

Auglaize County OSU Extension Weekly Agriculture Newsletter – May 6, 2020

Scouting and Latest Information



Field prepared for planting



Field planted with corn

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

Thank you to those individuals that participated in the seventh Auglaize County Farm Talk meeting on Tuesday. We had 10 people participate. 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. You may propose topics for the next meeting at anytime during the week by e-mailing or calling me. **At this time only weather is on the schedule for next week.** Please join use every Tuesday for Auglaize County Farm Talk.

If you want to contact Brigitte MoneyMaker you may 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.

List of individuals searching for hay or straw: None

List of individuals selling hay or straw:

1. 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.
2. At least 500 small square wheat straw bales for sale.

Call the OSU Extension office at 701-541-0043 or e-mail me at stachler.1@osu.edu to get the contact information.

Joke: Did you hear about the magic tractor??

Agricultural Fun Fact: Beef farming accounts for 29% of American farms

Rain fell 4 days this past week. Rainfall on Wednesday, April 29th ranged from a trace near Mercer Line and St. Rt. 197 roads to 0.26" near Kettlersville and Santa Fe-New Knoxville roads. Rainfall on Thursday ranged from a trace near St. Rt. 501 and Buckland-Holden roads to 0.2" near Uniopolis. Rainfall on Sunday ranged from 0" near Kettlersville and Santa Fe-New Knoxville roads and near Kossuth to 0.13" near Lowe's. Rainfall for Tuesday ranged from a trace near St. Rt. 501 and Buckland-Holden roads, near Uniopolis, and to 0.18" near Shelby-Fryburg and Santa Fe-New Knoxville roads. Rainfall for the week ranged from 0.04" near St. Rt. 501 and Buckland-Holden roads to 0.42" near Lowe's. Rainfall for the week averaged 0.30", 0.54" less than last week. Rainfall for the month of April ranged from 2.64" near Bloody Bridge to 3.76" near St. Rt. 66 and Vogel roads. Average rainfall for the month of April was 3.24", 0.24" below the monthly normal of 3.5". Rainfall for the year to date is 15.04", 4.27" above the normal of 10.77". Rainfall for the week looks pretty minimal, good for continued field work.

The average high temperature now is 68 degrees F, two degrees more than last week. Temperatures were above normal for 2 days of the week and below normal for 5 days of the week. The range in high temperature for the week was 48 to 81 degrees F. The average high temperature for the week was 62.9 degrees F, which is 1.5 degrees F warmer than last week and 5.1 degrees F below the current normal high temperature! The average high temperature for the month of April was 56.7 degrees F, 4.1 degrees lower than the historical average high temperature of 61 degrees F. Looks like this week's temperatures will be way below normal with a chance for a freeze Saturday morning! This may cause substantial damage to wheat, corn, and soybean depending upon how cold it gets for how long. Freeze damage to wheat in the boot stage, which we are close to, happens at 28 degrees F at two hours.

Wheat



Flag leaf collar exposed (Feekes 9)



Wheat quality and height

Wheat development picked up a little pace this past last week. The most advanced stage now is flag leaf collar exposed (visible) (Feekes 9). I could find Feekes 9 plants in 50% of fields scouted on Sunday. This means the wheat is getting close to the boot stage which will make it quite vulnerable to the freezing temperatures we will see Saturday morning. The wheat crop improved this past week. The current rating of the wheat crop is: 5% excellent, 38% good, 48% fair, 9% poor, and 0% very poor. Last week's rating was 5% excellent, 25% good, 60% fair, 5% poor and 5% very poor. The only disease I can find is *Septoria tritici* leaf blotch. It is somewhat present in some fields, but on the lowest leaves only when found, no where close to the upper leaves. Therefore we will not NO fungicide applications for leaf diseases before thinking about spraying for *Fusarium* head blight. Wheat likely will be heading in about 10 to 14 days!

Alfalfa



Maximum height of alfalfa in a field



Alfalfa field

Alfalfa grew a fair amount this past week compared to the week before. Alfalfa is now up to 15” in some fields with an average height of about 9”.

Corn



Shoot starting upward growth

The corn planted the previous week looks great at this time. The shoot is starting to grow upwards and shallow planted seeds were about to come through the soil on Sunday. I'm estimating that 5% of the corn is planted in the county as of Sunday. I would say if the soil is fit, plant corn now. We are not forecasted to get large amounts of rain on Friday and next Monday to cause concern with germination. It will warm up again.

Soybean

My estimate is that 3% of the soybeans have been planted in the county as of Sunday.

Weeds



Waterhemp and giant foxtail emerged



Giant ragweed getting larger



Cressleaf groundsel starting to flower



Patch of cressleaf groundsel



Yellow rocket in flower

The next wave of weeds have started to emerge! The worst weed in the county, waterhemp, has arrived. It started emerging this past week. Summer annual grasses such as giant foxtail have begun to emerge too. That means velvetleaf should be emerging as well. The early wave of summer annual weeds such as giant ragweed are starting to take off now.

The most noticeable yellow flowering weed is back! Cressleaf groundsel has started to flower. Remember that yellow rocket is also flowering. Yellow rocket is a mustard with four petals compared to cressleaf groundsel having head and ray flowers. Cressleaf groundsel is a poisonous plant to animals and humans.

Insects/other



Alfalfa weevil and damage



Alfalfa weevil and damage

The alfalfa weevil has arrived. In one field at least 25% of plants showed feeding and one plant had at least three larvae. Scout fields often and carefully. The larvae are small at this time. Since the alfalfa is small as well and the weather is cold for it to grow the alfalfa weevil may cause more damage than normal and require an insecticide treatment. Read my article below and the C.O.R.N. Newsletter article.

There were changes to the XtendiMAX

(<http://www.xtendimaxapplicationrequirements.com/Pages/default.aspx>) and Engenia (<https://agro.basf.us/campaigns/engenia/tankmixselector/>) labels. There were NO changes to the FeXapan (<https://www.corteva.us/products-and-solutions/crop-protection/fexapan/tank-mix-partners.html>) and Tavium (<http://www.syngenta-us.com/herbicides/tavium-tank-mixes>) labels this week. The Engenia label still has the most approved products compared to XtendiMAX and FeXapan. One new herbicide was added to the XtendiMAX label this past week, which totals 252 herbicides. One new adjuvant was added the XtendiMAX label, now totaling 442. 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

107 DRA's. Three nutritional products were removed from the XtendiMAX label which totals 259. Two new products were added to the Insecticides, Fungicides, Insecticides plus Fungicides, Plant Growth Regulator and Other group on the XtendiMAX label which totals 115. Eighteen new adjuvants were added to the Engenia label, which now totals 600. Thirty-four new herbicides were added to the Engenia label, which brings the total herbicide count to 204. No new products were added to the Other category (growth regulators and fungicides) on the Engenia label, which totals 37. Twelve new insecticides were added to the Engenia label which currently has 49 products. Three new Drift Reducing Adjuvants (DRA's) were added to the Engenia label, which totals 131. No new nozzles were added to the Engenia label, which totals 31. Eight new nutritional products were added to the Engenia label which totals 231 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, 17 fungicides, 94 DRA's, 317 adjuvants, 202 nutritionals, 29 plant growth regulators, 18 other products, and 46 nozzles that have been approved for the FeXapan label. There are 47 herbicides, 101 DRA's, 316 adjuvants, 96 nutritionals, 16, insecticides, 7 fungicides, 8 other products, and 41 nozzles approved for use with Tavium.

Enlist One and **Enlist Duo** for Enlist soybeans and corn also have approved tank-mix partners and nozzles like the dicamba products. Please follow these labels online at <https://www.enlist.com/en/herbicides.html> . There are 48 nozzles, 192 herbicides, 18 glyphosate formulations, 9 glufosinate formulations, 11 Dry AMS products, 85 insecticides, 30 fungicides, 21 plant growth regulators, 626 other products, and 314 fertilizers / nutrients labeled with Enlist One. There are 23 nozzles, 74 herbicides, 48 insecticides, 17 fungicides, 22 plant growth regulators, 5 Dry AMS products, 499 Other products, and 218 fertilizers / nutrients labeled with Enlist Duo.

Other information about the Enlist products include the following:

1. Enlist Duo rate is 4.75 pts/A which only has 1.0 lbs ae/A of glyphosate which is really not enough. You would think you could just add more glyphosate, but you CAN NOT add more glyphosate with Enlist Duo.
2. Enlist One can be mixes with ANY rate of glyphosate, glufosinate and 192 other herbicides.
3. Never use Ensit One alone on Enlist crops and always apply Enlist One at 2 pts/A/
4. You CAN NOT add glufosinate with Enlist Duo!
5. When adding a postemergence grass soybean herbicide like quizalofop, clethodim, sethoxydim, or fluazifop to Enlist One add 33% higher rate of these products to reduce the antagonism with grasses OR apply the postemergence grass herbicides 7 days after the Enlist One.

Upcoming Meetings

1. **Auglaize County Ag Talk.** Every Tuesday from 8:30 to 9:30 AM we will have a virtual agricultural meeting. The third Tuesday will be the Ag Breakfast. Next week's topic is Weather by Aaron Wilson and Grain Market Update by David Bambauer. The link to get onto the meeting is as follows: <https://osu.zoom.us/j/2119847503>
If you just want to call in the phone number and meeting code are as follows: 646-876-9923 2119847503#
2. **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.
3. **The OSU Farm Office is Open.** The OSU Extension Farm Office Team will open our offices online and offer weekly live office hours on Mondays from **8:00-9:30 pm** EST. 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>.
4. **All OSU Extension 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: It turned into a field!!

Time to Scout Alfalfa Fields for Alfalfa Weevil!



It is time to start scouting alfalfa fields for alfalfa weevils! On Sunday, May 4th I found alfalfa weevil damage in 100% of 4 alfalfa fields! One field had at least 25% of plants showing feeding damage and found three larvae on a single plant! They are much more frequent than last year and one week earlier. Alfalfa is averaging only 9 inches in height compared to last year at 14 inches when the weevil arrived.

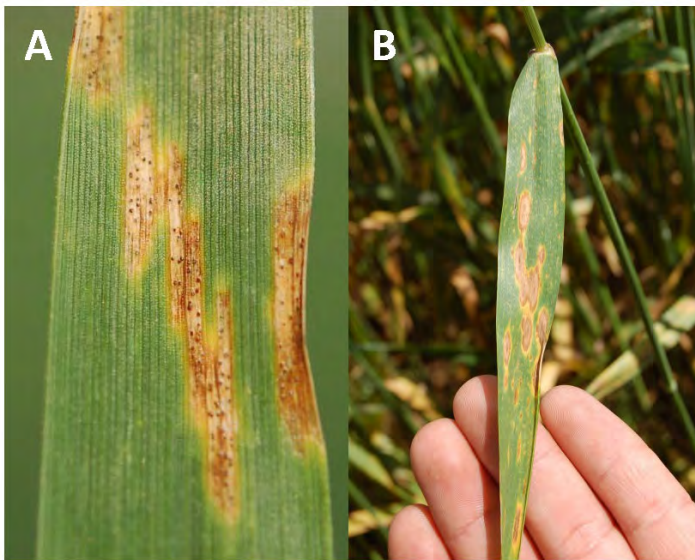
After larvae hatch, they move to the growing point to begin feeding. There are four instar stages of alfalfa weevil. The 1st and 2nd instar stages are difficult to see as larvae are small, yellowish green and have black heads. The 3rd and 4th instar stages are easily identified by their green color, a white stripe over the top of the larvae, and a black head. The 3rd and 4th instar stages cause the greatest damage.

To scout for alfalfa weevil, randomly cut ten alfalfa stems at the crown and place them upside down in a bucket. Once collected, vigorously shake the plants in the bucket to dislodge the larvae and count the number of larvae. Check a few of the growing points for instar stages 1 and 2 because they are not easily dislodged. After determining the number of larvae, measure the length of at least 5 stems. Repeat this process two more times to collect a total of 30 stems. The economic threshold is based upon the number of larvae per stem, the height of the alfalfa, and the size of the larvae. If one or more large (instar 3 or 4) larvae are detected with stem length of less than 12 inches, a rescue treatment is recommended. If alfalfa is between 12 and 16 inches and 2 to 4 larvae are collected per stem, especially if alfalfa is under stress, treatment is recommended. When alfalfa is greater than 16 inches tall with more than 4 larvae per stem, early cutting is recommended. After harvesting alfalfa early in a field scout these fields for larvae on regrowth of plants.

At this point in time, with the cold temperatures forecasted over the next week and the smaller plants, alfalfa fields will likely need to be sprayed this year. However carefully determine if the stand is good enough to warrant application. There are still many fields that were kept from last year in which the stands are too poor to warrant an insecticide application. Also consider how many weeds are flowering in the fields as insecticide applications will kill bees visiting the weed flowers.

There are 37 insecticide choices to control alfalfa weevil. Go to the following website to observe the list: <https://agcrops.osu.edu/sites/agcrops/files/publication-files/545%281%29.pdf>. Pre-harvest intervals range from 0 to 21 days, so choose products based upon when harvest is expected. Alfalfa harvest will likely not begin for at least another 14 days.

Scout Wheat Fields for Development and Diseases



At this point in time at least 50% of wheat fields have some plants that have reached the flag leaf collar emergence stage. This is known as Feekes stage 9. Most plants in most fields are still at flag leaf emergence which is Feekes stage 8. Once Feekes stage 9 is achieved no herbicides can be applied to the wheat.

At this time there is very little disease in most wheat fields, but scout fields to be sure. The most common disease is *Septoria tritici* leaf blotch, but it is on the very lowest leaves, nowhere near the flag leaf. Based upon the current forecast of cold temperatures *Septoria tritici* leaf blotch could increase,

but we will not have much moisture to help it grow, so I'm not anticipating any need for fungicide applications at this time.

The next stage to consider fungicide application is at the flowering stage for Fusarium Head Blight, but it is too soon to predict the need for a fungicide application at that time. Wheat should not head for at least another 10 days.

C.O.R.N. Newsletter

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

Much Like April, Cool Weather Lingers during the First Week of May



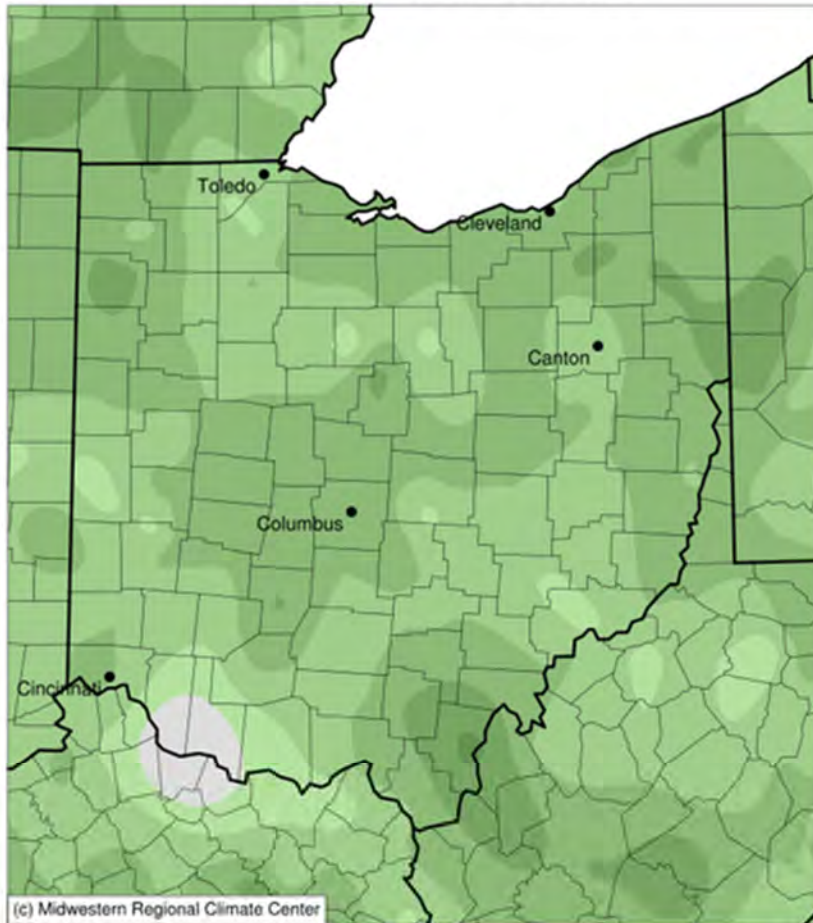
cool temps

Temperatures in April were about 2-5°F below the long-term mean (1981-2010; Figure 1-Left) and included three major freeze events that brought some horticultural damage across southern counties and scattered minor reports of burned tips on alfalfa and wheat.

Precipitation varied significantly across the state. Unlike much of the spring of 2019, lighter amounts fell across northwest Ohio compared to southeast Ohio. Only about 1 inch of rain fell in southern

Fulton/northwest Henry Counties for the month, with more than six inches in parts of Adams, Monroe, and Belmont Counties. These totals are about 1-2 inches below the long-term mean in the northwest, with most counties southeast of I-71 showing surpluses of 1 to 4 inches for the month (Figure 1 – right). For more information on recent climate conditions, check out the weekly Hydro-Climate Assessment from the [State Climate Office of Ohio](#).

Average Temperature (°F): Departure from 1981-2010 Normals
April 01, 2020 to April 30, 2020



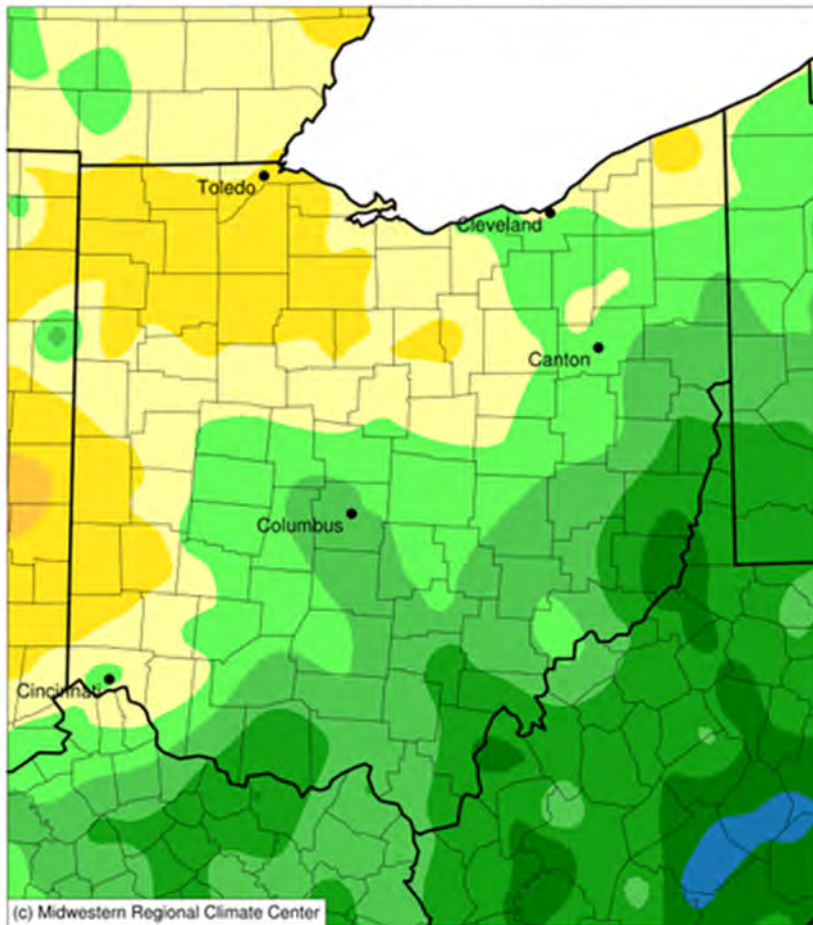
-7 -6 -5 -4 -3 -2 -1 0 1 2

Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI,

Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 5/4/2020 1:15:26 PM CDT

Accumulated Precipitation (in): Departure from 1981-2010 Normals

April 01, 2020 to April 30, 2020



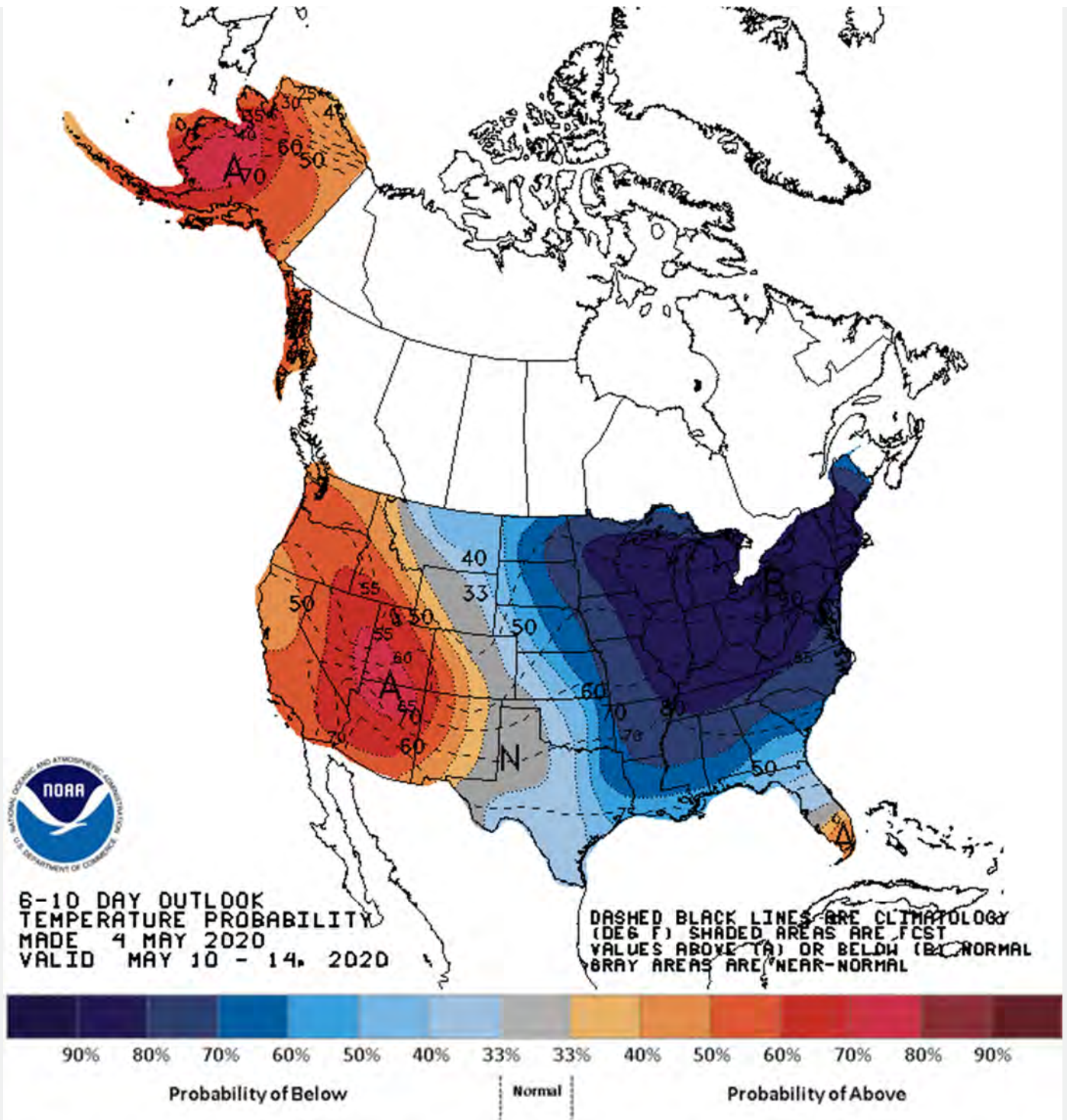
-2 -1 0 1 2 3 4 5
Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI,
Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 5/4/2020 1:18:01 PM CDT

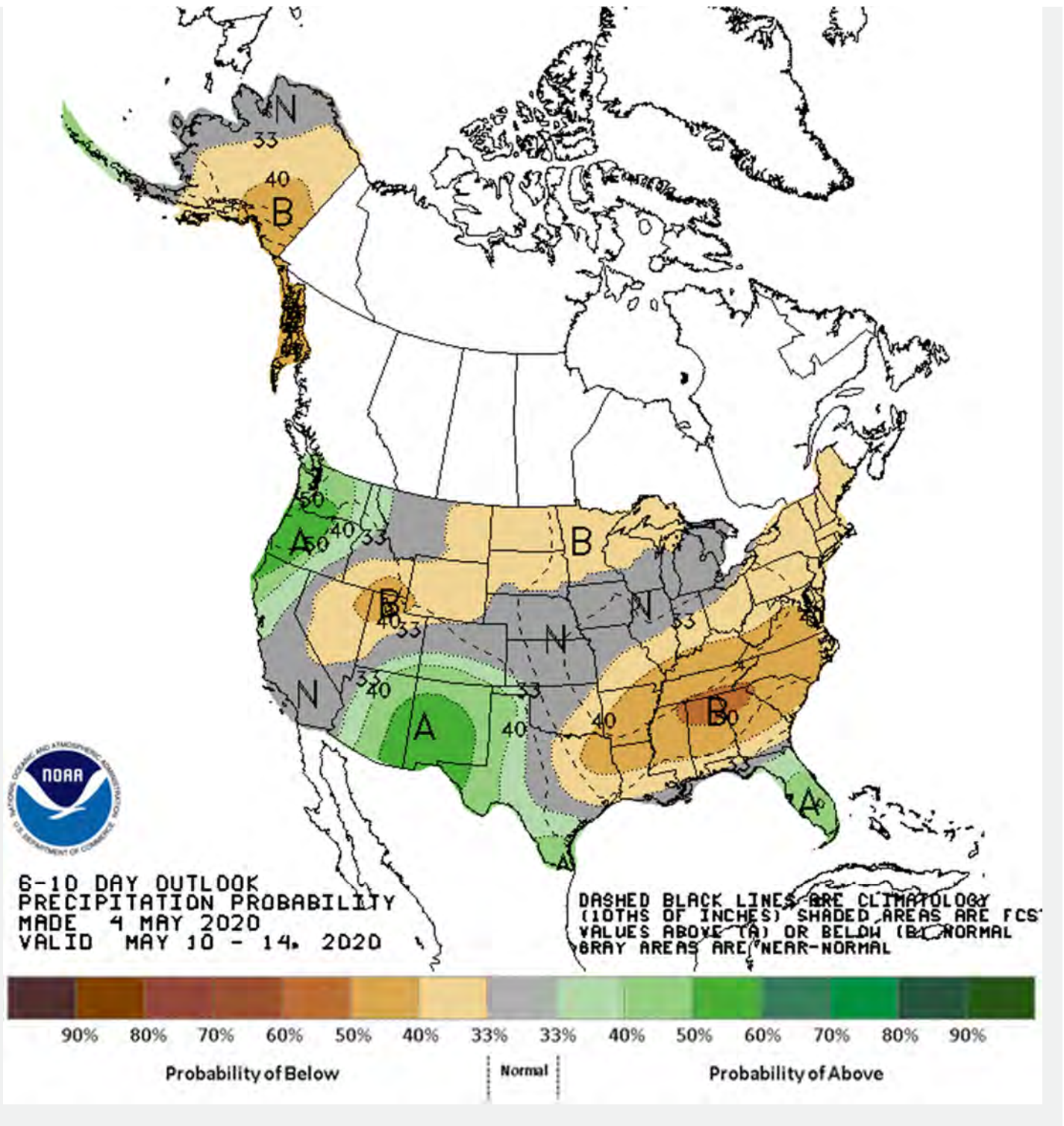
Figure 1: Left) Average temperature differences for April 2020 compared to long-term normal April conditions. Right) April 2020 precipitation differences compared to the long-term April mean. All differences are calculated with respect to the 1981-2010 period

This past weekend, many areas throughout Ohio hit 80°F for the first time this season, but those conditions are gone and not likely to return for a while. In fact, temperatures are expected to be more April-like over the next couple of weeks. Highs will generally be in the upper-40s to upper-50s (north to south) and overnight lows in the 30s, with a few passing disturbances that may bring some light rain during the week. A few spots, mainly across northern Ohio and low-lying areas elsewhere may be dealing with some frost/light freeze conditions throughout the week and even some conversational snowflakes by the weekend as well. Be sure to monitor changes from your [National Weather Service](#) offices and local media.

The latest [NOAA/NWS/Climate Prediction Center](#) outlook for the 6-10 day period (May 10-14) shows a strong probability for below average temperatures with slightly elevated probability for below average precipitation (Figure 2). Highs during the period should be in the upper-60s to mid-70s (north to south) with overnight lows in the mid-40s to low-50s and about 0.9-1.10” of precipitation per week. The [16-Day Rainfall Outlook from NOAA/NWS/Ohio River Forecast Center](#) reflects near to slightly below average precipitation over the next couple of weeks as well.

Figure 2: Climate Prediction Center 6-10 Day Outlook valid for May 10-14, 2020 for top) temperatures and bottom) precipitation. Colors represent the probability of below, normal, or above normal conditions.





Author(s):

[Aaron Wilson](#)

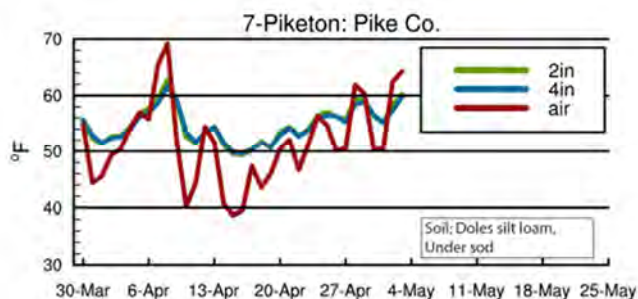
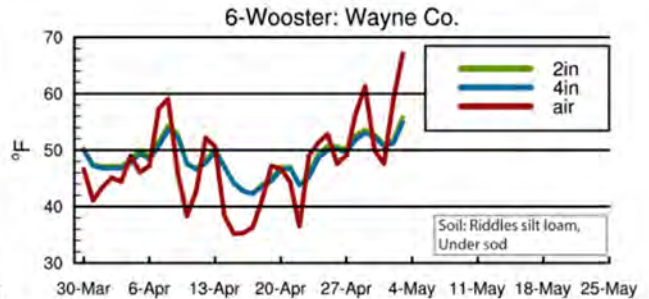
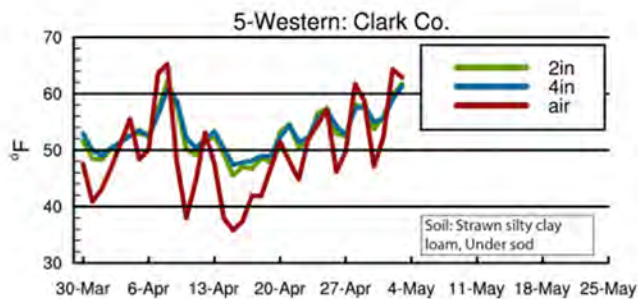
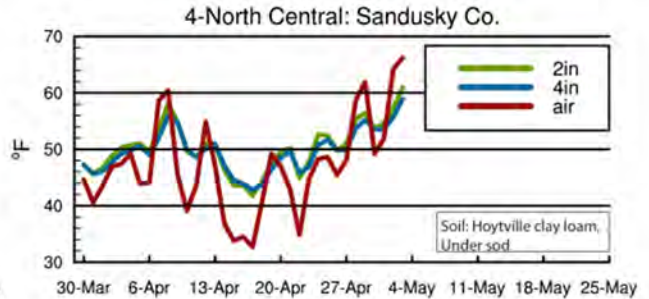
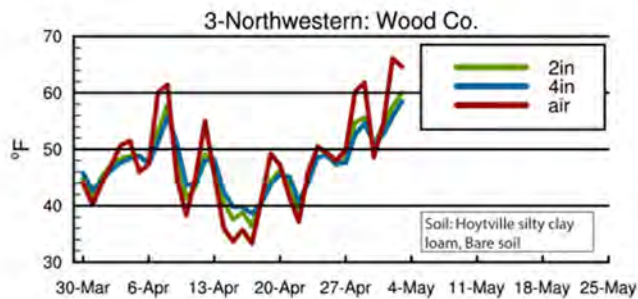
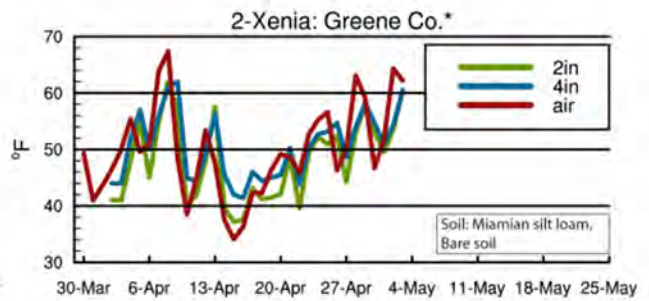
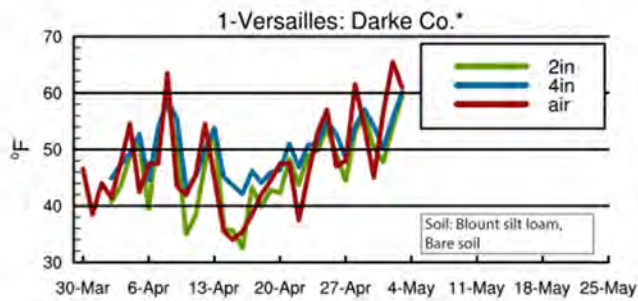
CFAES Ag Weather System Near-Surface Air and Soil Temperatures/Moisture



soil surface temperatures

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.

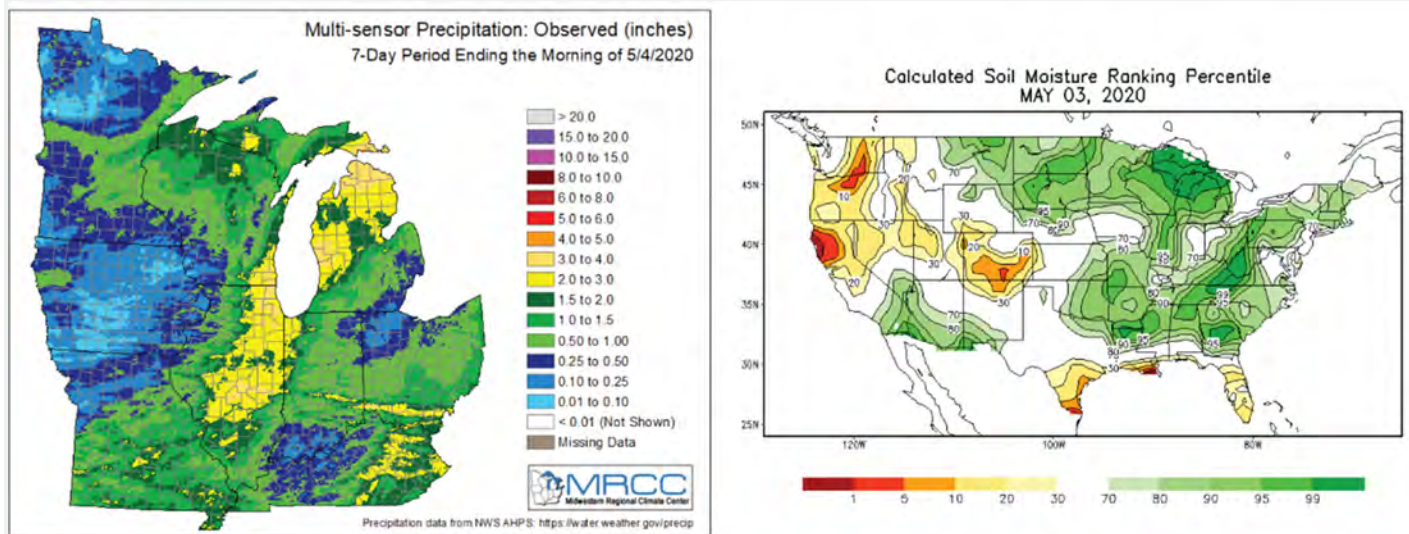
CFAES Near-surface Air and Soil Temperatures



CFAES Air and Soil Temperatures

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

Figure 1 shows that two- and four-inch soil temperatures continued to warm over the past week. Air temperatures were a couple of degrees above average across north central Ohio but averaged a couple of degrees below normal across southern counties where rainfall was more abundant. Many locations throughout Ohio reached their first 80°F temperature of the season this past weekend. Generally, average soil temperatures climbed about 10°F once again this week, into the mid to upper 50s across northern stations (Northwestern to Wooster) and into the upper 50s to low 60s across southern stations (Western to Piketon). Increases in soil temperature will likely stall this week, as a much cooler pattern settles over the region. Air temperatures are expected to be in 50s with overnight lows falling into the 30s. This will be accompanied by a couple of opportunities for light precipitation.



Precipitation and Soil Moisture ending 05/04/20

Figure 2: (Left) Precipitation estimates for the last 7 days ending on 05/04/2020. Figure provided by the Midwest Regional Climate Center (<https://www.mrcc.illinois.edu>). (Right) Calculated soil moisture ranking percentile for May 3, 2020 provided by NOAA's Climate Prediction Center (<https://www.cpc.noaa.gov/>).

Figure 2 (left) shows a wide range in precipitation over the past week. Northwest Ohio counties were mainly dry once again with less than 0.25". Much heavier precipitation (up to 3") fell from Hamilton County eastward through southern Meigs County. With precipitation remaining lighter in the west, calculated soil moisture has dropped into the 30-70th percentile range (Figure 2 – right). Very wet soil conditions remain across the east and south.

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/>. For a weekly climate assessment, visit <https://climate.osu.edu>.

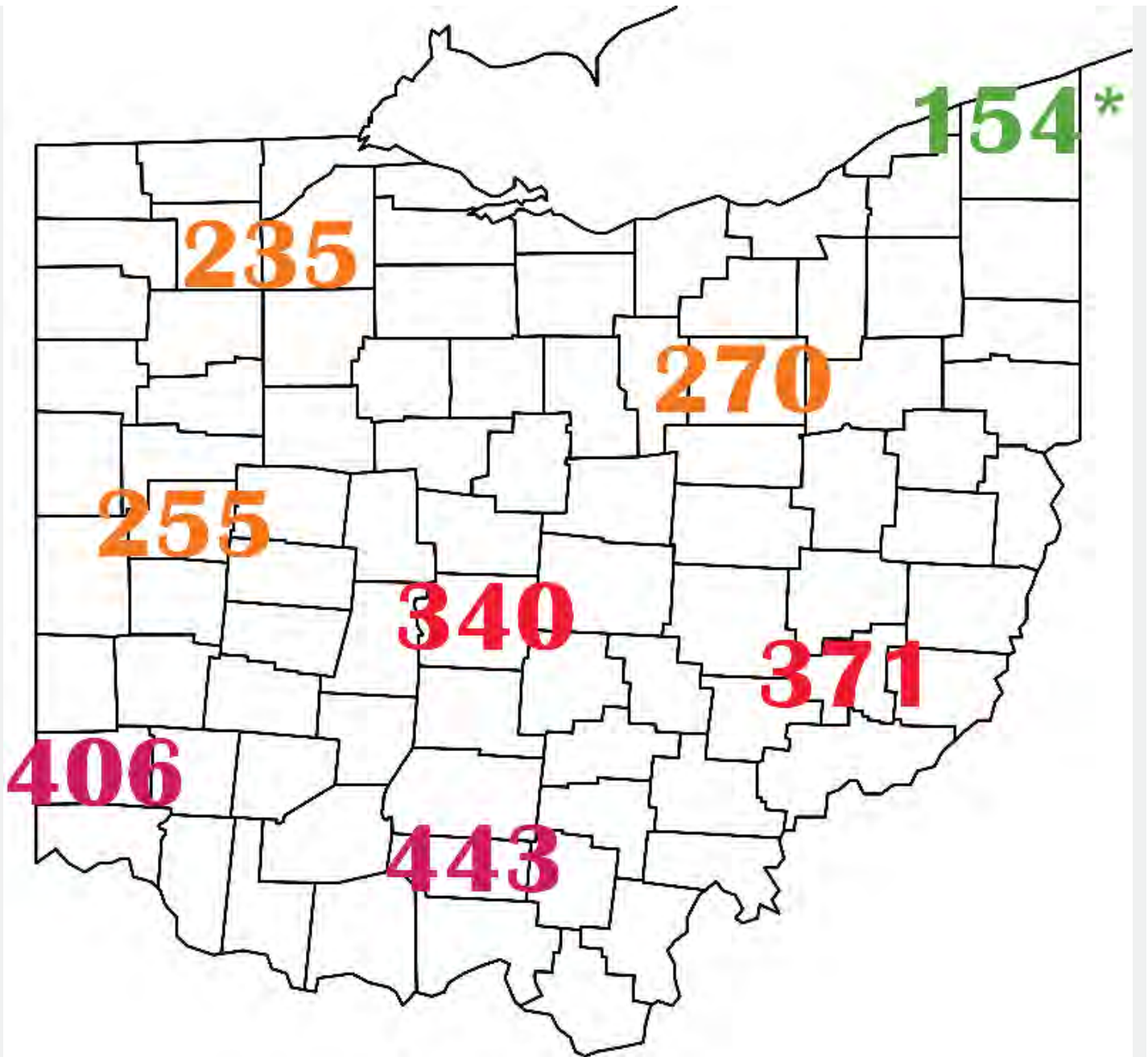
Author(s):

[Aaron Wilson](#), [Greg LaBarge, CPAg/CCA](#), [Elizabeth Hawkins](#), [Sam Custer](#)

Alfalfa Weevil Update



Peak alfalfa weevil feeding damage occurs between 325 and 575 heat units (based on accumulation of heat units from January 1 with a base of 48°F). Locations in red are there, and locations in orange are getting close. Now is the time for most alfalfa growers to step up their alfalfa weevil scouting. For more details on alfalfa weevil scouting and thresholds please see our April 13 article <https://agcrops.osu.edu/newsletter/corn-newsletter/2020-09/alfalfa-weevil-%E2%80%93-it%E2%80%99s-closer-you-think>



Alfalfa Weevil GDD

Accumulated growing degree days (base 48°F sine calculation method) for January 1-May 3, 2020 at several CFAES Ag Weather System (<https://www.oardc.ohio-state.edu/weather1/>) locations and additional NOAA stations around Ohio. *Ashtabula through April 30*

Author(s):

[Kelley Tilmon](#), [Aaron Wilson](#), [Mark Sulc](#), [Rory Lewandowski, CCA](#), [Andy Michel](#)

How Late Can I Plant Forages?



Seeding forages

The Ohio Agronomy Guide states that most cool-season perennial forages should be planted by the first of May. While some of you reading this article were able to plant forages by now, many of us (myself included) once again were not able to meet that deadline due to wet weather. So how hard and fast is the May 1 deadline, especially in a cold spring like we have experienced? Don't we have a little more time to plant forages? I hate to say this, but the answer is neither simple nor clear cut.

The planting deadlines in the Ohio Agronomy Guide are based on data and years of experience of what is best management practice. The risk of stand establishment problems increases as we move further and further past the published deadlines. Tell me it will not turn hot and dry in early to mid-June and that weeds won't emerge and grow like gangbusters with all the moisture we've had, then I'll tell you that forage plantings can still be successful. Unfortunately, the law of averages increases against forage establishment success the later into May that we plant.

Having said all that, I will still try to plant my experiments up until May 11-15 in central Ohio. For each of us, it is a matter of balancing the risk versus the cost and competing tasks at hand. The rainfall outlook for May is normal to above normal with summer going from wet to drier. Temperatures in May will average near normal, but summer temperatures are projected to be above normal. The warmer summer and projected trend towards drier conditions is concerning for young forage seedlings trying to become established in June and July. Late established seedlings will be at risk of being exposed to moisture and heat stress before they have a strong root system established.

A firm seedbed and good seed placement are essential when seeding late, as this will help moisture move through the soil to the germinating seeds resulting in fast emergence and better early growth. Summer annual weeds will now be emerging with the forage seedlings and we know that weeds are very competitive and destructive when they emerge at the same time as new forage seedlings. In pure alfalfa stands, we have herbicide options that can help against both broadleaf and grassy weeds, in forage grass stands we have only broadleaf herbicide options, and in grass-legume mixtures we have virtually no effective herbicide options during establishment. You might want to seed a pure stand now to provide more herbicide options, and then interseed the secondary species into the stand in August.

Consider your options and management carefully before planting perennial cool-season forages the next two weeks. I've had success and failures in the past with late plantings – but the law of averages is starting to work against us now. The latest I have planted alfalfa was in a small experiment on June 2 in central Ohio. In that case I planted Roundup Ready alfalfa, and we received adequate rainfall through June. The stand established well, and we were able to control weeds effectively with Roundup. But the stand really did not produce much yield that seeding year. I think we had one small cutting the entire growing season. It was as if the alfalfa was just growing the root system so the above ground growth remained short all summer. The following year it produced excellent yields though.

An alternative to consider now is to plant a short-season annual forage crop that can be harvested in late June and July, followed by planting the cool-season perennial forage stand in early to mid-August when the law of averages will once again be more in favor of forage seedling establishment. This is what many of us had to do last year.

If you do plant in the next two weeks and the resulting stand ends up with thin spots, it will be important to work hard at keeping the thin areas from going to weed seed production this summer. You can interseed those areas with a no-till drill beginning in early August. This is true even for alfalfa seedlings made this spring. Autotoxicity to alfalfa seedlings is not a big concern until the existing alfalfa plants are a year old. It is also possible to interseed alfalfa now into a thin stand of alfalfa that was planted last summer, and this spring is your last opportunity to do it; however, the discussion above about late plantings still applies to such interseedings.

Author(s):

[Mark Sulc](#)

Early Season Wheat Diseases



early spring wheat

The wheat crop in Ohio is now at or approaching Feekes 8 (flag leaf emergence), the growth stage at which we usually recommend fungicide application for foliar disease control. Conditions have been fairly cool and wet over the last 7 to 10 days, and will likely continue to be so over the next week, favoring the development of early-season diseases such as powdery mildew and Septoria. Septoria tritici leaf spot usually shows up first on the lower leaves as yellowish flecks that later develop into irregularly-shaped, brownish-gray lesions, with easily-seen dark-brown to black spots (called pycnidia) in the center. The disease is usually spread from the lower to the upper leaves by rain splash; so, if it rains and remain cool (50 to 68°C) over the next week or so, Septoria leaf spot will likely continue to spread.

Cool temperatures and high relative humidity are also required for the development of Powdery Mildew, another early-season disease that so is at very low levels so far this season. Typical symptoms of powdery mildew are whitish fungal growth (pustules) on the surface of leaves and stems. As soon as it begins to warm up, both Septoria and powdery mildew will become less of a concern, but continue to monitor your crop over the next several days. Remember, if the variety is susceptible and conditions become favorable, a fungicide can be applied to prevent the diseases from reaching the flag leaf (the upper-most leaf of the plant) before grain-fill. See the chart below for fungicide options and efficacy against common wheat diseases . Remember, always read and follow the labels.



Septoria tritici leaf spot on wheat – note the black dots (pycnidia) inside the lesion.



Powdery mildew on wheat leaf – as the name suggests, note the powdery, white pustules.

**Management of Small Grain Diseases
 Fungicide Efficacy for Control of Wheat Diseases (2019 Final Apr 3)**

The North Central Regional Committee on Management of Small Grain Diseases (NCERA-184) has developed the following information on fungicide efficacy for control of certain foliar diseases of wheat for use by the grain production industry in the U.S. Efficacy ratings for each fungicide listed in the table were determined by field testing the materials over multiple years and locations by the members of the committee. Efficacy is based on proper application timing to achieve optimum effectiveness of the fungicide as determined by labeled instructions and overall level of disease in the field at the time of application. Differences in efficacy among fungicide products were determined by direct comparisons among products in field tests and are based on a single application of the labeled rate as listed in the table. Table includes most widely marketed products, and is not intended to be a list of all labeled products.

Efficacy of fungicides for wheat disease control based on appropriate application timing

Fungicide(s)				Powdery mildew	Stagonospora leaf/glume blotch	Septoria leaf blotch	Tan spot	Stripe rust	Leaf rust	Stem rust	Head scab ⁴	Harvest Restriction
Class	Active ingredient	Product	Rate/A (fl. oz.)									
Strobilurin	Picoxystrobin 22.5%	Approach SC	6.0 – 12.0	G ¹	VG	VG ²	VG	E ¹	VG	VG	NL	Feekes 10.5
	Pyraclostrobin 23.6%	Headline SC	6.0 - 9.0	G	VG	VG ²	E	E ¹	E	G	NL	Feekes 10.5
Triazole	Metconazole 8.6%	Caramba 0.75 SL	10.0 - 17.0	VG	VG	–	VG	E	E	E	G	30 days
	Tebuconazole 38.7%	Follicur 3.6 F ⁵	4.0	NL	NL	NL	NL	E	E	E	F	30 days
	Prothioconazole 41%	Proline 480 SC	5.0 - 5.7	–	VG	VG	VG	VG	VG	VG	G	30 days
	Prothioconazole 19% Tebuconazole 18%	Prosaro 421 SC	6.5 - 8.2	G	VG	VG	VG	E	E	E	G	30 days
	Propiconazole 41.8%	Tilt 3.6 EC ⁶	4.0	VG	VG	VG	VG	VG	VG	VG	P	Feekes 10.5.4
Mixed modes of action ⁷	Tebuconazole 22.6% Trifloxystrobin 22.6%	Absolute Maxx SC	5.0	G	VG	VG	VG	VG	E	VG	NL	35 days
	Cyproconazole 7.17% Picoxystrobin 17.94%	Approach Prima SC	3.4 - 6.8	VG	VG	VG	VG	E	VG	–	NR	45 days
	Prothioconazole 16.0% Trifloxystrobin 13.7%	Delaro 325 SC	8.0	G	VG	VG	VG	VG	VG	VG	NL	Feekes 10.5 35 days
	Pydiflumetofen 13.7% Propiconazole 11.4%	Miravis Ace SE	13.7	VG	VG	VG	VG	VG	VG	VG	G ¹	Feekes 10.5.4
	Fluxapyroxad 2.8% Pyraclostrobin 18.7% Propiconazole 11.7%	Nexicor EC	7.0 - 13.0	G	VG	VG	E	E	E	VG	NL	Feekes 10.5
	Fluoxastrobin 14.8% Flutriafol 19.3%	Preemptor SC	4.0 - 6.0	–	–	VG	VG	E	VG	–	NL	Feekes 10.5 and 40 days
	Fluxapyroxad 14.3% Pyraclostrobin 28.6%	Priaxor	4.0 - 8.0	G	VG	VG	E	VG	VG	G	NL	Feekes 10.5
	Propiconazole 11.7% Azoxystrobin 13.5%	Quilt Xcel 2.2 SE ⁸	10.5 - 14.0	VG	VG	VG	VG	E	E	VG	NL	Feekes 10.5.4
	Prothioconazole 10.8% Trifloxystrobin 32.3%	Stratego YLD	4.0	G	VG	VG	VG	VG	VG	VG	NL	Feekes 10.5 35 days
	Benzovindiflupyr 2.9% Propiconazole 11.9% Azoxystrobin 10.5%	Trivapro SE	9.4 - 13.7	VG	VG	VG	VG	E	E	VG	NL	Feekes 10.5.4 14 days

¹Efficacy categories: NL=Not Labeled; NR=Not Recommended; P=Poor; F=Fair; G=Good; VG=Very Good; E=Excellent; – = Insufficient data to make statement about efficacy of this product.

²Product efficacy may be reduced in areas with fungal populations that are resistant to strobilurin fungicides.

³Efficacy may be significantly reduced if solo strobilurin products are applied after stripe rust infection has occurred.

⁴Application of products containing strobilurin fungicides may result in elevated levels of the mycotoxin Deoxynivalenol (DON) in grain damaged by head scab.

⁵Multiple generic products containing the same active ingredients also may be labeled in some states.

⁶Products with mixed modes of action generally combine triazole and strobilurin active ingredients. Nexicor, Priaxor and Trivapro include carboxamide active ingredients.

⁷Based on application timing at the beginning of anthesis (Feekes 10.5.1).

Other Articles

Cattle Inventories and Feed Demand

By Ben Brown

Department of Agricultural, Environmental and Development Economics
The Ohio State University – 5/1/2020

Challenges across the agricultural sector continue into May with great concern on the extent to which the supply chains are able to bend, maintain and then recover. The probability for a prolonged economic slowdown continues to grow as impacts of COVID-19 become more visible. The World Trade Organization estimates World GDP contraction at 5% for a “V-Shaped” (more optimistic) economic recovery and 10% for a “U-Shaped” (more pessimistic) economic recovery. These are large changes in global GDP and will impact public expenditures on protein sources. Animal protein consumption declines with decreasing GDP as grain protein consumption increases. Human capital shortages exacerbate the downward price pressure on live cattle and hog prices as packing plants slow or temporarily suspend operations. The price pressure then continues to ripple through the supply chain affecting all market participants. Feeders have nowhere to go with their fed cattle and no space or interest to take on new cattle. This decreases placements in the short term for Ohio’s cow-calf operators. The same is true for hogs, only it is more difficult to slow hog growth. Compounding issues are also building in the grain complex as decreased domestic vehicle use has reduced gasoline and ethanol consumption removing the incentive for ethanol plants to produce two important byproducts: ethanol and dried distillers’ grains (DDGs). Reduced DDG production opens the possibility for more feed corn and soybean meal but does not completely make up the difference. This article examines livestock on feed and the potential for corn feed use in the second half of the marketing year.

Cattle on Feed

The National Agricultural Statistics Service (NASS) released the anticipated April Cattle on Feed Report April 24, 2020 to hopeful yet anxious market observers. There is no doubt that the United States is in a different place socially and economically than it was at the start of the year with the biggest changes and market movements coming in the month of March. Cattle placements on feed were expected down in March foreshadowed by decreased local auction prices and weekly slaughter reports. Net cattle placements (gross

placements minus other disappearance) on feedlots in March totaled 1.557 million head- nearly 23% below 2019 and 9% below the month prior. This is the lowest March placement value since 1996. It was the middle weight categories seeing the biggest weakness from a year ago as cattle 600- 899 pounds came in 28% lower. Cattle under 600 pounds were only down 5% from a year ago. Using Kentucky weekly auction data provided by the Agricultural Marketing Service (AMS) out of Frankfort Kentucky for the most recent week ending April 24th- showed the 500-550-pound cattle fell slightly week over week to \$144/cwt.- roughly \$35 less than the 5 year average. Heavy feeder cattle prices are relatively steady between \$105-\$110 over the last couple of weeks. Historical comparisons of Livestock Marketing Reporting (LMR) of the price weight relationship indicates that 2020 has not structurally changed the relationship across weight classes.

The soft cattle placements number following a weak cattle placements number the month prior is extremely bullish by itself as tight placements of feeder cattle now mean competition for live cattle would drive price discovery in a couple months. Nearby and futures contracts would suggest that market participants expect cash cattle prices to recover in later months. However, cattle marketed during the month of April and recent kill rates supplied by AMS out of St. Joseph, MO would indicate that irregular price patterns will develop over the next 4-6 weeks. The irregular price pattern is exemplified by the March marketing value of 2.01 million head that was 13% higher than the year prior and second highest for the month. This is due to price premiums offered by some packers pulling cattle forward off feed in early March prior to the COVID-19 outbreaks in US facilities. Cattle slaughter rates really accelerated during the back end of the first quarter as a result (figure 2). Regardless the continuing trend of recent contractions in the overall cattle herd will lower the availability of cattle for slaughter later in the fourth quarter of 2020. The important question that remains- how much buying power does the US consumer have later in the year to spend on animal protein? If the World Trade Organization is correct in their estimates- it could mean a sharp decline in animal protein demand.

Total cattle and calves on feed in feedlots with capacity of 1,000 or more head totaled 11.297 million, 5% below the same point a year ago and 4% below one month prior. All states either stayed the same or decreased except for Arizona, which saw a modest 2% increase. Feeder profitability looked healthy to start 2020 with the Cattle Feeding Returns report from Kansas State University indicating a \$122/steer margin in January however, this assumes unhedged cash prices. Throughout the month of February feeder margins continued to drop before the abysmal month of March. Continued closures in April have negative feeder margins estimated for losses above \$300/head the next three months. The next Cattle on Feed report on May 22, 2020 is likely to show placements down again in April and flat cattle on feed, even with lower slaughter rates. Figure 1 illustrates cattle on feed values per month to start 2020 relative to the year prior. The 5-year average is included to visually illustrate the increase in the US beef sector over the last 5 years. Even with lower cattle on feed numbers to start April 2020, they remain above the 5-year average.

Figure 2 illustrates a six-day moving average of federally inspected actual slaughter numbers for 2015, 2019 and the start of 2020. Again, 2015 is included as a benchmark to show the growth in the beef industry over the last five years. Cattle slaughter for the last available week is down 33% from the peak mid-March. Prior to the COVID-19 outbreak beef production was expected to have another record year; however, reduced daily slaughter rates and prolonged packing plant closures bring this into question. Little is known about the success rate of packing plants starting back up or how The Administration's executive order (signed April 28) will impact the supply chain. However, under current conditions more cattle are backing up on-farm and using less feed than they otherwise would if the plants were working properly. Some cowcalf producers are facing the unusual experience of background and stocking available forage resources to meet feed needs. In most cases this decision is one of economics, where cost of gain (COG) vs value of gain (VOG) are considered and compared. If the VOG is less than the COG, then the producer would be advised to move cattle off farm to avoid losses. At the current time, the decision is being made for some producers who have no bidders for their calves.

Feed Use Estimates

Softer cattle on feed placements, incentives for livestock producers to slow down rates of gain, and reports of depopulating the nations pork supply all weigh on corn used for feed. In reverse, cheaper corn and reduced availability of DDGS provide support for corn feed use. This is the typical two-handed economist conundrum. The current USDA estimate for feed and residual use during the 2019/20 marketing year sits at 5.675 billion bushels, which was a 150 bushel increase over the previous estimate. Looking through a COVID-19 lens only, it would be easy to say that the entire increase is directly related to the pandemic. However, estimating corn used for feed is always the most difficult category of the corn balance sheet to estimate because of the large amount of corn fed on farm that only goes through a point of sale when the fat animal gets sold. Therefore, deriving the feed and residual number from all other balance sheet items provides a correction to the market. The March 1st Stocks Report shocked market observers when corn stocks came in 173 million bushels lower than the pre-report guesses. This can imply three things: larger feed use in the second quarter than expected, a smaller 2019 corn crop than reported in January, or a mixture of both. USDA usually splits the surprise between feed and residual use and ending stocks. That appears to be the case again in the April report.

Feed use in the first half of the marketing year as a percent of the annual total has averaged between 63% and 76% the last ten years (figure 3). Strong cattle on feed numbers and hog inventory during the second quarter indicated a robust feed use even before COVID-19 issues started to arise in the United States. The question becomes what does feed use look like in the second half of the marketing year given all the uncertainty in the livestock sector. Table 1 outlines two implied values for feed and residual use in the back half of 2019/20. The first value implies that feed and residual use during the first half of the marketing year accounted for 63% of the total. If that is realized, then a feed and residual use well above USDA current estimate would be justified. However, the second value implies that feed and residual use during the 1st half of the marketing year accounts for a 5-yr average of 69%. This implied value is larger than USDA's current estimate by 145 million bushels. It seems plausible that USDA will increase the feed and residual number another 75 million

bushels on decreased ethanol and DDG production. The May WASDE will be the first estimates for the 20/21 marketing year. USDA's 10-year baseline for row crops released in February, indicated 5.8 billion bushels of corn used for feed and residual use during the next marketing year.

The relative prices between corn and other feedstuffs is important in low cost rations for livestock producers. Figure 4 illustrates the relationship between the moving averages of corn to the prices of select alternative feedstuffs. This list is not exhaustive, nor does it take into account protein conversions, but does illustrate the increasing attractiveness of corn as a feed source over the last month- especially in areas where supply chains of these alternative feed sources have been drastically disrupted.

Summary

Large uncertainty remains in all aspects of agriculture, but especially in meat demand in the later half of 2020. The World Trade Organization and the International Monetary Fund have painted bleak outlooks for global GDP growth in a year when the US was projected to produce a record amount of beef. Current nearby and deferred futures contracts for live cattle would point to price recovery in the later half of the year after two months of relatively low new placements of cattle on feed. The next 2-6 weeks are going to shed light on how much pressure the US meat supply chain can handle. Until then local auction prices and feeder per head returns would suggest another month of low placements may be coming. Important questions that will be answered in the next couple weeks are how successful are these packing facilities at starting back up without additional challenges, what are buying attitudes toward meat of US consumers after the initial surge, and a clearer picture on overall feed use for producers not traditionally feeding animals to higher weights.

References

“Cold Storage.” United States Department of Agriculture- National Agricultural Statistics Service. 1948-903X. April 22, 2020. <https://downloads.usda.library.cornell.edu/usdaemis/files/pg15bd892/1r66jm331/qb98n127b/cost0420.pdf>

“Feed Grains Database.” United States Department of Agriculture- Economic Research Service. <https://data.ers.usda.gov/FEED-GRAINS-custom-query.aspx#ResultsPanel>

“Actual Slaughter Under Federal Inspection.” United States Department of Agriculture- Agricultural Marketing Service. SJ_LS711. April 30, 2020. https://www.ams.usda.gov/mnreports/sj_ls711.txt

0.5 1 1.5 2 2.5 3 10/29/2016 12/21/2016 2/12/2017 4/6/2017 5/29/2017 7/21/2017 9/12/2017 11/4/2017 12/27/2017 2/18/2018 4/12/2018 6/4/2018 7/27/2018 9/18/2018 11/10/2018 1/2/2019 2/24/2019 4/18/2019 6/10/2019 8/2/2019 9/24/2019 11/16/2019 1/8/2020 3/1/2020 4/23/2020

Relative Prices- Feed Stuffs to Corn DDG/Corn Meat and Bone Meal/Corn Bean Meal to Corn Wheat to Corn

6 Tonsor, G. “Historical and Projected Feedlot Net Returns.” Kansas State University, Department of Agricultural Economics Extension. April 2020. <https://www.agmanager.info/livestock-meat/cattle-finishing-historical-and-projected-returns/cattlefeeding-returns-april-2020>

“USDA to Implement President Trump’s Executive Order on Meat and Poultry Processors.” United States Department of Agriculture. Release No. 0234.20. April 28, 2020 <https://www.usda.gov/media/press-releases/2020/04/28/usda-implement-president-trumps-executiveorder-meat-and-poultry>

“Weekly Kentucky

Cattle and Grain Summary.” United States Department of Agriculture- Agricultural Marketing Service. April 24, 2020. <https://www.ams.usda.gov/mnreports/lswkysum.pdf> “World Agricultural Supply and Demand Estimates.” United States Department of Agriculture- World Agricultural Outlook Board. WASDE-599. April 9, 2020. <https://www.usda.gov/oce/commodity/wasde/wasde0420.pdf> “WTO Trade Forecast of April 8, 2020.” World Trade Organization- Economic Research and Statistics Division. April 8, 2020. https://www.wto.org/english/news_e/pres20_e/methodpr855_e.pdf

Prepared by Jeff Stachler

Ohio State University Agriculture and Natural Resources Extension Educator, Auglaize County
stachler.1@osu.edu and 701-541-0043