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OHIO STATE UNIVERSITY EXTENSION

COSHOCTON COUNTY AGRICULTURE & NATURAL RESOURCES

February 2 (Edition #132)

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Hello Coshocton County! Today is a day that many who dislike winter, patiently wait for as today is Groundhog's day. Well, early this morning Punxsutawney Phil emerged from his burrow in Pennsylvania and saw his shadow signaling his prediction of six more weeks of winter.

We have lot of workshops planned over the next few weeks. We had a nice group at Beef Quality Assurance last night and today at our Agronomic Weed's University.

I would encourage you to consider attending the 2022 Agricultural Policy and Outlook meeting on February 14 in Zanesville. We have a lot of great speakers and topics slated for this meeting. Make sure to get your reservations in by next week.

Additionally, there are a lot of other programs including an Ag Lease Workshop and the very popular East Ohio Women in Ag Program. I included an article on frost seeding to get you thinking spring (of course we will need some snow melt but that will come!). Also some great information on how to manage P&K in 2022.

Sincerely,

David L. Marrison

Coshocton County OSU Extension ANR Educator

Weather Update: Will Cold and Snowy Weather Continue into February?

by: Aaron Wilson
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2022-03/weather-update-will-cold-and-snowy-weather-continue-february

Summary

We wrapped up 2021 with the second warmest December on record (1895-present). This secured last year as the fifth warmest year on record and the second warmest for overnight lows.

Shortly after the first of the year however, the weather pattern turned much colder and has remained that way throughout the month. A heavy snowfall event dropped significant snow across the eastern counties, and lighter events have kept the ground covered with snow for much of the state. With snow in place, temperatures have been running 2-5°F below average for January. However, precipitation is running below average throughout the much of Ohio, 10-50% of normal across northwestern counties (Figure 1). Only far southern and eastern counties had a wetter than average month.

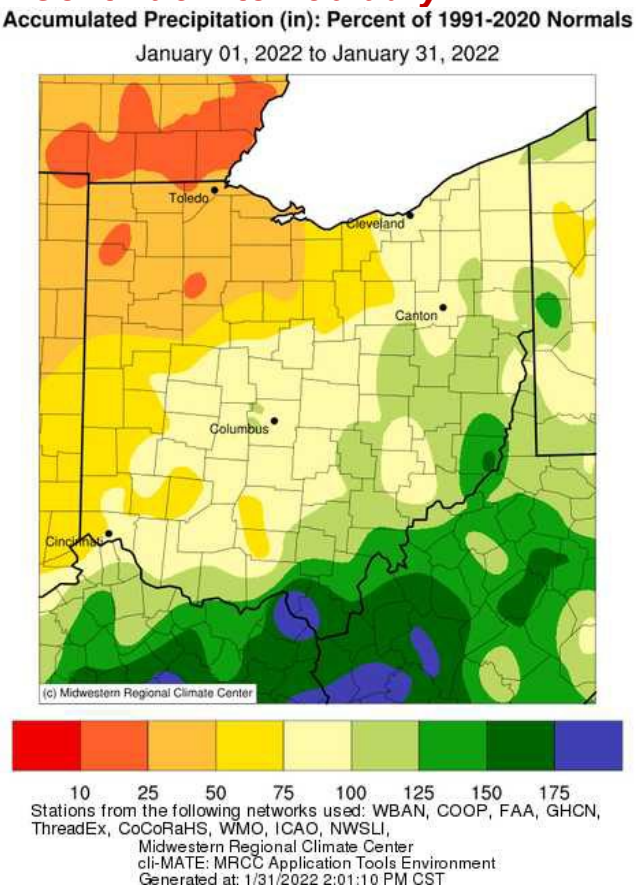
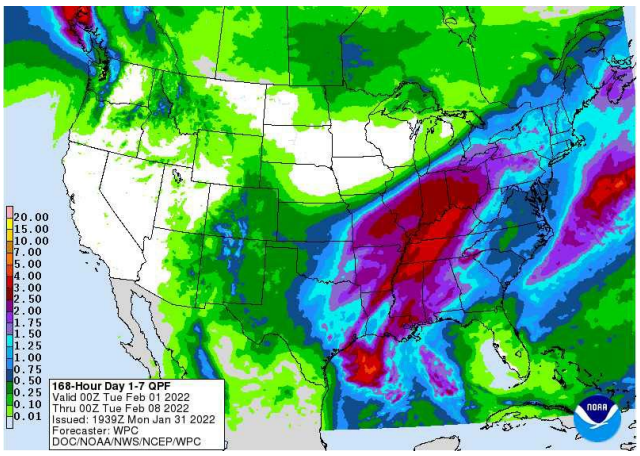


Figure 1). Accumulated precipitation for January 2 – 31, 2022. Figure courtesy of the Midwestern Regional Climate Center (https://mrcc.purdue.edu/).

Figure 2). Precipitation forecast from the Weather Prediction Center for 7pm Monday Jan 31 – 7pm Monday Feb 7.

Forecast

High pressure will slide off to the east on Tuesday, providing a southerly breeze and thawing temperatures, as highs reach the 40s to mid-50s across the state. A major winter storm will develop this week and push through Ohio on Wednesday through Thursday night. Significant rain, ice, and snow are forecast to fall across the state with numerous impacts. Highs will trend downward throughout the event, falling from 30s and 40s on Wednesday to the teens and 20s by Friday. Another Arctic plunge will likely cause overnight temperatures to fall below zero over the weekend. A return flow out of the south will bump temperatures back up closer to average as the weekend ends. The Weather Prediction Center is currently predicting 1.5-3.0" inches of liquid-equivalent precipitation over the next 7 days (Figure 2). According to the NOAA/NWS/Ohio River Forecast Center, warmer temperatures and precipitation falling on the existing snowpack will likely cause some runoff and may induce minor scattered flooding concerns across the state.



The Climate Prediction Center's 6–10-day outlook for the period of February 6 - 9, 2022 and the 16-Day Rainfall Outlook from NOAA/NWS/Ohio River Forecast Center indicate that temperatures are likely to lean below average for the period with drier weather expected after this week's major storm (Figure 3). Climate averages for this period begin their slow climb out of winter minimums, with a high temperature range of 36-41°F, a low temperature range of 21-24°F, and average liquid-equivalent precipitation of 0.50-0.70 inches.

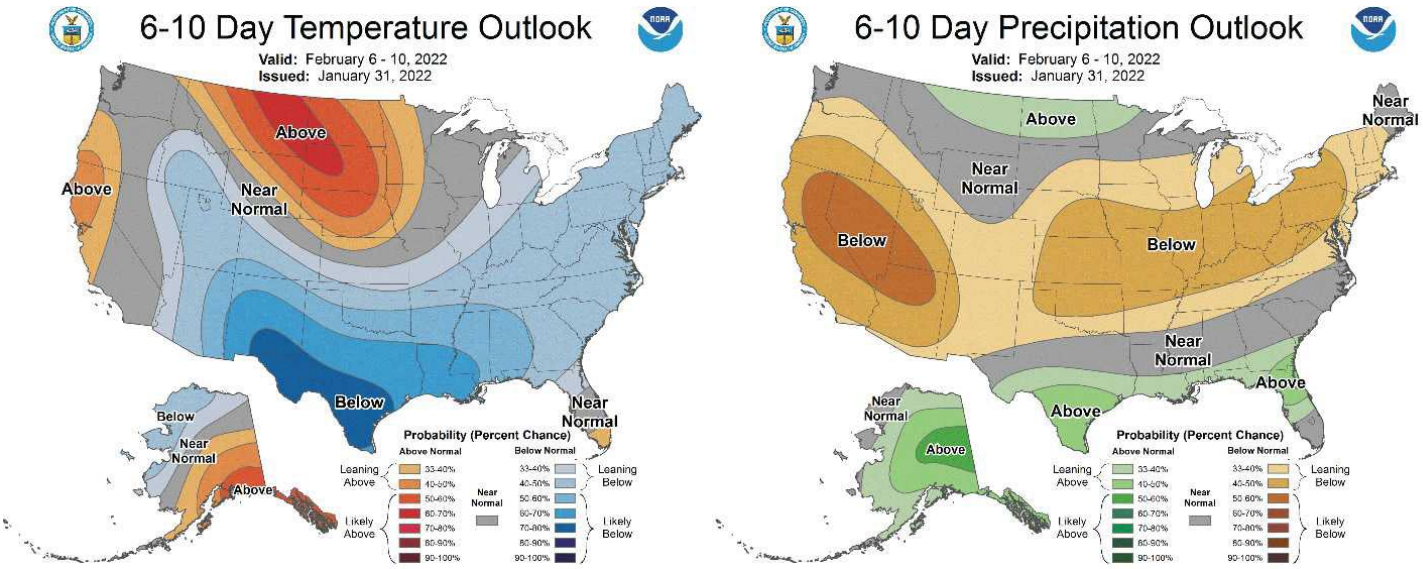


Figure 3) Climate Prediction Center 6-10 Day Outlook valid for February 6-10, 2022, for left) temperatures and right) precipitation. Colors represent the probability of below, normal, or above normal conditions.

Regional Ag Outlook Meeting Slated for February 14

Join OSU Extension for the **2022 Regional Agricultural Policy and Outlook Meeting** which will be held on Monday, February 14 from 9:00 a.m. to 12:30 p.m. at the Muskingum County Conference and Welcome Center located at 205 N. 5th Street in Zanesville, Ohio.

This school will focus on topics of farm inputs, rent, real estate, agricultural law, grain marketing, and 2023 Farm Bill. Featured speakers include Barry Ward, Peggy Hall, Matt Roberts, and Carl Zulauf. This program is made possible with support from the Ohio Corn and Wheat Growers Association. Growers and producers from around the region are encouraged to attend.

A pre-registration fee of $20 per person is required and should be made by Wednesday, February 9, 2022. Online registration is available at go.osu.edu/muskingumoutlook. Contact the Muskingum County Extension office at 740-454-0144 or martin.2422@osu.edu with questions.

Considerations for Managing P&K in 2022

By: Greg LaBarge & Steve Culman
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2022-03/considerations-managing-p-k-2022

During this period of high prices and uncertain availability of phosphorus and potassium fertilizer, a few basic soil fertility concepts can help guide application decision-making. Fortunately, the work during 2014-2020 that led to the Tri-State Fertilizer Recommendation for Corn, Soybean, Wheat, and Alfalfa-2020 is current information we use. Here are a few key points from the Tri-States plus some other principles that may help.

1. Have a current soil test and use it.
2. Apply lime if needed
3. Suspend buildup P and K applications
4. Prioritize fertilizer application to soil test P and K areas below "critical" value
5. Use banded placement with a lower rate
6. P & K in manure equal fertilizer pound for pound to maintain soil values, prioritize low soil test fields for manure

1. Have a current soil test and use it.
What is the best investment when fertilizer prices are high, a recent reliable soil test! What is a recent reliable soil test? A recent soil test is no more than four years old. A reliable test is where you believe the number for pH, phosphorous, and potassium on the soil test represents that field you farm. If you question your soil report numbers, think about changing how you collect samples for soil testing. You want to consider three things: the size of the sampled area, does the sample area represent productivity and using a standardized sample depth. For more information on soil sample collection procedures, see the factsheet at https://go.osu.edu/soilsample.

Recent reliable soil test values for pH, phosphorus, and potassium will tell you if you need to apply lime or fertilizer this year or if we can wait. Comparing your soil test values to the Tri-State Fertilizer Recommendations will answer critical questions about your fertility needs. Get your copy of the Tri-state Fertilizer Recommendations for Corn, Soybean, Wheat, and Alfalfa at https://go.osu.edu/fertilizer. The publication is available for sale as a printed copy or a free pdf version.

2. Apply lime if needed
The first thing to look at on your soil test reports is pH. Soil pH is the critical factor in nutrient availability. If soil water pH is less than 6.0, consider liming before applying fertilizer. When soil pH values are acidic (< 6.0), the lime investment will make more soil stored phosphorus and potassium crop available. Use buffer pH from the soil test report to determine how much lime you need. Apply enough lime to bring soil pH into the 6.5-6.8 range. Spend your first fertilizer dollars on lime.

3. Suspend buildup P and K applications
Buildup nutrient recommendations are recommendations to increase below critical soil tests value and have no yield impact. The total recommendation shown in the Tri-State tables is crop removal plus and added buildup amount for any soil value below critical for the crop. Consider suspending this portion of the nutrient recommendation until we have more favorable fertilizer prices. Table 1 shows the critical soil test values for phosphorus and potassium.

4. Prioritize fertilizer application to soil test P and K areas below "critical" value
You have been using a build maintenance fertilization strategy if you have been following our Tri-state Fertilizer Recommendations for Corn, Soybean, Wheat, and Alfalfa. The build maintain strategy has the pricing and availability situation we are currently experiencing in mind. Comparing your soil test value for phosphorus and potassium to the critical value defines the need for annual fertilizer application. The text from the Tri-State bulletin states, "Soil test values above the critical value are "optimal," unlikely to be responsive to fertilizer application. Soil test values below the critical value are "deficient," more likely to have a yield response to fertilizer application."

Shown in Table 1 are critical soil test values for phosphorus and potassium in corn, soybean, wheat, and alfalfa. In summary, with a build maintenance approach, as long as soil test values are above the critical value, you can defer fertilizer applications when fertilizer prices are high, or weather conditions do not favor application.

Table 1. Critical Soil Test Values from Mehlich 3 Soil Test for Phosphorus and Potassium. (Tri-state Fertilizer Recommendations for Corn, Soybean, Wheat, and Alfalfa, 2020.)

	Phosphorus Mehlich 3	Potassium Mehlich 3	
Crop		Soils with CEC <5 meq/100g	Soils with CEC >5 meq/100g
Corn & Soybean	20	100	120
Wheat & Alfalfa	30	100	120

If your crop for 2022 is corn or soybeans, here is how it works. First, scan your soil test reports for less than 20 ppm P soil values. Below 20 ppm is where the risk of yield loss is more likely. Therefore, the recommendation would be to apply a crop removal rate of P. Determine yield potential based on-field productivity. Then multiply the yield potential by the crop removal P rate for the crop. Crop removal is 0.35 pounds P2O5 per bushel for corn, and soybean is 0.80 pounds P2O5 per bushel.

Here is an example. A field (or zone) with a soil test P-value of 15 ppm Mehlich 3, and corn yield is 195 bushels per acre. Therefore, the nutrient needed is 68 pounds P2O5, 195 multiplied by 0.35. The amount of MAP fertilizer required to meet this need is 131 pounds found by taking 68 pounds P2O5 needed dividing by 0.52, which is the P2O5 percentage of MAP, 11-52-0. If you are using DAP, it would be 148 pounds found by taking 68 pounds P2O5 needed dividing by 0.46, which is the P2O5 percentage of DAP, 18-46-0.
Where your soil test reports show soil P values above the 20 ppm critical value, you can defer fertilizer applications to when fertilizer prices are more favorable. However, keep in mind that if your soil test values are near the critical value, you can only defer for a short time. Soil test P values decline over time, but change is not dramatic from one year to the next due to the soil's ability to buffer available P. Estimated change in soil test P values is only 2-3 ppm per year from crop removal.

Decisions for potassium are similar to phosphorus. The difference is we need to look at both the Cation Exchange Capacity (CEC) number and the soil test potassium value. If CEC is less than 5, use 100 ppm Mehlich as the critical value. If CEC is greater than 5, use the 120 ppm value. The crop removal for corn is 0.20 pounds of K2O per bushel, and for soybean, it is 1.15 pounds of K2O. Now scan your soil test reports for K soil values less than the critical value. Below the critical value is the situation where the risk of yield loss is more likely. Therefore, the recommendation would be to apply a crop removal rate of K. Determine expected yield based on-field productivity. Then multiply the expected yield by the crop removal for P for the crop. Crop removal is 0.35 pounds P2O5 per bushel for corn, and soybean is 0.80 pounds P2O5 per bushel.

Continue with our example of a field (or zone) with a 195 bushel per acre corn yield and a soil test K value of 110 and CEC of 15 meq/100g. The K2O need would be 39 pounds per acre. Therefore, the potash fertilizer recommendation would be 65 pounds. Fertilizer need is calculated by taking the 39 pounds K2O needed, divided by 0.60, the K2O percentage of potash, 0-0-60.

Where your soil test reports show soil K values above the critical value, you can defer fertilizer applications to when fertilizer prices are more favorable. However, keep in mind that if your soil test values are near the critical value, you can only defer for a short time. This is because soil test K values decline over time, while K is buffered like P, the soil changes from one year to the next due tend to be greater than with P. Estimated change in soil test K values are 6-10 ppm per year from crop removal for grain crop but are higher with forages.

We provide a spreadsheet that many folks have found helpful to do nutrient and fertilizer calculations. You can see that tool at https://go.osu.edu/ohiofertilitytool.

5. Use banded placement with a lower rate
"For deficient soils, recommended rates of fertilizer should be applied annually. Placement and timing techniques to enhance nutrient availability, such as sub-surface banding, or spring application, may also be beneficial on nutrient-deficient soils. Applying 25 to 50 percent of the recommended fertilizer in a band to enhance early growth should be considered." Tri-State Fertilizer Recommendation for Corn, Soybean, Wheat, and Alfalfa-2020

6. P & K in manure equal fertilizer pound for pound to maintain soil values, prioritize low soil test fields for manure
Livestock manure is a good P & K nutrient source for crop production. There are two things to know when comparing P2O5 and K2O availability in manure to commercial fertilizer. First, the pounds of available P and K nutrient shown on the manure test is equivalent to commercial fertilizer. Therefore, those manure nutrients are a one-to-one replacement for commercial fertilizer. Second, manure is not a good substitute when starter

fertilizer is needed. The key to using manure in the fertility program is to get a manure nutrient test, then use that test to guide the application. Application rates should be determined using both the manure source's N and P content, being sure not to over-apply either nutrient.

Reminder: 2nd Annual Corn College & Soybean School

By: Laura Lindsey
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2022-03/reminder-join-us-2nd-annual-virtual-corn-college-and-soybean

Due to popular demand, the AgCrops Team will host the 2nd annual virtual Corn College and Soybean School on February 15, 2022 from 9:00 AM – 4:00 PM featuring your OSU Extension state specialists, including the new corn agronomist, Dr. Osler Ortez, and new soybean pathologist, Dr. Horacio Lopez-Nicora. CCA CEUs will be available during the live presentations (2.0 CM, 5.0 IPM, and 1.0 NM).

To register, please go to: http://go.osu.edu/cornsoy There is a $10 registration fee for this event, which goes directly to support OSU AgCrops Team activities. Presentations will be recorded and uploaded to the AgCrops Team YouTube channel after the event (https://www.youtube.com/c/OSUAgronomicCrops).

MORNING SESSION 9:00-noon

9:00-9:40	Laura Lindsey	Soybean Management for 2022
9:50-10:30	Osler Ortez	Corn Management for 2022
10:40-11:20	Horacio Lopez-Nicora	Soybean Disease Management
11:20-noon	Pierce Paul	Corn Disease Management

AFTERNOON SESSION 1:00-4:00

1:00-1:40	Kelley Tilmon	Soybean Insect Management
1:50-2:30	Andy Michel	Corn Insect Management
2:40-3:20	Mark Loux	Weed Management for Corn and Soybean
3:20-4:00	Steve Culman	Meeting Nutrient Needs for Corn and Soybean

Cattle Market Outlook Bright Despite Rising Input Costs

by: Garth Ruff, Beef Cattle Field Specialist
Source: https://u.osu.edu/ohioagmanager/2022/01/31/cattle-market-outlook-bright-despite-rising-input-costs/

On January 24, the OSU Beef Team was pleased to host a 2022 Beef Market Outlook meeting featuring Dr. Andrew Griffith, Associate Professor of Agriculture and Resource Economics at the University of Tennessee. Dr. Griffith covered the usual supply, demand, and market projections as well as some insight to supply chain disruptions, input costs, and beef industry trends.

This article will highlight some of the main points of Dr. Griffith's talk which can be viewed in its entirety at https://www.youtube.com/watch?v=crVWE51aLrc&t=1991s

Supply – Cow numbers are down, in large part due to long lasting drought that has gripped most of the country west of the Mississippi River. Heifer slaughter was up over 4% compared to 2020 and cull cow slaughter was up nearly 10% compared to the prior year. This reduction of the cow herd Dr. Griffith said will allow for strong fed cattle and feeder prices, "in 2022, 2023, and potentially in 2024 depending on heifer replacement rates."

Demand – Partially fueled by the COVID pandemic, demand for beef continues to be strong for both export and domestic markets. Dr. Griffith highlighted that in 2021 China became the third largest importer of US beef, behind Japan and South Korea. The surge of US beef into China can be attributed to the Trump administration's US-China trade agreement for agricultural products. Domestic demand continues to be string as well, with the demand for locally produced beef as strong as ever.

Prices – All told the price forecast looks very favorable for the remainder of the year even with increases in production costs. Fed live cattle prices were very strong in the back half of 2021 and look to trade in the $140's cwt for a large portion of 2022. Dr. Griffith's sentiment was that "cow-calf producers who cannot make a profit with $1,000/head for weaned calves, even with increased production costs, may want to pick up croquet or consider another profession." There also appears to be opportunities to market heavier 700-800 lb. calves at premium prices from April to August based current futures prices. Producers should look at their herd and consider culling those poorer preforming and open cows, as the slaughter cow market remains strong.

Supply Chain – Dr. Griffith touched on some of the various legislation and regulation being proposed regarding the beef industry. While not opposed to increased negotiated trade and price discovery, he acknowledged that that does come at a cost. Dr. Griffith also commented on the point that more packers doesn't necessarily translate to higher cattle prices.

Input Costs – Feed, fertilizer, chemicals are all going to be higher this year. Weather will be different this year. "If you're trying to farm exactly like you did it last year, you're probably doing it wrong. Unless you did it wrong last year, and that might be the case, and maybe you got it right, this year, because every year is different," Dr. Griffith

Antibiotic Stewardship in Calves- Part 2

By: Haley Zynda, Extension Educator, Agriculture and Natural Resources, Wayne County, Ohio State University Extension
Source: https://dairy.osu.edu/newsletter/buckeye-dairy-news/volume-23-issue-6/antibiotic-stewardship-calves-%E2%80%93-part-2

We're back with the second installment of Antibiotic Stewardship in Calves, a part of Veal Quality Assurance training. The first module of this training involved understanding antibiotics and antibiotic resistance. The second module is titled "Clinical Evaluations," an essential factor to determining proper course of action.

In part 2, the goal is to be able to evaluate and score clinical signs of disease, as pertaining to calves. Fun fact, a "disease symptom" is something you are personally feeling, while a "disease sign" is something you observe in someone else or in animals. In order to better score potential disease, it is necessary to understand what a healthy calf looks like, so a sick calf stands out and is appropriately treated. So, what factors need to be observed?

Calves are naturally playful; sometimes I see them referred to as "grass puppies" on social media because of their bouncy and curious personalities. Healthy calves also have bright eyes and alert ears, paying attention to the world around them. They will typically stretch upon rising. On the flip side, sick calves may seem lethargic or disinterested in their surroundings. Dull eyes or mucus coming from the eyes and nose is a clear sign of illness. They may not be as eager for their meals and potentially have greater respiratory rates.

If you happen to have a sick-looking calf, there are 5 major indicators in which you need to evaluate. The first is dehydration. If a calf is uninterested in eating or drinking, chances are it may become dehydrated. Water is lost from the body not only through urination or excessive salivation, but also through respiration (and if the breathing rate is increased as mentioned earlier, more water is lost from the body through the respiratory tract). You can pinch skin on the calf's neck to check for dehydration; the skin should flatten in less than 2 seconds. If the skin remains tented for more than 4 seconds and the calf also has sunken eyes, it is slightly to moderately dehydrated and needs attention immediately. A calf can die when it is 10% dehydrated.

The second indicator is fever. Animals will likely feel hotter than normal on a summer day, but prolonged elevation of internal temperature is an indication of inflammation or infection. A normal temperature for a calf is below 103˚F in normal weather conditions (i.e., not sweltering heat). Temperature should be taken rectally over the course of several days at the same time to determine a baseline and how the temperature fluctuates if there is concern of illness. Defecation during temperature measurement calls for a second try.

Navel infections are the third indicator. The umbilicus is a vulnerable spot on a neonatal calf that welcomes any bacteria that would like to enter. Navel scoring is done through palpation to determine the severity of the infection; a score of 0 indicates no swelling, a score of 1 presents with swelling approximately the width of a finger, and a score of 2 presents with swelling the width of 2 fingers that is painful and with discharge. Therefore, if the navel is abnormal or joint ill occurs, this is a case where antibiotics are necessary for treatment because of the bacterial nature of the infection.

A fourth indicator is diarrhea, which is closely tied to dehydration. The tricky part about diarrheal diseases is that they can be caused by a plethora of pathogens – viruses, bacteria, and protozoa. Seldomly is diarrhea actually caused by bacteria, so if a calf is only mildly presenting with such bowel movements, they likely will not benefit from antibiotics. Non-pathogenic causes of diarrhea include poorly mixed milk replacer or sudden changes in feed. Therefore, if a couple of calves appear sick, take a look at calf management before heading to the medicine cabinet.

The final indicator is respiratory disease. It can not only affect welfare, but also reduce growth rates in calves. Respiratory illness also manifests in several different manners through the eyes, ears, muzzle, and breathing rate. Eyes can be scored according to discharge levels. A score of 0 is a healthy calf with no discharge; a score of 2 ranges from slightly apparent discharge to extreme crust buildup around the eyes and on the eyelashes. Ears are next, with alert ears being a normal score of 0. A score of 5 indicates 1 or both ears drooping and the presence of a head tilt. Muzzle scoring takes into account the mucus coming from the nostrils. A healthy calf will have a wet nose, but no serous (clear) or thick, green mucus coming from 1 or both nostrils. Lastly, if breathing is labored and there is a continuous cough, there is likely some degree of respiratory disease.

In conclusion of part 2, knowing the calves' normal behavior and then evaluating them for dehydration, fever, diarrhea, navel infections, and respiratory disease can help make an educated decision on whether or not to use antibiotics. Again, having a close relationship with your veterinarian can help you work through treatment protocols and can give more insight on how to evaluate calves. Stay tuned for part 3, where the program concludes with treatment protocols.

Make Sure to Remove All the Net Wrap

by: Richard Purdin, OSU Extension, Adams County ANR/CD Educator
Source: https://u.osu.edu/beef/2022/02/02/make-sure-to-remove-all-the-net-wrap/

January is in the books and February has arrived. The beginning of February brings two things to my mind, first winter is halfway complete (I hope) and will that durn ground hog better not see his shadow! As I write this article there is officially 48 days, 14 hours, and 54 minutes until spring but who's counting. One thing is for certain January was a halfway normal January for southern Ohio with wild weather swings and weather fronts bringing just about every type of weather you can think of. From rains, ice, sleet, and snow, we had it all. Through all this I was still able to keep livestock alive, but it was anything but easy. About 60% of my hay is made in large round bales and out of that 60% about 80% is stored outside and 100% of those round bales are net wrapped. In the last 20 years many producers have switched from sisal or plastic twine to woven net wrap to preserve and hold large round bales together. While it does present an increase cost in baling dry hay, it has much value in its ability to preserve dry hay stored outside, allowing for better water shedding and tighter/ denser bales. Most commonly producers will remove the net wrap or twine before setting the bale out to feed or grinding in a TMR mixer. Some producers will choose to leave the twine or net wrap on the bale and let the livestock eat around it, later picking up the net wrap afterword's. The reason for doing this could be due to time constraints, older producer challenge with removing the net wrap, and frozen to the bale. These are all valid reasons but at the end of the day this presents a major risk to your livestock's health. Livestock can

accidentally ingest the net wrap.

Carl Dahlen With North Dakota State (University beef specialist) research the amount of time it would take for different materials to break down in the rumen of beef cattle. The materials included sisal twine, plastic twine, 3 different types of woven net wrap, and hay. The results of the research showed that hay and sisal twine had a similar breakdown time in the rumen of about 100 hours but after 14 days the other materials were still completely intact. As cattle ingest the plastic twine or net wrap the cattle natural tendency to chew their cuds and forming wads of forage, regurgitating, and then swallowing again, this is the survival tactic that bovine developed long ago to survive. When you add plastic to the mix this could cause blockage of the esophagus or restrict the natural release of gasses from the rumen causing bloat. Death from bloat is not always the result of ingested foreign material but as animals consume plastic materials that can accumulate in the rumen, causing sever irritation, vomiting, weight loss, and diarrhea. If you have an animal showing these symptoms contacting your veterinarian as soon as possible. According to my local veterinarian there are very few good treatments but laxatives, mineral oils, or last case situations, surgery to remove the material. At the end of the day this is what I have learned on my farm:

1. Watch the weather and be prepared for ice, snow, or sleet.
2. Remove the net wrap well ahead of winter weather and have the bales close to the feeding site ready to feed before winter weather happens.
3. Budget barn storage if finances allow for it. Winter is hard enough take time to remove the net wrap to avoid animal health issues.

References

https://www.beefmagazine.com/animal-health/plastic-disease-another-reminder-remove-net-wrap

https://www.beefmagazine.com/beef-cattle-feed/why-you-must-remove-net-wrap-round-bales-feeding-cattle

It's Time to Frost Seed!

By: Victor Shelton, Retired NRCS Agronomist/Grazing Specialist
Source: https://u.osu.edu/beef/2022/02/02/its-time-to-frost-seed/

February is quite often a good month to catch up on work, at least it is for me. I'm finally used to the cold by now and unless it's snowing or some other form of frozen precipitation, or too windy, I'm probably going to be outside working on something. The wind is the main deterrent for me, and my dog sidekick will agree. An uncle of mine used to say, "Wind can ruin the best of any day," and he was right – it can make any day dustier, colder or it can just be annoying.

In February, the ground "usually" isn't frozen that deep, if at all, and therefore makes it a good time to build or repair fence. Posts drive into the ground quite nicely and you don't have to fight as much vegetation putting up wire.

I find this to be a good time to spend checking fence lines, trimming limbs back as needed and finishing sawing up any trees or limbs that fell during summer storms. That seems to be a job that never quite gets finished. I also find that it is a good time, if I can force myself to do it, to cut and remove any woody and or briars from fence rows. Doing so makes it a lot easier to gain control over them once the growing season is here. If the dead growth is removed, it is a lot easier to tackle any new shoots later.

It is also the time frame for frost-seeding clover onto fields that need it. If you paid attention during the last season, you should know what fields are lacking sufficient legume. I like to see at least thirty percent of the stand being legumes. Legumes, such as clover, increase the quality of a pasture and can also fix nitrogen to help the grass component of the pasture. When fertilizer is expensive, you want as much natural nitrogen

produced as possible.

Red and white clover both are fairly easy to frost-seed this time of year and generally that is the least expensive way to enhance legumes in the pasture. It is basically the process of broadcasting the legume seed onto the soil's surface during the winter dormant months. I usually say the ideal time is somewhere between Christmas and Valentine's Day, but it's usually a little bit longer than that.

Occasionally in the southern portion of the state we are a little more limited with the most ideal conditions to really "frost" seed – that is not the case this year. Frost seeding relies on the freezing-thawing action of the soil, which is honeycombing of the soil's surface with ice crystals. This causes the soil's surface to expand and contract, thus allowing the small seed to find a route into the ground. It is important that the seed have good seed-to-soil contact.

When I really have my choosing, I'll wait until there is a light snow on the ground and then do the sowing. The snow serves two good purposes. One, it helps "catch" the seed and transport it to the ground and two, it serves as a great marker for the tractor or ATV.

It is best to plan ahead if you decide to frost-seed. You may have wanted to graze the pasture down a little shorter than normal to reduce competition and help that seed find its way to the soil easier. If the field is being stockpiled, you can either wait until after it is grazed or broadcast it just prior to grazing and let the seed be "hoofed" in. If there is too much cover then it makes it hard for the seed to reach the soil and also makes it less likely to thrive.

I usually recommend slightly higher seeding rates for frost seeding than for conventional seeding. White clovers can be seeded at 1-1.5 lbs. per acre, remembering that it is a much smaller seed than red clover and will be around longer. You can get it on too thick and yes, I know, it's hard to seed that small amount! I've found that mixing it with another seed as a carrier is good. A little Coke or any soda pop (whichever you might have on hand, but not diet in any case) mixed in with it to get a little sticking action going also really helps. You can also mix the seed in with fertilizer or some pelletized lime, but spread immediately – don't let it sit, especially with much nitrogen. Red clover should be seeded at 6-8 lbs. per acre; birdsfoot trefoil at 5 lbs. per acre and common lespedeza with hulled seed at 10 lbs. per acre.

All legumes should be inoculated with the appropriate inoculants (rhizobia) for that species to insure proper bacteria, good germination and growth. Coated seed, when available, can solve lots of problems including seed size, the inoculants and it can even help the pH for the seedling. Coated seed should be used the same year that it is purchased, mainly due to the inoculant – it has a shorter storage life.

I think the main points for a successful frost seeding of legumes are grazing the pasture down before seeding to lower the amount of litter and spring competition, seeding during freezing and thawing conditions to help move the seed down into the soil, and then keeping the grass growth under control during early spring to give the seedlings plenty of sun and a fighting chance to survive.

If you do plan to do any frost-seeding or any seeding in the next few months, it might be a good idea to check with your seed dealer and get your order in. Several species are in short supply and prices have increased in a lot of cases also. Multiple bad production years in a row out west where most of it is grown, coupled with inflation, higher packaging expenses and more costly shipping are the main reasons. Knowing exactly where you need to add more legumes and only adding where needed this year may be important to your pocketbook.

February is one of my biggest reading months of the year. Now don't get me wrong, I read a little almost every day, but some months just lend themselves as being more primed for reading than others. I tend to spend more time reading during the winter months and can easily find myself losing track of time. There are usually several books and magazines covering the small table by my easy chair which I find to be the best way to keep up to date with all the latest in grazing management. I can stay awake a long time reading, but I can't stay awake more than ten minutes into a TV show and often hear my wife say, "you awake?" I do believe it is only

the subject matter.

The way we now receive information and news has sprinted fast ahead into almost instant information right at our fingertips. The biggest problem with this growing and huge amount of accessible information is, "what can you believe?" I find myself spending time explaining why something that was found on the internet somewhere else in the country or world, won't work here. Just because it was successful in New Zealand, doesn't mean it will work the same here! You must consider soils, climate and a host of other things.

Social media can be "interesting" to read, but it is harder to decipher or separate out fluff or bovine dung from the truth. If something is printed in a book or magazine it is at least a little more likely to be trusted, but not always. I generally read material from well-known authors that I know have done the walk or the research. If it is backed with a white paper, it is generally more persuasive and believable. Though I do read quite a few of those research papers, a book based on that information is usually a better read and certainly more relaxing. I always encourage producers to keep learning – reading, observing, and asking why to both positive and negative things. Inquisitive minds want to know – just always remember to verify the source and take it all with a grain of salt!

Remember, it's not about maximizing a grazing event, but maximizing a grazing season! Keep on grazing!

What's Ahead for Legal Issues in 2022

By: Peggy Kirk Hall, Associate Professor, Agricultural & Resource Law Friday, January 28th, 2022
Source: https://farmoffice.osu.edu/blog/fri-01282022-900am/what%E2%80%99s-ahead-legal-issues-2022

We've quickly reached the end of January, and several of the legal issues I've talked about in OSU's "Agricultural Outlook" meetings have surfaced this month. If the current pace keeps up, 2022 promises to be a busy year for agricultural law. Here's a review of three legal issues I predict we'll see that have already begun to emerge in 2022.

Water, water. From defining WOTUS to addressing Lake Erie water quality, water law will continue to be everywhere this year. The U.S. Supreme Court just announced on January 24 that it will hear the well-known case of Sackett v EPA to review whether the Ninth Circuit Court of Appeals used the proper test to determine whether wetlands are "waters of the United States" (WOTUS). The case is one example of the ongoing push-pull in the WOTUS definition, which establishes waters that are subject to the federal Clean Water Act. The Biden administration proposed a new WOTUS rule last December that would replace the Trump-era rule, and comments remain open on that definition until February 7. Ohio has wrangled with its own water issues, particularly with agricultural nutrient impacts on water quality. We'll see this year if the state will continue to rely on H2Ohio and similar incentive-based programs and whether the Ohio EPA will face additional litigation over its development of a Total Maximum Daily Load for Lake Erie.

Pesticide challenges. The EPA announced a new policy on January 11 to more closely evaluate potential effects of pesticide active ingredients on endangered species and critical habitats. That was the same day the agency re-registered Enlist One and Enlist Duo pesticides, but with new label restrictions and prohibited use in hundreds of counties across the U.S., including a dozen Ohio counties. An EPA report documenting dicamba damage in 2021 could form the basis for yet another lawsuit this year demanding that EPA vacate dicamba's registration. Meanwhile, we await a decision by the U.S. Supreme Court on whether it will review Hardeman v. Monsanto, one of dozens of cases awarding damages against Monsanto (now Bayer) for personal injury harms caused by glyphosate.

Opposition to livestock production practices. Ohio pork producers watching California's Proposition 12 will be happy with a recent California court decision prohibiting enforcement of one part of the law that went into effect on January 1. The provision requires any pork and eggs sold in the state to be from breeding pigs and laying hens that are not raised in a "cruel manner," meaning that the animals have a certain amount of usable pen space. The California court agreed with grocers and other retailers that the law could not be enforced on sales of pork meat because the state hasn't yet finalized its regulations. The law could be subject to further

scrutiny from a higher court. Several agricultural organizations have unsuccessfully challenged the law as a violation of the Constitution's Commerce Clause, but one of those cases currently awaits a decision from the U.S. Supreme Court on whether it will review the case. Other livestock production issues we'll see this year include continued battles over Right to Farm laws that limit nuisance lawsuits against farms, and challenges to "ag gag" laws that aim to prevent or punish undercover investigations on farms.

There's more to come. Watch for more of our predictions on what 2022 may bring to the agricultural law arena in upcoming posts. Or drop into one of our Agricultural Outlook and Policy meetings to hear my Ag Law Outlook. As quickly as the year is moving, we'll soon know how many of those predictions are correct.

OSU Extension to Host 2022 East Ohio Women in Ag Conference

Ohio State University (OSU) Extension will host the 7th Annual East Ohio Women in Agriculture Conference. The conference is planned for Friday, March 25 from 9:00 a.m. – 3:30 p.m. at Ohio FFA Camp Muskingum, 3266 Dyewood Road SW, Carrollton, OH 44615. All women and young women (high school age) who are interested, involved in, or want to become involved with food, agricultural, or natural resources production or small business are encouraged to attend.

The conference program features a networking fair and sixteen breakout sessions presented by OSU Extension educators, producers, and partner agencies. Sessions this year are focused around four themes: Natural Resources, Plants & Animals, Home & Family, and Special Interest (includes break-out with Ohio FFA State Officers). The conference keynote will be led by Bridget Britton, OSU Extension Behavioral Health Field Specialist. She and her team will lead participants through "Stoic or Stressed? Talking through difficult topics in a safe space."

Registered participants, community organizations, or businesses interested in sponsorship can contact 740-461-6136. Interested individuals can register for the conference online at go.osu.edu/eowia2022. Cost of the conference is $55 for adult participants and $30 for students. Conference fee includes conference participation, breakfast, lunch, and conference handouts. Deadline for registration is Friday, March 11. For additional information, please contact Emily Marrison, OSU Extension Coshocton County at 740-622-2265.

Stay connected with the Ohio Women in Agriculture Learning Network on Facebook @OHwomeninag or subscribe to the Ohio Women in Agriculture blogsite at u.osu.edu/ohwomeninag .

Ohio Farmland Leasing Update Webinar

By: Peggy Kirk Hall
Source: https://farmoffice.osu.edu/blog/fri-01072022-316pm/its-good-time-farmland-leasing-update

Winter is a good time to review farm leases, and current information is critical to that process. That's why our Farm Office team is offering its Ohio Farmland Leasing Update, a webinar on February 9, 2022 from 7 to 9 p.m. I'll be joined for the webinar by co-speakers Barry Ward, Leader of Production Business Management for OSU Extension, and attorney Robert Moore.

On the legal side, we'll share legal information to help parties deal with addressing conservation practices in a leasing situation, using leases in farmland succession planning, Ohio's proposed new law about providing notice of termination, and ensuring legal enforceability of a lease. On the economic side, Barry Ward will provide a current economic outlook for Ohio row crops, research on cash rent markets for the Eastern Corn Belt, and rental market outlook fundamentals. We'll also overview farmland leasing resources.

There is no fee for the webinar, but registration is necessary. Register at https://go.osu.edu/farmlandleasingupdate.

Winter 2022 Beef Quality Assurance Re-Certification Trainings

The Coshocton County Extension office will be offering two additional **Beef Quality Assurance (BQA)** re-certification meetings during the winter of 2022 to help producers renew their BQA certification. These sessions will be held on March 9 and April 13, 2022 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 for each session 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.

If you cannot attend one of our local sessions, Tuscarawas County will also be holding Beef Quality Assurance classes on February 28 (7 p.m.) and March 30 (7:00 p.m.) at the Sugarcreek Stockyards. Call 330-339-2337 to pre-register. Online certification and recertification is also available and can be completed anytime at https://www.bqa.org/beef-quality-assurance-certification/online-certifications.

Upcoming Programs

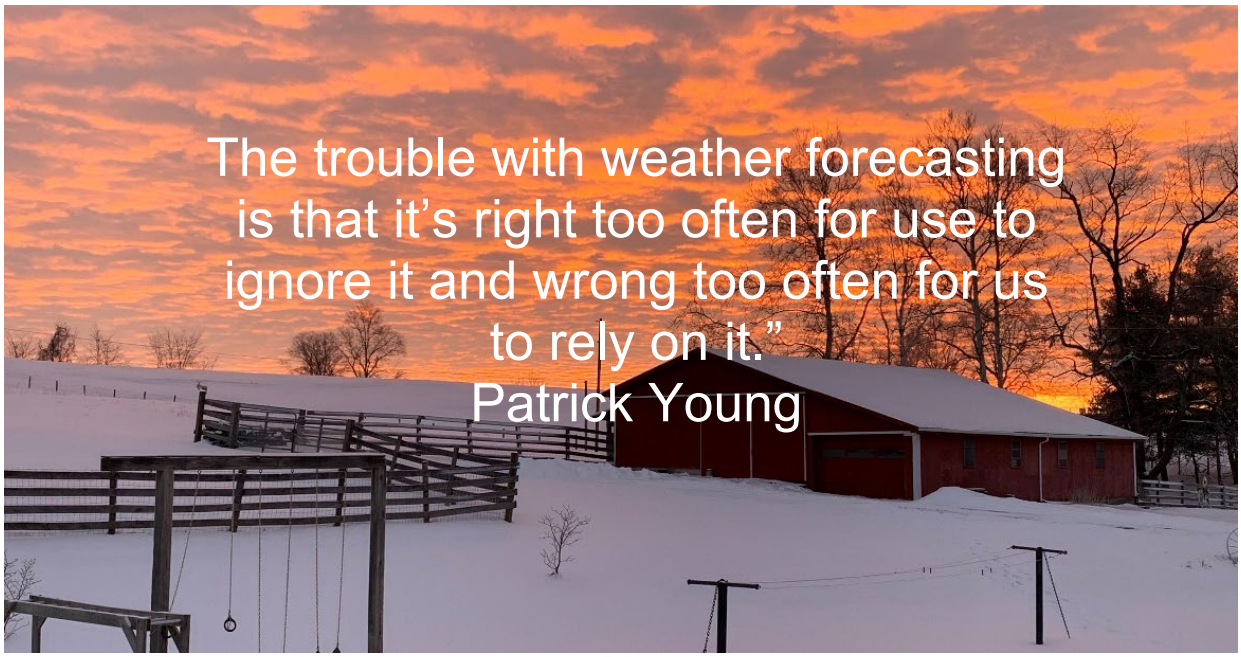
2022 Private Pesticide & Fertilizer Re-Certification
February 10 from 5:30 p.m. to 9:30 p.m. in Room 145, Coshocton County Services Building

Passing on Your Family Farm Webinar
February 7, 21 & 28 from 6:30 to 8:00 p.m.

Ladies on the Land Workshop
February 24 in Morrow County from 9:30 to 3:30 p.m.

Ag Outlook Meeting
February 14 from 9:00 to 12:30 p.m. in Zanesville, OH

2022 Beef Quality Assurance Re-certifications- Coshocton County
March 9 from 7:00 to 8:30 p.m. in Room 145, Coshocton County Services Building
April 13 from 7:00 to 8:30 p.m. in Room 145, Coshocton County Services Building



CFAES COLLEGE *of* FOOD, AGRICULTURAL, *and* ENVIRONMENTAL SCIENCES

East Ohio Women in Agriculture Conference

Who should attend:

Women and Young Women (high school age) who are interested, involved, or want to become involved in food, agriculture, natural resources, or small business.

This one-day conference is a great place to learn, share and network. Be surrounded by other women who are facing the same day-to-day ups, downs, adventures and dilemmas as you.

AGENDA

9:00	Registration, Network Fair & Breakfast
9:30	Welcome
10:00	Breakout 1
11:00	Breakout 2
12:00	Buffet Lunch
12:45	Keynote **Stoic or Stressed? Talking through difficult topics in a safe space** Bridget Britton Behavioral Health Field Specialist
1:45	Breakout 3
2:45	Breakout 4
3:30	Closing and Door Prizes

THE OHIO STATE UNIVERSITY EXTENSION

Friday

March 25, 2022

9 A.M. – 3:30 P.M.

Ohio FFA Camp Muskingum
3266 Dyewood Rd SW
Carrollton, OH 44615
https://ffacamp.com/

$55 Adults/ $30 Students

Registration Deadline: March 11

For more information call 330-264-8722

Register online at
go.osu.edu/eowia2022
or complete & send this registration form.

Cancellation Policy: *In the event of an unforeseen emergency, the conference will be cancelled by 11:59 PM, March 24, 2022. Attendees will be notified by email. The event will not be rescheduled. No registration fees will be refunded.*

Break Out Tracks & Sessions

	Natural Resources	Plants & Animals	Home & Family	Special Interest
Session 1	1-A **Sharpen your Skills: Chainsaw Maintenance and Safety** – Lee Beers, OSU Extension *Learn about safe operation, sharpening, and maintenance of chainsaws. Stay safe with personal protective equipment. Get cutting!*	1-B **Forages for Horses: The Crash Course** – Haley Zynda, OSU Extension *Managing horses also means managing grass or hay. From equine nutrition to forage species selection, the course has it all.*	1-C **He Said, She Said** – Emily Marrison, OSU Extension *Explore what research reveals about male and female communication. Learn ways to achieve more productive work settings and peaceful home environments.*	1-D **Being the Boss: 2022 Ag Labor Update** – Dr. Margaret Jodlowski, Ohio State University *A look at up-to-date data on agricultural labor availability and wages, and research on labor management specifically for female operators!*
Session 2	2-A **Preparing to Hunt** – Janessa Hill, OSU Extension *Are you interested in hunting for recreation or food? Learn about resources, equipment, and more to be successful in the field!*	2-B **Raising Livestock on 5 Acres or Less** – Sandy Smith, OSU Extension *So, you have some land, and you want some extra income or a supply of food for your family. This session will investigate all your options and possibilities.*	2-C **Charcuti...what? Everything old is new again!** – Kate Shumaker, OSU Extension *No matter how you say it, charcuterie has been around for centuries. Learn history, shortcuts, money savers, tips and more!*	2-D **Real Women, Real lives: Making Professionalism Purposeful.** – Cassie Mavis, Morgan Anderson & Mackenzie Ott, State FFA Officers *Identify, observe, and implement female leadership principles. We will dive into the driving forces in strengthening a women's professional presence.*
Session 3	3-A **Get Out: How Nature Improves Our Health** – Laura Stanton and Shari Gallup, OSU Extension *Did you know that nature is beneficial to every aspect of wellbeing? We'll explore all the reasons to get out! (May be outdoors weather permitting.)*	3-B **A complete approach to raised bed gardening** – Jim Jasinski, OSU Extension *Are raised beds right you? Learn about construction, soil mixes, plant selection, and ways to minimize weeds, diseases, and insects!*	3-C **Canning & Freezing Venison** – Melinda Hill, OSU Extension *A successful hunt includes safely storing the harvested meat. Learn how to properly pressure can venison, review freezing tips, and more.*	3-D **Real Women, Real lives: Making Professionalism Purposeful.** – Cassie Mavis, Morgan Anderson & Mackenzie Ott, State FFA Officers *Identify, observe, and implement female leadership principles. We will dive into the driving forces in strengthening a women's professional presence.*
Session 4	4-A **Mushroom Mania** – Erika Lyon, OSU Extension *Learn the basics of the biology, ecology and identification of some common spring mushrooms while venturing on this outdoor fungal foray. (In the event of bad weather, this session will be moved indoors.)*	4-B **Humane Euthanasia in Livestock** – Dr. Sarah Finney, Tri-County Animal Clinic *How to recognize when it's time to euthanize and approved methods of euthanasia in livestock animals.*	4-C **Basic Clothing Repair** – *Learn basic sewing repair and what to look for when purchasing clothing that's long-lasting to help prevent wear and tear.*	4-D **Cut Flowers for Income** – *Learn how to grow, harvest, arrange and market cut flowers.*

Registration Form

Name _____

Address _____

Phone _____ Email _____

Breakout Sessions: 1_____ 2 _____ 3 _____ 4 _____

Payment Enclosed: $ _____ for _____ Adult(s) and/or _____ Student(s)

Please register on-line at **go.osu.edu/eowia2022** or mail registration and payment to:
OSU Extension Harrison County, ATTN: Women in Ag, 538 North Main St., Ste H, Cadiz, OH 43907

COLLEGE *of* FOOD, AGRICULTURAL, *and* ENVIRONMENTAL SCIENCES **CFAES**

Ohio Dairy Producer Webinar Series

1 pm Lunch and Learn

February 11: Dairy risk management: DMC & DRP
February 18: What is Milk Price, Production & Demand outlook
March 4: Keeping yourself and employees safe on the farm
March 18: Utilizing your manure to maximize profit

Dairy Risk Management: Dianne Shoemaker & Jason Hartschuh, OSU Extension
Outlook on Milk Price, Production, and Demand: Dr. Chris Wolf, Cornell University
Keeping yourself and employees safe on the farm: Taylor Dill and Jamie Hampton, OSU Extension
Utilizing Manure: Glen Arnold, Chris Zoller, Eric Richer, Haley Zynda, Chris Shoup

To Register visit: https://go.osu.edu/2022osudairyprogram

THE OHIO STATE UNIVERSITY EXTENSION

Dairy.osu.edu

CFAES

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Ohio FARMLAND LEASING UPDATE

https://farmoffice.osu.edu/events/ohio-farmland-leasing-update

FEBRUARY 9, 2022
7:00—9:00 pm
Via Zoom Webinar

Presented by OSU's Farm Office Team:

Barry Ward
Leader, Production Business Management

Peggy Kirk Hall and Robert Moore
Attorneys, OSU Agricultural & Resource Law Program

Learn the latest information on:

- Current economic outlook for Ohio row crops
- Research on cash rent markets for the Eastern Corn Belt
- Rental market outlook – fundamentals
- Ohio's statutory termination legislation
- Addressing soil quality and conservation practices in leases
- Using long term leases in farm succession planning
- Farmland leasing resources

Register for this free webinar at:
https://go.osu.edu/farmlandleasingupdate

THE OHIO STATE UNIVERSITY EXTENSION

OSU FARM OFFICE
farmoffice.osu.edu

CFAES COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

AGRICULTURE POLICY AND OUTLOOK REGIONAL MEETING

Monday, February 14, 2022 9:00 - 12:30 PM

Muskingum County Conference and Welcome Center

205 N. 5th St, Zanesville, OH

SPEAKERS

Barry Ward, *Farm Inputs and Real Estate*
Peggy Hall, *Ag Law Updates*
Matt Roberts, *Grain Marketing Outlook*
Carl Zulauf, *Farm Bill 2023*

CONTACT

Clifton Martin, Extension Educator,
740-454-0144
martin.2422@osu.edu

REGISTRATION

$20.00 per person by Feb 9

Register online at:
go.osu.edu/muskingumoutlook
(to register by mail see info on back side)

With support from

Ohio Corn&Wheat

THE OHIO STATE UNIVERSITY EXTENSION

—We Sustain Life—

muskingum.osu.edu

2022 Regional Agricultural Policy and Outlook

Registration Details:

PRE-Registration is required, and the fee is $20 per person. The registration deadline is Wednesday, Feb 9, 2022.

Online registration at: go.osu.edu/muskingumoutlook

Or

Make checks payable to *Ohio State University Muskingum County*.
Mail to 225 Underwood Street, Zanesville, OH 43701.

Please return this form with payment. Thank you!

Name(s):_____

Address:_____

City_____ State_____ Zip_____

Phone_____

Email_____

Amount Enclosed: _____

More Information:

Muskingum County
Clifton Martin
740-454-0144
martin.2422@osu.edu