Ohio State University Extension
Auglaize County
Top of Ohio EERA
208 South Blackhoof Street
Wapakoneta, OH 45895-1902

419-739-6580 Phone
419-739-6581 Fax
www.auglaize.osu.edu

Auglaize County OSU Extension Weekly Agriculture Newsletter – April 29, 2020

Scouting and Latest Information

Field work begins!!

Wheat field

Soil erosion that needs stopped!!

More soil erosion

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

Thank you to those individuals that participated in the sixth Auglaize County Ag Talk meeting on Tuesday. We had 11 people participate. As mentioned in a reminder 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. 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 Ag 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 and straw: None
List of individuals selling hay or straw:

1. About 200 3' X 3' wheat straw bales. This same individual is willing to sell his winter cover crops as forage to anyone interested.
2. At least 500 small square bales of wheat straw.

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

Joke: What farm animal keeps the best time**??**

Agricultural Fun Fact: An acre of corn will give off 4,000 gallons of water per day in evaporation!!

Rain fell three days this past week. Rainfall on Thursday, April 23th ranged from 0" near Lock 2 and Tri-Township roads to 0.28" near Lowes. Rainfall on Sunday ranged from 0.2" near Kossuth to 0.7" near Pusheta and Brown roads. Rainfall on Tuesday ranged from 0.08" near Bloody Bridge to 0.39" near Lock 2 and Try i-Township roads. Rainfall for the week ranged from 0.53" near Kossuth to 1.1" near Buckland-Holden and St Rt 501. Rainfall for the week averaged 0.84, 0.51" more than last week.

The average high temperature now is 66 degrees F, three degrees more than last week. Temperatures were above normal for **1** day of the week and below normal for **6** days of the week. The range in high temperature for the week was 56 to 72 degrees F. The average high temperature for the week was 61.4 degrees F, which is 10 degrees F warmer than last week, but 4.6 degrees F below the current normal high temperature!

Wheat

Variable wheat growth

2 nodes with the third becoming more visible

Wheat development moved slowly last week. All wheat is at the second node stage of development with some fields starting the third node. I am not impressed with our wheat crop. I lowered the quality of the wheat again. This is my current rating of the wheat crop: 5% excellent, 25% good, 60% fair, 5% poor, and 5% very poor. Last week's rating was 5% excellent, 40% good, 45% fair, 10% poor, and 0% very poor. I have not seen any significant leaf diseases in the wheat yet to be concerned!

Alfalfa

Alfalfa field

Alfalfa grew very little this past week due to the cool weather. Alfalfa is up to 9.5" now with an average height of 5.5". We are at 168 heat units for alfalfa weevil activity. Between 300 and 350 alfalfa weevil start to hatch, so we are safe for now, but need to get ready to start scouting late next week. We are staying cold enough I keep saying next week to scout.

Corn

The first corn was planted this past week. My estimate is that 2% of the corn is planted. Soil temperatures are still too cold for corn, but I think it will be ok because we are not excessively saturated. When we dry up the next time it will be time to plant even if the soil temperatures are still cool.

Soybean

The first soybeans were planted as well. My estimate is that 2% of the soybeans were planted as well.

Weeds

Common chickweed and purple deadnettle

Dense patch of claspleaf pennycress

Stage of giant ragweed

Henbit on left, two stems of purple deadnettle right

Yellow rocket starting to flower

Early burndowns seem to be working!!

I found more fields of claspleaf pennycress with some very severe as seen in the picture above. The winter annuals are producing many seeds, especially common chickweed and purple deadnettle. These fields will need a fall burndown to reduce populations. I usually see purple deadnettle in fields, but I found a field with lots of henbit. Giant ragweed is the largest and most prevalent summer annual weed in fields yet. The others are coming very slow. I have not seen any waterhemp up yet!! Yellow rocket which is a mustard species having 4 petals has started to flower. This plant is sometimes confused with cressleaf grounsel when is starts flowering in about a week. The early burndown herbicide applications are performing well at this time.

Insects/other

Slug

Watch out for slugs! They should be fairly prevalent. I found one in a wheat field on Sunday. To check for slugs, purchase some cheap beer, dig a small hole and put a cup in the hole with some of the beer. The slugs love the smell of beer and will be attracted to it.

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. Three new herbicides were added to the XtendiMAX label this past week, which totals 251 herbicides. Twenty-eight new adjuvants were added the XtendiMAX label, now totaling 442. No new nozzles were added to the XtendiMAX label, which totals 44. Twelve new Drift Reducing Adjuvant (DRA's) were added to the XtendiMAX label this week, making a total of 107 DRA's. Fifteen new nutritional products were added from the XtendiMAX label which totals 261. Eight new products were added to the Insecticides, Fungicides, Plant Growth Regulator, Fungicide plus Insecticide, and Other group on the XtendiMAX label which totals 113. No new adjuvants were added to the Engenia label, which now totals 582. No new herbicides were added to the Engenia label, which brings the total herbicide count to 170. 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 37 products. No new Drift Reducing Adjuvants (DRA's) were added to the Engenia label, which totals 128. No new nozzles were added to the Engenia label, which totals 31. Six nutritional products were deleted from 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, 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 Enlsit 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 postemgergence 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 Other topics. 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: A watch dog!!

Managing Waterhemp in Corn


Waterhemp has not emerged yet to the best of my knowledge. One of the most troublesome weeds in corn is waterhemp. Waterhemp is related to the pigweeds and looks very similar to them.

Choosing the right herbicide based upon the weeds in a field is very important to maximizing weed control! Last year I observed 53% of soybean fields in Auglaize County having waterhemp at harvest time. This is very alarming and a 2% increase from 2018! The eastern (east of I-75) half of the county saw an alarming increase of waterhemp of 13% compared to 2017 to a total of 46% of fields. The western half of the county finally saw its first decrease of waterhemp in 2018 by 7% to 57% of fields. Waterhemp germinates late into the season similar to giant ragweed, making perfect control impossible. Also, waterhemp is likely resistant to glyphosate (Group 9) and ALS (Group 2) herbicides and in some populations resistance to PPO inhibiting (Group 14) herbicides. There is a possibility the waterhemp is resistant to atrazine as well, but this has not been confirmed in Ohio at this time.

The most effective strategy to controlling waterhemp in corn is to apply the full rate of an effective preemergence or soil-applied herbicide followed by postemergence herbicide(s) having residual control mixed with glyphosate. This strategy will be required in fields having moderate to high density of waterhemp or to ensure low density populations do not increase. It is difficult to make a total postemergence herbicide program work in corn because the herbicides will need to be applied too early into the season unless there is significant residual activity. This strategy may work in a low density population, but there is no guarantee. Although with the right herbicide combination it may be possible.

The most effective preemergence herbicide(s) include: Acetochlor plus atrazine (rates containing at least 1.5 pounds active ingredient per acre of atrazine); Acuron; Coyote; Harness Max, Lumax EZ; Lexar EZ; Resicore; and Verdict. Postemergence products to be mixed with glyphosate containing the longest residual control include: Callisto, Callisto Xtra; Atrazine at the highest remaining rate following a preemergence application of atrazine; Acetochlor, Metolochlor, or Zidua. The acetochlor, metolochlor or Zidua must be mixed with an effective postemergence herbicide to control the glyphosate-resistant waterhemp. Glyphosate mixed with Solstice is the

most effective late-season postemergence herbicide combination having some residual control. The next most effective postemergence herbicides mixed with glyphosate providing some residual control and applied late include: Callisto; Callisto GT (Roundup Ready corn only); Capreno; Halex GT (Roundup Ready corn only); Impact; Laudis; Realm Q; and Revulin Q. Status mixed with glyphosate will also control waterhemp at 8 oz/A, but has no or very little residual control. Glufosinate plus atrazine applied to LibertyLink corn can be effective, but it must be applied to small waterhemp and follow the full rate of the most effective preemergence herbicide.

Use the maximum rate of postemergence herbicides. For postemergence treatments be sure to include the most effective adjuvant for the non-glyphosate products. Read and follow label directions for postemergence herbicides, especially as it relates to the maximum size of corn. Glyphosate can only be applied to Roundup Ready corn.

C.O.R.N. Newsletter

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

Cool and damp end of April, warmer start to May

April will end cool and damp after some sun and a milder to start to the last week of April. For April Ohio looks to finish one to four degrees below normal and that is after a warm start to April. Rainfall should end the month of April above normal in much of the state in the zero to two inch range above normal. The northwest part of the state was up to one inch below normal but will likely end April near normal. Overall, this is a vast improvement over last year.

May is likely to start the month warmer than normal as we discussed last week. However, the pattern is progressive and active so it looks to turn much cooler again for May 5-15 period before turning warmer again the last half to third of May. Rainfall looks normal to two inches above normal for May. Therefore, there will be wet and dry periods in May to allow for periods of planting but it will also not be ideal and any open windows will need to be taken advantage of.

Temperature Outlook

May will average near normal. Summer will be above normal.

Rainfall Outlook

May will average normal to above normal (0 to +2 inches). Summer will go from wet to drier.

Frost/Freeze Outlook

It still appears most of the hard freeze risk is gone but expect a few frost days into early May. Preferred places like low lying areas still will see some temperatures down to around 32, but the chance for below 28 are fairly low. The best chances for lows around 32 the next few weeks will be in northern and eastern Ohio.

Soil Temperature Outlook

Soil temperatures will still remain marginal this week before they climb through the 50s into 60s in the first half of May.

16-Day Rainfall Outlook from NOAA/NWS/Ohio River Forecast Center

https://www.weather.gov/images/ohrfc/dynamic/NAEFS16.apcp.mean.total.png
Official NOAA/NWS/Climate Prediction Center

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

Author(s):
Jim Noel

Interested in Soil Health? Learn together with OSU Extension

Frost burnt wheat. Photo credit: Elizabeth Hawkins, OSUE

Improving soil health (SH) can provide a variety of benefits including improved water infiltration, increased water holding capacity, and increased nutrient availability. However, it can be challenging to quantify these benefits in the field.

In 2020, the eFields program is kicking off an effort to help better understand how management practices influence soil health and ultimately water quality. OSU Extension has worked to identify a few soil tests that can provide helpful indicators of improved soil health. Though several health tests exist, we focused on tests that are simple, economical, and repeatable. We are looking for farmers interested in soil health and who want to participate in a statewide field survey collecting soil health data from fields under various management practices, specifically conventional tillage, no-till, organic nutrient management, and cover cropping. The results from this effort will be used to guide recommendations for improving soil health on Ohio farms. Soil health indicators are also being added to selected eFields trials including nitrogen rate and manure sidedress.

If you are interested in learning more about participating in eFields trials focused on soil health, reach out to your local Extension educator or email digitalag@osu.edu. For more information about the soil health indicators and how to use them, visit: go.osu.edu/MeasureSH.

Sorghum sudan grass. Photo credit: Elizabeth Hawkins, OSUE

Author(s):
Steve Culman, John Fulton, Jason Hartschuh, CCA, Elizabeth Hawkins, Eric Richer, CCA

Economic Assistance for Agriculture during COVID-19

The coronavirus pandemic has certainly altered all our lives. The impact is being felt by families, businesses, governmental agencies, and civic organizations. To help families and businesses alike, various levels of government have passed legislation to help lessen the economic blow of COVID-19. This article provides a brief overview of some of the assistance which has been made available. These include tax deadline provisions, the Coronavirus Aid, Relief, and Economic Security (CARES) Act, Families First Coronavirus Response Act, Ohio Bureau of Workers' Compensation rebates, unemployment compensation, and Wind and Hurricane Indemnity Program, Plus (WHIP+)

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

Coronavirus Aid, Relief, and Economic Security (CARES) Act
The CARES" Act was signed into law by President Trump on March 27, 2020. The CARES Act contains several provisions designed to sustain Americans during the COVID-19 health and economic crisis. Discussed here are the Paycheck Protection Program (PPP), the Coronavirus Food Assistance Program (CFAP) and the Deferred Payroll Tax Program.

<u>Paycheck Protection Program</u>
The Paycheck Protection Program expands the Small Business Administration (SBA) loan program for 100% federally-guaranteed loans to small employers and eligible self-employed individuals impacted by COVID-19. These loans are designed to be forgivable if specific requirements are met. Unlike many other SBA programs, farms/agricultural businesses are eligible provided they employ fewer than 500 employees. Eligible self-employed individuals including independent contractors may apply for a loan.

The SBAs guidance provides that the PPP loan proceeds can be used by a Schedule F filer for the following:

- Owner compensation replacement, calculated based on 2019 self-employment income.
- Employee payroll costs for employees whose principal place of residence is in the United States.

- Eligible mortgage interest payments on any business mortgage obligation on real or personal property, business rent payments, and business utility payments.
- Interest payments on any other debt obligations incurred before February 15, 2020.
- Refinancing an SBA EIDL loan made between January 31, 2020, and April 3, 2020.

The program has a maximum loan amount of the lesser of either $10 million or 250% of the average monthly payroll costs in the one year prior to the loan plus refinanced Economic Injury Disaster loans received after January 31, 2020. This loan has a maturity of 2 years and an interest rate of 1%. A borrower is eligible for loan forgiveness in an amount equal to the sum of certain payroll, mortgage interest, rent, and utility payments made during the 8-week period after the loan's origination date.

Farms/businesses can apply through any existing SBA 7(a) lender or through any federally insured depository institution, federally insured credit union, and Farm Credit System institution that is participating. The program is a first come first served program and the initial budget allocation of $349 billion allocation was exhausted by April 16, 2020. A second allocation of $310 billion was approved by Congress and signed by President Trump on April 24, 2020. Applications for the second round began to be accepted on Monday, April 27, 2020. **This additional funding is expected to be exhausted quickly so farms and agribusinesses should apply as soon as possible**.
More information about the program can be found at:

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

Economic Injury Disaster Loans Program (EIDL)
Farm businesses and agricultural cooperatives with no more than 500 employees may also now apply for EIDL, which gives loans up to $2 million for businesses that suffer economic injuries due to COVID-19. Because the program ran out of funds, there is a backlog in EIDL applications and the SBA is not reopening the loan portal until it catches up with the backlog. If SBA does reopen the program, businesses apply directly through the SBA at: https://www.sba.gov/disaster-assistance/coronavirus-covid-19

Businesses may use an EIDL loan for fixed debt, payroll, accounts payable, and other operating expenses due to the pandemic, but cannot use the funds for the same purposes as the borrower's PPP loan. The interest rate for EIDL is higher at 3.75% (2.75% for non-profits), but the term can be up to 30 years.

EIDL also includes an "emergency advance" component that provides a $10,000 advance within a few days of submitting an application. A borrower doesn't have to repay the advance, even if the borrower doesn't ultimately qualify for a loan. But if the borrower also has a PPP loan, the PPP forgiveness is reduced by the $10,000 EIDL advance. The emergency advance can go towards paying sick leave, payroll, increased materials costs, rental or mortgage payments, or other obligations due to revenue losses, as long as the borrower hasn't used PPP funds for those costs.

Coronavirus Food Assistance Program (CFAP)

The CARES Act also allocated $48.7 billion dollars to the United State Department of Agriculture to mitigate the effects of COVID-19 on the production and supply of the United States' food. On April 17, the preliminary details about CFAP were released by the U.S. Department of Agriculture (USDA) for this program targeted to assist farmers, ranchers, and consumers in response to the COVID-19 pandemic. The CFAP provides $19 billion in funds The $19 billion program includes two major elements. The first element is for direct support to farmers and ranchers**.** This program can provide up to $16 billion in direct support to farmers based on actual losses where prices and market supply chains have been impacted by COVID-19. The program will also assist producers with additional adjustment and marketing costs resulting from lost demand and short-term oversupply for the 2020 marketing year caused by COVID-19. It has been reported, although not confirmed by the USDA, that in the direct support program, $5.1 billion will be allocated to support cattle producers, $3.9 billion for row crop producers, $2.9 billion for dairy, $2.1 for specialty crops, $1.6 billion for hog producers and $500 million for other commodities.

The Chairman of the Senate Agricultural Appropriations sub-committee has indicated the direct assistance to farmers will be made with one payment comprised of the sum of two parts. The first part is 85% of the losses incurred between January 1 and April 15, 2020 (per commodity). The second part will be 30% of the projected loss in market prices due to COVID-19 between April and October 15. Secretary Perdue has expressed that payments are intended to be made by end of May or early June. To qualify for a payment, a commodity must have declined in price by at least 5% between January and April 15, 2020. While several entities have illustrated price declines, including The Ohio State University, the price series USDA will use to determine eligibility is uncertain.

Federal payment limits apply, set at $125,000 per commodity with an overall limit of $250,000 per individual or entity. USDA has indicated that CFAP may take into consideration other farm program benefits when calculating payment limitations, which could limit CFAP payments in cases where a producer is receiving payments in other federal safety net programs. The exact program limitations and qualifying support are unknown at the present time. The direct payment program will be administered by the Farm Service Agency and the Agricultural Marketing Service. More details will be forthcoming by the Farm Service Agency in the upcoming weeks. Access more information at: https://www.fsa.usda.gov/

The remaining $3 billion dollars of the CFAP allocation will be used for a USDA purchase and distribution program. In this program, the USDA will partner with regional and local distributors to purchase $3 billion in fresh produce, dairy, and meat. The USDA will purchase an estimated $100 million per month of fresh fruits and vegetables, $100 million per month of a variety of dairy products, and $100 million per month of meat products. The distributors and wholesalers will then provide a pre-approved box of fresh produce, dairy, and meat products to food banks, community and faith-based organizations, and other non-profits to distribute. Monthly purchases totaling $300 million will continue until the funds are exhausted. Costs of purchasing products, and the packaging and distribution contracts are included in the $300 million per month purchases, so actual product purchases will be somewhat less than $300 million.

Deferred Payroll Tax Program

The CARES Act also includes a Deferred Payroll Tax Program which provides employers the opportunity to temporarily defer payment of the employer's portion of the social security tax. It

should be noted that this program can only be used if you are **not** using the Paycheck Protection Program or have a loan forgiven by the Small Business Administration. Self-employed individuals may defer ½ of the self-employment tax. The delay is granted through the end of 2020, then taxes must be repaid in two equal installments on Dec. 31, 2021 and Dec. 31, 2022. The complete CARES legislation can be found at: https://www.congress.gov/116/bills/hr748/BILLS-116hr748enr.pdf

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

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

A covered employer must provide expanded paid family and medical leave for up to an additional 10 weeks at 2/3 of the employee's regular rate of pay (capped at $200 per day) when an employee is unable to work due to caring for a child whose school/day care provider is closed or unavailable due to COVID-19. Employers with fewer than 50 employees are eligible for an exemption from the requirements to provide leave to care for a child whose school is closed, or child care is unavailable in cases where the viability of the business is threatened.
Tax Credit: The Families First Coronavirus Response Act does provide business tax credits. Employers qualify for reimbursement through tax credits for all qualifying wages paid under FFCRA (dollar for dollar).

Ohio Bureau of Workers' Compensation Rebates
The Ohio Bureau of Workers' Compensation's Board of Directors approved on April 10, 2020 to send up to $1.6 billion to Ohio employers to ease the economic impact of the coronavirus (COVID-19) pandemic on Ohio's economy and business community. The Ohio Bureau of Workers' Compensation is currently issuing dividends approximately equal to the 2018 premiums paid by the business less any outstanding balances and premiums due for March, April, and May 2020. Farms do not have to apply for this dividend as they will be automatically issued by the Ohio Bureau of Workers Compensation. The checks will expire in 90 days of issuance. More information can be found at: https://www.bwc.ohio.gov/downloads/blankpdf/COVID-19-BWCFAQs.pdf

Wind and Hurricane Indemnity Program, Plus (WHIP+)
This is not a program specifically related to Covid-19, rather the "plus" in this USDA program refers to the non-wildfire and hurricane weather conditions experienced in 2018 and 2019. Farmers who suffered losses to crops, bushes, vines or trees in 2018 and 2019 due to excess moisture or D3-D4 drought are eligible for WHIP+. All counties minus Cuyahoga County in Ohio are eligible in 2019 or if producers can provide documentation of losses from qualified natural disasters. More details about this program can be found

at: https://u.osu.edu/ohioagmanager/2020/04/22/whip-not-only-applies-to-baseball-enrollment-at-fsa-now-open/

Unemployment Compensation

FFCRA provided additional flexibility for state unemployment insurance agencies and additional administrative funding to respond to the COVID-19 pandemic. The CARES Act also expanded the ability of each state to provide unemployment insurance for workers who are not ordinarily eligible for unemployment benefits including self-employed and 1099 individuals. The program is expected to open in mid-May.

More information about unemployment compensation can be obtained by contacting the Ohio Department of Job & Family Services at 1-877-644-6562 or http://jfs.ohio.gov/ouio/index.stm

More information on these programs can be found at:

The Treasury Department

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

Small Business Administration

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

CARES Legislation

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

Department of Labor - Families First Coronavirus Response Act

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

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

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

Ohio Bureau of Workers Compensation

https://www.bwc.ohio.gov/

Latest COVID-19 legislation to provide more funds for farm businesses

https://farmoffice.osu.edu/blog/mon-04272020-1142am/latest-covid-19-legislation-provide-more-funds-farm-businesses

Ohio Department of Job & Family Services

http://jfs.ohio.gov/ouio

Note

This was written and published on April 27, 2020. Please be advised that further guidance and changes are being released by the agencies for each of the programs highlighted in this document. Check with each agency for clarification and modifications for each of these programs.

Author(s):

David Marrison, Ben Brown, Barry Ward, Peggy Hall, Dianne Shoemaker

Is it time to reevaluate your manure storage and application for years to come?

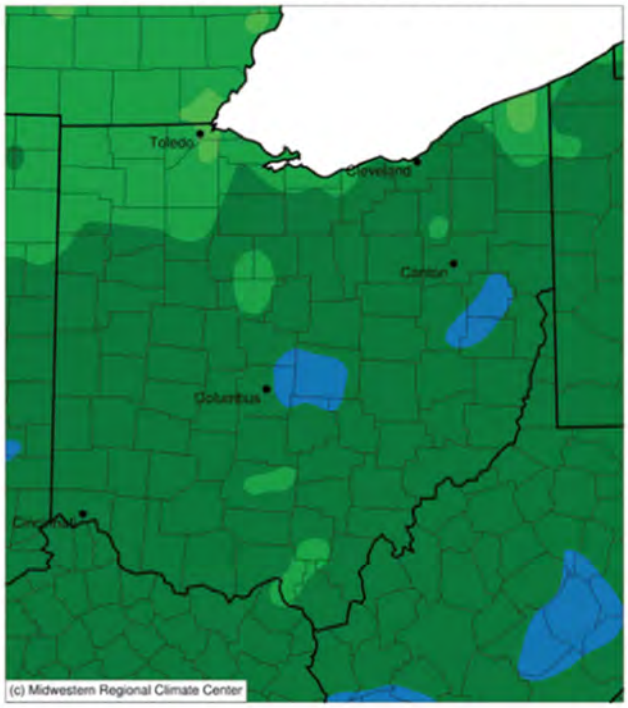
Manure storage. Photo credit: Glen Arnold, OSUE

The first three months of 2020 once again brought saturated conditions across Ohio. Figure 1a shows that precipitation totals for January - March 2020 range from approximately 5 inches in Lucas County up to 20 inches in parts of Franklin, Delaware, Fairfield, Licking, Tuscarawas, Harrison, and Carroll Counties (blue shading). These totals are close to average for this period across Ohio's far northwestern and southern counties, but well above average (compared to 1981-2010) across the central portions of the state (Figure 1b). The previously mentioned counties along with parts of west central and northeastern Ohio 175-200% of normal, nearly double the long-term average. Indeed, 2020 is off to a wet start.

a

Accumulated Precipitation (in)

January 01, 2020 to March 31, 2020

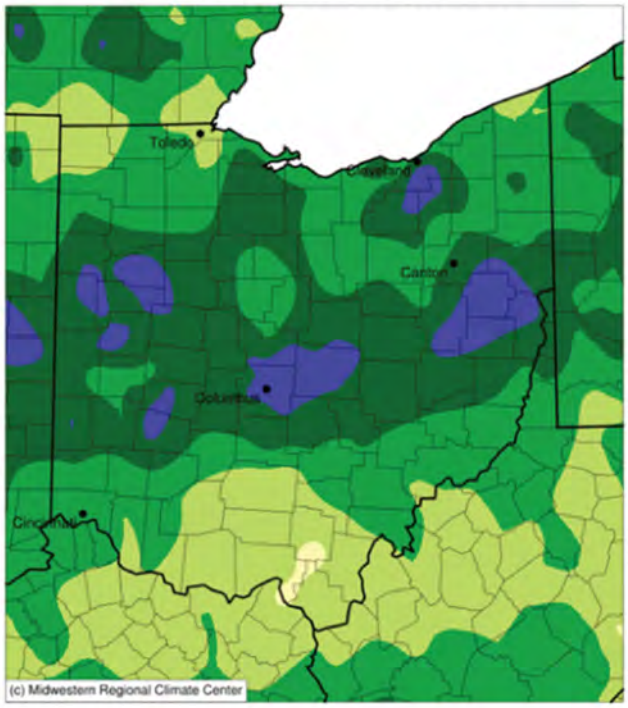


0.01 0.5 1 2 3 5 7.5 10 15 20 25 30 40

b

Accumulated Precipitation (in): Percent of 1981-2010 Normals

January 01, 2020 to March 31, 2020



50 75 100 125 150 175

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: 4/9/2020 11:01:28 AM CDT

Figure 1: a) Accumulated precipitation in a) inches and b) percent of normal (1981-2010) for January 01 - March 31, 2020. Figures generated at the Midwest Regional Climate Center (https://mrcc.illinois.edu/).

With wet conditions this season, and several wet autumn and winters in recent memory, questions rise regarding manure storage and how management of lagoons may be changing due to long term trends. Figure 2 shows the annual and seasonal trends in precipitation for Ohio from 1960 - 2019 (2020 for the December, January, February period (Figure 2b)). Figure 2a shows that annual, precipitation over this period has increased 1.35 inches per decade, with an annual average close to 45 inches during the most recent decade. Figures 2b-e show strong trends in all seasons, with the largest trends during winter (December – February) with a 0.43 inch per decade increase since 1960. Winter is also a time of the year when we experience very little evaporation, so this large trend can have a big impact on storage capacity. Other strong increases of 0.38 inches per decade and 0.34 inches per decade are found in summer (June – August; Figure 2c) and autumn (September – November; Figure 2d), respectively. Analyzing individual monthly trends for Ohio reveals the strongest trends occur in June (0.30 inches per decade) and October (0.24 inches per decade) with the smallest trends in July, August, and November (not shown).

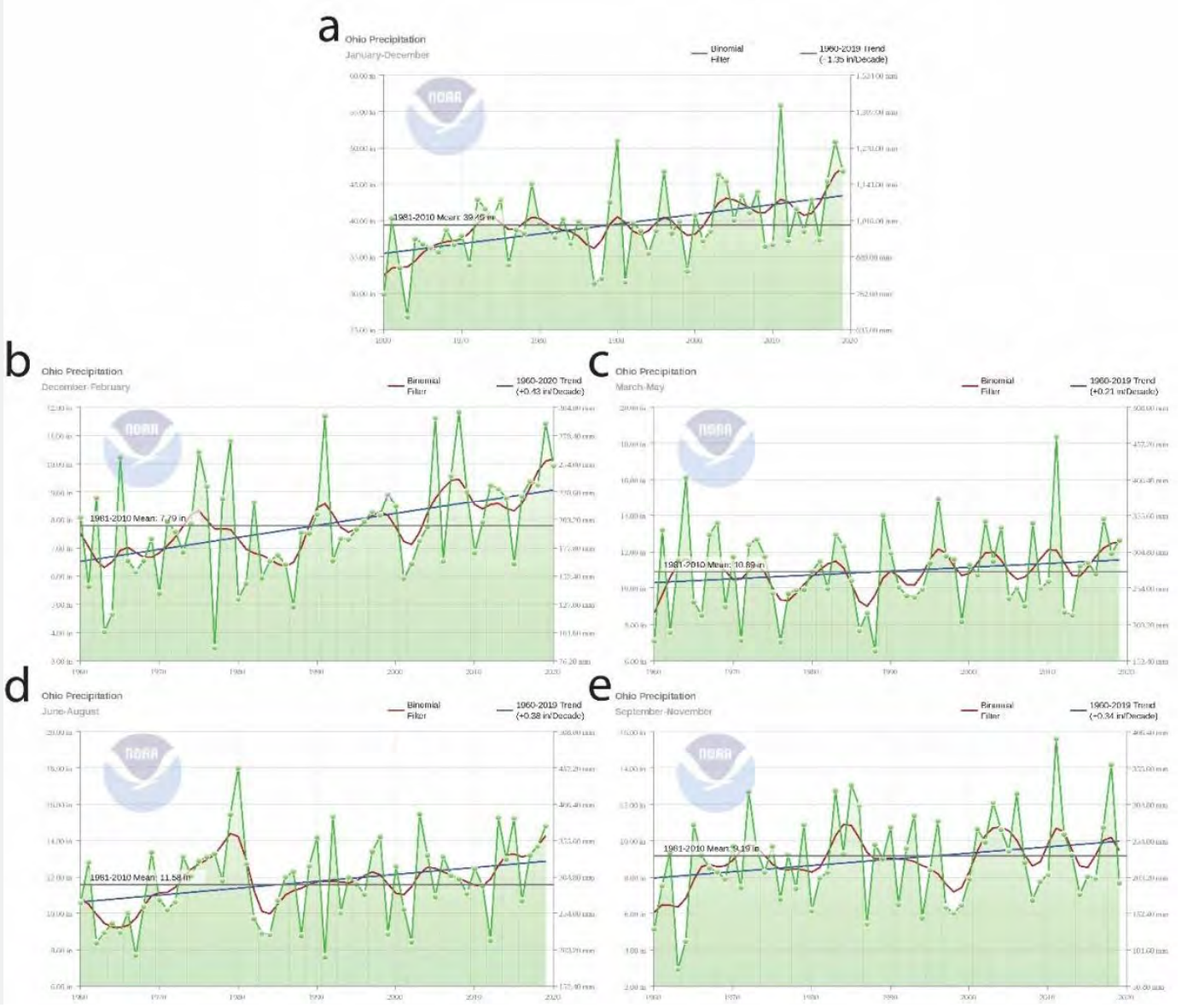


Figure 2: a) Annual and b-e) seasonal precipitation for 1960-2019 (2020 for Fig. 2b). The 1981-2010 means, along with linear trends (inches per decade; blue) and 9-point smoothed binomial filter (red) are included. Figure are generated by NOAA National Centers for Environmental information, Climate at a Glance: Statewide Time Series, published April 2020, retrieved on April 10, 2020 from https://www.ncdc.noaa.gov/cag/.

This increase in rain fall is just one of many factors that may be contributing to your manure storage filling up faster than when it was new, creating storage challenges every spring. We are receiving over an inch more rain fall each decade, each inch equals 27,154 gallons more per acre of surface water that enters your lagoon each year. Some of our lagoons have been around for 2 or 3 decades with our any modifications. Just from increased rain fall you are seeing decreased months of storage. Somewhat scary, but a 30 year old lagoon with a half-acre of surface area would be catching an extra 40,731 gallons of water on average compared to when it was new.

The next challenge with aging lagoons is sedimentation of solids within the lagoon. This challenge is even greater when dairy operations are using sand bedding. Options for removing sediment from both our door and below barn lagoons are available. Complete agitation while pumping can help greatly with sediment but be cautious of harm gas to livestock and humans that may be produced. With outdoor lagoons the occasional use of an agitation boat can help bring sediment into solution that conventional agitators cannot reach. Some lagoon treatments also help break organic solids down and keep them in solution with the liquids in the lagoon. Many producers have seen these improve the number of gallons they can remove from under barn lagoons.

Many farms have also slowly grown the number of animals on the farm since there lagoon was built. Along with capturing more surface water to better protect the environment. This all leads to more challenges with lagoons being fuller than you wanted each spring.

Manure produced by livestock species		
Species	Gallons per day	Gallons per year
Lactating cow	18.7	6,825
Bred Heifer	6.95	2,536
Beef Finishing	6.46	2,358
Swine nursery	0.37	135
Swine finishing	1.31	478

Options for increased storage

1. Based on the changes in weather and increased livestock on your operation you may want to consider either expanding your current lagoon or digging an additional lagoon. Before constructing additional manure, storage be sure to talk to your local soil and water conservation office. They can help engineer your manure storage structure and may have funding available through NRCS to help offset the cost of your additional manure storage.
2. Very similar to option one is to build a satellite pond close to some of your other crop land to increase your storage capacity. This satellite pond will save you road time, to improve efficiencies when weather conditions allow you to land apply manure.
3. Contract with dairy or swine facilities who have gone out of business but still have lagoons to take your extra manure. There are many variations of this, but often the livestock owner gives the manure away and pays transport cost to this storage structure. The owner of the storage structure then pays the manure application cost.

Options for increased application window

1. Apply manure to hay fields between cuttings but be cautious of the possibility of spreading John's disease to young stock if the forage is feed to anything except cows.
2. Find opportunities to keep small grains or a mix of annual forages in the rotation. This will allow you to have alternative application windows but will only alleviate the problem if you are having issues emptying lagoons in the fall.
3. Apply manure to newly planted corn or emerged corn through the V4 growth stage using a dragline system. This window also helps improve manure nitrogen utilization.
4. Utilize a mix of application equipment. While it is often more economically efficient to hire a custom operator, owning equipment to haul a portion of your manure close to the barn can help alleviate this pressure. During the first dry window each spring you can haul some of your manure until the custom operator arrives.

As weather conditions continue to change and livestock numbers grow on your operation so does your need for increased manure storage. Planning now for the future is the only way to not have sleepless nights every spring. Each option will come with its own cost but will also save you many headaches and sleepless nights in the years to come. While on many farms today it is not the best time for a large financial layout overflowing lagoons can cause even greater financial harm.

Author(s):

Aaron Wilson, Glen Arnold, CCA, Jason Hartschuh, CCA

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.

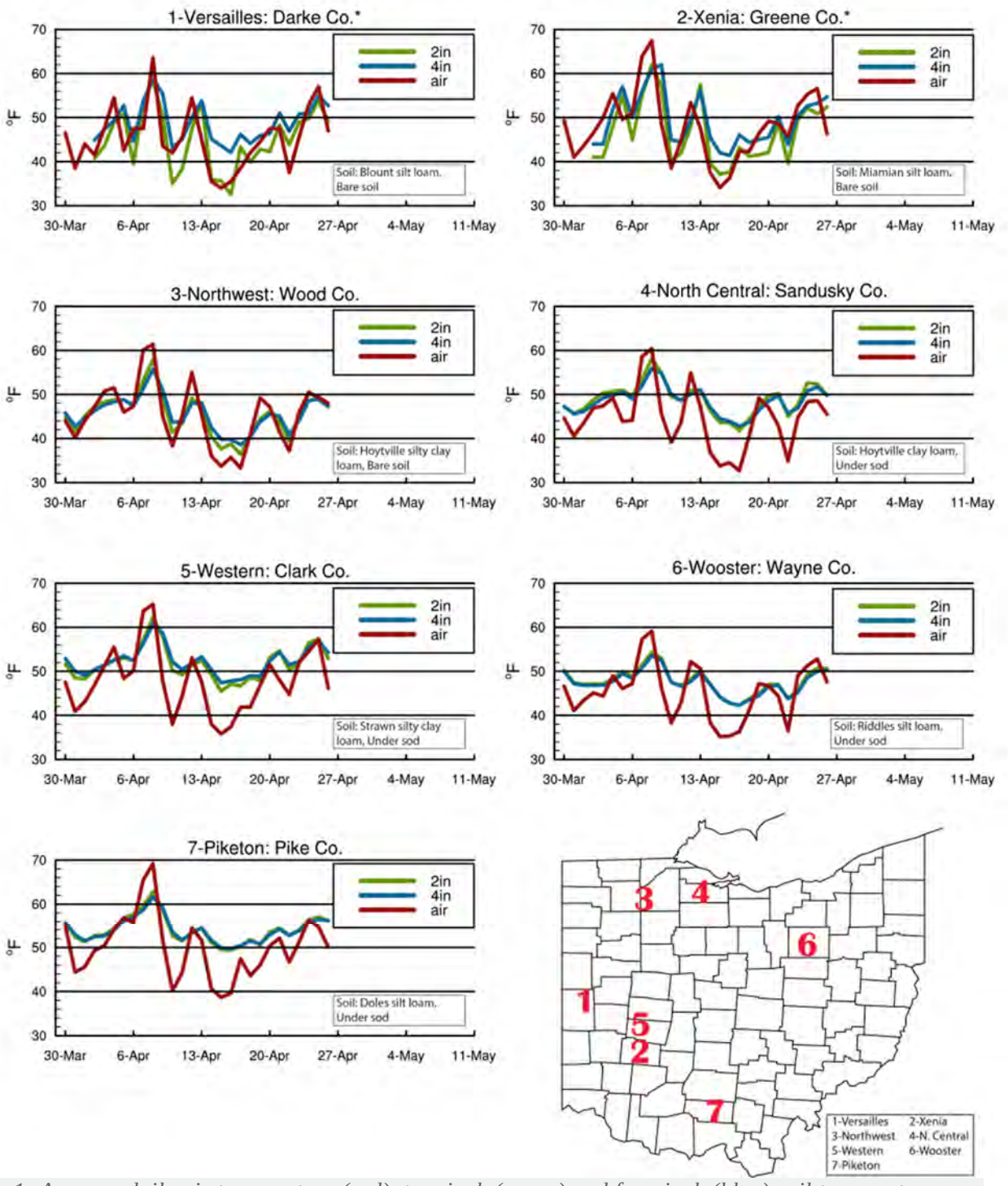


Figure 1: Average daily air temperature (red), two-inch (green) and four-inch (blue) soil temperatures for spring 2020. Soil type and placement are provided for each location. Map of locations provided in the bottom right. Soil temperatures are minimum temperatures for Versailles and Xenia and daily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

Figure 1 shows that two- and four-inch soil temperatures have modestly warmed over the last week despite average air temperatures still running 2-10°F below average for this time of year. However, as the sun angle continues to increase, near surface soil temperatures are responding well. In general, average soil temperatures climbed about 10°F over the last week, into the upper 40s at Northwestern to Wooster and into the mid to upper 50s across the southern stations (Western to Piketon). Despite rain in the forecast this week, highs are expected to remain in the 50s and 60s with overnight lows in the 40s (no widespread freezing temperatures expected). Warmer conditions for the weekend should result in soil temperatures continuing to warm throughout the period.

Figure 2 (left) shows a wide range in precipitation over the past week (through Sunday 04/26/2020 – 8am), with only 0.10" falling in parts of Fulton, Henry, and Wood Counties to 2" in a few southern locations. With precipitation on the light side the last couple of weeks across Northwest Ohio, calculated soil moisture has fallen there, with some locations now depicting less than the 80th percentile (Figure 2 – right). Very wet conditions remain across the eastern half of Ohio.

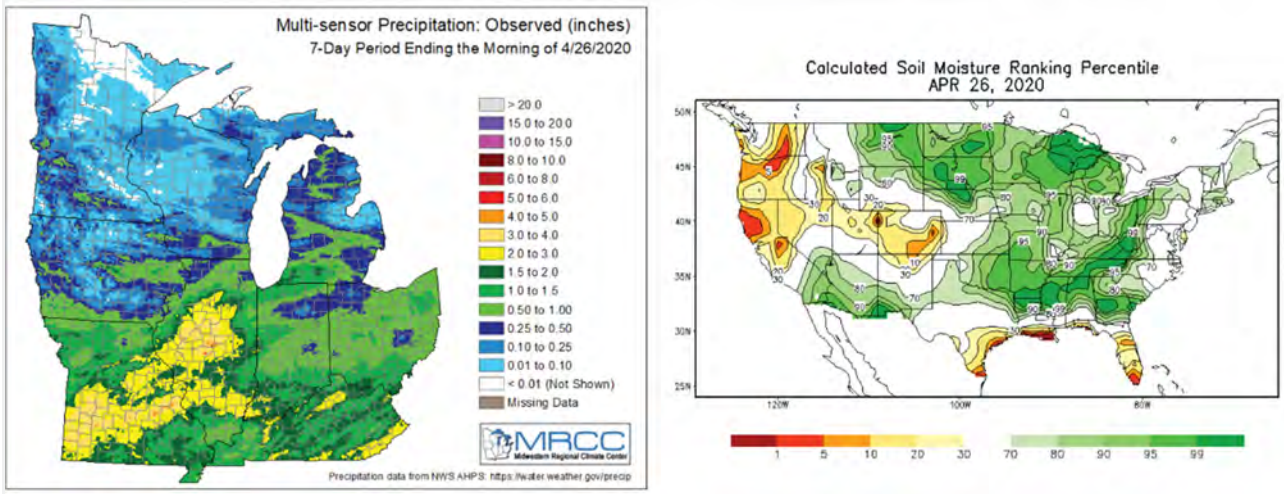


Figure 2: (Left) Precipitation estimates for the last 7 days ending on 4/20/2020. Figure provided by the Midwest Regional Climate Center (https://www.mrcc.illinois.edu). (Right) Calculated soil moisture ranking percentile for April 19, 2020 provided by NOAA's Climate Prediction Center (https://www.cpc.noa.gov/).

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

Author(s):
Aaron Wilson, Greg LaBarge, CPAg/CCA, Elizabeth Hawkins, Sam Custer

Corn Planting and Pollinators: Research Update

Honeybees on frame of comb. Photo credit: Amanda Bennett

The winter of 2019-2020 was relatively mild in both temperature and harmful effects on Ohio's honey bee colonies. While many beekeepers have experienced a normal (30-40%) die-off since last October, many of the colonies that made it through the winter look particularly robust. The colonies we manage at Waterman Farm and near Farm Science Review are bursting with bees and raising new queens in anticipation of swarming over the next few weeks.

While colonies appear to be doing well, beekeepers continue to be worried that their bees' success could be compromised by exposure to insecticidal dust produced during corn planting. Research at apiaries in corn growing areas west of Columbus demonstrated that honey bees can be exposed to high levels of the neonicotinoid insecticides that constitute much of the seed coating. This occurs as seeds rub against each other during handling and planting to generate a fine dust that is emitted along with air in pneumatic planters. Both dust generated during planting and the dust left behind in the planter contain high levels of insecticide and may kill bees if they encounter it. Studies conducted in 2013-2015 showed a substantial increase in the number of dead bees ejected from colonies during corn planting. A follow-up study, conducted in 2019, showed that bees were exposed to much less corn seed treatment insecticide in that year and fewer honey bees died while corn planting activity was occurring. Whether this improvement in 2019 is due to better seed treatment application, new seed lubricants, or the very extended planting season that occurred in 2019 is an open question.

While technological innovation and luck undoubtedly play a role in reducing bee exposure to corn seed treatment insecticides during planting, there are a few simple things that can be done to further reduce honey bee exposure 1) starting with clean and weed-free fields that are uninteresting to honey bees; 2) following recommendations for using talc or other seed lubricants; 3) following proper planter clean-out and disposal procedures when finished to minimize escape of seed treatment dust. More advice on protecting bees during corn planting and throughout the year can be found in the "Best Management Practices for Pollinator Protection in Field Corn" (https://honeybeehealthcoalition.org/cornbmps/) published by the National Corn Growers Association and the Honey Bee Health Coalition.

Author(s):
Reed Johnson, Chia Lin, Kelley Tilmon, Andy Michel

Why should you calibrate your sprayer, and how?

Photo credit: Erdal Ozkan

This is the time to check the accuracy of your sprayer. While applying too little pesticide may result in ineffective pest control, too much pesticide wastes money, may damage the crop and increases the potential risk of contaminating ground water and environment. The primary goal with calibration is to determine the actual rate of application in gallons per acre, then to make adjustments if the difference between the actual rate and the intended rate is greater or less than 5% of the intended rate. This is a recommended guideline by USEPA and USDA.

I get this question all the time: “Why should I calibrate my sprayer? I have a rate controller on the sprayer. I just enter the application rate I want, the controller does the rest”. This statement is correct, only if you are sure about the accuracy of the rate controller which is highly affected by the accuracy of the sprayer travel speed data that goes in the rate controller. If the speed is determined by a sensor that measures the revolution of the tractor rear wheels, the travel speed calculated may not be accurate for several reasons: such as the tire pressure being low (causing a smaller tire rolling radius), or the ground conditions that may cause tire slippage (such as wet ground, or soft, sandy soil). So, it is always a good idea to do a manual calibration of the sprayer and compare the actual application rate with what is displayed on the rate controller. In addition, a rate controller may not pinpoint a plugged, or worn out nozzle on the boom. Overall, you may get the desired gal/acre application rate, but you may not have the uniform application across the boom unless you check all the nozzles individually. That is also a part of the calibration, as well as finding out the application rate. Clean all the plugged nozzles. Check the output of all the nozzles for a given length of time at a given spray pressure. Compare the measured output from each nozzle with the expected output of a brand new nozzle shown in the nozzle catalog for the same spray pressure. Replace the nozzles showing an output error of more than 10% of the output of the new nozzle. Once you do all this, now you are ready to calibrate your sprayer.

There are several ways to calibrate a sprayer. Regardless of which method you choose, it usually doesn’t take more than 30 minutes, and only three things are needed: a timer (or watch or smart phones) showing seconds, a measuring tape, and a jar graduated in ounces. Here, I will describe perhaps the easiest of all the methods to determine the actual application rate of a sprayer for broadcast applications:

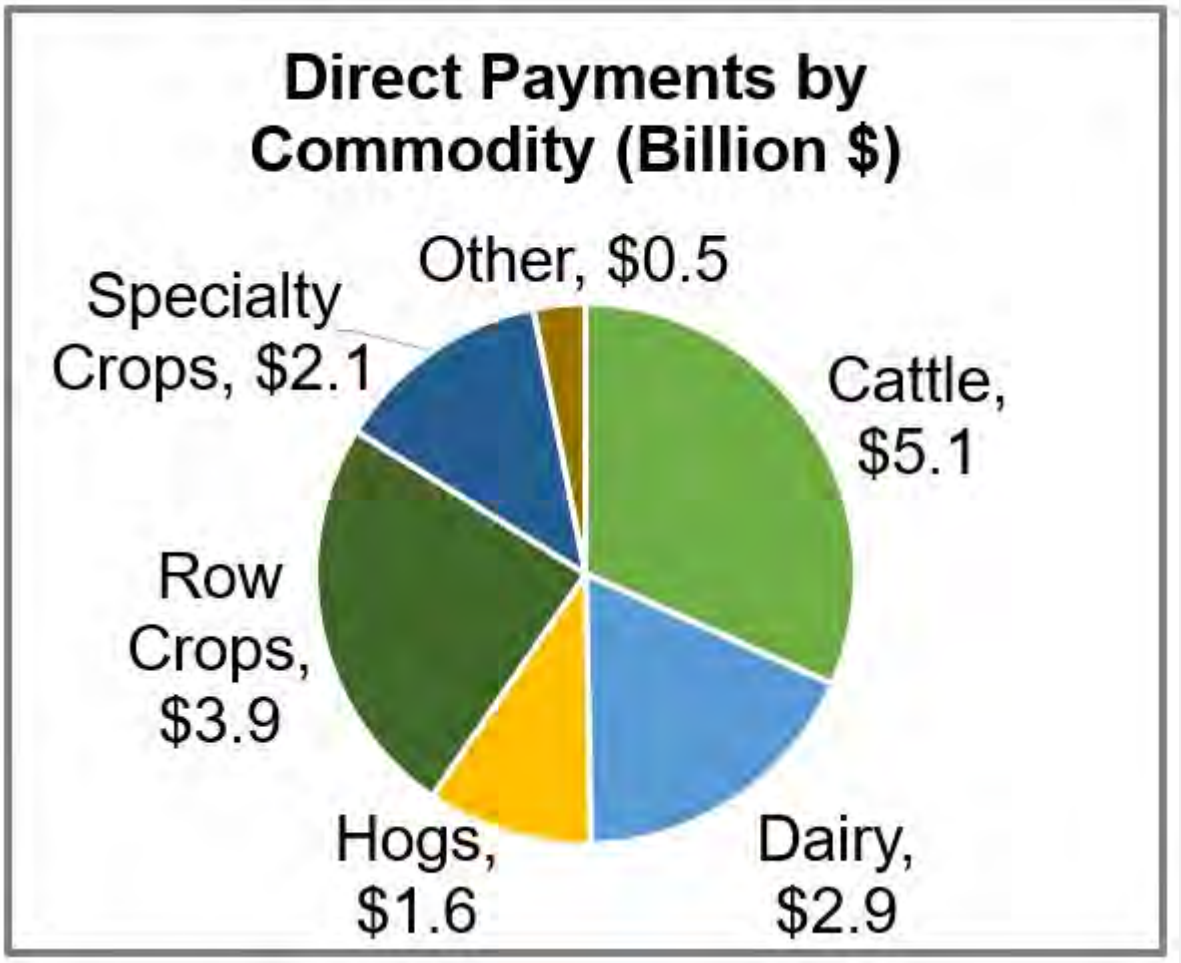
1. Fill the sprayer tank (at least half full) with water.
2. Run the sprayer, inspect it for leaks, and make sure all vital parts function properly.
3. Measure the distance in inches between the nozzles.
4. Measure an appropriate travel distance in the field based on this nozzle spacing. The appropriate distances for different nozzle spacing is as follows: 408 ft for a 10-inch spacing, 272 ft for a 15-inch spacing, 204 ft for 20-inch spacing, 136 feet for a 30-inch spacing, and 102 feet for a 40-inch spacing. (See extension publication **FABE-520** for travel distances for other spacings, and for an explanation for selection of these specific travel distances for given nozzle spacing (http://ohioline.osu.edu/factsheet/fabe-520)
5. Drive through the measured distance in the field at your normal spraying speed, and record the travel time in seconds. Repeat this procedure and average the two measurements.
6. With the sprayer parked, run the sprayer at the same pressure level and catch the output from each nozzle in a measuring jar for the travel time required in step 5 above.
7. Calculate the **average nozzle output** by adding the individual outputs and then dividing by the number of nozzles tested. The final average nozzle output in **ounces** you get is equal to the application rate in **gallons per acre**. For example, if you catch 15 ounces from a set of nozzles, the actual application rate of the sprayer is equal to 15 gallons per acre.
8. Compare the actual application rate with the recommended or intended rate. If the actual rate is more than 5 percent higher or lower than the recommended or intended rate, you must make adjustments in either spray pressure or travel speed or in both. For example, to increase the flow rate you will need to either slow down, or increase the spray pressure. The opposite is true when you need to reduce application rate. As you make these changes stay within proper and safe operating condition of the sprayer. Remember increased pressure will result in increasing the number of small, drift-prone droplets. Using the trial-and error method to eventually reach the intended application rate takes some time. If you follow the equations given in Extension Publication FABE-520 on Calibration you can find optimum travel speed and pressure much faster.
9. Recalibrate the sprayer (repeat steps 5-8 above) until the recommended application error of ±5% or less is achieved.

Don’t forget one very important thing while calibrating, and especially operating a sprayer: safety. Although clean water is used during calibration, you should still protect yourself from getting in contact with pesticides inside or outside sprayer equipment. Wear personal protective equipment, at least gloves and goggles. Happy spraying!

Author(s):
Erdal Ozkan

USDA Announces Coronavirus Food Assistance Program (CFAP)

On April 17, the preliminary details about the **Coronavirus Food Assistance Program (CFAP)** were released by the U.S. Department of Agriculture (USDA) program aimed to assist farmers, ranchers, and consumers in response to the COVID-19 pandemic. The CFAP provides $19 billion in funds authorized through the Coronavirus Aid, Relief, and Economic Security Act (CARES).



The $19 billion program includes two major elements. The first element is for **Direct Support to Farmers and Ranchers.** This program will provide $16 billion in direct support to farmers based on actual losses where prices and market supply chains have been impacted by COVID-19. The program will also assist producers with additional adjustment and marketing costs resulting from lost demand and short-term oversupply for the 2020 marketing year caused by COVID-19.
It has been reported, although not confirmed by the USDA, that in the direct support program, $5.1 billion will be allocated to support cattle producers, $3.9 billion for row crop producers, $2.9 billion for dairy, $2.1 for specialty crops, $1.6 billion for hog producers and $500 million for other commodities.

The Chairman of the Senate Agricultural Appropriations sub-committee has indicated the direct assistance to producers will be one payment comprised of the sum of two parts. The first part is 85% of the losses incurred between January 1 and April 15, 2020 per commodity. The second part will be 30% of the loss in market prices due to COVID-19 between April and the next two quarters. Secretary Perdue has expressed that payments are intended to be made by end of May or early June. To qualify for a payment, a commodity must have declined in price by at least 5% between January and April 15, 2020. While there are several entities illustrating price declines including The Ohio State University, the price series USDA will use to determine eligibility is uncertain. Federal payment limits apply, set at $125,000 per commodity with an overall limit of $250,000 per individual or entity. USDA has indicated that CFAP may take into consideration other farm program benefits regarding payment limitations, which could limit CFAP payments in the case a producer is receiving payments in other federal safety net programs. The exact

program limitations and qualifying support are unknown at the present time. The direct payment program will be administered by the Farm Service Agency. More details will be forthcoming by the Farm Service Agency in the upcoming weeks. Access more information at: https://www.fsa.usda.gov/

The remaining $3 billion dollars of the CFAP allocation will be used for a **USDA Purchase and Distribution** program. In this program, the USDA will partner with regional and local distributors to purchase $3 billion in fresh produce, dairy, and meat. The USDA will purchase an estimated $100 million per month in fresh fruits and vegetables, $100 million per month in a variety of dairy products, and $100 million per month in meat products. The distributors and wholesalers will then provide a pre-approved box of fresh produce, dairy, and meat products to food banks, community and faith-based organizations, and other non-profits to distribute. Monthly purchases totaling $300 million will continue until the funds are exhausted.

In addition to the **Coronavirus Food Assistance Program,** the USDA will utilize other available funding sources to purchase and distribute food to those in need. This includes an additional $873.3 million available in Section 32 funding to purchase a variety of agricultural products for distribution to food banks. The use of these funds will be determined by industry requests, USDA agricultural market analysis, and food bank needs.

Additionally, the FFCRA and CARES Act provided at least $850 million for food bank administrative costs and USDA food purchases, of which a minimum of $600 million will be designated for food purchases. The use of these funds will be determined by food bank need and product availability.

For all the information on USDA's work during the COVID-19 pandemic and resources available, visit https://www.usda.gov/coronavirus.

Author(s):
Ben Brown, David Marrison

Other Articles

Examining 2020 Corn and Soybean Acreage

By Ben Brown
Department of Agricultural, Environmental and Development Economics
The Ohio State University – 4/24/2020

Spring acreage decisions are of interest to analysts and producers across the country, as COVID-19 disrupts supply chains and raises questions of longer-term demand shifts. Analyst have interest on the supply for the 2020/21 marketing year, while producers weigh profitability and agronomic considerations. The

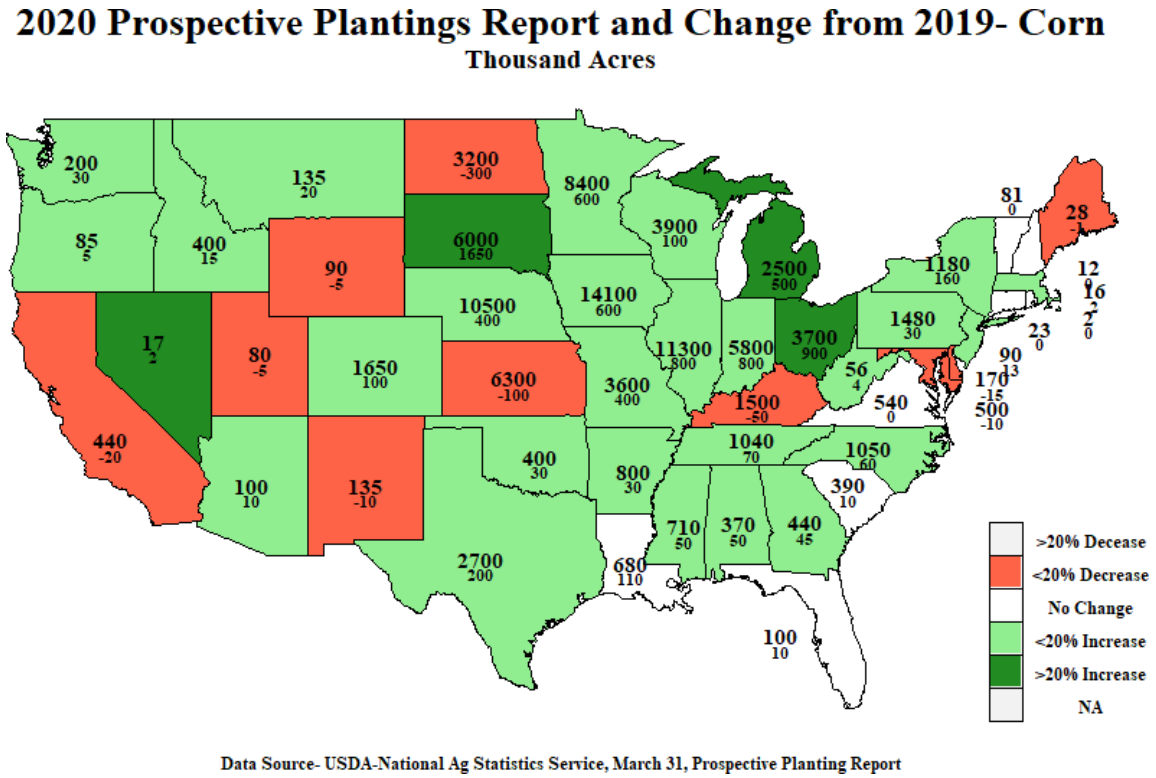
challenging part of the whole picture is that most alternative options are not any better than the first. Corn and soybeans compete for acres through most of the Corn-belt with cotton competing in the southern and southeastern portions, grain sorghum competing in the lower plains and small grains like spring wheat competing in the upper plains. Ohio does not have many large-scale alternatives outside of corn and soybeans due to growing conditions, access to end markets and specialized equipment limitations. Therefore, for most Ohio crop producers the options in randomized order are plant corn, plant soybeans, convert to forage or pasture, utilize prevented planting, Conservation Reserve Program (CRP) or to idle the ground to do capital improvements and prepare for winter wheat or barley. This article examines acreage intentions, local profitability, and the estimated national supply of corn and soybeans.

Planting Intentions

The National Agricultural Statistics Service (NASS) released the summary of the *Prospective Plantings Survey* conducted annually the first two weeks of March on March 31, 2020. The survey of the planting intentions of 80,000 farmers is reviewed for reasonableness at both the regional field office and at the national level for accuracy. The *Prospective Plantings Report* provides a summary of planting intentions at that point in time and because market and weather conditions change between early March and planting, the March report should not be used as actual producer intentions at planting, but a starting point. Principal acres of major crops were estimated at slightly over 319 million acres, a 16.5 million acre increase from the challenging 2019 growing season, but slightly down from 319.3 million acres in 2018. The increase in principal crop acres largely came from coarse grain crops: corn, grain sorghum, barley and oats all up from 2019, 8%, 11%, 7%, and 7% respectively. The growth in feed grain acres outside of corn increases competition for feed use at a time when the livestock sector is adjusting to COVID-19 disruptions.

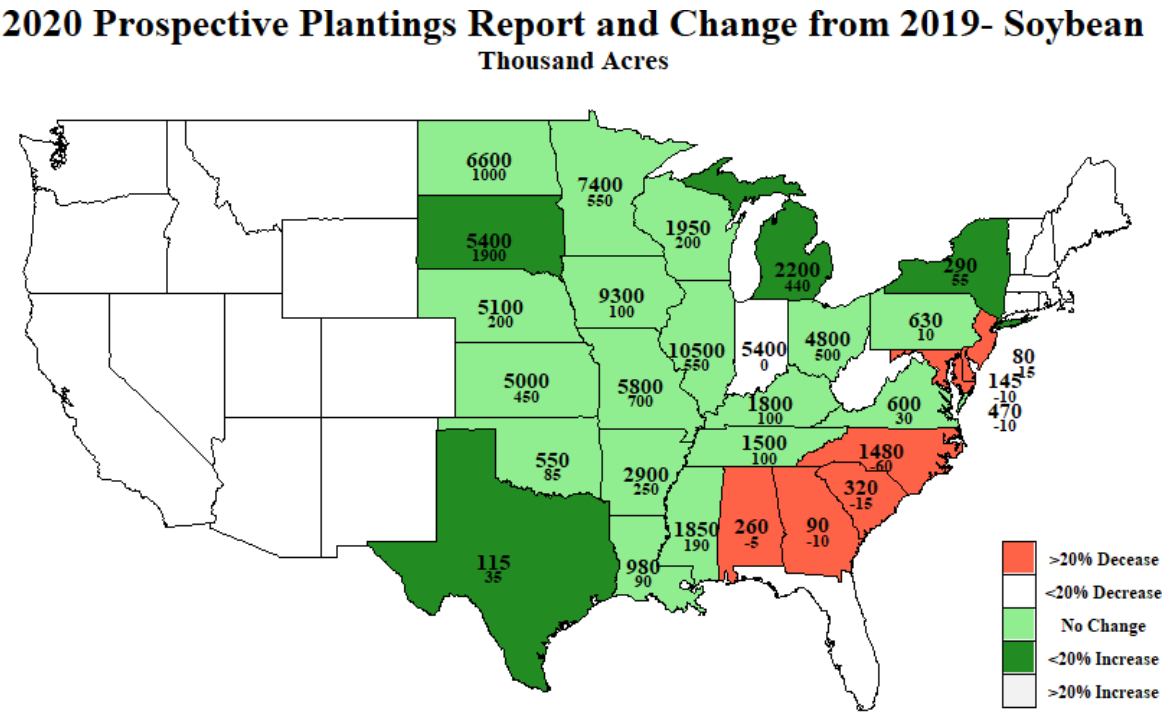
Crop producers indicated they intended to plant 96.99 million acres of corn and 83.5 million acres of soybeans. Figures 1 and 2 illustrate corn and soybean acreage intentions with percentage change from 2019 by state. States experiencing a greater than 20% increase in corn acres were states affected most by persistent rainfall in 2019 and large quantities of prevented planting acres. Almost all Corn-belt states indicated a 2020 soybean acre increase with Indiana being the exception matching their total from the prior year. Demand prospects for both crops are bearish for the upcoming marketing year. Ethanol is estimated to be down roughly 55 million bushels/week and soft international exports of soybeans are also trending down due to relatively cheap Brazilian soybeans. As mentioned in last weeks update, soybean crush had a historic March 2020, but the prospects of strong crush continuing depend on logistical issues in competing countries as a result of COVID-19. The price impact for both commodities in evident in the ratio of new crop soybeans (November 2020) to corn (December 2020) currently at 2.5:1 up from 2.4:1 when the survey was taken. The higher ratio encourages more soybean acres, but timing is crutial. Given producers likely applied pre-planting nutrients and purchased seed, a larger ratio is needed to move significant national acres from corn to soybeans. Analysts have suggested 95 million corn acres. Over the last 20 years, corn acres declined more than 2 million acres from the March *Prospective Planting Report* to the *Final Acreage Report* only once- 2019 when acres fell 3.1 million. Acres increased 3.1 million in 2007. However, there may be changes regionally due to local basis. In Ohio, when adjusting for changes in harvest basis the new crop ratio increased for soybeans to 2.68:1 on April 22 from 2.46:1 March 2. This strong increase would indicate there is potential for acres not already prepared for corn planting to shift to soybeans in Ohio.

Figure 1



Data Source- USDA-National Ag Statistics Service, March 31, Prospective Planting Report

Figure 2



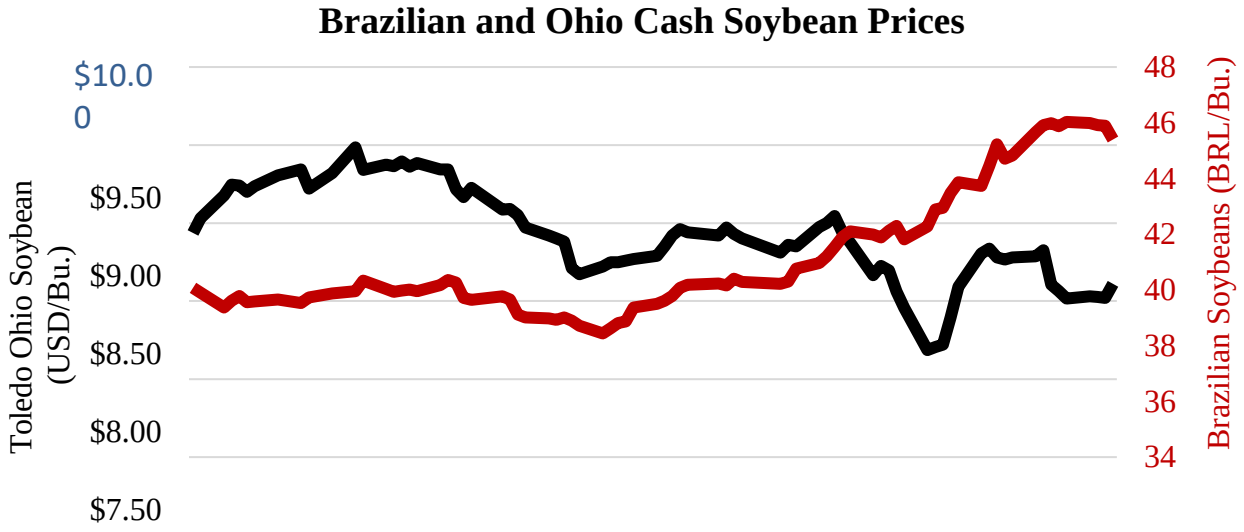
Data Source- USDA-National Ag Statistics Service, March 31, Prospective Planting Report

Estimated National Supply of Corn and Soybean

Under the above planting intentions and the current outlook for corn demand, a large US ending corn supply appears imminent. With a historical relationship of harvested corn acreage to planted acres and a trendline yield of 178.5 bushel/acre this implies national production at 15.887 billion bushels- a new record. To match the record in 2016 at 15.148 billion with the same trend line yield, planted acreage would need to fall over 4 million acres. A reduction this large would require 0.3 million additional grain sorghum acres in Kansas, Oklahoma and Texas, increased spring wheat acres in the Upper Plains by about 1.2 million and close to 2.5 million acres switched to soybeans in the Eastern Corn-belt. While possible, this would still leave the US with a 17.4-billion-bushel supply which includes an expected increase in 2019/20 marketing year carryout. Under a scenario where the Safrinha crop in Brazil and the Black Sea region both have production declines due to drought, China increases purchases of US corn to meet its Phase 1 trade commitments and ethanol production returns to full capacity there is still roughly 2.3 billion bushels in 2020/21 carryout. This appears to be the best-case scenario for corn price with an average yield. A dry summer in the US reducing yields is an undesirable way to increase corn price. Under any scenario, the likelihood of a large US corn crop is likely with prices remaining below cost of production for many producers.

Any substantial reduction in corn acres is expected to increase soybean acres above the 83.510 million reported in the *Prospective Planting Report*. After a year of record soybean carryout built on decreased soybean exports in 2018/19 the drastically smaller than expected 2019 soybean crop of76.1 million acres reduced estimated 2019/20 soybean stocks to a manageable level. Increasing the soybean acres above the *Prospective Planting Report* by 2 million aces with a national trend line yield of 50.5 bushel/acre implies a 4.278-billion-bushel crop, the fourth largest on record. While domestic soybean crush has continued to set new monthly records and will likely increase year over year, US soybean exports continue to fall below the seasonal pace needed to reach the current USDA estimate of 1.775 billion bushels by 260 million bushels or 15%. Support for US exports in the current marketing year will likely need to come from China buying large quantities of US soybeans August through December. When looking at demand for the 2020/21 soybean crop one concern is the market signals Brazilian producers are receiving to expand soybean production and therefore exports. In last week's market outlook, it was discussed how currencies in Brazil and Argentina have fallen roughly 30% compared to the US dollar. This decreases the incentive to buy US products in the short-term, but since commodities in South America are based off the Chicago Board of Trade, the decreased currency rate also encourages Brazilian producers to lock in high prices and expand production in the long-term. Without stronger international demand, the US soybean crop at 83.5 million acres and supplies at 4.7 billion bushels appear adequate to reach $8.50 cash soybean prices for 2020/21.

Figure 3.

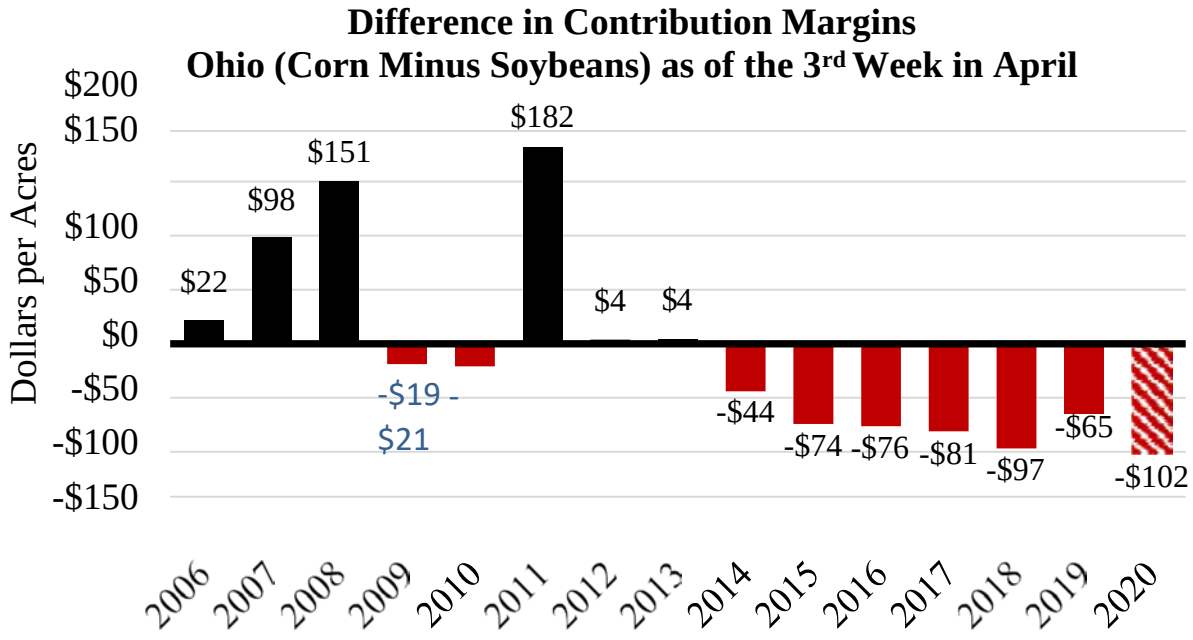


12/12/2019 1/12/2020 2/12/2020 3/12/2020

Production Cost Considerations

Examining relative prices is one part of estimating Ohio acreage adjustment from the *Prospective Planting Report*, with the second part being consideration of production costs for each commodity given expected prices at planting. Historically, when both corn and soybeans have had market prices in the early spring below estimated costs, preference has been given to soybeans due to lower variable costs. Corn is given preference when both crops show anticipated positive returns. Illustrated in Figure 4 is the difference in contribution margins between the two crops for west central Ohio cropland. The contribution margin is the difference between expected market revenue and total variable costs. To get expected market revenue the regional harvest basis bid was subtracted from the harvest futures price during the 3rd week of April for both commodities each year and multiplied by a 40-year trend yield. The variable costs are sourced from annual OSU Production Budgets produced by Barry Ward. This calculation represents what was known to producers directly before planting each year. Since 2014, soybeans have been favored to corn acres at planting. Crop insurance and government payments coupled to production have changed this relationship in final returns per acre in years of adversity, but that income support was unknown to producers at planting. Similarly, Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC) payments are not tied to production and therefore are not included. The difference in 2020 contribution margins is the strongest since corn was favored before the 2011 growing season at $102/acre.

Figure 4



Based on the March 1st *Grain Stocks Report* released by NASS on March 31, 2020 Ohio had roughly 44% of the 2019 corn production in on-farm storage and roughly 35% of the 2019 soybean production held on-farm. At these levels there was a significant decline in farm level working capital as Ohio cash prices declined due to COVID-19. It is estimated that $19.90/ acre in 2019 crop revenue has been lost since the beginning of March when adjusted for the percentage already sold. For a farm of 1,100 acres split 50/50 corn and soybeans this would result in a working capital decline of $21,890. This working capital would have likely been used to pay input costs related to the 2020 crop. Selling old crop corn and soybeans on the cash market currently is undesirable for most farms. Finding alternative ways to generate short-term working capital is anticipated. Interest costs have declined for operating loans and additional cost savings

can come from switching to soybean acers. However, even for soybeans the market conditions at this point in April are worse than the same point in recent years including 2018 when trade disputes negatively

THE OHIO STATE UNIVERSITY

Ohio State University Extension
Auglaize County
Top of Ohio EERA
208 South Blackhoof Street
Wapakoneta, OH 45895-1902

419-739-6580 Phone
419-739-6581 Fax
www.auglaize.osu.edu

impacted soybean prices before planting. Farmers may want to consider the potential of switching to soybeans and look to make new crop marketing sales.

Summary

The planting intentions reported by US producers during the first of March coupled with current demand prospects make a corn supply near 18 billion bushels likely during the 2020/21 marketing year. A large soybean increase near 5 billion bushels is also possible. Market conditions always change between the March *Planting Intentions Report* and when planting starts, with 2020 futures prices already accounting for lost demand and the potential of large supplies. A reduction in planted corn acres with increases to grain sorghum, spring wheat and soybeans is expected. The reduction is likely not going to be more than 2 million acres making the 2020 corn crop with expected yields a new record. Marketing conditions and financial considerations would support a sift to soybean acres in the Eastern Corn-belt and looking for opportunities to market new crop soybeans at current harvest prices. Little new crop corn marketing is happening, with the hope of short crops globally. As farmers know, a lot can happen between now and harvest, but market conditions suggest a continued deterioration of farm financial positions in 2020.

References

Brown, B. *"The March 2020 Soybean Crush Report is One for the Record Books."* Ohio Ag Manager. The Ohio State University. April 24, 2020.
https://u.osu.edu/ohioagmanager/2020/04/17/the-march-2020-soybean-crush-report-is-one-for-the-record-books/

Cash Prices. ProphetX. DTN. April 23, 2020.

"Grain Stocks Report." National Agricultural Statistics Service. United States Department of Agriculture. March 31, 2020.
https://downloads.usda.library.cornell.edu/usda-esmis/files/xg94hp534/d217r7014/k643bk61s/grst0320.pdf

"*Prospective Planting Report."* National Agricultural Statistics Service. United States Department of Agriculture. March 31, 2020.
https://downloads.usda.library.cornell.edu/usda-esmis/files/x633f100h/zp38wx43m/bk128w44q/pspl0320.pdf

Ward, B. *"OSU Farm Budgets."* Farm Office. The Ohio State University Farm Office. April 23, 2020.
https://farmoffice.osu.edu/farm-mgt-tools/farm-budgets

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