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OHIO STATE UNIVERSITY EXTENSION

NORTHEAST OHIO AGRI-CULTURE NEWSLETTER

Your Weekly Agriculture Update for Ashtabula and Trumbull Counties

April 16, 2024

If you had hail on your April weather bingo card, you win!

In This Issue:

Hello Northeast Ohio Counties!

We're back! Technical issues made getting the newsletter sent out a little difficult (an understatement), but you can expect the newsletter every Tuesday again. Thanks for your patience.

OSU is currently accepting applications for the Ashtabula County ANR Extension Educator position. Position details and information on how to apply are in this week's newsletter. Please share widely to anyone that would be a great fit for this position. If you have ag related questions, you can direct them to the Trumbull County office at 330-638-6783.

Have a great week!

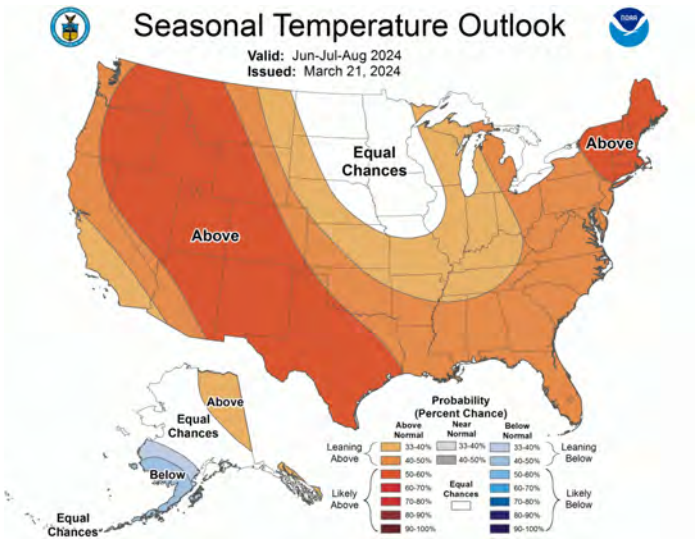
Lee Beers
Trumbull County
Extension Educator

BIG SWINGS AHEAD FOR PLANTING, GROWING AND HARVEST SEASON

By Jim Noel

Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2024-10/big-swings-ahead-planting-growing-and-harvest-season

As **El Niño** continues to weaken in the eastern Pacific Ocean the "rapid change" often leads to a wetting up as we discussed last time for a part of spring. This wetting up has occurred across Ohio in the last month with some areas wetter than others and could continue into May but to a lesser extent. The years where strong **El Niño** events came to an end in spring include 2016, 1998, 1982, 1973 and 1958. However, as we go into summer and autumn, there is a growing chance of a **La Niña** returning which is opposite of **El Niño**. This swing in the ocean pattern will likely put some stress on Ohio crops this year.



Above normal temperatures are expected from May to autumn harvest with the warmth favoring nighttime minimum temperatures more than daytime maximum temperatures. There will likely be some 95+ degree days this summer but there is more of a chance of 75+ overnight temperatures. You can see the official summer temperature outlook by NOAA attached.

Rainfall will see significant swings the rest of this year. We are in a normally wet time of the year currently averaging 0.8-1.0 inch per week. We expect this wetness to last into May. However, as growing season arrives it appears there will be growing variability in the rainfall patterns. In addition, we expect some dryness to expand as summer progresses and **La Niña** develops with confidence higher

for dryness in June and August/September timeframes at this point. The extent of any summer/early autumn drought development needs to be monitored in the coming weeks.
Even though it is typical to still see some light freezes/frosts in April, most data suggests this is not likely as we go into May meaning a near normal last freeze for most of the state.
You can get all the official climate outlooks from NOAA's Climate Prediction Center at https://www.cpc.ncep.noaa.gov .

OSU Extension Ashtabula County is Hiring!

Extension Educator, Agriculture and Natural Resources

Ohio State University Extension (OSUE) seeks an Educator to work collaboratively with county, area, and state teams of OSUE professionals and with local agency leaders and volunteers. The Extension Educator, Agriculture and Natural Resources (ANR) in Ashtabula County will be responsible for a broad range of basic to complex duties that could include but are not limited to: providing guidance and/or leadership for developing and conducting a proactive applied research and education program in agriculture and natural resources to meet current and future needs in farm management, livestock and crop production, home horticulture/Master Gardeners, commercial horticulture, farmland use issues, food security, innovative agricultural business opportunities, environmental quality and sustainability, renewable energy, and bio-based products. Plan, teach, deliver, disseminate, and evaluate educational programs and applied research on relevant local issues; give leadership to the development of pro-active educational programs using innovative educational methods; maintain a high level of visibility and facilitate communications with a wide range of clientele to promote the understanding of agriculture and natural resource issues; maintain a program of individual professional improvement in selected subject areas; ensure diversity among potential clientele and learners, and equal access to programs and facilities; work closely with local advisory committees, commodity groups, and volunteers to conduct needs assessment and priority setting to determine emphasis of educational programs; serve as an educational advisor and liaison for OSUE and the University to appropriate public issue and program-related organizations; represent OSUE and the University with federal, state, and local agencies and educational institutions at the local community level; identify, recruit, and develop the volunteer leadership necessary to carry out relevant parts of their programming; provide volunteer management, educational training, and program development to the Ashtabula County Master Gardener Volunteer Program.

To apply for this position please https://osu.wd1.myworkdayjobs.com/en-US/OSUCareers/job/Satellite-Campus/Extension-Educator--Agricultural-and-Natural-Resources---Ashtabula-County_R97999-1.

WHEAT MANAGEMENT FOR SPRING 2024

By Laura Lindsey, Pierce Paul, Ed Lentz, Alyssa Essman
Source:
https://agcrops.osu.edu/newsletter/corn-newsletter/2024-10/wheat-management-spring-2024

Spring is an important time to make key management decisions for winter wheat. Decisions should be made on wheat growth stage, not calendar date or crop height. Correct growth stage identification and knowledge of factors that affect grain yield can enhance management decisions, avoiding damage to the crop and unwarranted or ineffective applications. Several scales can be used to identify wheat growth stages, including the Feekes and Zadoks scale. Here we focus on the Feekes Growth Scale and key spring management practices.

Feekes 5 Growth Stage. At Feekes 5 growth stage, leaf sheaths are strongly erect. This is an ideal growth for spring topdress nitrogen application. Weed control efforts should be made prior to or during Feekes 5.0 with 2,4-D and other labeled herbicides. This is also a good stage to begin scouting for foliar diseases.

Feekes 6 Growth Stage. At Feekes 6 growth stage, the first node is visible above the soil surface and is commonly referred to as 'jointing.' Above this node is the head or spike, which is being pushed upwards. To identify Feekes 6 growth stage, you may need to remove the lower leaves and leaf sheath to see or feel the first node (Figure 1). A video demonstrating for identifying Feekes 6 growth stage can be found here: https://www.youtube.com/watch?v=D_f3VrqzV5c&list=PLYlh_BdeqniJ8oD8TnyGhQHRd96ptV0Yt&index=1

Most herbicide applications should be made by the time wheat enters the Feekes 6 growth stage. Herbicide options become increasingly limited as wheat enters Feekes 6 and progresses to the boot stage. Do not apply growth regulator herbicides such as 2,4-D, dicamba, or MCPA after Feekes 6 as these materials can be translocated into the developing head, causing sterility or distortion. Figure 1 in the Weed Control Guideprovides growth stage cutoffs for the different herbicide options. Refer to the herbicide label for specific guidelines, as growth stage restrictions vary among different products. Sulfonylurea herbicides are safe at this growth stage, but for practical reasons, weed control should have been completed by now. Wheat can still show good response to nitrogen topdressing at this time.

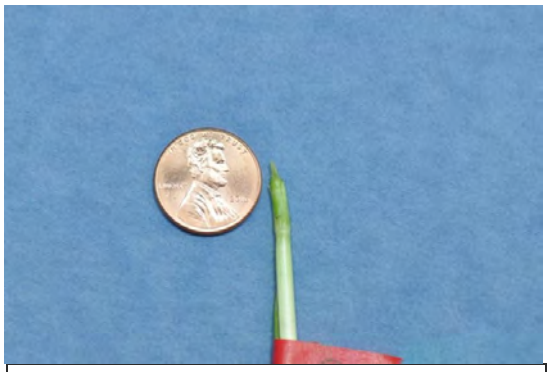


Figure 1. Wheat stem with leaves and sheath removed showing the first node above the soil surface, indicating Feekes 6 growth stage.

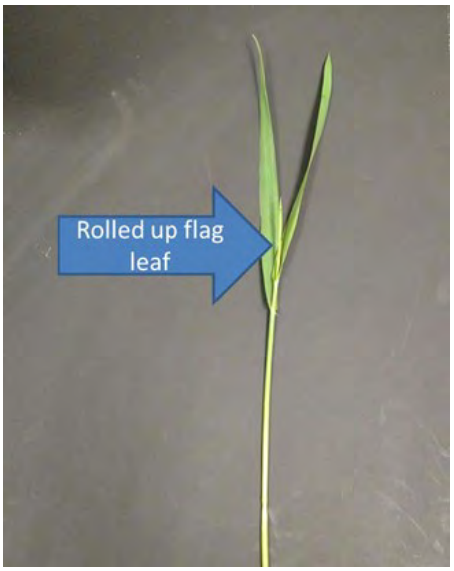


Figure 2. Feekes 8 growth stage where the flag leaf is visible, but still rolled up.

Feekes 7 Growth Stage. At Feekes 7 growth stage, the second node is visible above the soil surface. These nodes are usually seen as clearly swollen areas of a distinctly different (darker) shade of green than the rest of the stem. Wheat will still respond to nitrogen fertilizer applied at Feekes 7 if weather prevented an earlier application; however, mechanical damage may occur from applicator equipment. A video demonstrating for identifying Feekes 7 and 8 growth stages can be found here: https://www.youtube.com/watch?v=bnV57AhUt-Y&list=PLYlh_BdeqniJ8oD8TnyGhQHRd96ptV0Yt&index=2

Feekes 8 Growth Stage. At Feekes 8 growth stage, the flag leaf is visible, but still rolled up (Figure 2). This stage is particularly significant because the flag leaf makes up approximately 75% of the effective leaf area that contributes to grain fill. It is therefore important to protect and maintain this leaf healthy (free of disease and insect damage) before and during grain development. To confirm that the leaf emerging is the flag leaf, split the leaf sheath above the highest node. If the head and no additional leaves are found inside, Feekes 8 growth stage is confirmed. At this stage, the grower should decide whether or not to use foliar fungicides to management early-season and overwintering foliar fungal diseases.

Feekes 9 Growth Stage. At Feekes 9 growth stage, the ligule of the of the flag leaf is visible. After the flag leaf emergence, army worms can seriously damage yield potential. A video demonstrating for identifying Feekes 9 and 10 growth stages can be found here: https://www.youtube.com/watch?v=K1UVNBR2jRk&list=PLYlh_BdeqniJ8oD8TnyGhQHRd96ptV0Yt&index=3

Figure 3. At Feekes 10 growth stage, the head is fully developed and can be easily seen in the swollen section of the leaf sheath below the flag leaf.

Feekes 10 Growth Stage. At Feekes 10 growth stage ('boot stage'), the head is fully developed and can be easily seen in the swollen section of the leaf sheath below the flag leaf (Figure 3). This is another important growth stage for making fungicide applications for foliar disease management, particularly late-season diseases such as Stagonospora leaf and glume blotch and rusts.

For more information on wheat growth stages and management, please see our FactSheet- https://ohioline.osu.edu/factsheet/agf-126 and Ohio State Agronomy YouTube playlist- https://www.youtube.com/playlist?list=PLYlh_BdeqniJ8oD8TnyGhQHRd96ptV0Yt

2024 SECOND QUARTER FERTILIZER PRICES ACROSS OHIO

By Amanda Bennett, Eric Richer, Clint Schroeder
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2024-10/2024-second-quarter-fertilizer-prices-across-ohio

Results from a quarterly survey of retail fertilizer prices in the state of Ohio revealed fertilizer prices were slightly lower than national averages reported by Progressive Farmer - DTN (Quinn, 2024). The survey was completed by 32 retailers, representing 19 counties, who do business in the state of Ohio. Respondents were asked to quote spot prices as of the first day of the quarter (April 1st) based on sale type indicated. This is part of a larger study conducted by OSU Extension to better understand local fertilizer prices, which began in December 2023.

In summary, survey participants reported the average price of all fertilizers was lower in Ohio compared to the national prices, except for DAP (18-46-0) at $785/ton in Ohio versus $780/ton nationally, (Quinn, 2024).

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

When compared to results from the previous quarter's survey, prices for fertilizers saw a modest increase, with only anhydrous ammonia, MAP and potash showing a slight decrease. DAP and urea saw the most increase in price from the previous quarter with DAP up $50/ton and urea up $59/ton. This increase equates to an increase in price of 9% for both DAP and urea. Only ammonium thio-sulfate remained unchanged.

Table 1. Second Quarter 2024 Ohio Fertilizer Prices

Nutrient	Responses (n)	Sale Type	Min $/ton	Max $/ton	Avg $/ton
Anhydrous ammonia 82-0-0	15	FOB Plant	$707	$870	$785
UAN 28-0-0	19	Direct to Farm	$309	$600	$348
Urea 46-0-0	17	FOB Plant	$522	$680	$561
MAP 11-52-0	19	FOB Plant	$745	$1079	$795
DAP18-46-0	9	FOB Plant	$760	$830	$785
APP 10-34-0	20	Direct to Farm	$553	$680	$602
Potash 0-0-60	20	FOB Plant	$432	$512	$472
Ammonium Sulfate 21-0-0-24	18	FOB Plant	$430	$585	$479
Ammonium Thio-Sulfate 12-0-0-26	13	FOB Plant	$325	$448	$385
Poultry Litter	9	Delivered & applied, <25 miles	$45	$72	$55

Quarter 2 survey data included nine responses to questions about poultry litter, delivered and applied within a 25-mile radius of the facility. Prices ranged from $45-72/ton with an average of $55/ton reported. If you are a retailer interested in participating in this study, please contact Amanda Bennett at bennett.709@osu.edu.

SPRING FORAGE ESTABLISHMENT

By Jason Hartschuh, Extension Field Specialist
Source: https://dairy.osu.edu/newsletter/buckeye-dairy-news/volume-26-issue-2/spring-forage-establishment

As soil temperatures rise and the chances of a morning frost decline, the window to spring-establish forages is open. In the spring, the combination of weather and plenty to do make planting opportunities scarce. To take advantage of those short planting windows, the following are items to consider to improve chances for a successful forage establishment this spring.

Soil Fertility and pH: Set up your forages with the best starting conditions you can by providing sufficient available nutrients and a soil pH that allows for those nutrients to be taken up. Follow the Tri-state Soil Fertility Recommendations (https://forages.osu.edu/forage-management/soil-fertility-forages). Phosphorus levels for grass are optimal in the 20-40 ppm range, while the range for legumes is 30-50 ppm. When it comes to potassium, the optimal range is 100-130 ppm for sandy soils with a cation exchange capacity (CEC) less than 5; for loam and clay soils with a CEC greater than 5, the range is 120-170 ppm. No matter the nutrients in the soil, if pH isn't taken care of the forage will not be as productive. Most forages are productive at a pH above 6.0, but for alfalfa, a pH of 6.5-6.8 is necessary, and if the pH is below that, it is worth considering pushing alfalfa establishment to the late summer planting window and applying lime and maybe planting an annual grass for forage in the interim. As for nitrogen fertilization, an application of 30 lb/acre of starter nitrogen for pure cool-season grass stands or 10-20 lb/acre for grass-legume mixes can help with seedling vigor in low-nitrogen soils.

Weed Control: Prior to forage establishment, weed control is important to lower potential competition throughout the lifespan of a stand. Weeds can choke out and limit forage establishment, and once a forage is established, the option to control weeds is reduced. Decisions can be made in the selection of the field for establishment to avoid areas where there are known weed problems. Chemical control can be used to manage a variety of weeds, but be sure to take extra caution to follow replant intervals. Another option for weed control and a good practice for particularly competitive perennial weeds is a tillage pass.

Prepared Seedbed: Planting into a well-prepared seedbed improves seedling germination and uniformity. For conventional systems, an ideal seedbed is firm, smooth, clod-free, and weed-free. As soon as soils are fit, prepare seedbeds for plants, but be careful to not overwork soils depleting soil moisture and increasing the risk of soil crusting following a rain event. When seeding in a tilled seed bed, drills with press wheels are best to ensure good seed-to-soil contact. Excellent

tools to firm soil to improve seed-to-soil contact are cultipackers and cultimulchers. Where erosion is a concern in no-till systems, or if there is residue over 35%, the use of a no-till drill is recommended. No-till forage establishment is most successful in silt loam soils and soils that are well-draining. Timing for seedbed prep should be based more on conditions than the calendar, so be sure tillage equipment is ready to go early.

Seed Selection: Select a high-quality and reputable seed variety. Be sure that the seed used has good germination for a relatively recent germination test and that the variety is well suited to our region. The forage stand is a multiyear crop, so planting “common” seed (variety not stated) usually proves to be a very poor investment, yielding less even in the first or second year and having shorter stand life.

Companion Crops: Select forages and forage mixes that will meet desired production. Direct seedings without a companion crop will allow for 2-3 high-quality harvests in a successfully established seeding year. If looking to increase forage tonnage in the first year of a forage crop, a small grain companion crop can be successful. Companion crops have the added benefits of erosion protection and weed competition in susceptible fields. Important considerations with companion crops to not out-compete the perennial forage are: (i) select an early maturing, stiff strawed variety so other forages are not smothered, (ii) plant companion small grains at 1.5-2.0 bu/acre, (iii) remove companion crop as pasture or silage in the early boot stage to limit competition, and (iv) do not apply additional nitrogen to the companion crop.

Timing of Planting: The recommended spring planting window for forages in Ohio is mid-March to mid to late April for southern Ohio and late March to early May for northern Ohio. Warm-season forages and annual forages can effectively be established later in the growing season (reference the Ohio Agronomy Guide for species-specific planting windows). Timely planting allows for forages to be established before the environmental stresses of summer and allows forages to better compete with weeds. Later forage planting can struggle to establish lowering the potential yield and lowering quality due to a large presence of weeds. If spring planting is delayed, consider planting a summer annual and waiting to establish a perennial forage in August. With the warmer than normal February and March we had this year, soil temperatures and spring green up are nearly two weeks ahead of schedule, which means weed germination is also, and we should plan accordingly, as May 1 might be too late this year.

Seeding Rate: Forage seeds can vary in size, shape, and whether or not they are coated. Getting an accurate seeding rate can be difficult, particularly with mixes. Take the time to calibrate seeders ahead of time. The seeding rate is important to

establish a uniform stand that is productive and competitive with weeds. An excellent resource for calibration is the video “Drill Calibration” at https://forages.osu.edu/video/. If mixing grass seed with alfalfa seed, have it professionally blended by the seed supplier if possible, and ask them for any information they may have on drill settings, and seeding rates. If you cannot have it pre-blended, consider planting it separately to ensure the accuracy of seeding rate. If you do plan to drop mixed seed through a drill, calibration is a must and will vary so plan accordingly and be sure to test your drop rate.

Seeding Depth: Forages are small-seeded crops, so plant depth is very important for uniform establishment. A seeding depth of 1/4 to 1/2 inch deep with good seed-to-soil contact is optimal for most forage species and soil types. In sandy soils, a depth of 1/2 to 3/4 inch may be appropriate. Be sure to check the actual planting depth when first planting and if any field conditions change. Take particular note in no-till fields and with no-till drills to ensure seeding depth accuracy. In our experience, visibility of up to 25% of the seed on the surface, or in the seed slot but uncovered behind the drill indicates that most seeds are at the proper depth. Tender legume seedlings will have a very hard time reaching the soil surface if they germinate too deep, especially on heavier soils where any amount of crusting may take place following planting.

Post Planting Scouting: The first 2 months of a newly established forage are critical for the longevity and long-term production of a stand. Early weed competition is most detrimental to an establishing forage stand. When looking to control a weed problem, for post-emergence application, be sure to double-check the label to not harm forage seedlings. A similar concern is present with insect pests like potato leafhopper damaging legumes as soon as late May to early June. Even in established forages, it is best to scout for pests yearly when each pest is seasonally present.

Harvest Management: Unless there is weed or pest pressure, it is ideal to delay the first harvest of a new seeding until early flowering for legumes. For first harvest of pure grass stands, harvest depends on stand vigor and weather conditions; grasses for the most part establish slower than legumes and 70 days after planting is generally the timing for the first harvest. If the harvest method is grazing, take extra precautions to limit trampling damage. If there is a weed problem, clipping may be necessary to prevent weed seed production.

THE AG LAW HARVEST

By:Jeffrey K. Lewis, Esq.
Source: https://farmoffice.osu.edu/blog/thu-03282024-726pm/ag-law-harvest

Spring has officially sprung, and so have a few interesting legal updates. In this edition of the Ag Law Harvest we cover aggravated vehicular assault in a farm utility vehicle, "Made in the USA" labels, the Corporate Transparency Act's legal woes, USDA's Dairy Margin Program, and the U.S House Committee on Agriculture's Agricultural Labor Working Group's final report.

Driver of Farm Utility Vehicle Cannot be Found Guilty of Aggravated Vehicular Assault.

The Supreme Court of Ohio ruled that a driver of a farm utility vehicle involved in a crash cannot be convicted of a felony for injuring passengers because the vehicle does not meet the definition of a “motor vehicle” under Ohio’s criminal code. Joshua Fork of Sandusky County crashed his Polaris utility vehicle while driving under the influence at a party in 2020. Two of Fork’s passengers sustained serious injuries as a result of the accident. Fork was convicted of operating a vehicle under the influence (OVI), and two counts of aggravated vehicular assault. Fork did not contest his OVI conviction but did appeal his aggravated vehicular assault conviction to the Sixth District Court of Appeals. The case eventually made its way to the Supreme Court of Ohio.

In its decision, the Court found that Ohio law has two definitions of “motor vehicle.” One definition applies strictly to traffic laws and the other applies more broadly to Ohio’s “penal laws.” The Court held that the definition of “motor vehicle” that applies to penal laws, such as aggravated vehicular assault, exempts utility vehicles. The Court concluded that because of the utility vehicle exemption and the fact that the utility vehicle’s principal purpose is for farm activities, Fork cannot be found guilty of vehicular aggravated assault. To read more on the Supreme Court’s decision, visit: https://www.courtnewsohio.gov/cases/2024/SCO/0321/230356.asp

USDA Announces Final Rule on “Made in the USA” Labels.

The U.S. Department of Agriculture (“USDA”) announced the finalization of a rule to align the voluntary “Product of USA” label claim with consumer understanding of what the claim means. The USDA's final "Product of USA" rule permits the voluntary use of the "Product of USA" or "Made in the USA" label claim on meat, poultry, and egg products. However, these labels can only be used if the products are derived from animals that were born, raised, slaughtered, and processed in the

United States. The rule aims to prevent misleading U.S. origin labeling, ensuring that consumers receive truthful information about the origins of their food.

Under the final rule, the "Product of USA" or "Made in the USA" label claim will remain voluntary for meat, poultry, and egg products. It will also be eligible for generic label approval, meaning it won't require pre-approval by the USDA's Food Safety and Inspection Service (“FSIS”) before use, but establishments must maintain documentation supporting the claim. Additionally, the rule permits other voluntary U.S. origin claims on these products, provided they include a description on the package of the preparation and processing steps that occurred in the United States upon which the claim is made.

Corporate Transparency Act Loses First Federal Court Battle.
As we have previously reported (here), the Corporate Transparency Act (“CTA”) requires certain business entities to file Beneficial Ownership Information (“BOI”) with the Financial Crimes Enforcement Network (“FinCEN”) or face civil and criminal penalties. However, an interesting twist in the CTA saga has occurred. A federal court in Alabama issued an opinion ruling the CTA unconstitutional, concluding that the CTA exceeds the U.S. Constitution’s limits on Congress’s power, and issued an injunction against the U.S. Government from enforcing the CTA against the named plaintiffs in the case. Therefore, the named plaintiff, Isaac Winkles, and companies for which he is a beneficial owner or applicant, the National Small Business Association, and the approximately 65,000 members of the National Small Business Association are currently not required to report beneficial ownership information to FinCEN. Everyone else must still comply with the CTA and the BOI reporting requirements.

FinCEN released a statement acknowledging the court’s ruling but emphasized that only the named plaintiffs are excused from reporting beneficial ownership information to FinCEN at this time. On March 11, 2024, the U.S. Government filed a notice of appeal of the lower court’s ruling, hoping to reverse the injunction and the court’s decision. We will continue to monitor the situation and keep you informed of any updates to the CTA and BOI reporting requirements.

USDA Announces 2024 Dairy Margin Coverage Program.
The U.S. Department of Agriculture (“USDA”) announced that starting February 28, 2024, dairy producers in the United States can enroll in the 2024 Dairy Margin Coverage (“DMC”) program. Enrollment for the 2024 DMC coverage ends on April 29, 2024.

The USDA's Farm Service Agency (FSA) has made revisions to the DMC regulations to allow eligible dairy operations to make a one-time adjustment to their established production history. This adjustment involves combining previously

established supplemental production history with DMC production history for dairy operations that participated in Supplemental Dairy Margin Coverage in previous coverage years. DMC has also been authorized through the calendar year 2024 as per the 2018 Farm Bill extension passed by Congress.

FSA Administrator Zach Ducheneaux encourages producers to enroll in the 2024 DMC program, citing its importance as a risk management tool. The program has proven effective, with over $1.2 billion in Dairy Margin Coverage payments issued to producers in 2023. Ducheneaux highlights the program's affordability, noting that it offers a sense of security and peace of mind to producers.

DMC is a voluntary risk management program that provides protection to dairy producers when the margin between the all-milk price and the average feed price falls below a certain dollar amount selected by the producer. In 2023, DMC payments were triggered in 11 months, including two months where the margin fell below the catastrophic level of $4.00 per hundredweight, marking a significant development for the program.

House Committee Releases Final Report Recommending Changes to H-2A Program.

On March 7, 2024, the U.S. House Committee on Agriculture's Agricultural Labor Working Group ("ALWG") released its final report containing policy recommendations for U.S. agricultural labor. The report includes significant reforms to the H-2A program, many of which, as announced by the ALWG, received unanimous support from the bipartisan working group. The recommended policies encompass creating a single H-2A applicant portal, implementing H-2A wage reforms, establishing a federal heat standard for H-2A workers, and granting year-round industries such as livestock, poultry, dairy, peanuts, sugar beets, sugarcane, and forestry access to the H-2A program.

LEE'S MONTHLY NEWS COLUMN

Hello, Trumbull County and welcome to spring! We're all gearing up for the gardening and planting season, and I've started to get some questions related to planting date, fertilizer recommendations, and other general gardening questions.

Planting date. The planting date will depend on the crop you intend to plant. Soil temperature, day length, and other environmental factors will determine when you should plant. You don't have to be a meteorologist, astrologer, or go by the phases of the moon – just read the seed packet. Seed companies provide this information to take the guess work out of when you should plant. Peas for example enjoy colder temperatures and can be planted when soil temperatures are above 40F, but if you

plant cucumbers in cold soil you will regret it. Many seed packets will say to plant after the risk of frost has passed, and in Trumbull County our average last frost free day is May 15th. Planting after this date will avoid frost most years.

Fertilizer and soil fertility. You should soil test to get the most accurate pH, phosphorus, and potassium recommendations for your garden. There simply is no substitute for a good soil test. You've probably seen the soil pH testers in the garden centers, but I can assure that they are not accurate. Even if you use the pH paper, that will only provide you a reference of the soil pH and not provide any measure of how much lime (or sulfur) to add to get to the correct level. I see hundreds of soil tests each year, and the misapplication of lime is by far the most common mistake I see. You can purchase soil testing kits through our office, or from many garden centers in the area. I've seen some soil testing kits sold in box stores, but if you're paying over $20 for a soil test, you're paying too much unless you are testing for everything. If you need help interpreting a soil test, I can help, and it does not matter where you purchased the test kit.

Nitrogen is highly variable in the soil as it moves with water, or volatilizes into the atmosphere. This makes it notoriously hard to measure current available levels in the soil are not typically provided on soil test results. Nitrogen does not typically stick around from year to year, so it should be applied yearly. Rates will vary depending on the crop, but 100 to 130 pounds of actual nitrogen per acre will be needed for most common crops. Be careful though, if you over apply nitrogen to some crops like tomatoes, you will have the biggest, greenest, bushiest plants you have ever grown but no fruit. On a side note, you can apply one to four pounds of actual nitrogen (not fertilizer) per 1000 square feet to your lawn to green it up all year. You can split apply (spring, summer, fall) this amount to provide a green lawn all year.

Manure. I frequently get asked about my thoughts on using manure in the garden. Manure is a great, and usually cheap way to apply nutrients and organic matter to your garden. Not all manure is created equal though. Horse manure should be avoided as it has very low nutrient levels, so low that the organisms that break down the manure typically need more nitrogen to work effectively. If you apply this manure to your garden, those microbes will pull nitrogen from your soil to break down the manure, in effect reducing nutrients available to your plants. On top of that, the horse digestion system does not adequately digest weed seeds so they remain viable in the manure. In summary, if you use horse manure you are likely tying up nutrients in your soil and spreading weed seeds – not a good combination. Other manures from cows, sheep, rabbits, and chickens are better options. Be sure to keep fresh manure away from produce to prevent contamination. The last thing you want is to have little bits of cow poop splashing up on your ripe tomatoes when it rains.

Good luck this gardening season, and reach out to our office at 330-638-6783 with any gardening questions you may have.