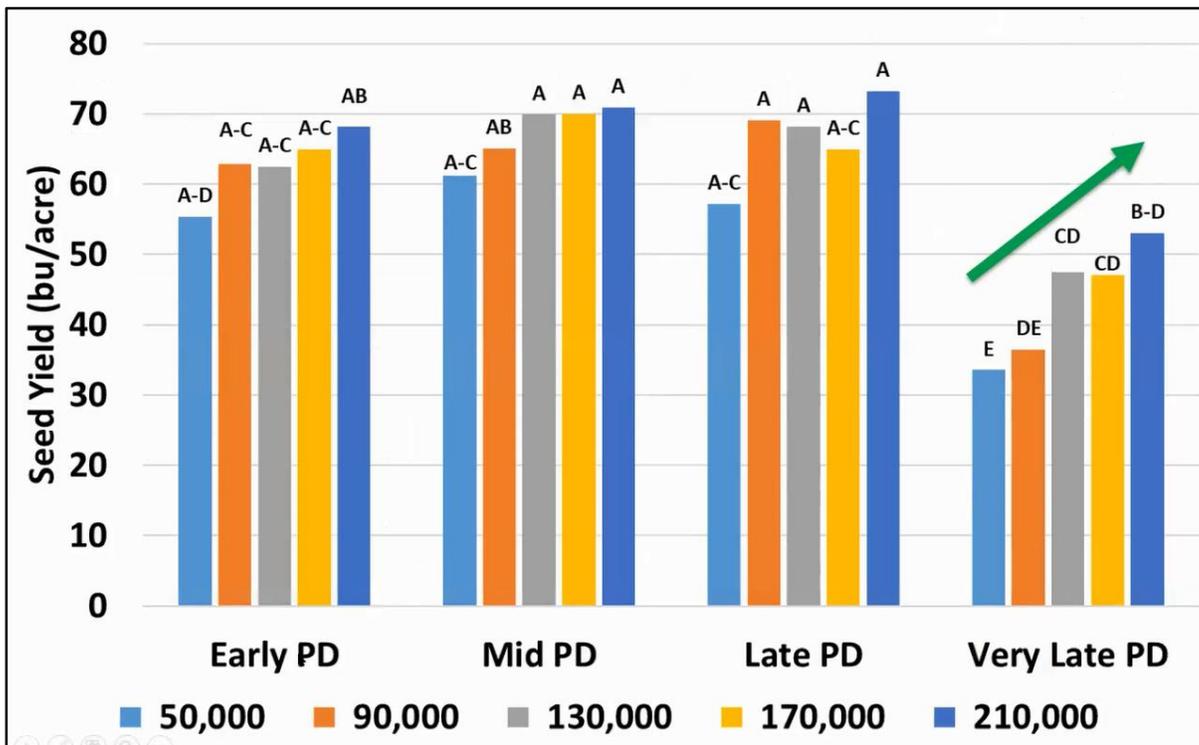


Southwest Michigan Field Crops Updates
May 3, 2019

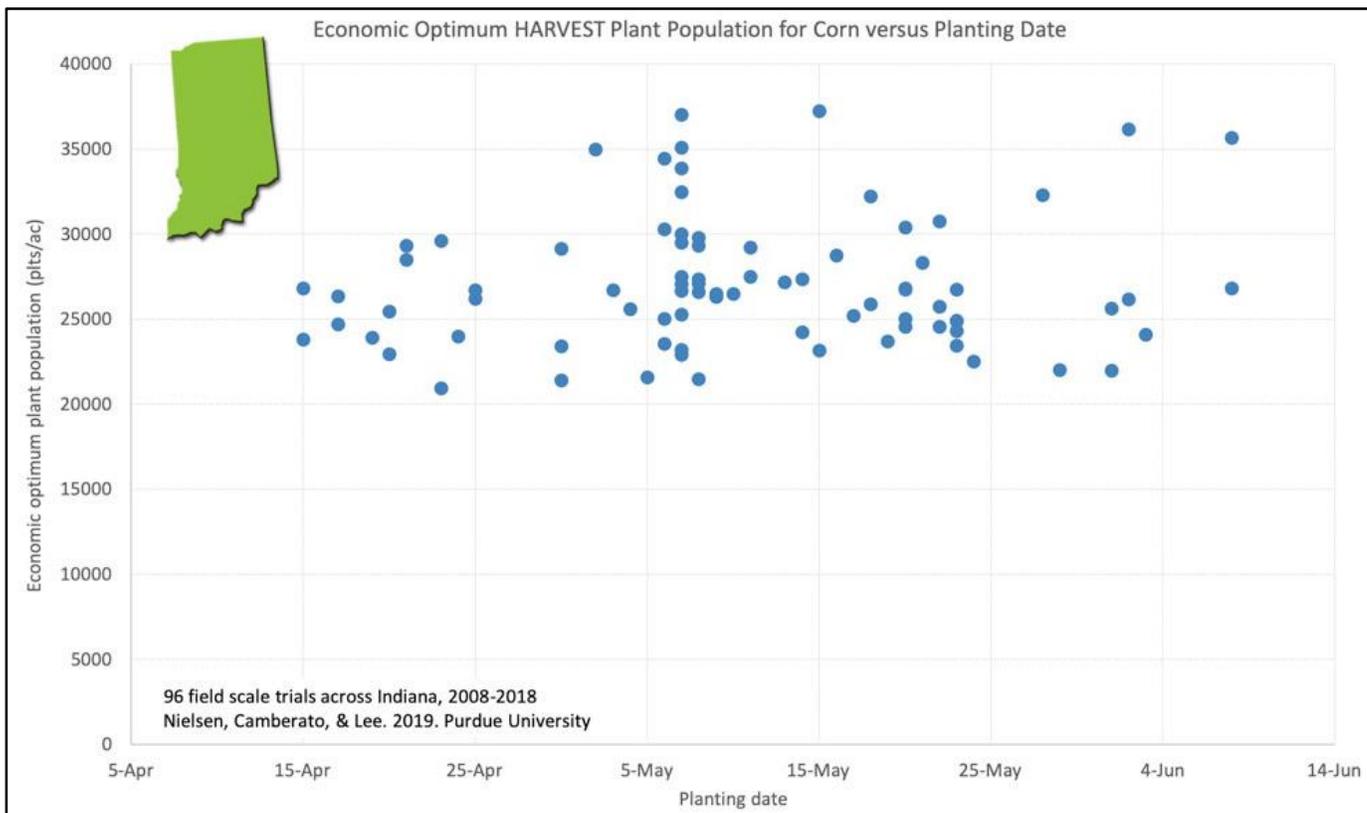
Here are updates from the MSU Extension Field Crops team in Southwest Michigan. If you have any items you would like me to include in future email updates - whether events you want others to know about or topics you would like to have addressed - please send me an email or call the office.

Do you need to up your seeding rates with a later planting date?

With wet and still relatively cool soil conditions this week and likely next week (see the weather outlook below), the question arises of whether seeding rates for corn and soybean need to be adjusted. In 2017 research trials on soybean, MSU cropping systems agronomist Manni Singh found that there was no yield advantage with increased seeding rates when planting in May (Mid and Late PD). The Very Late planting date was mid-June, and he did see a response to higher planting rates then. In corn, [Purdue's corn agronomist Bob Nielsen showed](#) that there was no trend toward higher yields with higher seeding rates at any time during the planting season based on 95+ field-scale trials over the past decade in Indiana. He noted that other researchers from surrounding states have found similar results. The only caveat he added was that waiting until soils were warmer typically results in quicker and more even emergence, so seeding rates could be lowered slightly when planting later. It is interesting to note that with both crops, economically optimal populations are lower than many farmers would suspect. Nielsen found that the economically optimal at-harvest plant population in corn is below 30k/ac. The Michigan Soybean Promotion Committee's [Soybean Management and Research Technology \(SMaRT\) trials](#) with planting rate have shown the highest economic returns were achieved with a seeding rate of 100k over the past four years. The short answer to the initial question is that, with all other factors equal, seeding rates do not need to be changed with May or early June planting.



Results of 2017 MSU soybean seeding rate and planting date trial. Bars with the same letter could not be shown to be statistically different even though the absolute yield averages differed. Graphic courtesy of Manni Singh.



Economic optimum at-harvest plant population in corn as shown by 96 field-scale trials in Indiana. Graph courtesy of Bob Nielsen, Purdue University.

Potato Disease Videos Available

Educational videos were developed in partnership with the [Michigan Potato Industry Commission](#) (MPIC), [Michigan Seed Potato Association](#), [Michigan State University AgBio Research](#), and [MSU Extension](#). The video is part of a series to provide information on how to better manage diseases of potato caused by soft rot bacteria supported by the [United States Department of Agriculture National Institute of Food and Agriculture](#), MSU Extension, MPIC, MSU Project GREEN, MSU AgBioResearch and MSU Extension.

For more information on disease symptoms, disease cycle and post-harvest management strategies, refer to the MSU Extension bulletin E-3335, "[Tuber Soft Rot, Blackleg and Aerial Stem Rot](#)".

Follow Noah Rosenzweig on Twitter [@PureMIPlantPath](#) for information on potato disease management.

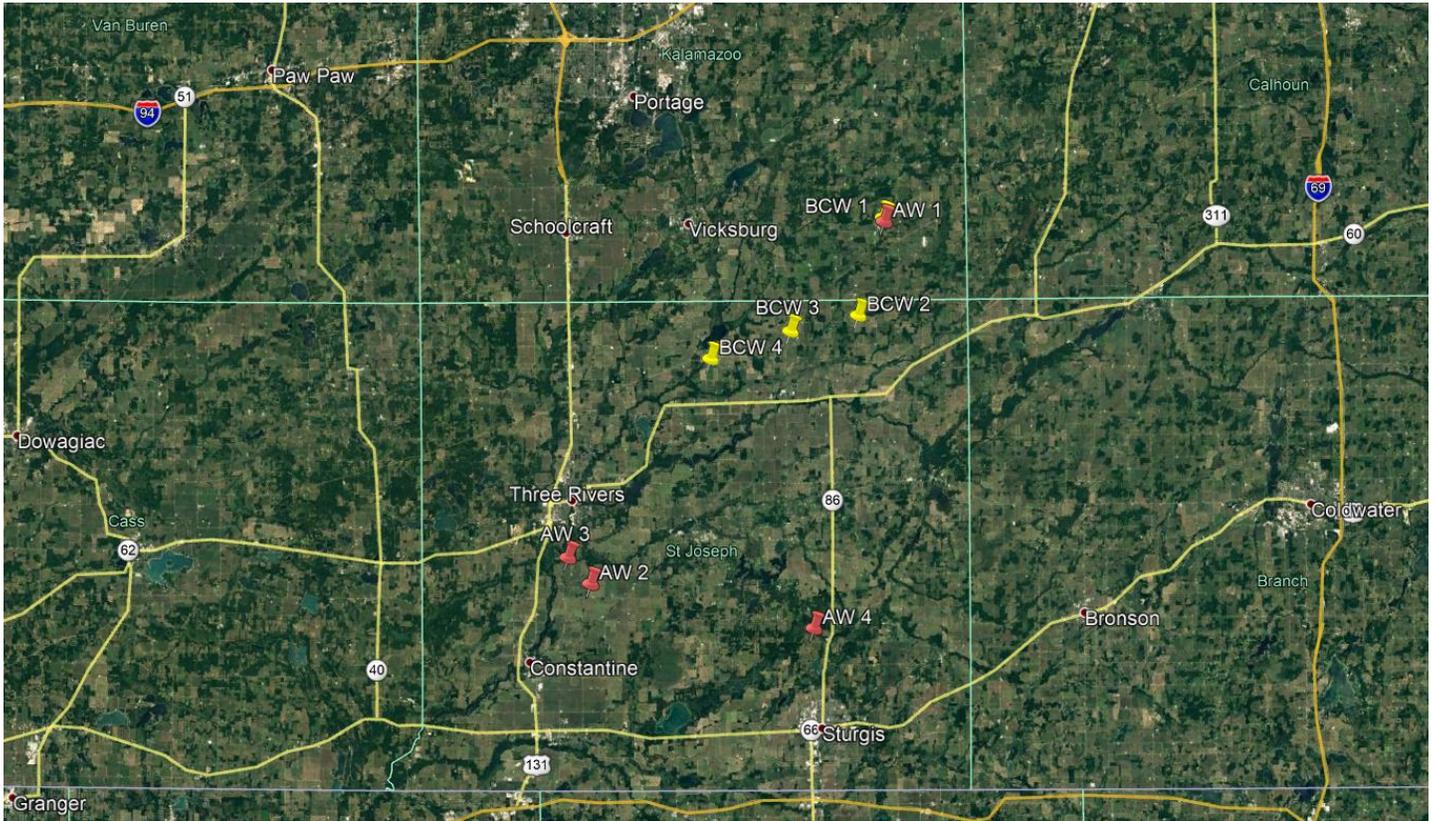
- [Potato Disease Overview](#)
- [Potato Disease Management: Planting](#)
- [Potato Disease Management: Growing Season](#)
- [Potato Disease Management: Harvest/Storage](#)

MDARD Launches Industrial Hemp Pilot Program for 2019

The 2018 Farm Bill legalized production of industrial hemp at the federal level, causing a massive wave of interest in growing hemp in 2019. However, since the USDA will not be releasing its regulatory guidelines until this fall, all production in the US must be done under provisions made in the 2014 Farm Bill. According to the language in the 2014 Farm Bill, an agricultural pilot program should "study the growth, cultivation, or marketing of industrial hemp." The legislation also limits research to "institutions of higher education and State departments of agriculture". However, the research can be conducted on farms and at processing facilities that are registered with and certified by MDARD, making it possible for privately owned farms to participate in the pilot program. On April 18, 2019, MDARD announced its launch of an industrial hemp agricultural pilot program for MI for the 2019 growing season. If you have any questions about the status of hemp in MI, [a recent article summarizes this](#), and I would be happy to field your questions as well.

2019 Moth Trapping Season Underway

This past week, I set traps for true armyworm (AW) and black cutworm (BCW) in St. Joseph and southern Kalamazoo Counties. Catches in Indiana's northern tier of counties for BCW are still mostly in the single digits with a couple of exceptions while AW counts have reached over 300 per week for Pinney (NW) and NEPAC (NE). I will be monitoring traps weekly and reporting counts and peak flight time for both species. Reminder: Purdue uses Hartstack traps while I use bucket traps so my numbers won't be nearly as high as theirs, but we are looking for peak flight timing, not absolute numbers, in scouting and making management decisions.



Location of black cutworm (BCW, yellow pin) and true armyworm (AW, red pin) moth traps.

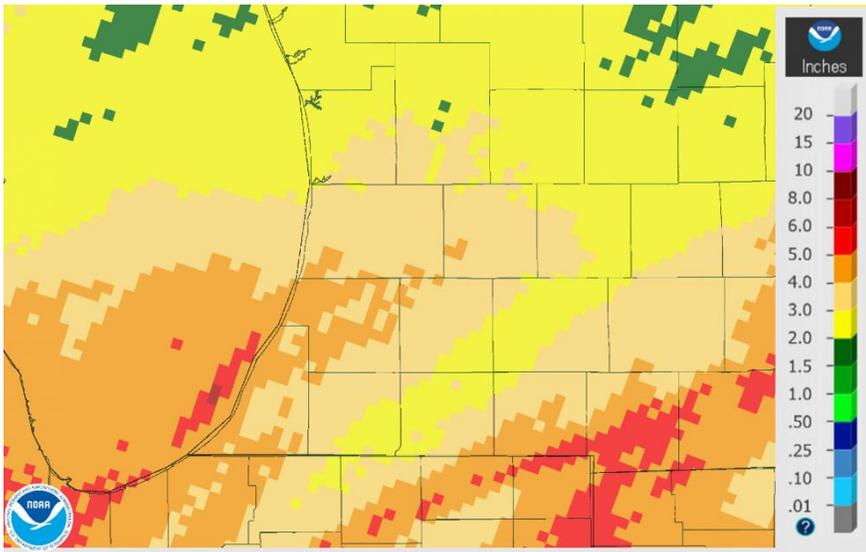
	Crop	Trap Set	3-May
AW	Wheat	26-Apr	64
	Wheat	26-Apr	8
	Grass pasture	3-May	-
	Grass pasture	3-May	-
BCW	Alfalfa	26-Apr	0
	Grass/alfalfa mix	26-Apr	4
	Pasture w/ dandelion	26-Apr	1
	Alfalfa	30-Apr	1

Moth trap counts for true armyworm (AW) and black cutworm (BCW).

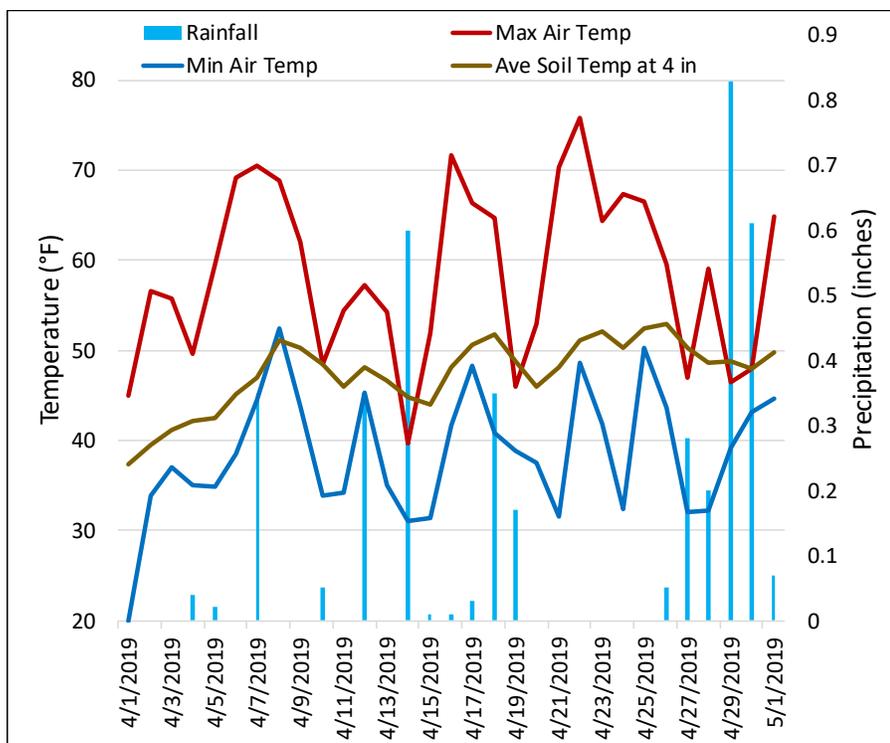
Weather and Crop Update

The obvious factor thus far this season has been wet conditions. The March–April period was 125–200% wetter than normal in the southwest region. Just in the last two weeks, most areas received 2–4” of water equivalent with some areas toward the east and along Lake Michigan received 4–6”. This past week we saw almost daily low-pressure systems track through Michigan dropping 2–3” of rain in most areas. With some of that precipitation falling as snow last weekend and air temps being cooler than normal, soil temperatures have once again fallen below 50°. We are still roughly a week behind on heat units (base 50), but we are about a week ahead of where we were last year.

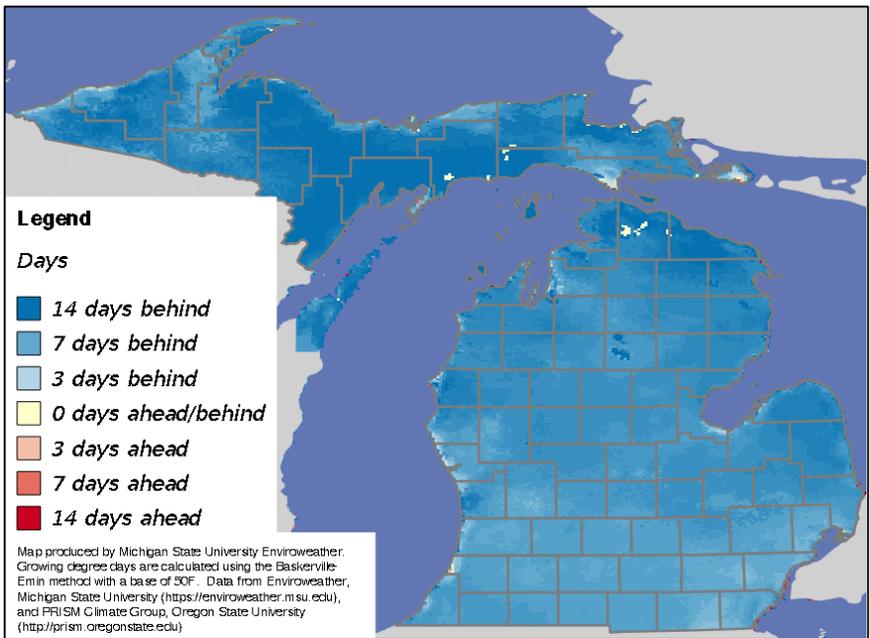
Unfortunately, there will be a return to the pattern of multiple low-pressure systems starting the middle of next week resulting in a predicted 1.5–2” additional rainfall. The National Weather Service outlook for early- to mid-May calls for cooler and wetter than normal conditions. This means getting weeds and cover crops controlled, fertilizers spread, and fields prepped and planted will be challenging this month with a compressed window.



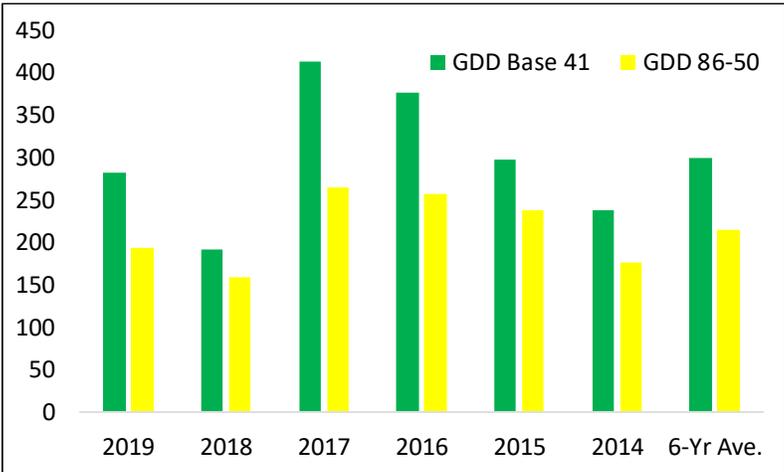
Precipitation totals for 14 days ending May 1, 2019.



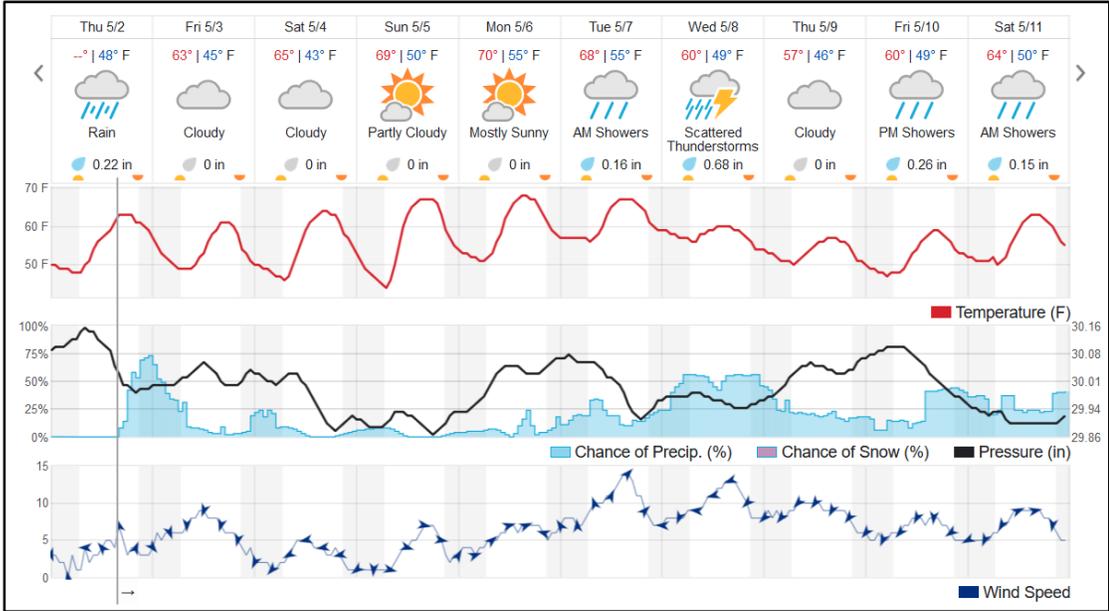
Air and soil temperatures and precipitation totals in April 2019 for the Mendon Enviroweather station.



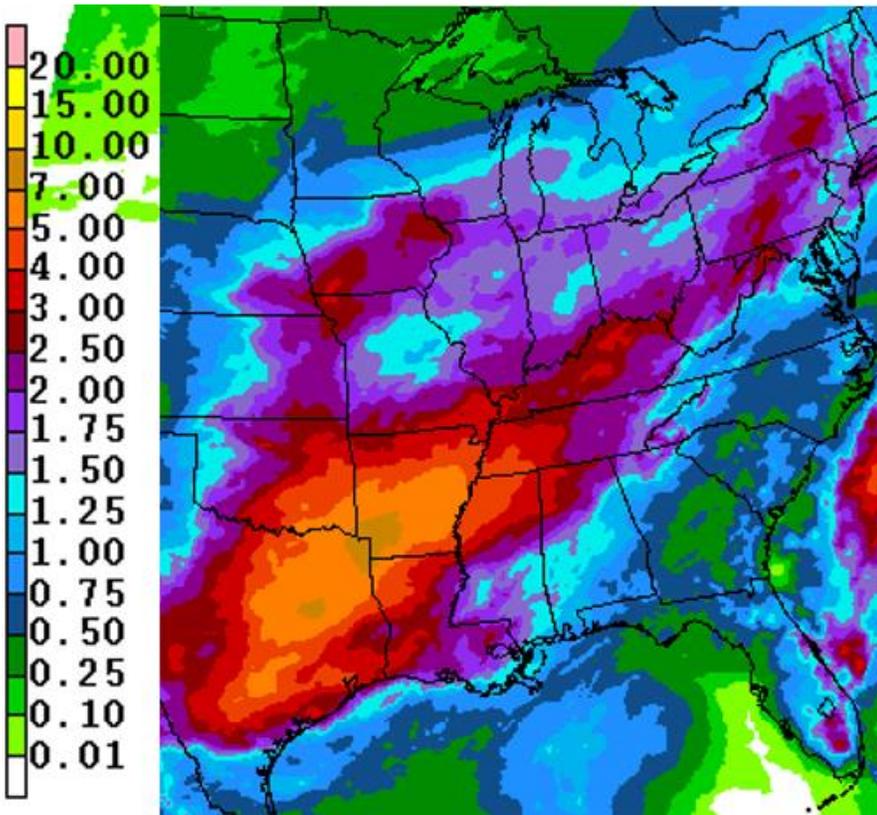
Growing degree day accumulation compared with normal, March 1 through May 1, 2019.



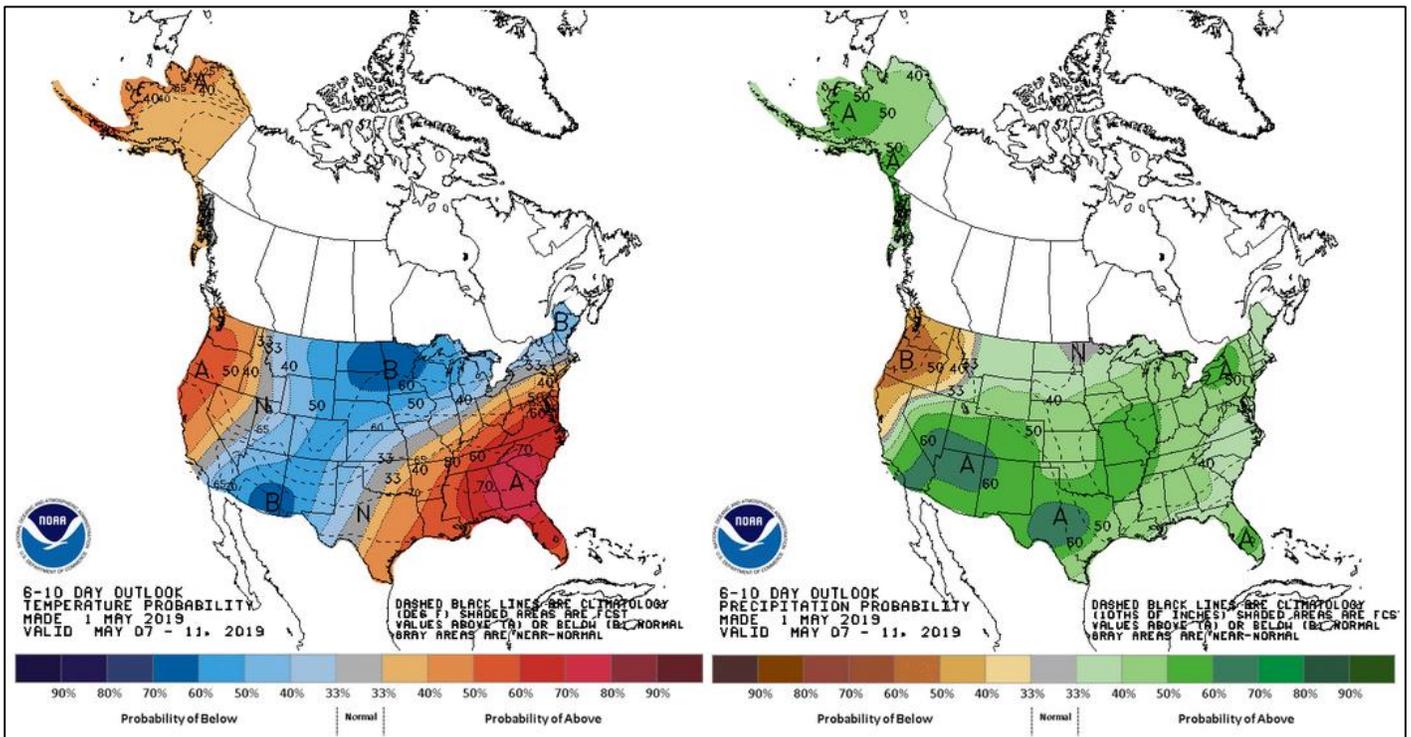
Growing degree day accumulation since March 1, 2019 at the Enviroweather station in Kalamazoo as of May 2.



The 10-day forecast for Centreville according to wunderground.com.



Forecast for precipitation totals for the week of May 3-10, 2019.



National Weather Service 6-10 day outlook (May 7-11) for temperature (left) and precipitation (right). The darker the color, the greater the chances of cooler and wetter than normal conditions. The 8-14 day outlook is similar.

[Iowa State University Cropping Systems Specialist Dr. Mark Licht wrote in a recent article that water imbibed by the seed during the first 24 hours is the most critical to seedling injury.](#) Dr. Licht reports that severe imbibitional chilling can result in seed death, ‘corkscrewing’ of the mesocotyl, and leafing out underground as well as surviving seedlings having reduced seedling vigor. Bob Nielsen posted a [thorough explanation for reasons for poor corn emergence](#) along with numerous pictures of corn seedlings that had problems emerging. Given the level of soil moisture that was present during the last

week of April, it would seem that most fields planted by the middle of last week hopefully imbibed soil moisture enough to avoid significant injury. However, planting done last Saturday right before snow fell is more at risk. Temperatures recovered nicely into the 50's quickly on Sunday afternoon, which may have helped minimize further effect of chilling injury.

Bruce MacKellar says that alfalfa weevil tip feeding has begun in hay fields. This pest can be quite destructive if high populations develop early before first cutting. The Enviroweather site provides modeling for this pest under the field crops, then alfalfa management tabs for each weather station. Treatment thresholds are reached when 40% of plants are showing tip feeding, live larvae are present, and you will not be able to harvest within six to seven days. Harvesting earlier is the preferred way of dealing with the pest, if possible, because it saves the cost of the insecticide application and can help preserve biological control organisms.



First signs of leaf tip feeding for alfalfa weevil near Paw Paw, MI on May 2nd, 2019. Photo courtesy of Bruce MacKellar.

Calendar

Titles are clickable links to online content when highlighted and underlined

- May 4** [St. Joseph CD Golf Scramble](#). 9:30 AM shotgun start. St. Joe Valley Golf Club. \$60/person. For more information call (269) 467-6336 Ext. 5.
- May 9** [Field Crops Virtual Breakfast Free Webinar](#). Thursdays 7:00-7:30 AM. This week: "Early Season Soil Fertility" with Dr. Kurt Steinke. Join via computer or mobile device (audio and video, <https://msu.zoom.us/j/552324349>) or by phone (audio only, **669-900-6833** and enter meeting ID **552-324-349**). To receive a weekly reminder of the Virtual Breakfast, sign up at <http://eepurl.com/gm-PIv>
- May 17** [MFP Deadline Extended](#). Market Facilitation Program deadline extended.

May 21 **Educational Industrial Hemp Seminar.** 8:30am-4:00pm. SWMREC Conference Center, 1791 Hillandale Rd, Benton Harbor, MI. The Berrien Conservation District and MSU Extension are cohosting a seminar on industrial hemp. Cost is \$35 including lunch. Register online at the above link.

MSU Extension Digest Briefs

Southwest Michigan field crop update – May 2, 2019

PUBLISHED ON MAY 2, 2019

Ready, set...wet! The 2019 field season was just about to get rolling when wet snow and heavy rains brought agricultural operations to a quick standstill.

Evaluating wheat stands and spring management

PUBLISHED ON MAY 2, 2019

Scout wheat fields now to make proper management decisions.

2019 status of herbicide-resistant weeds in Michigan

PUBLISHED ON MAY 1, 2019

PPO inhibitor (Group 14) herbicide resistance in Palmer amaranth was confirmed in 2018 as other herbicide resistance issues continue to spread.

Field Crops Virtual Breakfast on May 9 focuses on early-season soil fertility

PUBLISHED ON MAY 1, 2019

MSU Extension's Field Crop Virtual Breakfast continues May 9 with a discussion on early-season soil fertility with Kurt Steinke.

Growing or processing industrial hemp? Here's how to register.

PUBLISHED ON APRIL 25, 2019

The Michigan Department of Agriculture and Rural Development has released guidelines for registering to grow, handle, process and market the crop. This article will help you through the process.

Taking a closer look at soybean nutrient applications

PUBLISHED ON APRIL 25, 2019

Can seeding rates influence the likelihood of a nutrient response?

Michigan cover crop acreage increases 54 percent in five years

PUBLISHED ON APRIL 25, 2019

Cover crop acreage is growing in Michigan, with 673,205 acres planted in 2017.

Herbicide options for weed control in winter wheat

PUBLISHED ON APRIL 24, 2019

Timely herbicide applications are important for weed control in winter wheat.

Early-season weed control is important

PUBLISHED ON APRIL 24, 2019

Not starting with a clean field can reduce yields.

Soil temperatures and planting timing – Part 1 of 3: Optimal soil temperature for planting

PUBLISHED ON APRIL 18, 2019

Timing for planting corn and other field crops is based in part on when soil temperatures are optimal for seed germination and seedling emergence.

Soil temperatures and planting timing – Part 2 of 3: Tracking soil temperature trends

PUBLISHED ON APRIL 19, 2019

A look at soil temperatures in Michigan in the last 10 years gives a glimpse into when soils typically reach optimum levels for seedling emergence.

Soil temperatures and planting timing – Part 3 of 3: Testing Enviroweather data

PUBLISHED ON APRIL 19, 2019

The Enviroweather network of weather stations provides current and historical weather and soil data for nearly 100 sites within Michigan and northern Wisconsin—but how well do they represent conditions on your farm?

High sandhill crane populations? Don't overlook planter box treatment with Avipel.

PUBLISHED ON APRIL 18, 2019

Consider using the powder formulation of Avipel seed treatment for last-minute application in the planter box if you are dealing with a large sandhill crane population.

Reducing costs and improving profits for wheat growers

PUBLISHED ON APRIL 18, 2019

Follow these suggestions to reduce variable cash expenses for wheat production and add value to the enterprise or rotation.

Precision soil sampling: Every farm needs it!

PUBLISHED ON APRIL 18, 2019

MSU Agriculture Innovation Day session will focus on importance of soil sampling for proper management.

Benchmarking cornstalk nitrogen, soil phosphorus and health attributes on diverse cropping systems

PUBLISHED ON APRIL 15, 2019

Michigan State University Extension is seeking cooperating farmers in sampling 85-100 corn fields throughout Michigan looking at end of season cornstalk nitrogen and soil health characteristics in 2019-2021.

Managing multiple resistant pests in soybean fields

PUBLISHED ON APRIL 12, 2019

Rapidly spreading marestalk and soybean cyst nematode and sudden death syndrome problems are merging in some areas, limiting varietal selection options when looking for herbicide-resistant Peking varieties that deal with these pests.

Stand uniformity: Planter tips that can impact seed placement and planting depth

PUBLISHED ON APRIL 12, 2019

Checking your planter over for some of these basic things can help your machine to plant more uniformly.

National workshop explores challenges and opportunities for enhancing the climate resilience of agriculture

PUBLISHED ON APRIL 12, 2019

MSU leads a climate listening session for agricultural technical advisors who are helping farmers adapt to changes in the climate during the National Adaptation Forum, April 23-25, 2019, in Madison, Wisconsin.

New wildlife management resource available for farmers

PUBLISHED ON APRIL 9, 2019

Learn about the latest strategies and regulations regarding wildlife management on the farm.

Eric Anderson

Michigan State University Extension

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