

Auglaize County OSU Extension Weekly Agriculture Newsletter – April 8, 2020

Scouting and Latest Information



Hello!! Good afternoon! I pray you are well.

Thank you to those individuals that participated in the third Auglaize County Ag Talk meeting on Tuesday. As mentioned in a special message on Monday, because of the COVID-19 issue, I can no longer hold face-to-face meetings, so I wanted to start a virtual meeting so we can stay in contact. Therefore every Tuesday from 8:30 to 9:30 AM we will be hosting a virtual meeting via Zoom that can also act as a simple conference call for those of you not able to get online to view live. The meeting will be set up to discuss key, timely information for your operation and to open the floor for questions and sharing of information. If you think we need more than an hour, we can make a change, but let me know of that. Also, if you think we should do this earlier in the day, please let me know and we can change that too. Would a 7:30 am or 8:00 am start time be better for the Auglaize County Ag Talk? You may propose topics for the next meeting at anytime during the week by e-mailing or calling me. **I have no major topic at this time for next week.** Please join use every Tuesday for Auglaize County Ag Talk.

A month ago I introduced Brigitte Moneymaker to you as a new Extension employee in our office. Her title is Water Quality Extension Associate and serves Allen, Auglaize, and Mercer Counties. Her role is to serve you through research and education as it relates to water quality. She is looking for people that would be interested in conducting research projects with her. If you are interested please contact her at moneymaker.4@osu.edu or 434-962-3525.

If you are a buyer or seller of hay or straw, let me know and I can keep a list to share with others. Currently an individual let me know they have about 200 3' X 3' wheat straw bales for sale. This same individual is willing to sell his winter cover crops as forage to anyone interested. Call the OSU Extension office at 701-541-0043 or e-mail me at stachler.1@osu.edu to get the contact information.

Joke: Why did the scarecrow win the Nobel Prize??

Rain fell only two days this past week. Rainfall on Saturday, April 4th ranged from 0" near St Rt. 66 and Vogel roads, near Santa Fe-New Knoxville and Shelby-Fryburg roads, and near Valley and Idle roads to 0.2" near Kossuth. Rainfall on Tuesday ranged from 1.1" near Sommer and Ft. Recovery - Minster roads to 2.1" near Mercer Line and St. Rt. 197 roads. Rainfall for the week ranged from 1.15" near Sommer and Ft. Recovery - Minster roads to 2.1" near Mercer Line and St. Rt. 197 roads. Rainfall for the week averaged 1.48", 0.06" more than last week.

The average high temperature now is 58 degrees F, three more than last week! Temperatures were above normal for 5 days of the week and below normal for 2 days of the week. The range in high temperature for

the week was 52 to 74 degrees F. The average high temperature for the week was 61.1 degrees F, which is 5.1 degrees F warmer than last week and 3.1 degree F above the current normal high temperature.

Wheat – Wheat has started to joint in some fields. Check fields carefully to see if they have jointed before applying dicamba. Dicamba will severely injure wheat when applied after jointing. With the constant rainfall, wheat quality is deteriorating! This is my current rating of the wheat crop: 5% excellent, 45% good, 40% fair, and 10% poor. Last week's rating was the same.

Alfalfa – Alfalfa is growing nicely. Alfalfa is up to 5.5" already!

Corn – Nothing planted yet.

Soybean – Nothing planted yet.

Weeds – Lambsquarters, Pennsylvania smartweed, and common ragweed are up now as well. If you need help planning your herbicide programs, feel free to call me.

Insects – Nothing for this week.

There were NO changes to the XtendiMAX, Engenia, FeXapan, and Tavium labels. The Engenia label still has the most approved products compared to XtendiMAX and FeXapan. No new herbicides were added to the XtendiMAX label this past week, which totals 238 herbicides. No new adjuvants were added the XtendiMAX label, now totaling 414. No new nozzles were added to the XtendiMAX label, which totals 44. No new Drift Reducing Adjuvant (DRA's) were added to the XtendiMAX label this week, making a total of 95 DRA's. No new nutritional products were added from the XtendiMAX label which totals 246. No new product was added to the Insecticides, Fungicides, Plant Growth Regulator and Other group on the XtendiMAX label which totals 105. No new adjuvants were added to the Engenia label, which now totals 560. No new herbicides were added to the Engenia label, which brings the total herbicide count to 167. No new products were added to the Other category (growth regulators and fungicides) on the Engenia label, which totals 31. No new insecticides were added to the label which currently has 34 products. No new Drift Reducing Adjuvants (DRA's) were added to the Engenia label, which totals 126. No new nozzles were added to the Engenia label, which totals 31. No new nutritional products were added to the Engenia label which totals 223 products. No new products was added to the pH Modifier group of the Engenia label which totals 17 products. The FeXapan label has many of same the products and nozzles as the XtendiMAX label, but NOT all are the same, so check the FeXapan label carefully. The FeXapan website has changed drastically! They now have DRA's listed per product type that must be mixed with FeXapan. There are some products

that need no DRA added! There are 13 glyphosate formulations, 228 herbicides, 41 insecticides, 16 fungicides, 87 DRA's, 297 adjuvants, 195 nutritionals, 4 other products, and 44 nozzles that have been approved for the FeXapan label. There are 47 herbicides, 77 DRA's, 258 adjuvants, 30 nutritionals, 16, insecticides, 7 fungicides, 8 other products, and 41 nozzles approved for use with Tavium.

Upcoming Meetings

1. **Ag Madness.** OSU Extension is offering a virtual educational session at 9:00 AM, Noon, and 3:00 PM. Go to the following website for the schedule of topics: go.osu.edu/AgMadness. I have attached a flyer with this newsletter about this awesome educational experience.
2. **All face to face meetings have been cancelled or postponed through July 6th. Meetings after this date will go on as planned at least until further notice.**

Answer to joke: Because he was outstanding in his field!!

Preparing for Burndown Herbicide Applications



Despite the wet weather right now it will dry out and warm up at some point and we will begin the planting process. For those individuals planting crops without tillage (no-tillage), weeds need to be controlled prior to planting (burndown application). In corn it is best to control common chickweed at least 10 days before planting because cutworm moths are attracted to the common chickweed and will feed on the corn as it emerges if the chickweed is still green.

A combination of glyphosate and 2,4-D ester is most commonly used to control weeds prior to planting corn and soybean. Apply glyphosate at 1.125 pounds acid equivalent per acre or 32 fluid ounces per acre of a Roundup branded formulation plus 2,4-D ester at 0.5 pound acid equivalent per acre or 1 pint per acre of a 4.0 pound per gallon product. This combination will control most species. Exceptions to this is annual ryegrass, dandelion, and glyphosate-resistant marestail. Soybean planting must be delayed 7 days after the application of 2,4-D ester at 1 pt/A and is a good recommendation for corn as well. It is possible to injure corn when 2,4-D ester is applied close to planting, especially when mixed with an acetochlor product.

The most effective herbicide program to control dandelion in corn is to apply Lumax or Lexar plus 2,4-D ester. Accuron or Instigate plus an atrazine premix should provide very similar control. Expert plus 2,4-D ester or Balance Flexx or Corvus plus atrazine or any other treatment containing glyphosate plus 2,4-D plus atrazine containing product should provide similar control. Use water as the carrier, not liquid nitrogen. The most effective herbicide program to control dandelion in soybean is to apply a chlorimuron containing product or a cloransulam containing product with glyphosate plus 2,4-D ester. Chlorimuron is usually more effective than cloransulam.

To control annual ryegrass apply glyphosate at 1.5 to 2.0 pounds acid equivalent per acre or 44 to 56 fluid ounces per acre of a Roundup formulation.

Control of glyphosate-resistant marestail requires special attention to detail and the need to follow a specific plan. To control marestail following a fall-applied herbicide treatment apply glyphosate at 1.5 pounds acid equivalent per acre or 44 fluid ounces of a Roundup formulation plus 2,4-D ester at 1.0 pound acid equivalent per acre or 2 pint per acre of a 4.0 pound acid equivalent per gallon product. When applying 2,4-D at 1.0 pound per acre, planting must be delayed for 30 days after application, unless using Weedone 650, E-99 or Salvo which is 15 days before planting. Another option would be to apply glyphosate at 1.125 pounds acid equivalent per acre plus 2,4-D ester at 1 pint per acre plus a new herbicide called Elevore at 1 fluid ounce per acre plus a methylated seed oil before corn or soybean. Corn and soybean planting must be delayed 14 days when using Elevore. Other options include Sharpen or Zidua Pro plus a methylated seed oil plus glyphosate or glufosinate (Liberty), glyphosate plus 2,4-D plus Sharpen or Zidua Pro, or 2,4-D ester plus Gramoxone (3 to 4 pints per acre) plus a metribuzin containing product (at 8 ounces per acre total of metribuzin 75 DF).

If a fall-applied herbicide program was not used to control marestail then apply glyphosate plus 2,4-D ester plus Sonic (2.5 ounces per acre) as soon as possible and follow with Sonic (2.5 ounces per acre) plus Gramoxone at planting. Another option is to apply glyphosate plus 2,4-D ester plus metribuzin (4 ounces per acre) now followed by Canopy (4 ounces per acre) plus metribuzin (2 ounces per acre) plus Sharpen at planting, or apply glyphosate plus 2,4-D plus metribuzin (6 ounces per acre) now followed by Envive (4 ounces per acre) plus 2,4-D ester 7 days before planting. Another option is to mix dicamba with glyphosate in Xtend soybean to control marestail. A new option is to apply Alite 27 plus 2,4-D ester plus glyphosate 7 days before planting where you are planting the GT27 soybean. You may only apply Alite 27 in Allen, Auglaize, Darke, Mercer, and Shelby Counties in west central Ohio.

It is recommended to include flumioxazin (Valor), sulfentrazone (Spartan), and/or metribuzin with the programs mentioned above to obtain residual control of marestail and other weeds. Soybean planting must be delayed 14 to 30 days if flumioxazin or sulfentrazone are mixed with Sharpen, Zidua Pro or Verdict.

Include residual herbicides with glyphosate plus 2,4-D in corn and soybean even if you do not have dandelion or marestail. This is especially true if you have waterhemp. If applying a saflufenacil (Sharpen) containing product or Gramoxone add a methylated seed oil. If applying a saflufenacil containing product or Gramoxone apply at a minimum spray volume of 20 gallons per acre. Use nozzles to achieve medium spray droplets with Gramoxone and saflufenacil. With these small droplets take special precautions to reduce drift.

Have a successful burndown season.

C.O.R.N. Newsletter

<https://agcrops.osu.edu/newsletter/corn-newsletter>

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>

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Seedcorn Maggot A Possibility In Some Fields This Spring



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

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.

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.

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Spring Farm Safety Reminders



Stay safe this spring

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=KLjHvGC1Ufw&index=9&list=PLGP20FcGgnZXGEh8Bjn4_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.

Author(s):

[Wayne Dellinger](#), [Dee Jepsen](#)

Establishing New Forage Stands



Firm Seedbed being prepared for forages

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.

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 seedings 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.

Author(s):

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Get Ready to plant



Get Ready to 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 are 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!

Author(s):

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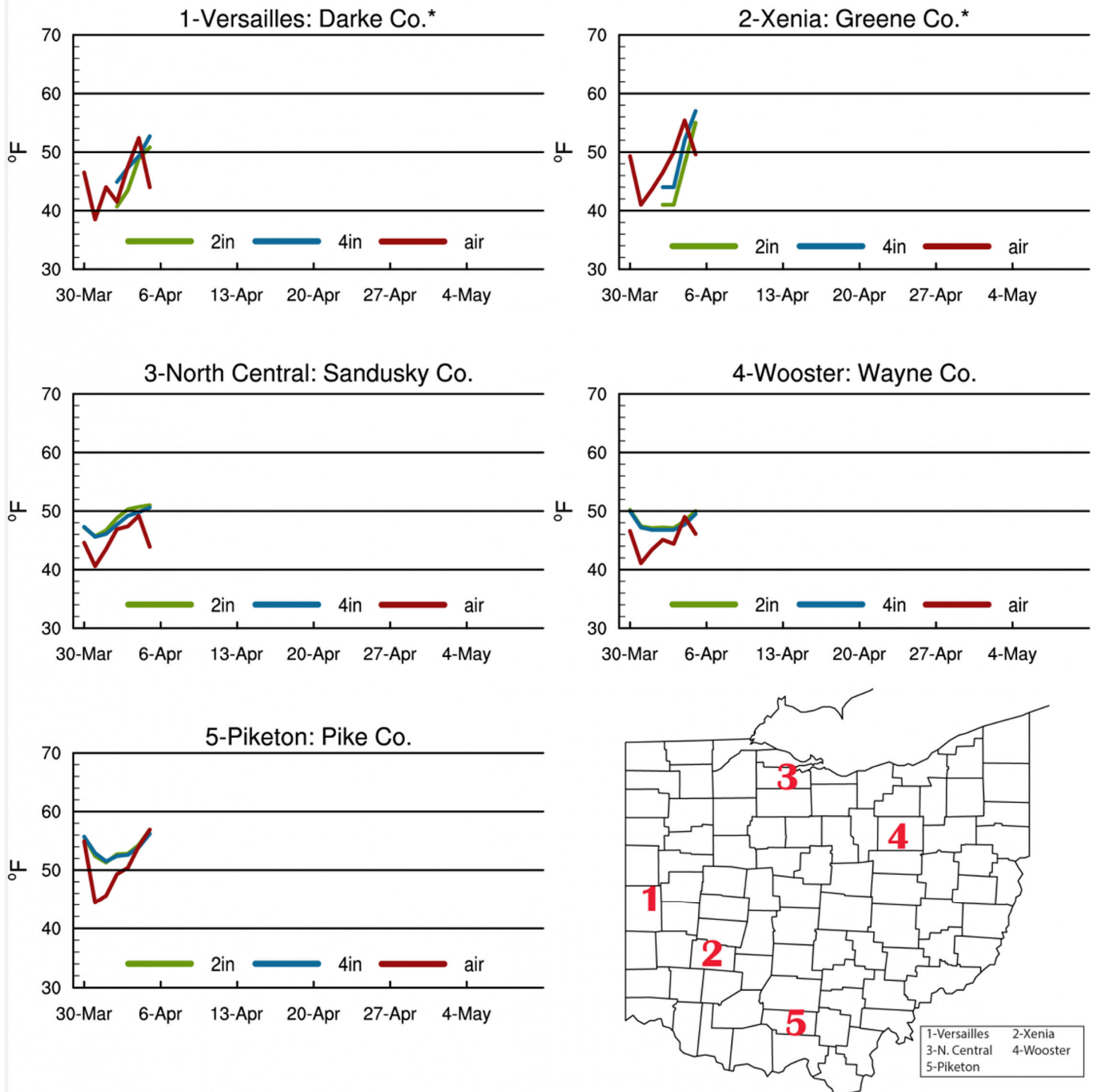
CFAES Ag Weather System Near-Surface Air and Soil Temperatures/Moisture

We are once again providing a soil temperature overview in the C.O.R.N. Newsletter through April-May 2020. The College of Food, Agricultural, and Environmental Sciences (CFAES) Agricultural Research Stations located throughout the state have two- and four-inch soil temperatures monitored on an hourly basis. Our Western site in Clark County is not available this year. Therefore, we are supplementing data from western Ohio with data from Darke and Greene Counties. These sites (noted by an asterisk on Figure 1) report minimum (morning) soil temperatures. The other sites are reported on Figure 1 as a daily average.

Our growing season follows a warmer than average winter. Winter (December 2019 – February 2020) air temperatures averaged 2-8°F above average compared to the climatological normal (1981-2010). This warmth continued throughout March as well, with temperatures 4-8°F (west to east) above average. As a result, soil temperatures are about 10°F warmer than the same date in April 2019.

Figure 1 shows that two- and four-inch soil temperatures at North Central, Wooster, and Piketon cooled a bit at the end of March and beginning of April, but all stations show conditions have since turned around with progressively warmer weather this week. Our northern stations (Versailles, North Central, and Wooster) show soil temperatures generally in the upper 40s-low 50s °F while our southern stations (Xenia and Piketon) report soil temperatures in the low to mid 50s °F. Soil temperature may warm slightly early this week before cooler weather late this week and next week likely slows warmth.

CFAES Near-surface Air and Soil Temperatures



CFAES Near-surface Air and Soil Temperatures

Figure 1: Average daily air temperature (red), two-inch (green) and four-inch (blue) soil temperatures for spring 2020. Map of locations in bottom right. Soil temperatures are minimum temperatures for Versailles and Xenia and daily average for other sites.

Figure 2 shows a model-based analysis of soil moisture for April 4, 2019 (left) and April 5, 2020 (right). Currently, soil moisture is running in the 80th percentile or greater meaning that current conditions are wetter than at least 80% of all years on this date in the historical record (1948-present). Locations in northeast Ohio are running in the 90-95th percentiles. While moisture is high, Ohio is generally in better shape (drier) than at this same time last year, when much of the state was in the 95th or 99th percentile.

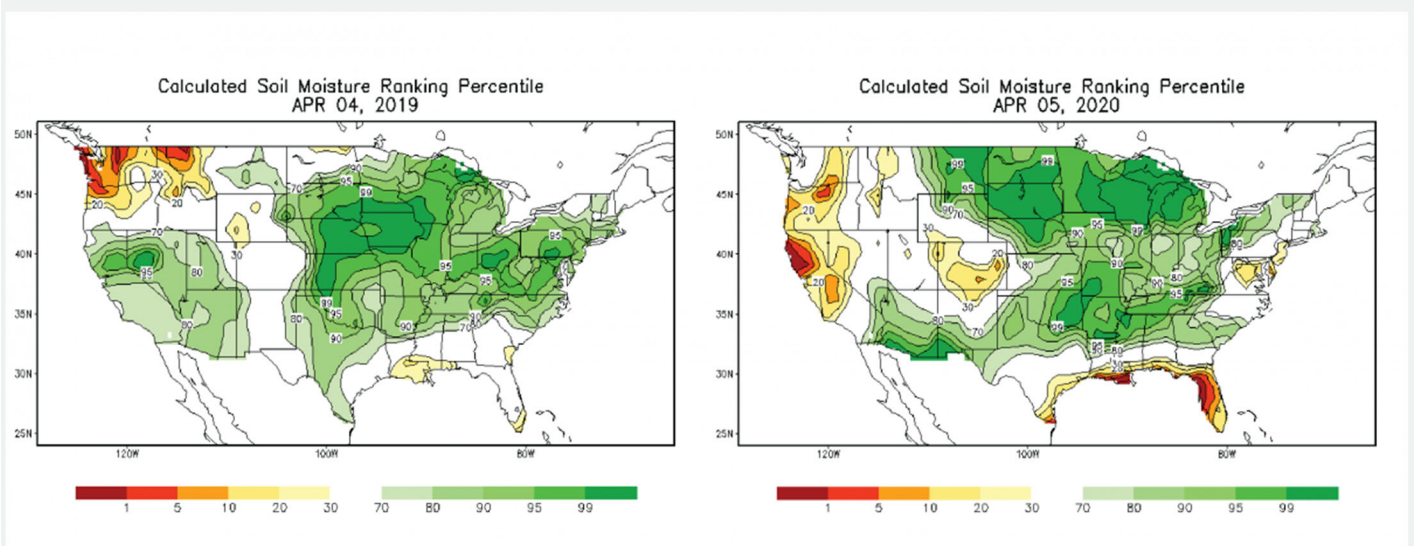


Figure 2: Calculated soil moisture ranking percentile for April 4, 2019 (left) and April 5, 2020 (right).

Figure 2: Calculated soil moisture ranking percentile for April 4, 2019 (left) and April 5, 2020 (right). Figure provided by NOAA's Climate Prediction Center (<https://www.cpc.ncep.noaa.gov/>).

For more complete weather records for CFAES research stations, including temperature, precipitation, growing degree days, and other useful weather observations, please visit <https://www.oardc.ohio-state.edu/weather1/>.

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On Farm Biosecurity to Keep Us and Employees Safe

Agriculture is no stranger to contagious disease. Drawing on sanitation experiences from outbreaks, such as avian and swine influenza or the 2001 outbreak of foot and mouth disease in the United Kingdom in 2001, can help us through the current pandemic. Looking back at many of these experiences, we know that we can pull together maybe from a distance and get through the current human viral outbreak and keep our farms running. Unless they are sick, farmers don't usually tell their workers to stay home, but through keeping social distance on the farm and increasing many of our tried and true disinfection protocols, we can all stay healthy. One big difference is that instead of disinfecting our boots, we need to disinfect all surfaces around us and all our employees touch. This may also be a good time to review the visitation requirements you have on your farm. To keep you and your service providers safe, be sure to follow all their company requests and keep your distance when they come onto the farm or respect their calling instead of coming for a visit.

This first thing that came to mind looking around our farm and the feed tractor is the need to do a deep cleaning before any disinfectant can work. Most disinfectants won't work if the surface has any organic material present. I often remember one professor at OSU saying "you can't Disinfect shit". As a first step, wear a pair of disposable gloves and scrub all surfaces that are touched so that you can use a disinfectant on them. Once all surfaces are clean, filling a one-gallon hand sprayer with disinfectant to spray all surfaces down at the end of each shift can be helpful. If this sprayer was previously used for pesticides, be sure to triple rinse it with a tank cleaning agent or ammonia. The EPA has many different disinfectant options available: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-agai...> Concentration is very important, but a few common active ingredients on this list are sodium hypochlorite, sodium chlorite, ethanol, quaternary ammonia, and hydrogen peroxide. If using a bleach solution, the goal is a minimum of 1000 ppm sodium hypochlorite or for household bleach, 1/3 cup of bleach per gallon of water.

High Touch Surfaces

A few high touch surfaces to consider are tables, hard-backed chairs, doorknobs, light switches, power switches for large motors, phones, tablets, touch screens, keyboards, handles, desks, toilets, sinks, cabinet handles, mailbox handle, shop hand tools, welders, all tractor controls, tractor seats, hand rails, high touch areas in the barn, rattle paddles, all controls in milking parlor, and anything else people may touch.

Porous Surfaces on the Farm

For porous surfaces, such as tractor seats, it may be beneficial to wrap them in plastic to allow for better cleaning. Once wrapped in plastic, these surfaces can be treated the same as all other high touch areas. Vinyl seats should be treated as a hard surface, high touch.

Electronics

Discourage farm workers from using their personal electronic devices while at the farm. If you have an electronics cleaner, use that; otherwise, keyboards, mouse, and touch screens can be cleaned with at least a 70% alcohol disinfectant spray or wipe. Plastic covers may be available for keyboards and touch screens.

Sharing Objects

Be cautious when handling and sharing objects (e.g., pens, clipboard, etc.) that are used as part of your daily routine. Many objects are often used by multiple employees during the same or different shifts. Hand-washing, disinfection, and wearing disposable gloves is recommended for all employees on the farm. If possible, provide additional supplies of these items that are typically shared and assign them to each employee, so they no longer must share them.

Additional considerations:

- Have employees always wear gloves.
- Each person should have their own welding gloves and other personal protective equipment (PPE)
- When possible, assign a tractor to a single person.
- Maintain the 6-foot social distance when having a conversation; stay a cow length apart.
- Assign individual projects when safely possible (e.g., one shop project per person).
- Put hand sanitizer with at least 60% alcohol in all machinery and work areas.

Resources:

Questions Regarding the Novel Coronavirus (Covid-19) on Farms with Employees: <https://wayne.osu.edu/sites/wayne/files/imce/COVID-19%20Farm%20Employees%20FAQ%27s%20English.pdf>

Disinfection in On-Farm Biosecurity Procedures: <https://ohioline.osu.edu/factsheet/vme-8>

Cleaning and Disinfection for Households: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cleaning-disinfection.html>

Biosecurity Fundamentals for Extension Personnel: <https://ohioline.osu.edu/factsheet/vme-5>

Author(s):

[Jason Hartschuh, CCA](#), [Dr. Gustavo Schuenemann](#)

Other Articles

Water Quality Extension Associate Services and Interest Areas Fact Sheet

Our Goals:

- Promote an understanding of agriculture and natural resource issues
- Create programming to encourage nutrient use efficiency
- Create newsletters and social media to showcase practices and research being used around the state
- Promote widespread adoption of tailored nutrient management practices
- Demonstrate economic viability of those practices
- Reduce off-site nutrient movement to waterways in the Western Lake Erie Basin

What We Can Help With:

- Consultation to a wide audience on use of modern nutrient management practices
- Assistance with fertilizer recommendations
- Understanding manure nutrient content and how to utilize it as a resource
- Generating cost-return data on manure applications
- Providing advice on how to implement Best Management Practices
- Identifying low ROI areas that are appropriate for conversion to conservation practices
- Referral to shared community resources

What We Need Help With:

- Finding willing farmers for on-farm nutrient management research projects
- Learning about unique challenges that face you as a farmer

About The Associates:

- **Brigitte Moneymaker - Auglaize County Office**
 - Geographic Area: Auglaize, Mercer, and Allen Counties
 - Topics of Interest: Soil Health, Watershed Management, Sustainability, Remote Sensing, Wetland Management, Invasive Species, Geospatial Information Systems (GIS), Environmental Adaptation and Risk Management

- Background: BS Environmental Science/ Master's Climate Science; Former National Park Ranger & NASA Research Consultant
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- **Nick Eckel – Henry County Office**
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- **Jordan Beck - Fulton County Office**
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- **Rachel Cochran - Paulding County Office**
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- **Boden Fisher - Putnam County Office**
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- **Matthew Romanko - North Central Agricultural Research Station**
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The Farm Office is Open!

By: Peggy Kirk Hall, , Associate Professor, Agricultural & Resource Law , Associate Professor, Agricultural & Resource Law Monday, April 06th, 2020

Source: <https://farmoffice.osu.edu/blog/mon-04062020-754am/farm-office-open>



As you may know, Ohio State's campuses and offices are closed. But we are all working away at home, and our virtual offices are still open for business. Starting today, April 6th, the OSU Extension Farm Office Team will open our offices online and offer weekly live office hours from **8:00-9:30 pm EST**. We'll provide you with short updates on emerging topics and help answer your questions about the farm economy. Each evening will start off with a quick 10-15-minute summary of select farm management topics from our experts and then we'll open it up for questions and answers from attendees on other topics of interest. For tonight's office hours, we'll focus on the newly enacted CARES Act and how it affects agriculture.

Who's on the Farm Office Team? Our team features OSU experts ready to help you run your farm office:

- Peggy Kirk Hall -- agricultural law
- Dianne Shoemaker -- farm business analysis and dairy production
- Ben Brown -- agricultural economics
- David Marrison -- farm management
- Barry Ward -- agricultural economics and tax

Each office session is limited to 500 people and if you miss our office hours, we'll post recordings on farmoffice.osu.edu the following day. **Register at** <https://go.osu.edu/farmofficelive>. We look forward to seeing you there!

The CARES Act's Paycheck Protection Program for small businesses

By: Peggy Kirk Hall, , Associate Professor, Agricultural & Resource Law , Associate Professor, Agricultural & Resource Law Thursday, April 02nd, 2020

Source: <https://farmoffice.osu.edu/blog/thu-04022020-1220pm/cares-acts-paycheck-protection-program-small-businesses>



We love blogging about agricultural law, but sometimes we don't feel the need to interpret a law that one of our colleagues has already explained perfectly. Such is the case with an article about the new **Paycheck Protection Program** recently enacted by Congress in the [Coronavirus Aid, Relief, and Economic Security \(CARES\) Act](#). Our colleague Kristine Tidgren at Iowa State's Center for Agricultural Law and Taxation has written an excellent explanation of the new loan program [here](#). A few questions about the Paycheck Protection Program that Kristine answers in detail in her blog post are:

- **Who's eligible for the loans?** *Any* small business concern, business concern, 501(c)(3) nonprofit, veterans' organization or tribal business concern employing 500 or fewer employees whose principal place of residence is the U.S. and eligible self-employed individuals including independent contractors may apply for a loan. Farm businesses with less than 500 employees may fit within these eligibility parameters.
- **How much are the loans?** 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 1/31/20.
- **What can the loans be used for?** Certain payroll costs, as well as group health care benefits, salaries, commissions and similar compensation, mortgage interest, rent, utilities, and other previous debt obligations.
- **What are the terms?** The loans have maturity of 2 years and a maximum maturity of 10 years, and the SBA has set the interest rate at 1% (and can't exceed 4%). Lenders have to defer both interest and principal payments for at least the first 6 months. Note the forgiveness provisions below, however.
- **What about loan forgiveness?** 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. The loan forgiveness can't exceed the principal amount and is subject to a number of reduction factors, which Kristine explains.
- **What considerations apply to loan approval?** In reviewing loan applications, a lender must consider whether the borrower was in operation on Feb. 15, 2020 and had employees for whom the borrower paid salaries and payroll taxes. Applicants must also certify that the uncertainty of current economic conditions makes the loan request necessary to support ongoing operations; funds will be used to retain workers and

pay eligible expenses; the applicant does not have an application pending for another loan for the same purpose; and that the applicant has not received amounts under the program for the same purpose for the period of February 15 to December 31, 2020.

- **How to apply?** According to the Small Business Administration: “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. Other regulated lenders will be available to make these loans once they are approved and enrolled in the program.” Consult with your local lender as to whether it is participating in the program. Visit www.sba.gov for a list of SBA lenders.
- **When to apply?** 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.
- **Where to learn more?** The [Treasury Department](#) and the [Small Business Administration](#) have posted extensive information and the application the loan program on their websites.

Prepared by Jeff Stachler

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