CFAES

OHIO STATE UNIVERSITY EXTENSION

COSHOCTON COUNTY AGRICULTURE & NATURAL RESOURCES

April 6 (Edition #141)

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Hello Coshocton County! It is 4-H Week here in Coshocton County and it was great to see so many families participate in the 4-H Fun Fest at the Coshocton County fairgrounds on Sunday afternoon. There are great 4-H displays in local businesses across the county and I hear that Whit's has a special mint chocolate-chip flavor this week in honor of 4-H. A reminder that 4-H enrollment is going on through April 29. Call our office to learn more about the variety of projects which 4-H offers.

Farmers across Ohio may groan a little bit when reading the first article in today's newsletter. Looks like the remainder of April will be cooler and WET! Long term forecasts for planting are also calling for more rain based on a La Nina weather pattern.

Congratulations to the Coshocton Soil & Water Conservation District for holding an excellent Cover-Crops Walk last Thursday morning. It was great to see the variations of cover crops and their establishment methods. It was a great tour!

Stay dry and have a good and safe week!

Sincerely,

David L. Marrison

Coshocton County OSU Extension ANR Educator

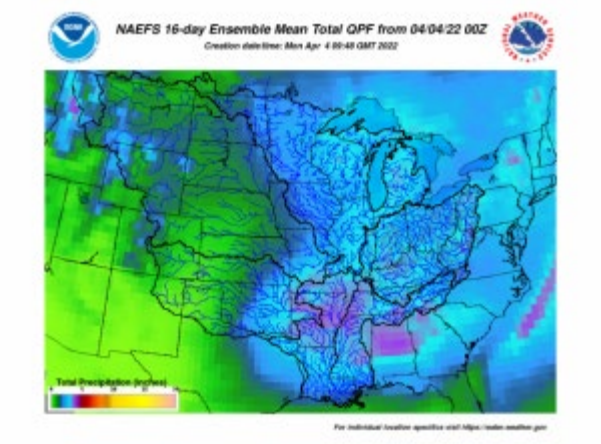
Chilly Damp April Expected

By: Jim Noel
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2022-08/chilly-damp-april-expected

It looks like planting season will be a bit more challenging this spring than 2021 was. There is no sign of La Nina leaving us anytime soon which tends to stress crop yields in Ohio from research between NOAA and OSU.

Another overall chilly week is in store for Ohio with periods of light precipitation. The good news is the week of April 10th we will experience warmer weather but rain chances will continue. The bad news is below normal temperatures will return again the week of April 17th.

Overall, April will experience normal to below normal temperatures with rainfall likely above normal. This will mean field work will continue to be delayed at times. This will be a common theme across the eastern corn and soybean belts.



Rainfall for the next two weeks, about 1.5-2.5 inches wetter than normal.

The outlook for May calls for slightly above normal temperatures to arrive but with it will come above normal rainfall. The early summer outlook for growing season indicated above normal temperatures from June through August with a trend from wetter start to a drier finish.

With the chilly April weather expected, there is a risk of the last freeze for 2022 planting/growing season being later than normal. We will also run the risk of a few mixed rain/snow events still especially for northern Ohio.

Early Season Manure Application

By: Glen Arnold
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2022-08/early-season-manure-application

Last fall was not favorable for manure application to farm fields. Thus, many producers are interested in spring application with an eye on capturing the nitrogen contained in the manure to reduce the need for purchased nitrogen.

Early season manure application. Photo credit: Glen Arnold

In-crop applications of manure make the best use of the manure's nitrogen content for crop uptake. At the early vegetative stages, the timing is close to the crop's maximum nutrient uptake period. In corn, placement of the manure below the surface preserves a higher percentage of nitrogen through reductions in volatilization losses. When used as a substitute for purchased nitrogen fertilizer, the economic case for manure used in this way is very attractive and provides an incentive to haul manure greater distances.

Preplant applications of manure can work almost as well as in-crop manure application. The challenge is to get the manure incorporated, to capture the nitrogen, without delaying spring planting due to the field being too wet or the field made too rough for planting. An acre-inch of water is 27,154 gallons. Applying 7,000 gallons in the spring is like adding a quarter inch of moisture if spread evenly. If the manure is applied in strips, then the field could take longer to dry.

The Ohio State University conducted five years of research on preemergent manure application. The manure application was made after corn had been planted the previous day. Yield results were significantly higher than commercial fertilizer applied at the same time. Based on fall stalk-nitrate tests, the manure appears to stay with the growing corn crop much longer than the commercial fertilizer. This should give farmers confidence that spring applied manure can provide the nitrogen needed by the corn crop over the entire growing season. The key is to apply the needed nitrogen and get the manure below the soil surface. Most swine finishing buildings contain from 30 to 40 pounds of ammonium nitrogen per 1,000 gallons. But there are exceptions to this guide so be sure to rely on previous manure tests. Dairy manure would be much lower at eight to 15 pounds per 1,000 gallons. Research also shows that some agitation of the manure source prior to application will produce more consistency of the nitrogen, phosphorus, and potash over the course of emptying the manure storage.

Another key is to do your best to avoid soil compaction. Manure tankers are heavy and soil compaction can be seen throughout the growing season and on combine monitors during the harvest season. This would be a good reason to favor using a drag hose for spring manure application if possible.

If a producer gets the manure application made, then the producer could utilize a Pre-Side-dress Nitrate Test (PSNT) to determine if additional side-dress nitrogen is needed or utilize tissue testing and Y-drop nozzles to determine if additional nitrogen is warranted. The application of manure to corn focuses on the 4R's of nutrient stewardship. These are the right product, the right rate, right placement, and right timing to maximize crop yield and minimize environmental impacts.

Save the Date for Small Grains

By: Haley Zynda
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2022-08/save-date-small-grains

A small grains field day is to be held at the Snyder and Shaffter Farms of the CFAES Wooster Campus on June 14, 2022. A few topics that will be addressed are specialty wheat lines, variety trial updates, disease identification in regard to growth stages, barley for brewing, and wheat quality. We will take a pause for lunch and interact with graduate students presenting research posters. Thanks to the generosity of the Ohio Corn and Wheat Board, this event will be free of charge. More details will be forthcoming with registration forms in early May. We look forward to seeing you there!

Ag Economy Barometer Slides Lower

By: James Mintert and Michael Langemeier, Purdue Center for Commercial Agriculture
Source: https://ag.purdue.edu/commercialag/ageconomybarometer/ag-economy-barometer-slides-lower-producers-concerned-about-wars-impact-on-input-prices/

The Purdue University-CME Group Ag Economy Barometer dipped to a reading of 113 in March, the weakest farmer sentiment reading since May 2020 which was in the early days of the pandemic. The March reading was 12 points lower than a month earlier and 36% lower than in March 2021. The decline in the barometer was driven both by weaker perceptions of current conditions and expectations for the future. Compared to February, the March Index of Current Conditions declined 19 points to 113 and the Index of Future Expectations declined 9 points to 113. When compared to a year earlier, producers' appraisal of current conditions was down 44% while their expectations for the future fell 31%. The Purdue University-CME Group Ag Economy

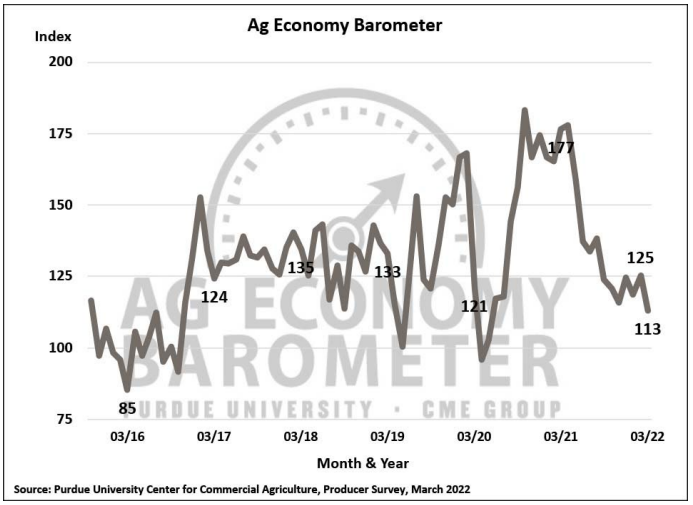


Figure 1. Purdue/CME Group Ag Economy Barometer, October 2015-March 2022.

Barometer sentiment index is calculated each month from 400 U.S. agricultural producers' responses to a telephone survey. This month's survey was conducted from March 14-18, 2022.

Producers continue to say that they expect their farm's financial performance to decline in 2022 compared to 2021. The March Farm Financial Performance Index, at a reading of 87, was up slightly (4 points) compared to February but it was still 30% lower than a year earlier. When producers think about how their farm will fare financially in 2022, it's clear they do not expect commodity price strength to offset the dramatic rise in farm production costs they are experiencing.

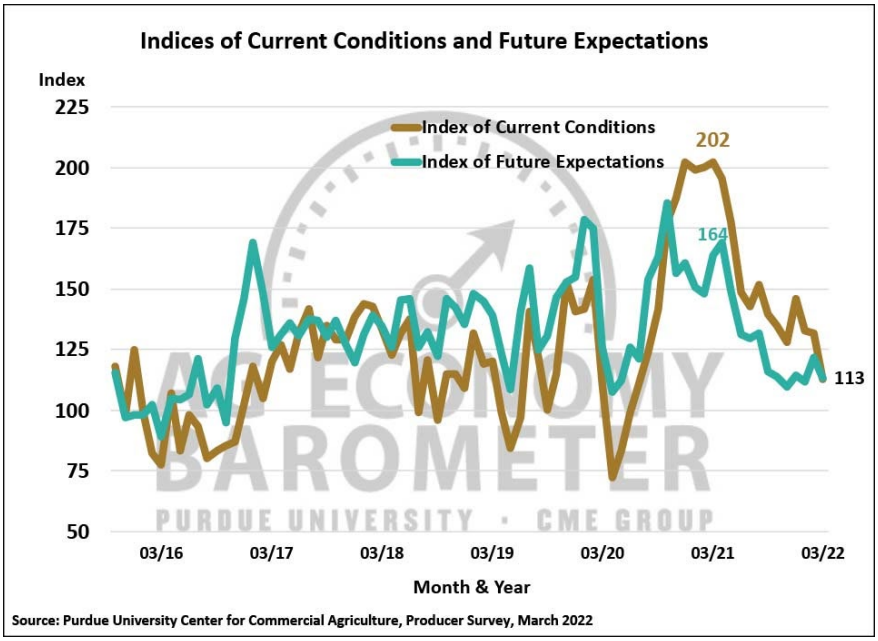
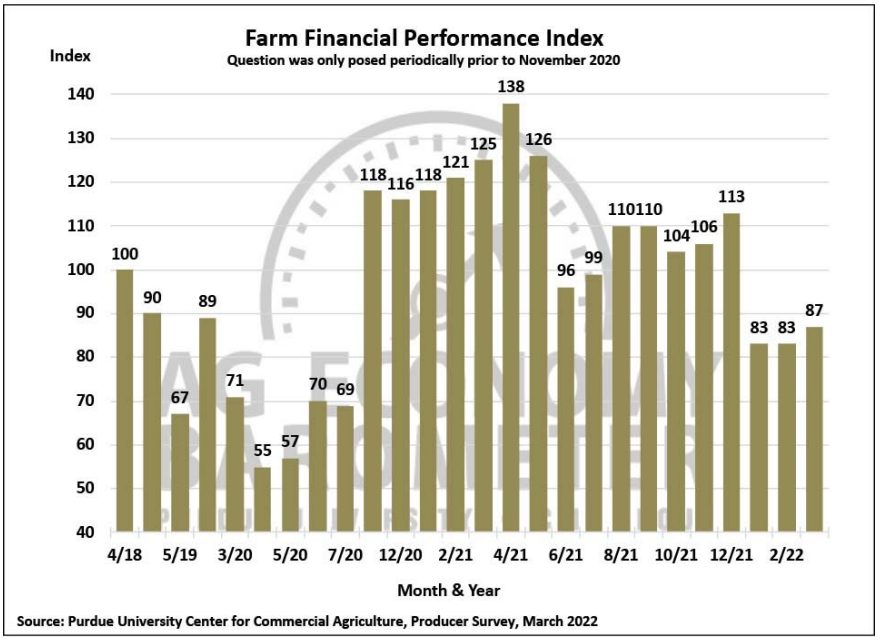


Figure 2. Indices of Current Conditions and Future Expectations, October 2015-March 2022.

The biggest concern among producers for their farming operation this year continues to be "higher input costs". Drilling down a bit further, it's clear that disruptions to trade in ag commodities and key inputs such as fertilizer resulting from the war in Ukraine are on producers' minds as 19% of respondents chose "availability of inputs" as their biggest concern, matching the percentage of producers who chose "lower crop and/or livestock prices". The March survey provided the first opportunity to ask producers explicitly how they expect war in Ukraine will impact U.S. agriculture.

Figure 3. Farm Financial Performance Index, April 2018-March 2022.



Producers overwhelmingly said they expect input prices to be most affected (63% of respondents) followed by crop prices (33% of respondents) and livestock prices (3% of respondents).

When asked about their expectations for farm input prices in the upcoming year, 57% of producers said they expect farm input prices to rise by 20% or more and 36% said they think input prices will rise by 30% or more. Responding to a related question, just over one-fourth (27%) of producers say they've had difficulty purchasing crop inputs for the 2022 crop season. Responses to this question have been consistent since January, with 27 to 30% of producers indicating they faced input supply challenges. Supply chain problems continue to be wide-ranging with herbicides and fertilizer posing the most problems followed closely by farm machinery parts.

Producers do not view this as a good time to make large investments in their farming operations as the Farm Capital Investment Index in March fell yet again. The March index reading of 36 was 6 points lower than a month earlier and 59% lower than in March 2021. In a pair of follow-up questions, 62% of respondents said

their plans for farm machinery purchases in the upcoming year are lower than a year earlier, which is the most negative response to that question since May 2020. When asked a similar question about farm building and grain bin construction plans, 68% of respondents chose “lower” which was the most negative response received to that question since its first inclusion in a barometer survey in May 2021. Supply chain problems continue to haunt both the farm machinery and construction sectors and are one of the reasons producers don’t view this as a good time for large investments. For example, 42% of producers this month said their machinery purchase plans were impacted by low farm machinery inventories, consistent with industry reports that major machinery manufacturers are experiencing order backlogs.

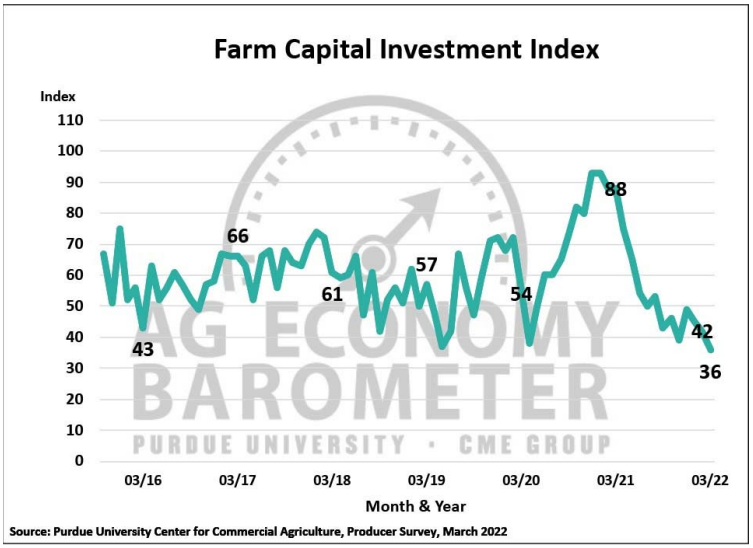
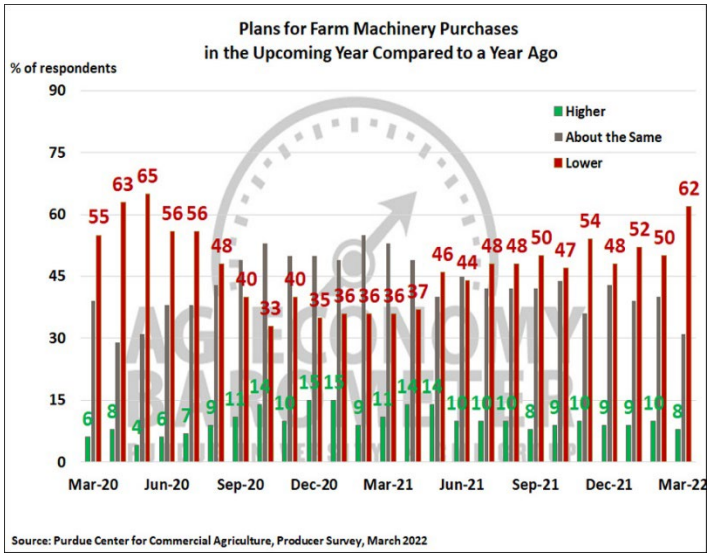


Figure 4. Farm Capital Investment Index, October 2015-March 2022.

There was little change in the farmland value indices in March. The short-term index remained at 145 while the long-term index dropped back 8 points to 146, which left it one point above its January reading. When three-month moving averages of both the long and short-term indices are examined, however, it does start to look like producers are less bullish about farmland values than they were last fall. The three-month moving averages for both the long and short-term indices peaked last fall and now stand 7 to 8% below, respectively, their November 2021 level. The shift could simply reflect how rapidly farmland prices have increased recently and how difficult producers expect it to be for values to continue increasing from current levels.



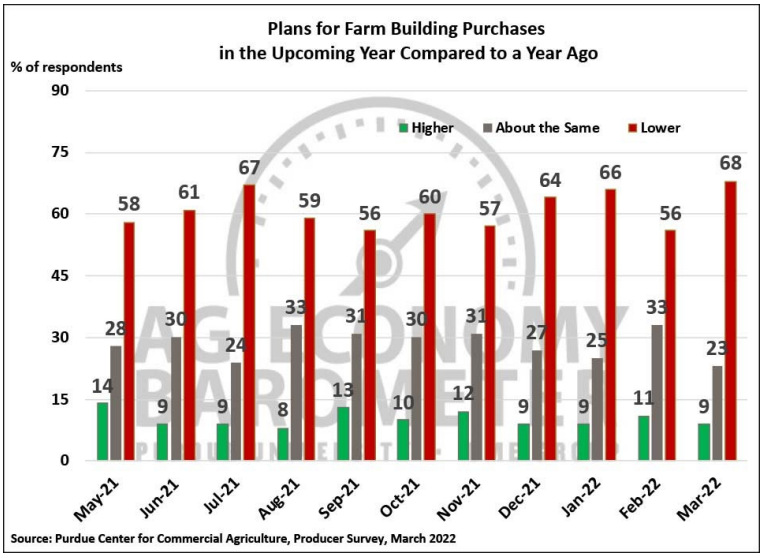
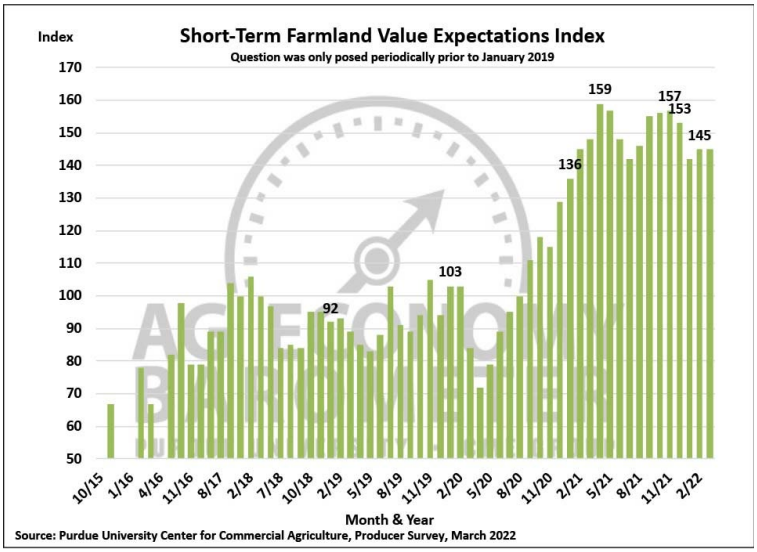


Figure 5. Plans for Farm Machinery Purchases in the Upcoming Year Compared to a Year Ago, March 2020-March 2022.

Figure 6. Plans for Constructing New Farm Buildings and Grain Bins, May 2021-March 2022.

Ag producers’ sentiment weakened in March as the Ag Economy Barometer fell 12 points below February’s reading, making it the weakest sentiment reading since May 2020. Concern about the impact of rising input prices and input availability on their farming operations was paramount in the minds of producers responding to

the March survey. The war in Ukraine exacerbated producers' worries about production costs with nearly two-thirds of producers expecting the biggest impact on U.S. agriculture from the war to be on input prices. Uncertainty and supply chain issues continue to hamper producers' investment plans with over 60% of producers indicating their farm machinery purchase and construction plans for the upcoming year are lower than a year earlier. Although producers' perspective on farmland values changed little in March compared to February, it does look like producers are less bullish about farmland values than last fall as three-month moving averages of both the long and short-term farmland value indices in March were 7 to 8 percent below, respectively, their November 2021 peak.



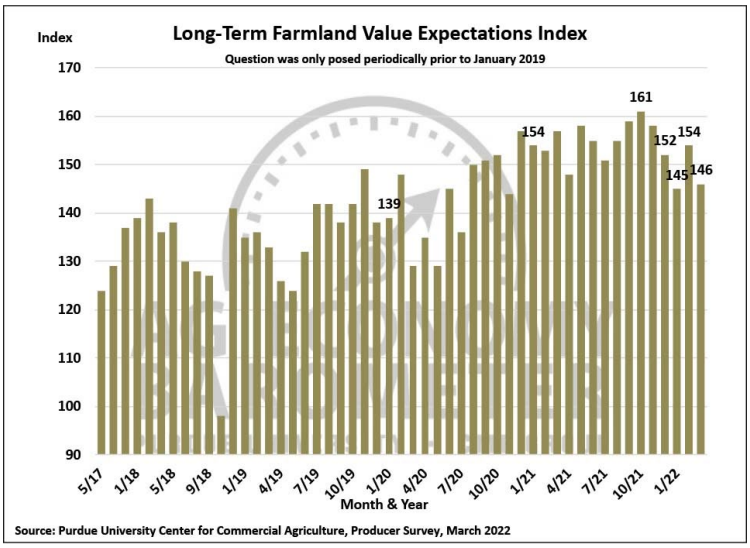


Figure 7. Short-Term Farmland Value Expectations Index, November 2015-March 2022.

Figure 8. Long-Term Farmland Value

A breakdown on the Purdue/CME Group Ag Economy Barometer March results can be viewed at https://purdue.ag/barometervideo. Find the audio podcast discussion for insight on this month's sentiment at https://purdue.ag/agcast.
Download report (pdf)

How Will the Invasion of Ukraine Affect U.S. Agriculture?

by: Ian Sheldon, Professor and Andersons Chair of Agricultural Marketing, Trade, and Policy, Agricultural, Environmental, and Development Economics, Ohio State University and Chris Zoller, Associate Professor and Extension Educator, Agriculture & Natural Resources, Ohio State University Extension – Tuscarawas County
Source: https://u.osu.edu/ohioagmanager/2022/04/05/how-will-the-invasion-of-ukraine-affect-u-s-agriculture/

Russia's Invasion of Ukraine: The Global Impact

The shock to global commodity markets following Russia's invasion of Ukraine is expected to be the largest in the post-war period, and certainly since the oil crisis of the 1970s. Over the past 30 year, the two countries have become major agricultural exporters, accounting for a quarter of global grains trade in the 2021-22 season (International Grains Council, March 9, 2022). Across key commodities, they account for a 34, 18, 27 and 75 percent share of volume traded of world wheat, corn, barley, and sunflower oil respectively (International Food Policy Research Institute, February 24, 2022). With Russia blockading ports on the Black Sea, 16 million tons of grain are currently stranded in Ukraine, USDA forecasting Ukrainian-Russian wheat exports to fall by 7 million tons in 2021-22, Australian and Indian exports only partially filling the gap (USDA/WASDE Report, March 9, 2022) Also, despite reports of some spring crops being planted in Ukraine, outgoing Agriculture Minister Roman Leshchenko expects total area sown to be reduced by 19 million acres (Reuters, March 22, 2022).

Not surprisingly a market shock of this magnitude has affected both the volatility and level of prices, wheat futures at one point moving above $14/bushel, and eventually falling back to just over $10/bushel, reflecting uncertainty among traders about the invasion. In turn, the increase in grain prices, are having a significant effect on global food prices and hence food security. Even before the invasion, several factors were already driving up food prices, including poor harvests in South America, strong global demand, supply chain issues, reduced global stocks of grains and oilseeds, and an input cost squeeze mostly due to rising fertilizer prices. Adding in the effect of the invasion, global food prices are now reaching levels not seen since the so-called "Arab Spring" of the early 2010s (UN/FAO, March 2022).

The steep decline in grain exports has led to institutions such as the UN World Food Program expressing concern about global food security, the cost of buying food forecast to rise by $23/month – a significant increase to those living off $1.90/day, the World Bank definition of poverty (New York Times, March 20, 2022). Countries in the Middle East and North Africa such as Egypt, the Lebanon and Tunisia are very dependent on grain imports from Ukraine and Russia, the risk of food price inflation stirring up political and social unrest. On top of this, there is concern other countries will adopt "beggar-thy-neighbor"-type controls on grain exports to protect their own populations, that will simply intensify the food price spike (Financial Times, March 23, 2022).

Implications for U.S. Agriculture

We are experiencing higher fuel prices at the pump, grain markets (especially wheat) rallied on news of the invasion and resulting sanctions, and the invasion created further uncertainty for fertilizer costs. What does the future hold for fuel, fertilizer, and grain prices? It is impossible to say with certainty, but the market does not like uncertainty. In other words, expect a great deal of continued volatility. Harwood Schaffer and Darrel Ray, Agriculture Policy Analysis Center at the University of Tennessee (MidAmerica Farmer Grower, March 4, 2022), make the following points about possible impacts:

- Russia may try to broker a deal with China to avoid trade sanctions. If this happens, the U.S. may be able to capture markets previously served by Russia.
- If the war continues, who will harvest the Ukraine wheat crop and how will it be transported?
- If the consensus is that the wheat crop will be short, expect an increase in prices.
- If commodity prices do increase, will it be enough to cover rising fuel and fertilizer costs?

Scott Stiles, agricultural economist, University of Arkansas, says the war may provide an opportunity for the U.S. to sell more corn to China and the European Union, who have historically purchased corn from Ukraine (Ryan McGeeney, U of A Division of Agriculture, March 3, 2022).

University of Illinois agricultural economists Gary Schnitkey, Nick Paulson, and Krista Swanson, and Carl Zulauf, Emeritus Professor, Ohio State University (Weekly Farm Economics, March 29, 2022), offer the following potential impacts:

- Wheat has seen positive price movement. Because corn is a substitute feed grain for wheat, corn prices may see a greater increase than soybeans.
- Do not underestimate the resourcefulness of Ukrainian farmers. However, continued fighting and planting disruptions may lead to higher prices.
- Expect continued price and availability uncertainties in the fertilizer market.

Summary

The invasion of Ukraine is proving a significant shock to global commodity markets, with the very real prospect of worsening global food insecurity as net food importing countries face shortages of key staples such as wheat. In the short run, the expectation is that there are real limitations on the ability of the U.S. to meet the shortfall: winter wheat is already in the ground, stocks are low, drought conditions are likely to impact yields in states such as Kansas, and farmers face an input price squeeze (Financial Times, March 14, 2022). Not surprisingly, there is political pressure on USDA to allow farmers to plant on land enrolled in the Conservation Reserve Program (CRP) without penalty (Reuters, April 1, 2022).

Understanding Probate Counsel Fees

By Robert Moore, Attorney and Research Specialist, Agricultural & Resource Law Program
Source: https://farmoffice.osu.edu/blog/tue-04052022-937am/understanding-probate-counsel-fees

Anyone who has ever been an Executor of an estate knows how much paperwork is involved with administering an estate. The county probate court, which oversees the estate process, requires many filings to verify the assets the deceased person owned, determine the value of those estates and to ensure that the correct beneficiaries receive the assets. Typically, administering an estate requires the assistance of an attorney familiar with probate rules and forms.

Like any professional providing services, attorneys will expect to be paid for their estate administration services. Legal fees charged by an attorney for an estate must be approved by the probate court. Many probate courts have established a schedule of fees that provides a benchmark for attorneys. Basically, if the attorney's legal fees are no more than the schedule of fees, the court will approve the fees. The approved probate fees vary from county to county but are usually between 1% to 6% of the value of the estate.

It is important to note that the court approved probate fees are a benchmark, not a requirement. That is, the court is not requiring an attorney to charge those rates. Instead, the court is merely stating that fees that do not exceed the benchmark will likely be approved. It is up to each attorney to determine the fee structure to implement for their services. Some attorneys may use the probate rates for fees while other attorneys may bill based on an hourly basis.

Before hiring an attorney, Executors should have a thorough discussion regarding the attorney's fee structure. The Executor should ask if the attorney charges on an hourly basis, flat rate basis or uses the county probate rates. Based on the fee structure used, the attorney should be able to provide a good estimate of legal costs for the estate administration. If the Executor has reason to believe the fees charged by the attorney may be too high, it's helpful to consult with other attorneys who use a different fee structure and compare.

Consider the following examples:

- The county probate court allows a 2% legal fee rate for real estate that is not sold. Joe passes away owning a $100,000 house. Joe's Will directs the house to be inherited by his daughter. The attorney assisting with the estate administration uses fees based on the county rate. The attorney will be entitled to $2,000 in legal fees.
- Let's change the scenario so that Joe owned a $1,000,000 farm when he passed away. The attorney will be entitled to $20,000 in legal fees.

The above examples illustrate how probate rates work and also illustrates why executors should not automatically agree to pay the probate rates. In the examples, the attorney basically does the same work – transfers one parcel of real estate to the daughter. However, because the farm was worth ten times more in value, the attorney received ten times more in legal fees.

Let's continue the scenario.

- The Executor thinks $20,000 in legal fees to transfer the farm may be too much. The executor finds an attorney that charges hourly for estate administration, rather than using the county rates. The attorney charges $200/hour and thinks it will take about 15 hours of work to have the farm transferred to Joe's daughter. Executor quickly decides to hire the second attorney and saves $17,000 in legal fees.

Often, probate rates can result in reasonable legal fees. Charging $2,000 to transfer a $100,000 house is probably reasonable. In some situations, particularly for smaller estates, the probate rates may be inadequate, and the attorney may seek permission from the court to charge in excess of the rates. However, for farm

estates, the county rates can result in excessive legal fees. Due to the capital-intensive nature of farming, farm estates will tend to have a much higher value than typical, non-farm estates. A modest farm estate of $5 million, at a 2% probate fee rate, will result in $100,000 of legal fees. An attorney charging $250/hour would have to bill 400 hours to make those same legal fees. A $5 million farm estate is not going to take 400 hours to administer.

Executors administering farm estates should carefully evaluate legal fees charged by the estate attorney. Applying county probate rates to farm estates can result in very large legal fees. Before agreeing to accept the probate rates as the fee structure, Executors should also inquire as to what legal fees would be if charged on an hourly basis. After getting an estimate of legal fees for both fee structures, the Executor can then make an informed decision as to how best to proceed with legal counsel.

Get a Head Start on Controlling Poison Hemlock and Wild Parsnip

By: Joe Boggs
Source: https://bygl.osu.edu/index.php/node/1935

Poison hemlock (Conium maculatum L.) and wild parsnip (Pastinaca sativa L.) are currently in a growth stage that makes them susceptible to early-season management. Targeting these dangerous plants with herbicides applied now will prevent flowering and seed production later this season.

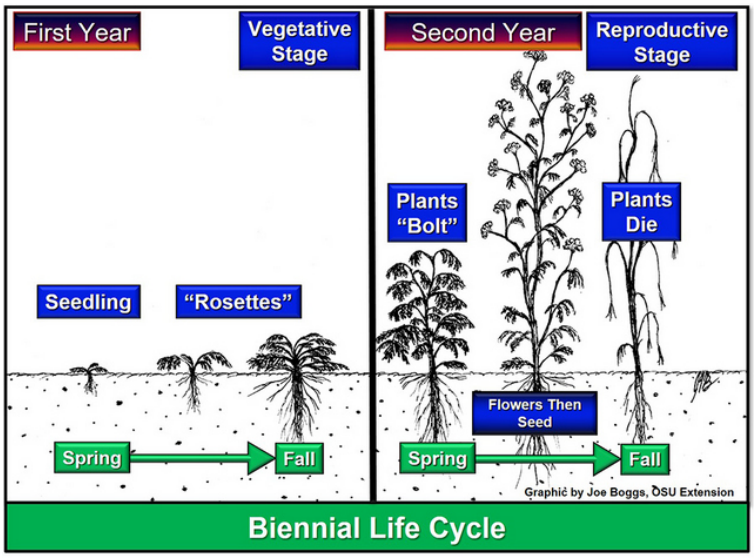
These non-native invasive weeds are combined in this report because they are increasingly found growing together in Ohio. Both belong to the carrot family, Apiaceae, and produce umbrella-like flowers referenced in the old name for the family, Umbelliferae. They also have biennial life cycles requiring at least two years to grow from seed to mature flowering plants.

However, the defense chemicals of these weeds are very different and have vastly different modes of action. This is important to understand relative to management options as well as medical treatments for exposure to these highly dangerous weeds.

Life as a (Variable) Biennial

Plants with a biennial life cycle spend the first season in the vegetive stage. The low-growing “rosettes” use carbohydrates acquired through photosynthesis to produce a robust root system.

Plants “bolt” during the second-year reproductive stage to produce erect multi-branched stems topped with umbrella-like flowers. The mature plants die after producing seeds.



It’s important to keep in mind that the graphic provides a generalized view of a biennial life cycle. In reality, there can be considerable variability in the timing of events meaning that the growth stages within a group of poison hemlock and wild parsnip plants are seldom synchronized. It’s common for first-season vegetive plants to be mixed with second-season reproductive plants.

Seed viability as well as the timing of seed germination also affects what we see. Poison hemlock and wild parsnip are prolific seed producers with hemlock seeds remaining viable for 4-6 years and parsnip seeds remaining viable for around 4 years. New and old seeds produced by both of these plants may germinate in late summer, early fall, to early spring. As a result, first-year rosettes commonly range in size from small plants if seeds germinated in the spring to larger plants if seeds germinated in the fall.

Also, some plants take longer than two years to complete their development. Wild parsnip may occasionally behave as a monocarpic perennial spending more than one year in the vegetative stage before flowering once and then dying. It's suspected poison hemlock may also be capable of behaving as a monocarpic perennial although research has not confirmed this speculation.

Poison Hemlock

Poison hemlock was imported into the U.S. as an ornamental in the late 1800s from Europe, West Asia, and North Africa. Rogue plants remained relatively rare until around 30 years ago. Since that time, poison hemlock has elevated its profile from an uncommon oddity to a common threat.

This non-native is one of the deadliest plants found in North America. It is the plant used to kill Socrates as well as the Greek statemen Theramenes and Phocion. Poison hemlock plants contain highly toxic piperidine alkaloid compounds, including coniine and gamma-coniceine, which cause respiratory failure and death in mammals.

All parts of the plant are poisonous: leaves, stems, seeds, and roots. However, the toxins must be ingested or enter our body through our eyes, nasal passages, or cuts in our skin to induce poisoning. The toxins do not cause skin rashes or blistering. Regardless, this plant should not be handled because sap on the skin can be rubbed into the eyes or accidentally ingested while handling food. Immediate emergency medical attention should be sought if accidental poisoning from this plant is suspected.

All stages of the poison hemlock plant have dark-green to bluish-green leaves that are 3-4 times pinnately compound. The deeply cut parsley or carrot-like leaflets have sharp points. Flowering plants have hollow, hairless, light-green to bluish-green stems that are covered with obvious purplish blotches; maculatum means 'spotted'. Clusters of tiny white flowers are borne on structures called umbels that look like upside-down umbrellas. Mature poison hemlock plants can measure 6 – 10 ft. tall.

It's commonly reported that Wild Carrot (Queen Anne's Lace, Daucus carota) may be mistaken for poison hemlock or vice versa. However, white flowers and parsley-like leaves are the only things this non-native has in common with poison hemlock. The flat-topped flower umbels look nothing like poison hemlock, the stems are hairy, and the bristly leaves are single pinnate. More importantly, wild carrot blooms in mid-summer long after poison hemlock has bloomed, and plants are collapsing after producing seeds.

Wild Parsnip

Wild parsnip sap contains psoralen which is a naturally occurring phytochemical grouped in a family of organic compounds known as linear furanocoumarins. Psoralen acts as a photosensitizing compound by inhibiting DNA synthesis in epidermal cells which kills these light-shielding cells responsible for protecting us from long-wave ultraviolet radiation (LWUVR) bombarding us in sunlight.

Severe blistering occurs when the affected skin is exposed to LWUVR. The synergistic effect is called phytophotodermatitis (a.k.a. Berloque dermatitis) and the burn-like symptoms, as well as skin discoloration, may last for several months.

Skin blistering takes around 24 hours for symptoms to first appear after exposure to LWURV and severe blistering typically doesn't peak until 48 -72 hours. The time required for symptoms to appear after exposure to the sap means the effect may be disconnected from the cause.

Psoralens are also found in several other members of the Apiaceae family including the notorious giant hogweed (Heracleum mantegazzianum) which has captured national attention in the past. However, giant hogweed has not become widespread in Ohio with confirmations confined to the northeast part of the state.

Wild parsnip is found throughout the state and is equally damaging. Of course, giant hogweed has a more threatening sounding common name while wild parsnip sounds like a vegetable gone wild; which it actually is! Parsnips have been cultivated as a root crop in Europe for centuries, perhaps millennia. The "L." in the scientific name Pastinaca sativa L. means Linnaeus first described the species. Both the cultivated and wild types share the same scientific name; however, it is clear that there are significant differences in toxic biochemical properties between the two types.

It is theorized that the wild parsnip plants in Ohio represent "escapes" from cultivated types brought to North America from Europe and a "reversion" back to a wild type. The wild genes were always there but remained suppressed until revealed through natural selection. Wild parsnip rosettes have celery-like leaves confined to growing from a short stem near the ground. While in this stage, the plant produces a long, thick taproot.

Flower stalks that eventually arise from rosettes have leaves that are alternate, pinnately compound, branched, and have saw-toothed edges. Each leaf has 5 – 15 ovate to oblong leaflets with variable toothed edges and deep lobes.

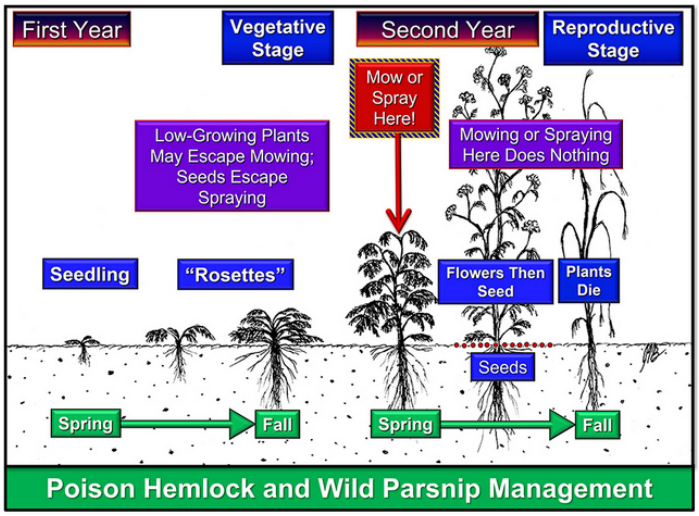
The mature flowering plants have a single, thick, deeply grooved, greenish-yellow hollow stem that sprouts lateral branches topped with hundreds of clusters of the yellow umbellate flowers. Mature wild parsnip plants are normally shorter in stature compared to poison hemlock. While some plants may top 6 ft, most mature plants are 4 – 5 ft. tall.

Management

Unfortunately, poison hemlock and wild parsnip are becoming more common throughout Ohio. Worse, these dangerous non-native weeds are increasingly being found growing near people which increases risks to human health. Additionally, it is not unusual to find poison hemlock and wild parsnip growing together which can create misinterpretations of exposure symptomology. This may account for some online resources incorrectly attributing skin blistering to contact with poison hemlock.

Timing is everything! The graphic below shows the best and worst times to implement management tactics.

Herbicides:
The safest approach to controlling these dangerous invasive weeds is to use herbicides. This minimizes risks associated with direct contact. As always, read and follow label directions paying close attention to recommended rates and whether surfactants are recommended to enhance herbicide efficacy.



The application window for controlling poison hemlock and wild parsnip is now opening in southern Ohio. Surrounding vegetation has largely not yet started to grow which makes first and second-year plants very evident.

Keep in mind that both of these weeds bolt in the spring; flowers and seeds are produced in early summer. It's critical to make herbicide applications before the plants produce flowers.

Non-Selective Post-Emergent Herbicides:
These herbicides kill a wide range of plants after they have sprouted from seeds. However, keep in mind that non-selective herbicides such as glyphosate (e.g., Roundup) can also illuminate plants that compete with poison hemlock and wild parsnip. Herbicidal openings produced by non-selective herbicides provide perfect opportunities for more parsnip and hemlock to spring forth from previously deposited seeds. Thus, it's important to have a plan for establishing competitive plants such as over-seeding with grasses.

Selective Post-Emergent Herbicides:
These herbicides kill a select range of plants after they have sprouted from seeds. Selective herbicides can be chosen that will preserve competitive plants. For example, grasses are strong competitors against these opportunistic weeds. Herbicides that spare grasses but kill "broadleaf weeds" like poison hemlock and wild parsnip will preserve and enhance this competitive edge. Selective herbicides effective against wild parsnip and poison hemlock include, but are not limited to, clopyralid (e.g. Transline), metsulfuron (e.g. Escort XP), and combination products such as those that contain 2,4-D, mecoprop, and dichlorprop (e.g. Triamine). Again, applications must be made before plants start to flower to effectively reduce weed infestations.

Pre-Emergent Herbicides:
These herbicides interfere with the successful establishment of targeted weeds from seed. Unfortunately, I'm not aware of any published data on the efficacy of preemergent herbicides against poison hemlock or wild parsnip.

To Mow, or Not to Mow
Poison hemlock can be controlled by mowing bolting plants before they produce flowers. However, low-growing rosettes may escape the blade, and seeds are unaffected. Thus, an infestation will not be eliminated in one mowing season. Improper timing can actually enhance poison hemlock infestations. The images below show a high-risk location where poison hemlock has been consistently mowed from late summer to early fall after plants had already released their seed. Worse, the late-season mowing removed shading from taller competitive plants exposing the hemlock rosettes to full sun. As the result of years of ill-timed mowing, poison hemlock has ascended from a rarity in this location to a dominant plant.

CAUTION: sap from poison hemlock presents a serious hazard. There is a potential for the sap to become aerosolized with the mechanical removal of actively growing plants. String trimmers and open flail mowers should not be used.

Care should also be taken with shrouded mowers. Personal protection equipment (PPE) including eye protection, gloves, and clothing to cover arms and legs is strongly recommended. Clothing and gloves should be removed and washed as soon as possible after mowing.

Poison hemlock plants may be hand-pulled before flowering and disposed of in a safe manner. The same PPE recommendations for mowing should be applied. In my opinion, wild parsnip should not be removed mechanically or by hand-pulling. There is simply too much of a risk presented by errant sap. Thus, if wild parsnip is growing among poison hemlock, herbicide applications are the safest option to remove both of these dangerous weeds.

Let the Livestock Do the Harvest

By: Victor Shelton, Retired NRCS Agronomist/Grazing Specialist
Source: https://u.osu.edu/beef/2022/04/06/reduce-the-turning-wheels-let-the-livestock-do-the-harvest/

I'm glad that warmer weather is finally here – at least most days it is. What I really don't like this time of year is major rainstorms, mud and the increasingly finicky palates of some livestock. I would compare the last to a nice, delicious meal on the table for the family to eat while knowing there is fresh pie for dessert. The momentary stables that are fine most any day are suddenly just not good enough and the desire to skip to dessert is almost more than some can endure.

For the ruminant there are some good reasons for this. They have the ability to get fairly quick biological feedback from what they are consuming. This allows them to seek what may have the highest energy or nutrient that they need. The cows even know "washy" grass usually only "appears" better than the hay and will balance their diet if needed.

It also can provide some feedback to items that might be harmful so they recognize that it shouldn't be consumed. This is particularly true when there are plenty of choices to be made on the pasture salad bar. Perhaps we humans have something to learn from this.

Smaller ruminants are better grazers or browsers than larger livestock. Sheep and goats cannot only select specific plants to eat, but also very specific plant parts. Larger livestock such as cattle and horses are not as selective and do tend to consume more variety per bite if presented and especially so if there is any competition for that bite. So, the more you concentrate livestock, especially cattle, the less selective they become, and the more undesirable plants are consumed.

Smaller ruminants out graze larger livestock quality wise. This has been shown in fecal analysis studies and also in fistulated animals. They consistently harvest the highest nutritional plant parts available. I prefer for the allocation of forage to be grazed down fairly evenly during the grazing event. By doing so, intermediate and undesirable species are also consumed and are less likely to get a stronger foothold in the pasture and out compete the desirable species that we, or rather the livestock, like.

To get a fairly even grazing and yet not allow overgrazing, ideally, the grazing event should be very short, and the livestock moved before enough time has passed for there to be much regrowth to prevent grazing of that new growth. That new growth is needed to help restore the solar panel that was just removed and also the energy reserves of the plant. If they are grazing new regrowth since the last move, they have been there too long. In an ideal situation, where livestock is moved prior to starting to graze new regrowth and forage is allowed to rest and recover, the grazing event is generally never over three days with shorter periods being better. The smaller the ruminant livestock, the truer this is.

I still raise some sheep. I would much rather have the sheep out on stockpiled forages or annuals this time of year than waiting and feeding hay. As soon as the first blade of grass appears in the overwintering area, hay is no longer the choice feed, no matter how good it is. Cattle are a bit more patient as long as they are not provided too many minute samples of the upcoming morsels. Once they get a good taste of new growth, they also balk, but are also more content on sufficient hay.

If you haven't figured it out yet, there is an order in which hay should be or should have been fed. Hay leftover from the previous year(s) should be the first to be utilized going into winter or whenever you first need it. The last of the winter feeding should be the best hay. This is especially true if you are spring calving. Nothing will stir up ruminant uproars more than feeding the least quality stuff at the end of winter. They will quickly complain about being fed broccoli leftovers while waiting for the ice cream to get ready.

As we discussed last month, it is best to wait for the forages to have some substance before grazing begins. Preferably, you will wait to start grazing until the plants are at least 8 to 10 inches tall (tall cool-season forages such as fescues and orchardgrass) and sufficient growth that includes enough fiber for the livestock. The forage plant early in the spring is also pulling reserves from the roots and starting photosynthesis. Being consumed too early and immature slows the process and reduces resilience and long-term growth potential for the season. I'm counting the days.

Once you do transition to pasture for the season, it is still a good idea to have a little hay available for them to start with and ensure you make sure they have consumed some hay prior to the first gate opening. It will provide some stable fiber to help balance out new forage that is still lusher and often higher in water content than what they have been consuming. Generally, if they need it, they will eat it. Ruminant livestock have never failed to support that theory.

It is probably a wise decision to make sure you are feeding a mineral mix with sufficient magnesium. Normal rates for mineral mixes contain about 2% magnesium. When we have cooler temperatures and lush forage in front of the cows, a high-magnesium mineral supplement should be used. High-magnesium mineral mixes usually have about 16.5% magnesium. You should probably continue with this supplement until we get past the early fast flush of new grass growth. Fields that have been supplemented with extra nitrogen and potassium tend to have more issues because more magnesium can be tied up. It's a balancing of cations.

Keeping sufficient salt and other minerals that are needed available all the time is always a good place to start and lowers concerns. Check with your local veterinarian or extension agent for more information.
It does seem we are having more rain and wetter springs than in the past or my patience grows thinner the older I get. Thankfully, the wind helps to dry things out between them some. New forage growth stabilizes the soil and builds increasing amounts of resilience with an abundance of new roots and additional cover mixed with last season's leftovers.

I dread the transition period from fed forages to pasture almost every year. That might sound a bit odd to say. I'm glad to have livestock grazing again, I just wish that there had been enough forage of some type available, perennial or annual, that grazing was more of a perpetual event than seasonal. That is the ultimate goal for some. For most, the goal is to just reduce the amount of winter feed needed as much as possible. Some hay or winter fodder is almost always needed, even in the most ultimate systems and purely for insurance purposes if nothing else. The weather can and has thrown some major curve balls.

Winter feed has always been a major cost of ruminant livestock production. The more it can be reduced, generally, the better it is on the bottom line. It takes more acres per animal unit to be able to graze more days per year. It generally takes both perennial and annual forages, but not always. The livestock is for the most part, going to be consuming the same amount of dry matter each year whether it is harvested by the livestock themselves or harvested by you or someone else and fed to it.

The amount of forage that is “fed” to the livestock is quite often just personal choice. The more hay made, the more hay that is fed. Could some of that fodder have been grazed in place or at least more of it? This season is going to have some challenges, especially with fuel prices. Reducing the turning of wheels should be a goal with a focus on growing more forage per acre and harvesting more of it directly with livestock instead of mechanically. Remember, it’s not about maximizing a grazing event, but maximizing a grazing season! Keep on grazing!

Cattlemen- There’s An App for That!

By: Erika Lyon, Ohio State University Extension, Jefferson & Harrison Counties & Dr. Brian Arnall, Oklahoma State University Extension
Source: https://u.osu.edu/beef/2022/04/06/finding-your-ag-apps-for-smart-phones-and-tablets/

The number of apps available to producers has exploded in the last decade, making tasks such as calculating tank mixes, identifying weeds, record keeping and even calculating gestation/calving dates so much easier. Initially, iOS held a majority of the apps, but today, Android also has about an equal share of the app market. Here are some considerations when selecting apps that will work best for your livestock operation.

Apps can function anywhere from basic calculators (gestation times, tank mixing, prices and profitability, etc.) to identification and educational tools to recordkeeping tools. Be careful of apps that primarily serve as ads. Watch out for the online app reviews as well – check to see if the app company is a client of the company writing the article. You will have specific needs and interests. Have a checklist or shopping list with the features that you need – if any of those features are not included, trash it!

Be aware of your search terms – searching for wheat apps for example may pull up information on how to live a gluten-free lifestyle. For livestock, there are a lot of game apps out there – while fun to play, they likely will not help you with your operation. It’s common sense but searches can be frustrating – think about what the most descriptive search terms might be. For example, use ‘pasture plant ID’ instead of ‘weeds’ when searching for weed identification apps.

Keep in mind that any app you use should be intuitive. For a vast majority of apps, use the three-minute rule – if you can’t figure out what it offers and what it does within three minutes of opening the app, trash it. For GIS/mapping apps, give five minutes as those are usually data-heavy and do tend to take longer to navigate. If it is taking you an hour to figure out how to use the basics of an app, it likely won’t be of use to you.

Customer reviews can be helpful in some situations – for example, if you find an app with customer comments that are being addressed, that usually indicates that the company is listening and fixing bugs or improving functionality of that app. An app that has a large proportion of negative reviews posted since the latest update will likely have significant bugs that need to be addressed.

Is it worth it to pay for an app? It depends. Some apps that charge are expensive, so make sure it has the features that you are looking for. An app that is pay-to-play should include what you need and do what it does well. Pay structures tend to vary from app to app. Some include a one-time payment, others are subscription-based. Some offer free versions with versions that come with additional features for a fee (including removal of ads). Others may charge per head. Look up the website of the company providing the app and do some research before making a purchase. Take advantage of free trials – many companies offer them. if you don’t see a trial period offered, it can be worthwhile to contact the company to see if there is a way to test the app before making the purchase.

Always check the update history. Initially, there were a lot of apps on the market, especially by land-grants, but many have since been upended by updates in both iOS and Android systems. Apps that you pay for should

have regular updates. And make sure you have enough space and memory on your phone to handle the app – otherwise you may experience frequent crashes. GIS-based apps for example tend to have higher memory usage and storage requirements than other app categories.

Ask 'Who owns the data?' Data collected in apps can be stored directly on your device, in the company's cloud, on a mainframe, or on all three. Read through service agreements. Most companies don't want the hassle and will separate themselves from the data. Some will use data for marketing research and to better sell you something. A service agreement should state whether data will be shared or sold.

Don't use apps as a crux! Know the general math behind calculators and double check plant identifications with a good field guide. Plant photo identification apps have come a long way in the last decade and will usually narrow the search to get you into the correct genus, but identifications by this method are not always 100% accurate.

Lastly, many websites that don't take up space on your phone can be bookmarked to your home screen, functioning similar to downloadable apps. Universities often have a lot of great information in online databases that can be accessed quickly this way.

For a list of apps relevant to livestock producers, check out https://go.osu.edu/beefcattleapps. Keep in mind this may not be a complete list of apps currently available as new ones emerge on the market frequently. We are not recommending any particular app – remember, everyone has a different situation, and making a checklist for your needs will ultimately dictate which app will work best for you.

EDITOR's NOTE: In February, 2022, Ohio State University Extension Educator Erika Lyon hosted a webinar session on selecting Apps for Cattle Producers. Featured presenter was Brian Arnall from Oklahoma State University, co-author of the article above. Below is Arnall's presentation in it's entirety at: https://youtu.be/-ZTnqP7sVtc

Farm Office Live Will Air on April 22

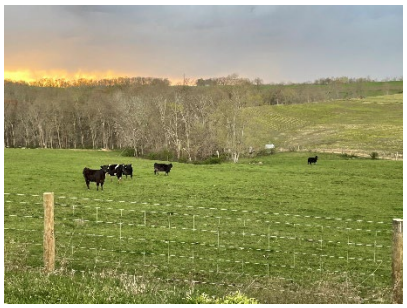
The Farm Office Team will be back on April 22 at 10 am, for the next installment of Farm Office Live. The April topics include: state and federal legislation update; LLC liability protection review; 2021 Midwest farm performance preview; fertilizer and crop budgets update; FSA program updates; Ohio General Assembly website tour. Register or watch replays at go.osu.edu/farmofficelive. The next Farm Office Live will be held on May 20.

Home Fruit Production Workshop Scheduled for April 25

OSU Extension invites Coshocton County residents to attend a Home Fruit Production Workshop on Monday, April 25 from 6:00 to 8:00 p.m. at the Roscoe Village Visitor's Center in the Lock Landing Meeting Room at 600 N Whitewoman Street in Coshocton, Ohio. This workshop will help participants learn how to grow strawberries, red raspberries, black raspberries, and blackberries. Participants will also learn how to care for fruit trees such as apple, peach and pear trees. The keynote speaker Sabrina Schirtzinger, OSU Extension Educator in Knox County.

The registration fee of $10 includes the program, light refreshments, door prizes, and handouts. Limited copies of the "Midwest Home Fruit Production Guide" ($25) will be sold at the event. You can also pre-order with your registration to receive a $5 discount on this publication. ($20). Don't miss this chance to learn more about growing delicious fruit for your family. For more information about this program, contact the Coshocton County Extension office at 740-622-2265.

April Beef Quality Assurance Re-Certification Training



The Coshocton County Extension office will be offering a **Beef Quality Assurance (BQA)** re-certification meeting on April 13 from 7:00 to 8:30 p.m. in Room 145 at the Coshocton County Services Building located at 724 South 7th Street in Coshocton County. Pre-registration is required as space is limited. There is no fee to attend. Call 740-622-2265 to pre-register. These sessions also qualify for anyone who is seeking a first time certification.

Online certification and recertification is also available and can be completed anytime at https://www.bqa.org/beef-quality-assurance-certification/online-certifications.

CFAES

OHIO STATE UNIVERSITY EXTENSION

Home Fruit Production Workshop

Monday, April 25, 2022
6:00 to 8:00 p.m.

Roscoe Village Visitor's Center
Lock Landing Meeting Room
600 N. Whitewoman Street
Coshocton, Ohio 43812

Join OSU Extension – Coshocton County and keynote speaker Sabrina Schirtzinger (OSU Extension Educator in Knox County) to learn more about growing fruit in your home landscape. Learn how to grow strawberries, red raspberries, black raspberries, and blackberries as well as how to care for fruit trees such as apple, peach and pear. Don't miss this chance to learn more about growing delicious fruit for your family. Pre-registration is requested as space is limited. The registration fee for this program is $10 per person. Copies of the "Midwest Home Fruit Production Guide" can also be purchased. We hope you will join us in beautiful Roscoe Village!

REGISTRATION INFORMATION: The registration fee of $10 includes the program, light refreshments, door prizes, and handouts. **There is limited seating so pre-registration is due by April 18.** Limited copies of the "Midwest Home Fruit Production Guide" ($25) will be sold at the event. You can also pre-order this publication with your registration to receive a $5 discount ($20).

Name(s)_____

Address_____

Email_____ Phone_____

$10 per person registration ____# of attendees @ $10 each

Pre-order a copy of Midwest Home Fruit Production Guide ___ yes ___no ($20 additional)

Please make checks payable to OSU Extension and mail to OSU Extension, 724 South 7th Street, Room 110, Coshocton, Ohio 43812. For more information, call 740-622-2265.

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES