

COSHOCTON COUNTY AGRICULTURE & NATURAL RESOURCESApril 8, 2020 Issue

How is COVID Impacting Ag Markets?
Governmental Assistance for Weathering
the COVID-19 Pandemic

The OSU Extension Farm Office is Open
Big Temperature Swings Next Two Weeks
Pasture Turnout; Wait, not yet!
Establishing New Forage Stands
Seedcorn Maggot A Possibility in Some
Fields This Spring
Spring Farm Safety Reminders
Get Ready to Plant
Pasture Rental Rates and the Price of Hay
Ag Law Harvest
Mulch Volcanos are Erupting in
Landscapes!

Coshocton County Extension
724 South 7th Street, Room 110
Coshocton, Ohio 43812
Phone: 740-622-2265
Fax: 740-622-2197
Email: marrison.2@osu.edu
Web: <http://coshocton.osu.edu>

Hello Coshocton County! The mostly sunny days we received over the past week were a welcomed sight for many of us. It was great to see that outdoor social distancing was in full gear. The mowers hit the lawns and area farmers were in the fields spreading fertilizer and working some ground. Sadly it appears the next two weeks will slow us down a bit but the past few days were a reminder that brighter days are ahead of us.

COVID-19 continues to impact all of us. Our OSU Extension Farm Office Team is helping to track legislation which has been passed to try to provide relief. Today's edition has two summary articles which I wrote based on the information shared on Monday's Farm Office Webinar. The Farm Office will be open every Monday night to answer your questions. I encourage you to jump on-line to get additional updates.

Also included are production related articles which our specialists from across the state have written this week. I hope these articles are of benefit to you and your operation.

Stay well and a reminder, while our office is closed to the public due to the stay-at-home directive, we are still able to answer your questions from our home offices. I can be reached directly at 740-722-6073 or via email at marrison.2@osu.edu. Stay safe!

Sincerely,

David Marrison

Coshocton County OSU Extension ANR Educator



THE OHIO STATE UNIVERSITY

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How is COVID-19 Impacting Ag Markets?

By David Marrison, Coshocton County Extension Educator, ANR

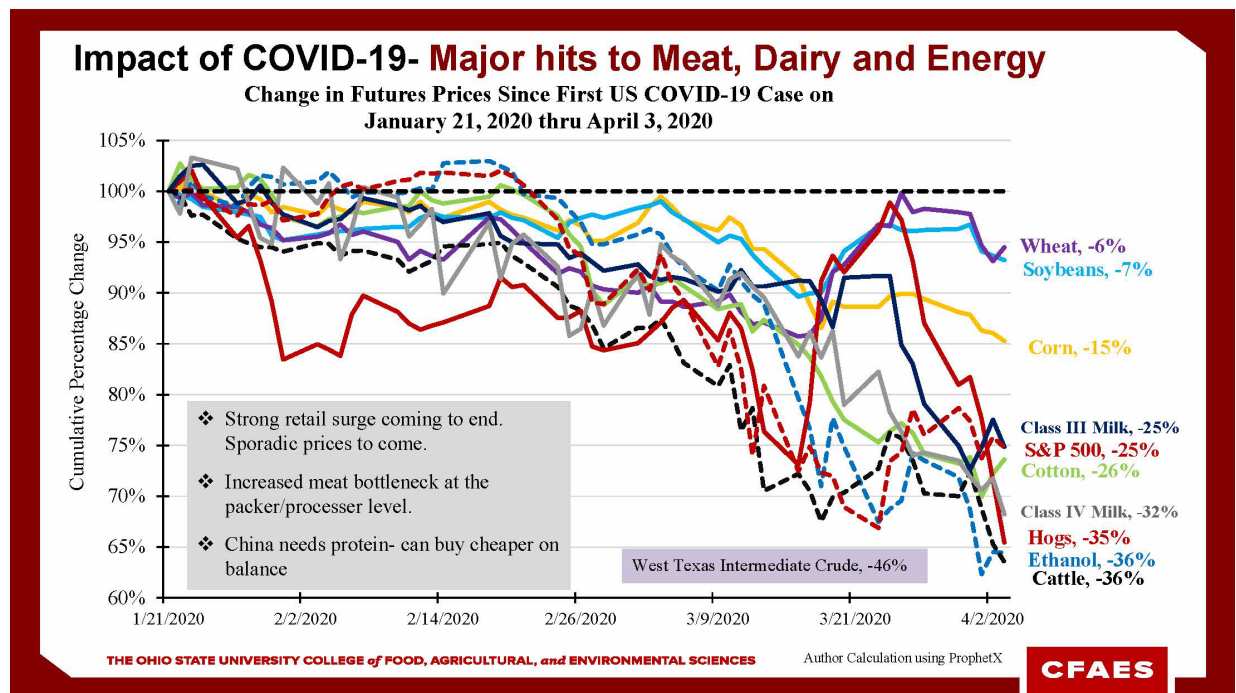
Source: Ben Brown, Presentation on Farm Office Live on April 6, 2020

The coronavirus pandemic has altered our lives with the stay home directive in Ohio. Our national news has been quick to note the economic impact felt especially with regards to the stock market and the oil & gas industry. The S&P 500 has declined by 25% and the West Texas Intermediate Crude prices have dropped by 46%. But what impact has COVID had thus far to the industry of agriculture?

On a **Farm Office Live** webinar offered by OSU Extension on Monday, April 6, Ben Brown (Assistant Professor of Professional Practice- Agricultural Risk Management for OSU's Department of Agricultural, Environmental, and Development Economics) addressed the impact that COVID-19 has had thus far on agriculture through the lens of the **Future Prices** for Agricultural Commodities since the first confirmed case of Coronavirus in the United States on January 21, 2020.

Brown shared the following graph to show the changes to agricultural products. The biggest drop in future prices have been in feeder cattle and ethanol as both are down 36% followed by hogs down 35%. The dairy industry has also been hit as the Class IV futures price is down 32% and the Class III prices down 25%. Cotton prices have also declined by 26%.

Traditional row crops have seen smallest decline in future's prices with corn prices down 15% followed by soybeans at 7% and wheat at 6%.



The coronavirus pandemic is one of uncertainty. Ben Brown anticipates the strong retail surge is coming to an end with sporadic prices anticipated going forward. We may also see increased bottle necks at the packer and processor level which could impact retailer availability. Several of the nation's largest processors have announced plans to spread out workers and slow down lines to increase worker safety. This reduces throughput of meat. Saudi Arabia and Russia negotiators are expected to meet on Thursday to consider reducing production of oil which should provide financial relief to the market driven US crude oil industry. This would not increase US consumption of gasoline as consumers limit driving and therefore ethanol. It should be noted that this meeting of the world's largest oil producers has already been delayed once.

Farm Management experts from Ohio State will continue to monitor the impact of COVID-19 and will be sharing information on a weekly Farm Office webinar on Monday's from 8:00 to 9:30 p.m. More details can be obtained about these updates at: <https://farmoffice.osu.edu/farmofficelive>

Governmental Assistance for Weathering the COVID-19 Pandemic

By: David Marrison, Coshocton County Extension Educator, ANR

The coronavirus pandemic has certainly altered all of our lives. The impact is being felt by families, businesses, governmental agencies, and civic organizations. To help families and businesses alike, various levels of government have passed legislation to help lessen the blow of COVID-19. Several of these pieces of legislation were discussed on **OSU Extension's Farm Office Live** program on April 6 were as follows:

Tax Deadline Extensions:

On March 21, 2020, the Internal Revenue Service extended the federal tax filing deadline for 2019 taxes from April 15 until July 15, 2020. The IRS encourages any taxpayer who is owed a refund to file as quickly as possible. The Ohio General Assembly through House Bill 197 also extended the deadline on March 25, 2020 to file Ohio Taxes until July 15, 2020.

Coronavirus Aid, Relief, and Economic Security (CARES) Act

The Coronavirus Aid, Relief, and Economic Security ("CARES") Act was signed into law by President Trump on March 27, 2020. The CARES Act contains a number of provisions designed to sustain Americans during the COVID-19 health and economic crisis.

The Paycheck Protection Program, included in the CARES Act, expands the Small Business Administration (SBA) loan program to provide up to \$349 billion in 100% federally-guaranteed loans to small employers and eligible self-employed individuals impacted by COVID-19. These loans are designed to be forgivable if specific requirements are met. Unlike many other SBA program, farms/agricultural businesses are eligible provided they employ fewer than 500 employees. Eligible self-employed individuals including independent contractors may apply for a loan. The program has a maximum loan amount of the lesser of either \$10 million or 250% of the average monthly payroll costs in the one year prior to the loan plus refinanced Economic Injury Disaster loans received after January 31, 2020. This loan has a maturity of 2 years and an interest rate of 1%. A borrower is eligible for loan forgiveness in an amount equal to the sum of certain payroll, mortgage interest, rent, and utility payments made during the 8-week period after the loan's origination date. Farms/businesses can apply through any existing SBA 7(a) lender or through any federally insured depository institution, federally insured credit union, and Farm Credit System institution that is participating. Lenders may begin processing loan applications for most businesses as soon as April 3, 2020, and for independent contractors and self-employed individuals by April 10, 2020. **It appears that this program is a first come first served program, so it is important for businesses to make their application as soon as possible.** More information about the program can be obtained at:

<https://www.sba.gov/funding-programs/loans/coronavirus-relief-options/paycheck-protection-program-ppp>
or at: <https://home.treasury.gov/policy-issues/top-priorities/cares-act/assistance-for-small-businesses>

The CARES Act also includes a Deferred Payroll Tax Program which provides employers the opportunity to temporarily defer payment of the employer's portion of the social security tax. It should be noted that this program can only be used if you are **not** using the Paycheck Protection Program or a loan forgiven by SBA. Self-employed individuals may defer ½ of the self-employment tax. The delay is granted through the end of 2020, then taxes must be repaid in two equal installments on Dec. 31, 2021 and Dec. 31, 2022.

The complete CARES legislation can be found at: <https://www.congress.gov/116/bills/hr748/BILLS-116hr748enr.pdf>

Families First Coronavirus Response Act

The Families First Coronavirus Response Act (FFCRA or Act) requires certain employers to provide their employees with paid sick leave or expanded family and medical leave for specified reasons related to COVID-19. The Department of Labor's (Department) Wage and Hour Division (WHD) administers and enforces the new law's paid leave requirements. These provisions will apply through December 31, 2020.

The Act requires private employers with fewer than 500 employees to provide paid sick leave where an employee is unable to work (or telework) due to a COVID-19 related illness. The provisions include two weeks (80 Hours) of paid sick leave paid at the employee's regular rate (capped at \$511/day) if the employee is quarantined and/or experience COVID-19 symptoms and is seeking a medical diagnosis. The provisions also include two weeks (80 hours) of paid sick leave at 2/3 of the employee's regular rate (capped at \$200 per day) if the employee is unable to work because they are caring for an individual with COVID-19 related illness or caring for children (under age of 18) if school/childcare is closed due to COVID-19.

A covered employer must provide expanded paid family and medical leave for up to an additional 10 weeks at 2/3 of the employee's regular rate of pay (capped at \$200 per day) where an employee is unable to work due to caring for a child whose school/day care provider is closed or unavailable due to COVID-19. Employers with fewer than 50 employees are eligible for an exemption from the requirements to provide leave to care for a child whose school is closed, or child care is unavailable in cases where the viability of the business is threatened.

Tax Credit: The Families First Coronavirus Response Act does provides business tax credits. Employers qualify for reimbursement through tax credits for all qualifying wages paid under FFCRA (dollar for dollar).

More information can be found at:

The Treasury Department

<https://home.treasury.gov/policy-issues/top-priorities/cares-act/assistance-for-small-businesses>

Small Business Administration

<https://www.sba.gov/funding-programs/loans/coronavirus-relief-options/paycheck-protection-program-ppp>

CARES Legislation

<https://www.congress.gov/116/bills/hr748/BILLS-116hr748enr.pdf>

Department of Labor - Families First Coronavirus Response Act

<https://www.dol.gov/agencies/whd/pandemic/ffcra-employer-paid-leave>

Paycheck Protection Program Offers Forgivable Loans for Eligible Small Businesses. Kristine A. Tidgren.

<https://www.calt.iastate.edu/blogpost/paycheck-protection-program-offers-forgivable-loans-eligible-small-businesses>

The OSU Extension Farm Office is Open

The Farm Office is Open! Each week, the Farm Office Team of Peggy Hall, Dianne Shoemaker, Ben Brown, David Marrison and Barry Ward will be holding weekly live office hours from 8:00 to 9:30 p.m. to update you on current issues affecting the farm economy. Join our experts for quick presentations and plenty of time for you to ask questions. Go

to <https://go.osu.edu/farmofficelive> to register. Recordings will be posted on farmoffice.osu.edu the following day.

Big Temperature Swings Next Two Weeks

By: Jim Noel

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2020-08/big-temperature-swings-next-two-weeks>

April Temperatures: Temperatures will be on a big roller coaster the next two weeks with highs ranging from the 40s to 70s and lows for the mid 20s to 50s. The tendency will be to switch from above normal the first half of this week to slightly below normal later this week and on.

April Precipitation: A progressive pattern is expected the next 2-3 weeks with a series of generally weak to moderate systems. The below normal rainfall pattern did occur to start April and that helped dry things out



some. It does look like we will see a gradual increase in rainfall chances the next few weeks. However, since systems will generally be weak to moderate rainfall will average 1-3 inches the next two weeks. Normal is 2 inches. The overall pattern will be switching to a bit more cool and damp as we go into mid to late April.

May Outlook: The May outlook still calls for warmer than normal and a little wetter than normal but not as wet as last year.

Soil Temperatures: Soil temperatures have reached into the 50s south of I-70 and mainly 40s to the north. Soil temperatures will rise a bit more this week but will slow by late week into mid April as cooler weather moves in.

Freeze and Frost Outlook: The normal time for the last hard freeze typically ranges from about April 10-20 from south to north. Frost is not uncommon into very early May. All indications remain that a fairly normal last hard freeze is on tap. We do expect several chances for frost and freeze in the next 1-2 weeks which is still not uncommon. Some morning lows in the mid 20s to mid 30s are likely the next 1-2 weeks.

Summary

Expect big temperature swings the next several weeks. Some freeze conditions are still expected. Rainfall will not be far from average the next few weeks but still leans slightly wetter than average especially 1-3 weeks out in time. Therefore, there will be some opportunities to get in the fields but conditions will still not be ideal especially the northern half of the state.

The latest NOAA climate information can be found at:

<https://www.cpc.ncep.noaa.gov>

The latest river and soil information can be found at:

<https://www.weather.gov/ohrfc/>

The latest Water Resources Outlooks can be found at:

<https://www.weather.gov/ohrfc/WRO>

Pasture Turnout—Wait Not Yet!

By: Victor Shelton, NRCS State Agronomist/Grazing Specialist

Source: <https://u.osu.edu/beef/2020/04/08/pasture-turnout-wait-not-yet/>

Yes, there is green grass. Yes, both you and the livestock are more than eager to utilize it. Yes, you both should wait before grazing it. It is one of the hardest times of the season for some people, me included. We are tired of mud and tired of feeding hay. There is an increasing amount of fresh new lush green grass beckoning to be grazed. Why shouldn't you allow the cows to partake in this new growth? When is the ideal time to start grazing?



Let's think this over a little. What is the real problem with grazing too early? Forages have just woken up from a long winter's nap. New growth comes from energy reserves stored in the roots and lower shoots; that early growth does not come from photosynthesis. Plants must make their own food. That process is called photosynthesis the production of carbohydrates from carbon dioxide, water and sunlight. The process creates sugars and oxygen. Early growth is not supported by photosynthesis; early growth comes from stored energy.

You probably remember some past conversations we've had about not overgrazing last fall, especially before the forages went dormant. That was a critical time for energy storage that is now expressed in the speed of new spring growth. If reserves were withdrawn last fall, then it will take longer for plants to jump start this spring. That last growth prior to going dormant is critical. That particular solar panel is building reserves to sustain the plant over winter and providing energy for new growth in the spring. If you turn around and let them

graze it too early, especially if energy reserves are withdrawn last fall, then not only is spring production going to be reduced, total production for the whole year will be reduced.

If you either deferred grazing last fall until the plants were dormant or you stopped grazing once you reached appropriate stop grazing wintering heights (generally similar to stop grazing heights during the season, four inches for cool-season forages), then energy reserves should be decent and spring growth normally will be good. Those reserves that were built in the roots and lower shoots last fall provide energy for quicker and more abundant growth in the spring.

It's not hard to notice the differences between two fields side by side, especially those managed so differently the past fall and early winter. There is usually a remarkable difference in forage growth. If you took clippings right now, you will often find a four to six-fold difference in forage present and I've seen even bigger differences.

There are times when we want to slow growth in the spring, such as frost seeding legumes, so we reduce competition for those new seedlings. Even under those conditions, we often see a slight reduction in total yield for the year, even with the benefits of the legumes and providing a little extra time for establishment. A worse scenario is overgrazing in the fall with reserves not built and then turning around and initiating grazing too early in the spring or never removing them the entire time. Energy reserves are grossly hampered in this situation and total yield potential for the season is quite often reduced by at least fifty percent.

I've heard people say, "The cows didn't lose anything, they consumed it all." They consumed all that was grown, but the amount that was grown didn't come close to the potential of the field. It all boils down to, "it takes grass to grow grass."

So, when should I initiate grazing in the spring? Good question. Fields that have good fast growth with reserves maintained over winter could be utilized for some grazing when forages are at least eight to ten inches tall. Try and remove no more than one third of the forage and then move them on to the next field. When forages are growing fast, rotate fast. Try to never remove more than half of the entering growth amount or closer than the appropriate stop grazing height. We're talking cool season forages this time of year, so you can't go wrong with using four inches as the stop grazing height. Remember, stop grazing height is the shortest forages left standing, not the tallest. If the pasture is rotated correctly it will have a fair amount of forage, between four and six inches left standing.

Fields that were grazed hard last fall, especially prior to dormancy, could use a longer deferment prior to grazing this spring. Those fields will need to first try to grow some solar panel off the reserve left, and then spend valuable time rebuilding roots and root reserves before allocating energy and resources to growing forage. The plant is going to try and preserve itself and yield is the last thing on its mind; it's thinking survival. Quite often you will find these stands initiating reproductive stages quicker and earlier because of this survival mechanism. In some cases, some anti-quality factors, such as alkaloids, may also be higher due to this. In the long run, if you take care of the plant, the plant will help take care of you. Unless you have run out of hay or are calving in mud, wait until the grass is ready.

If you haven't taken any soil tests on your pastures recently, especially in the last four years, then now is a good time to do it unless you already did it last fall. Fields that have any hay taken off them should be tested more often and at least every other year. It is difficult to maintain a stand of quality forage that produces to its potential and provides nutritious feed without adequate fertility levels. Systems that are rotated frequently, managed well, and don't have any hay removed from them are generally a lot easier to maintain long term.

If funds are limited, calcium is probably the first and best money spent. Calcium and its relationship or ratio with magnesium have a major impact on the forage's ability to extract nutrients from the soil and certainly the

acidity or alkalinity of the soil which can dictate what will or can grow. You should shoot for at least a 4:1 ratio of calcium to magnesium, or 5:1 if you are a dairy operation. If you are really short on calcium and start fixing that problem, then you might find out that other elements start becoming more readily available.

I'll end today with a thought on magnesium. It is a good idea to move to a high magnesium type mineral supplement (usually 10-20% instead of 1 or 2%) and continue with it until we are past the early flush of new forage. The issue with insufficient magnesium is more of a problem where nitrogen and/or potassium has been applied recently or in excessive amounts. For more detailed information about grass tetany, contact your local extension service or large animal veterinarian.

Establishing New Forage Stands

By: Mark Sulc

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2020-08/establishing-new-forage-stands>

Early spring provides one of the two preferred times to seed perennial cool-season forages, the other being late summer. Two primary difficulties with spring plantings are finding a good window of opportunity when soils are dry enough. The outlook for this spring is for planting opportunities to be few and short. As planting is delayed, the risk increases because of more competition from weeds and summer heat when seedlings are small and vulnerable to drying out. An accompanying article on preparing for planting along with the following 10 steps will help improve your chances for successful forage establishment in the spring.



Firm Seedbed being prepared for forages

1. Make sure soil pH and fertility are in the recommended ranges. Follow the Tri-state Soil Fertility Recommendations (<https://forages.osu.edu/forage-management/soil-fertility-forages>) . Forages are more productive where soil pH is above 6.0, but for alfalfa it should be 6.5 – 6.8. Soil phosphorus should be at least 15 ppm for grasses and 25 ppm for legumes, while minimum soil potassium in ppm should be 75 plus 2.5 x soil CEC. If seedlings are to include alfalfa, and soil pH is not at least 6.5, it would be best to apply lime now and delay establishing alfalfa until late summer (plant an annual grass forage in the interim).
2. Plant high quality seed of known varietal source adapted to our region. 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.
3. Plant as soon as it is possible to prepare a good seedbed in April. Try to finish seeding by the end of April in southern Ohio and by the first of May in northern Ohio. Timely April planting gives forage seedlings the best opportunity to get a jump on weeds and to be established before summer stress sets in. Weed pressure will be greater with later plantings, and they will not have as strong a root system developed by early summer when conditions often turn dry and hot. Later plantings also yield less, so if planting is delayed, it might be better to plant a summer annual and establish the perennial forages in August.
4. Plant into a good seedbed. The ideal seedbed for conventional seedings is smooth, firm, and weed-free. Don't overwork the soil. Too much tillage depletes moisture and increases the risk of surface crusting. Firm the seedbed before seeding to ensure good seed-soil contact and reduce the rate of drying in the seed zone. Cultipackers and cultimulchers are excellent implements for firming the soil. If residue cover is more than 35% use a no-till drill. No-till seeding is an excellent choice where soil erosion is a hazard. No-till forage seedings are most successful on silt loam soils with good drainage and are more difficult on clay soils or poorly drained soils.
5. Be sure to take time to calibrate forage seeders because seed flow can vary greatly even among varieties, depending on the seed treatment and coatings applied. A good video on this entitled “Drill Calibration” is at <https://forages.osu.edu/video/>.
6. Plant seed shallow ($\frac{1}{4}$ to $\frac{1}{2}$ inch deep) in good contact with the soil. Stop and check the actual depth of the seed in the field when you first start planting. This is especially important with no-till drills. In my experience, seeding some seed on the surface indicates most of the seed is about at the right depth.

7. When seeding into a tilled seedbed, drills with press wheels are the best choice. When seeding without press wheels or when broadcasting seed, cultipack before and after dropping the seed, preferably in the same direction the seeder was driven.
8. In fields with little erosion hazard, direct seedings without a companion crop in the spring allows harvesting two or three crops of high-quality forage in the seeding year, particularly when seeding alfalfa and red clover. For conventional seedings on erosion prone fields, a small grain companion crop can reduce the erosion hazard and will also help compete with weeds. Companion crops like oat can also help on soils prone to surface crusting. Companion crops usually increase total forage tonnage in the seeding year, but forage quality will be lower than direct seeded legumes. Take the following precautions to avoid excessive competition of the companion crop with forage seedlings: (i) use early-maturing, short, and stiff-strawed small grain varieties, (ii) plant companion small grains at 1.5-2.0 bu/A, (iii) remove companion crop as early pasture or silage, and (iv) do not apply additional nitrogen to the companion crop.
9. During the first 6 to 8 weeks after seeding, scout new seedings weekly for any developing weed or insect problems. Weed competition during the first six weeks is most damaging to stand establishment. Potato leafhopper damage on legumes in particular can be a concern beginning in late May to early June.
10. The first harvest of the new seeding should generally be delayed until early flowering of legumes, unless weeds were not controlled adequately and are threatening to smother the stand. For pure grass seedings, generally harvest after 70 days from planting, unless weeds are encroaching in which case the stand should be clipped earlier to avoid weed seed production.

Seedcorn Maggot a Possibility in Some Fields this Spring

By: Curtis Young

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2020-08/seedcorn-maggot-possibility-some-fields-spring>

Many livestock operations did not have much opportunity to spread manure this winter and into the spring. Thus many may have pits and lagoons near full capacity and a great need to move that manure to fields as soon as possible. As spring progresses, manure spreading and planting may occur in a short sequence that can set up prime conditions for seedcorn maggot infestations and injury resulting in poor stand establishment. Factors that favor seedcorn maggot damage include the incorporation of either green material, such as cover crops or weeds, and/or manure, and cool and damp soil conditions that delay seedling emergence. The decaying green material and manure release odors that attract the adult flies. The adult female flies lay their eggs in the soil near the source of the odors of decay. When the eggs hatch, the maggots move to and feed on the decaying organic matter. If crop seeds are germinating in close proximity to the decaying matter, the maggots can move to the seed and begin feeding on the seed and seedling of corn or soybean. There is no rescue treatment only preventative treatments of either seed or soil applied insecticides.



Seedcorn maggots inside of damaged corn seed.
Citation: Mariusz Sobieski, Bugwood.org

To determine if the stand loss/poor stand establishment is due to seedcorn maggot, one needs to inspect the seed rows. Dig with a trowel or soil knife in the gaps of the row to look for damaged seeds and/or seedlings, and small, white fly maggots or pupae (these resemble brown rice grains). If damaged seedlings are present, inspect the seed stalk for maggots.

Commercially applied seed treatments such as Cruiser 5FS (thiamethoxam), Poncho 600 (clothianidin), and Poncho Votivo (clothianidin) which contain insecticides effective against several soil infesting insects are effective against seedcorn maggot as well. If the seed has not been treated with one of these seed treatments, then a soil applied insecticide such as Capture LFR (bifenthrin) can be used if the planter is setup with

application equipment.

As the season progresses, seedcorn maggot becomes less of a concern as soil temperature increases, dampness decreases and seeds germinate and emerge rapidly. Also, the greater the time gap between when green material and/or manure is incorporated into the soil and when seed is planted into the same soil, the less of a risk there is for seedcorn maggot being present.

Spring Farm Safety Reminders

By Wayne Dellinger & Dee Jepsen

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2020-08/spring-farm-safety-reminders>

Spring of 2019 brought never-before seen planting conditions for our generation. With a similar weather pattern predicted for spring 2020, the window to get crops in the field may be short again this season. With shorter windows brings a sense of hurriedness, stress, and fatigue. These may all lead to an increased potential of incidents and injuries during planting.

In the ten year span from 2009 to 2018, there were 116 farm fatalities in Ohio. Sixty-nine of these were the result of tractors, equipment, or other equipment (Farm Fatality and Injury Database of Ohio, OSU Extension Ag Safety and Health Program).



What practices can be done to reduce the risk of injury this time of year? Below is a list of reminders to keep in mind during this busy season.

1. Be completely acquainted with the equipment you are operating. Read the manual and be comfortable with its operation. Ensure others operating your equipment are competent as well.
2. Make sure all safety guards, shields, and access doors are in place. If one is removed for service, put it back again when complete. If you purchased a used piece of equipment, do a check to make sure all safety devices are present.
3. Never service or repair a piece of equipment while it is running. Make sure no one else around has the opportunity to start the equipment while you are working on it.
4. When using ladders, place them as close as possible to the equipment, so that you don't over-extend your reach. Do not use the top 3 rungs of an extension ladder - or the top surface of a step ladder – to climb higher.
5. Keep the access stairs and operator's platforms clear of tools and other items while performing maintenance on tractors and machinery. Slips and falls are common injuries while working in the shop as you mount and dismount the equipment. And refrain from jumping off equipment.
6. Keep your shop and working areas free of clutter and debris. An organized shop is also a safer shop. Check out this video for a quick commercial on farm clutter.
https://www.youtube.com/watch?v=KLjHvGCIUfw&index=9&list=PLGP20FcGgnZXGEh8Bin4_QMzpbKvPCIDd
7. Keep all children, pets, and others away from equipment while in operation or moving in barn yard and NO extra riders.
8. Ensure all lights and reflective material are in working order and in good condition before operating tractors and equipment on public roadways. Be attentive and defensive. Use an escort vehicle and move equipment at off peak motor vehicle traffic times if possible.
9. Most importantly, take care of yourself! Don't get in a hurry. Stay hydrated and take breaks.

Taking a little extra time to practice good safety habits has more than just short term rewards. If a serious injury occurs, then the discussion is "who will get the crops in the ground?" Spring 2020 has already been very unique with the arrival of COVID-19. Having to go to the Emergency Department or Urgent Care exposing yourself to this additional risk is not something anyone wants at this time.

Get Ready to Plant

By: Mark Sulc, Jason Hartschuh, & Rory Lewandowski

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2020-08/get-ready-plant>

The weather outlook for our spring planting season is not encouraging, as it is expected to be wetter than normal again, although hopefully not as bad as 2019. The purpose of this article is to stimulate our planning and preparation now so we will be ready to take full advantage of what are expected to be very short and few windows of opportunity to be in the fields this spring. In this article, we focus on planting forage crops, but the process and many of the ideas will pertain to other spring field work activities.

Begin your planning by mentally walking through what you will do the day you plant. It might even help jog your thoughts to physically “walk through” those activities. List every single activity needed to get the whole job done. Then ask the question, “Which of these activities can I do today, or what can I do now that will make that activity go smoothly and efficiently on planting day?” Then start doing everything that is possible to do ahead of time, so that no time is wasted on the day you can get in the field. Below are some examples.

1. Make sure your fuel supply is full and fill the tanks of all tractors that will be used. Service all tractors.
2. Get any needed fertilizer on hand or order it to be spread as soon as the field is fit (hopefully you pulled a soil sample last fall, and if not, do it now and send to the lab).
3. Calibrate the fertilizer spreader.
4. Buy the seed (including any companion crops you will use) and have it on the farm, if not done so already. Also buy inoculant if seed is not pre-inoculated.
5. Service all tillage equipment that will be used and have it ready to go, including having it hooked up to the tractor if possible.
6. Get the drill/planter out and service it so it is ready to go. Arrange for equipment you will rent or borrow.
7. Calibrate the drill to the desired seeding rate using the seed that will be planted and then don't touch the drill settings. Watch this video about calibrating drills: <https://forages.osu.edu/video/drill-calibration?width=657px&height=460px&inline=true#colorbox-inline-239078345>.
8. Check seeding depth and adjust to the first crop you will be planting. Seeding depth will have to be fine-tuned to field conditions on the day of planting. If this is the first time using this planter or planter/tractor combination check for machine levelness.
9. If contracting the planting, get agreements and expectations in place now.
10. Finally list the field work tasks that you need to do this spring when the weather and soils are fit, then prioritize them. Think through the tough choices you might have to make between competing activities. Think through contingency plans if each specific activity cannot be completed in a timely manner, or if it can't get done at all this spring because of wet weather.



This last #10 item is the hardest. When the windows of opportunity are shorter than the list of work that can be accomplished, tough choices will have to be made.

For example, how do you prioritize planting forages versus manure spreading in the spring? It will likely depend on the specific situation. If the manure is stored in a lagoon, then when the lagoon is full, the manure must be pumped out and spread on the field rather than planting forages, so the forage planting might have to wait. But planting forages too late in the spring brings a lot of risk to stand establishment and low yields (maybe only one cutting). In that case it might be better to plant a summer annual for a couple cuttings, then kill it and plant the perennial forages in August. But if the manure is dry pack, perhaps it is better to take those first days of field work to plant the perennial forage and spread the manure later. Thinking through these choices and establishing a game plan will help you be more efficient and not waste time in indecision or making a less than optimal choice for the situation.

We surely all hope for a better spring than in 2019, but climatologists are forecasting another challenging planting season. So prepare as much as possible now so you can make good decisions when the time comes. You don't want to waste hours of potential field planting doing stuff you can do today. Try to be completely ready, as if you will be planting tomorrow morning...which we hope will be true one day very soon!

Pasture Rental Rates and the Price of Hay

By: [Clifton Martin](#), OSU Extension Educator, Muskingum County

<https://u.osu.edu/beef/2020/04/08/pasture-rental-rates-and-the-price-of-hay/>

Rental rates and hay prices are two questions quickly asked with potential lengthy answers. Many factors will affect market prices both over time and regionally. This is a quick discussion to look at some ballpark ranges on how pasture rental rates can be determined.

Published in 1998, OSU Bulletin 872, Maximizing Fall and Winter Grazing of Beef Cows and Stocker Cattle, presents calculations using the rent per unit of livestock on a monthly basis using the formula animal weight per 1,000 lbs x hay price per ton x pasture quality factor.

Where Pasture Quality Factors are as follows:

0.12 = 0.12 unimproved condition

0.15 = 0.15 fair to good permanent pasture

0.18 = 0.18 very good permanent pasture

0.20 = excellent meadow (grass/legume)

0.22 = lush legume pasture

The example in Bulletin 872 uses a 1,000 lb cow with 200 lb calf (1.2 animal unit months), hay price of \$40/T, and pasture quality of 0.15.

Example: $1.2 \times \$40 \times 0.15 = \7.20 rent/head/month

This is a fairly standard calculation which attempts to adjust for forage quality and time on pasture but not the only method producers or landowners may need. It is also easy to adjust and customize based on individual conditions. More systems of calculating rental rates can be found in OSU Extension Fact Sheet [Establishing a Fair Pasture Rental Rate](#) which can be found at: <https://ohioline.osu.edu/factsheet/FR-8>

Table 1. Impact of price of hay on the estimated pasture charge per livestock unit per month.

Animal Unit	Hay Price	Pasture Quality Factor	Rent/ Head/ Month
1.2	\$ 50.00	0.15	\$ 9.00
1.2	\$100.00	0.15	\$18.00
1.2	\$150.00	0.15	\$27.00
1.2	\$200.00	0.15	\$36.00

Calculating the price of hay can be moving target and it can be tough to provide a direct answer if asked. This is especially true when supply and quality appear to be low and markets are active. Rent conversations can go the same direction, but there are tools to help move everyone into the ballpark for effective conversations and help frame expectations. Ultimately, producers must know their own cost of production for profitably and landowners must know their own cost of ownership before the conversation starts.

For our purposes here, the ballpark boundaries are the above calculation and statistics from the USDA National Agricultural Statistics Service. Consider the following:

Pasture Rental rates per acre in the state of Ohio ranged from \$12.50 to \$66.50 across 34 reporting counties in the state of Ohio in 2019 (USDA NASS). For the sake of discussion, if we throw out the high and low, the range is then \$12.50 to \$56.50 (more than one county reports \$12.50).

In a ten-year time span from 2008 to 2019, the average pasture rental rate per acre in the state of Ohio varied from \$25-\$47. (USDA NASS). With an animal unit of 1.2 and fair pasture quality of 0.15, rent per head per month ranges from \$7.20 (hay price \$40/T) to \$36.00 (hay price \$200/T). The annual average price of hay for the state of Ohio from 2008 to 2019 ranged from \$112 to \$193 (USDA NASS).

Table 1 Presents an adaptation of the rent/head/month calculation presented in Bulletin 872 to quickly demonstrate the impact of the price of hay. Table 2 presents price ranges based on changes in the quality of the pasture. Table 3 provides examples of calculations on cow/calf, dairy, and ewe/lamb livestock. Any claims of high pasture quality and high hay quality should have supporting records to support the claim.

As always, there are a whole host of reasons that some of these numbers may not make sense in every situation. I often get asked what the “going rate” is for both rent or hay, and the reality is the best I can do is drop a few numbers to show what some of the boundaries are to frame a discussion. The numbers presented here are part of one approach among many and should be evaluated against other methods and opportunities.

Resources:

- ✓ Maximizing Fall and Winter Grazing of Beef Cows and Stocker Cattle, Bulletin 872. 1998. Ohio State University Extension
- ✓ OSU Extension Fact Sheet FR-8, Establishing a Fair Pasture Rental Rate, 2006 ohioline.osu.edu/factsheet/FR-8
- ✓ USDA NASS Statistics
Ohio Hay Price Received
Historical: <https://quickstats.nass.usda.gov/results/4EDA186C-D249-3292-80A3-DFF413E435F7>
- ✓ Ohio County Cash Rents Pastureland
2019: <https://quickstats.nass.usda.gov/results/2D242713-B0F1-3ACE-91C3-79FD5A70B258>
- ✓ Ohio Cash Rent Pastureland 2008-
2019: <https://quickstats.nass.usda.gov/results/FB2CC371-EC35-317B-8302-5ECD19C0A34D>

Table 2. Impact of pasture quality factor on the estimated pasture charge per livestock unit per month.

Animal Unit	Hay Price	Pasture Quality Factor	Rent/ Head/ Month
1.2	50	0.12	\$ 7.20
1.2	50	0.15	\$ 9.00
1.2	50	0.18	\$10.80
1.2	50	0.20	\$12.00
1.2	50	0.22	\$13.20
1.2	100	0.12	\$14.40
1.2	100	0.15	\$18.00
1.2	100	0.18	\$21.60
1.2	100	0.20	\$24.00
1.2	100	0.22	\$26.40

Table 3. Estimated pasture charge per livestock unit per month.

Animal Unit	Hay Price	Pasture Quality Factor	Rent/ Head/ Month
1,000# cow/200#calf			
1.2	\$ 50.00	0.15	\$ 9.00
1.2	\$100.00	0.15	\$18.00
1,200 #dairy cow			
1.2	\$ 50.00	0.2	\$12.00
1.2	\$100.00	0.2	\$24.00
120# ewe/40# lamb			
0.16	\$ 50.00	0.12	\$ 0.96
0.16	\$100.00	0.12	\$ 1.92

Ag Law Harvest

By: Ellen Essman

Source: <https://ohioaglaw.wordpress.com/2020/03/31/the-ag-law-harvest-24>

Hello, readers! We hope you are all staying safe and healthy. Understandably, news related to agricultural law seems to have slowed down a little bit over the last few weeks as both the federal and state governments have focused mainly on addressing the unfolding COVID-19 outbreak. That being said, there have been a few notable ag law developments you might be interested in.

Federal government extends the tax deadline. The IRS announced on March 21 that the deadline for filing or paying 2019 federal income taxes will be extended to July 15, 2020.

Ohio Coronavirus Legislation. The Ohio General Assembly quickly passed House Bill 197 on Wednesday March 25, 2020. HB 197 originally just involved changes to tax laws, but amendments were added to address the current situation. Amendments that made it into the final bill include provisions for education—from allowing school districts to use distance learning to make up for instruction time, to waiving state testing. Other important amendments make it easier to receive unemployment, move the state tax filing deadline to July 15, extend absentee voting, allow recently graduated nurses to obtain temporary licenses, etc. Of particular note to

those involved in agriculture, HB 197 extends the deadlines to renew licenses issued by state agencies and political subdivisions. If you have a state license that is set to expire, you will have 90 days after the state of emergency is lifted to renew the license. HB 197 is available [here](#). A list of all the amendments related to COVID-19 is available [here](#).

Proposed changes to hunting and fishing permits in Ohio. In non-COVID news, Ohio House Bill 559 was introduced on March 18. HB 559 would allow grandchildren to hunt or fish on their grandparents' land without obtaining licenses or permits. In addition, the bill would give free hunting and fishing licenses or permits to partially disabled veterans. You can get information on the bill [here](#).

EPA simplifies approach to pesticides and endangered species. Earlier this month, the U.S. EPA released its "[revised method](#)" for determining whether pesticides should be registered for use. Under the Endangered Species Act (ESA), federal agencies must consider whether an action (in this case, registration of a pesticide) will negatively impact federally listed endangered species. EPA is authorized to make decisions involving pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The revised method consists of a three-step process. First, EPA will consider whether use of the pesticide "may affect" or conversely, have no effect on the listed species. If no effect is found, EPA can register the pesticide. On the other hand, if EPA finds that the pesticide may affect the endangered species, it must examine whether the pesticide is "likely to adversely affect" the species. In this second step, if EPA decides that the pesticide may affect the endangered species, but is not "likely to adversely affect" the species, then the agency may register the pesticide with the blessing of the Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS). Conversely, if EPA finds that the pesticide is likely to adversely affect the species, it must move on to step three, where it must work with FWS or NMFS to more thoroughly examine whether an adverse effect will "jeopardize" the species' existence or "destroy or adversely modify its designated critical habitat." The revised method is meant to simplify, streamline, and add clarity to EPA's decision-making.

EPA publishes rule on cyazofamid tolerances. Continuing the EPA/pesticide theme, on March 18, EPA released the [final rule](#) for tolerances for residues of the fungicide cyazofamid in or on commodities including certain leafy greens, ginseng, and turnips.

Administration backs off RFS In our [last edition](#) of the Ag Law Harvest, we mentioned that the Tenth Circuit Court of Appeals had handed a win to biofuels groups by deciding that EPA did not have the authority to grant three waivers to two small refineries in 2017. By granting the waivers, the EPA allowed the refineries to ignore the Renewable Fuel Standard (RFS) and not incorporate biofuels in with their oil-based fuels. The Tenth Circuit decision overturned this action. The Trump administration has long defended EPA's action, so that's why it's so surprising that the administration did not appeal the court's decision by the March 25 deadline.

Right to Farm statute protects contract hog operation. If you're a regular reader of the blog, you may recall that many nuisance lawsuits have been filed regarding large hog operations in North Carolina. In *Lewis v. Murphy Brown, LLC*, plaintiff Paul Lewis, who lives near a farm where some of Murphy Brown's hogs are raised, sued the company for nuisance and negligence, claiming that the defendant's hogs made it impossible for him to enjoy the outdoors and caused him to suffer from several health issues. Murphy Brown moved to dismiss the complaint, arguing that the nuisance claim should be disqualified under North Carolina's Right to Farm Act, and that the negligence claim should be barred by the statute of limitations. The U.S. District Court for the Eastern District of North Carolina made quick work of the negligence claim, agreeing with Murphy Brown that the statute of limitations had passed. North Carolina's Right to Farm Act requires a plaintiff to show all of the following: that he is the legal possessor of the real property affected by the nuisance, that the real property is located within one-half mile of the source of the activity, and that the action is filed within one year of the establishment of the agricultural operation or within one year of the operation undergoing a fundamental change. Since the operation was established in 1995 and the suit was not brought until 2019, and no fundamental change occurred, the court determined that Lewis's claim was barred by the Right to Farm Act. Since neither negligence or nuisance was found, the court agreed with Murphy Brown and dismissed the case.

Mulch Volcanos are Erupting in Landscapes

By: Joe Boggs, OSU Extension

Source: <https://bygl.osu.edu/index.php/node/1494>

Mulch piled to stratospheric heights around tree trunks has been called many things (some not printable) such as *pyramid mulch* and *mountain mulch*. My personal favorites are *mulch volcanoes* (or volcano mulch) for stratovolcano-like creations and *mulch mounds* for those that resemble shield volcanoes.

These mulch monstrosities have been a source of continual frustration for anyone who cares for trees or cares about trees. Yet, despite years of educational efforts, we just can't seem to stamp out the abominable practice.

Adding insult to injury (or the coup de grâce), mulch volcanoes are often accompanied by "tree moats" created by excavating a moat-like ring around trees or shrubs at about the dripline, or slightly beyond. This is done with an edger or a shovel. In either case, there always appears to be a concerted effort to sever roots growing beyond the excavation zone.

Why do these horticultural horrors appeal to people? Tree moats take extra time. Mulch volcanoes cost more money. Both can cause slow tree death. Perhaps that's the problem: they don't kill trees right away!

Leave it to the Bard to provide the perfect metaphor in *"King Henry VI Part III"*, Act 2 scene 1: ***"And many strokes, though with a little axe, Hew down and fell the hardest-timbered oak."***

Volcano mulch and tree moats are little axes.

Mulch Done Wrong

Volcano mulch does not kill trees outright; if it did, people wouldn't do it. Instead, it produces subtle, long-term, ill-effects that are mostly hidden from our view.

1. Bark Damage: Tree bark is dead, dry tissue that protects trees from a wide range of challenges such as dehydration, oxidation, and direct access by plant pests and pathogens to the living tissue beneath. Mulch piled against tree trunks can retain water elevating the moisture content of the bark making it susceptible to decay. The result is analogous to what happens if we suffer severe skin damage.

2. Root Dehydration: Although bark mulch may at first appear light and airy, it ultimately becomes compacted as it degrades to interfere with oxygen reaching tree root cells. Trees respond by growing a secondary root system into the mulch; it's the same response seen in trees planted too deep in the soil. However, the roots growing into the mulch can become exposed and dehydrate as old mulch eventually degrades and disappears.



3. Stem Girdling Roots: Secondary roots growing into mulch piled high on the trunk will encounter the slopes of mulch volcanoes causing the roots to turn; they can't grow into thin air! Eventually, these roots encircle the tree trunk and merge with the stem tissue. As these errant roots increase girth, they gradually girdle the trunk and restrict vascular flow. Thus, they are known as "stem girdling roots."

4. No Water Infiltration: As the organic mulch decomposes and dries out, it will eventually start to repel water; it becomes hydrophobic. You can observe hydrophobicity of dry organic matter when you try to moisten a bag of dry peat moss. Of course, water repellency ultimately causes infiltrating roots to dehydrate.

5. Tree Stress: The deleterious nature of volcano mulch is not immediately apparent. While moisture starvation and vascular strangulation can ultimately kill a tree, along the way they produce tree stress. This can induce trees to drop their defenses against infestations by opportunistic insect pests such as native borers or infections by plant pathogens. Of course, the pests and diseases get blamed if a tree succumbs, not the volcano mulch that set into motion the tree's demise in the first place.

The Flatheaded Appletree Borer (*Chrysobothris femorata*, family Buprestidae) is a good example of a native borer that attacks stressed native and non-native trees. Despite its common name, this borer attacks a wide range of trees including maples and other hardwoods.

Mulch Done Right

Organic mulches such as aged bark mulch are a wonderful thing. The mulch moderates soil temperature, preserves soil moisture, suppresses weeds, and as the organic mulch slowly decays, it contributes to the organic content of the underlying soil. If used properly, the dark colors enhance landscape aesthetics. Of course, the availability of organic mulch dyes make other colors available; shopping for mulch can be like using an artist's palette.

In 2017, I highlighted an outstanding example of tree mulching in Glenwood Gardens, Great Parks of Hamilton County (GPHC) ("*Glenwood Gardens: A 'Volcano' Mulch-Free Zone*"). I'm including a few of the images from that Alert or you can read the entire report by clicking this hotlink: <https://bygl.osu.edu/node/721>





Jerry Frankenhoff (Urban Forester, GPHC) told me that the mulch job was performed by a group of volunteers from General Electric. They worked with staff members from the GPHC landscape department to apply 60 cubic yards of mulch in Glenwood Gardens and Winton Woods on Earth Day.

Their application of mulch followed all of the general recommendations for using hardwood mulch around trees. The mulch rings were as large in diameter as practical and mulch depths were no more than 2 - 3 inches. Mulch that found its way onto the tree trunks was pulled away from the trunk flare. What a fantastic Earth Day statement!

Upcoming Programs

- ~~Backyard Fruit Production Workshop: April 28 Canceled~~
- ~~Mortality Composting Workshop: May 4 Canceled~~
- ~~Master Gardener Plant Sale: June 6~~
- Summer Pasture Walk: July 28
- Summer Pasture Walk: August 25

Check out upcoming programs
at: go.osu.edu/coshoctonevents