are a student (or affiliated at Ohio State) with a BuckeyeID, admission should be free. The dates this year are September 19-21, at the Molly Caren Agricultural Center 135 Ohio 38 NE London, OH 43140. For more information about the review, visit us at fsr.osu.edu.

Battle For the Belt Location Updates

Figure 1. Planting date one at the Wooster location, flooding conditions, left side.

The Wooster location received heavy rains like Western and Northwest this last week, leaving some plots with flooding conditions (**Figure 1**). The soybeans at this location are all at R5. The R5 stage is the reproductive stage that soybeans will stay in for weeks. R5 begins when one pod on one of the four uppermost nodes has seeds that are 1/8 inch long and ends when one pod on one of the uppermost four nodes has a seed that is fully developed. The soybeans at this location had a poor stand which made the existing plants compensate (at least partially) in the open spaces (e.g., more branching). Few hybrids at the early planting dates have reached dent stage (R5). Planting date five at this location finally reached R1 (silking stage).

**The Wooster location weather was not available for the end of the month, so it is not reflected in Table 1.*

At the Western location planting date one and two are completely at R5 stage (dent). At R5 we are conducting disease assessments to track disease progression throughout the season. The 100-day hybrid has had the most disease severity in both planting dates, however most hybrids have between 5% and 10% severity for Gray Leaf Spot as well. At this location, bouquet ears have been observed (**Figure 2**). Bouquet ears are considered an abnormal ear symptom. These have more than one ear (2 or more) ears on a single ear shank. Later this season, abnormal ear assessments will be conducted to evaluate if planting date or hybrid effects are present. Another anomaly observed at this site is lodging (aka goosenecking) after high-speed winds several days ago. On the other hand, soybeans are close to being full pod (R4) in planting date one and five in soybeans. At this site, planting date five just reached beginning seed stage (R5).

Figure 2. Bouquet ear at the Western location.

The Northwest location has some of the largest ears we have found at the three locations, though this location still has a long way to go before reaching full maturity. The soybeans at this location have more grasshoppers than other locations but the insect damage severity is not generally more than 5%.

Location	Precipitation (Inches) (Aug 21- Aug 27)	2-inch soil temperature (Aug 21- Aug 27)	Air Temperature (Aug 21- Aug 27)	Planting date	GDDs (Cumulative)	Corn Growth Stage	Soybean Growth Stage
Western, Clark County	1.36	Max: 85°F Mean: 78°F Minimum: 72°F	Max: 91°F Mean: 75°F Minimum: 62°F	April 13th April 27th May 11th May 25th June 8th	2357 2271 2188 1993 1732	R5 R5 R4 R3 R2	R6 R5 R5 R5 R5
Northwest, Wood County	2.83	Max: 95°F Mean: 76°F Minimum: 63°F	Max: 89°F Mean: 72°F Minimum: 55°F	April 12th April 26th May 11th May 25th June 8th	2266 2172 2105 1936 1690	R5 R4 R4 R3 R2	R5 R5 R5 R5 R4

Table 1. Planting dates one, two, three, four and five in the trial the Western and Northwest Research station with day of planting, soil, air temperature averages, precipitation, and Growing Degree Days (GDDS). Information from CFAES Weather System, https://weather.cfaes.osu.edu/.

Keep following the 'Battle for the Belt' this growing season to learn more and get further updates! You can find the full video playlist of Battle for the Belt on the Ohio State Agronomy YouTube channel.

2023 FARM PESTICIDE DISPOSAL COLLECTION

Do you have unwanted, unused, or unknown FARM chemicals? Bring them to a collection and disposal event coordinated by ODA and EPA - at no cost to farmers.

All events are 9:00 am to 3:00 pm.
To pre-register, or for more information, contact the Ohio Department of Agriculture at 614-728-6987.

Wednesday, August 9
Morgan County Fairgrounds
2760 South Riverside Drive | McConnelsville

Thursday, August 10
Putnam County Fairgrounds, Gate 5
1206 East Second Street | Ottawa

Tuesday, August 22
Miami County Fairgrounds, North Gate
650 North County Road 25A | Troy

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Ohio Department of Agriculture

agcrops.osu.edu