

## Southwest Michigan Field Crops Updates May 14, 2021

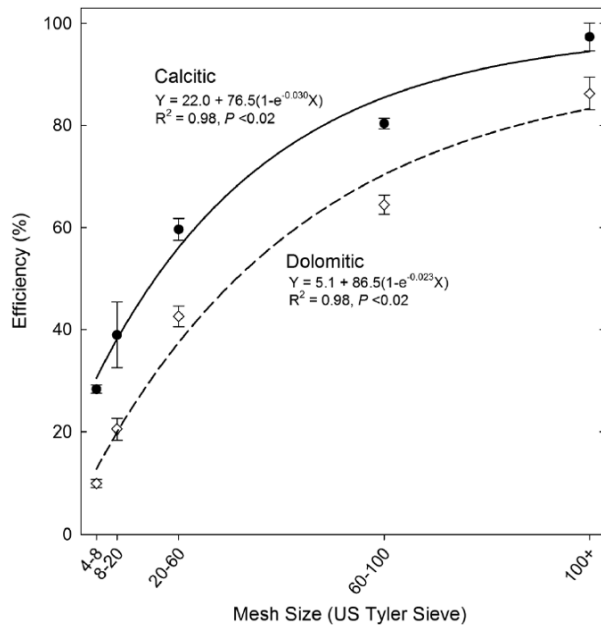
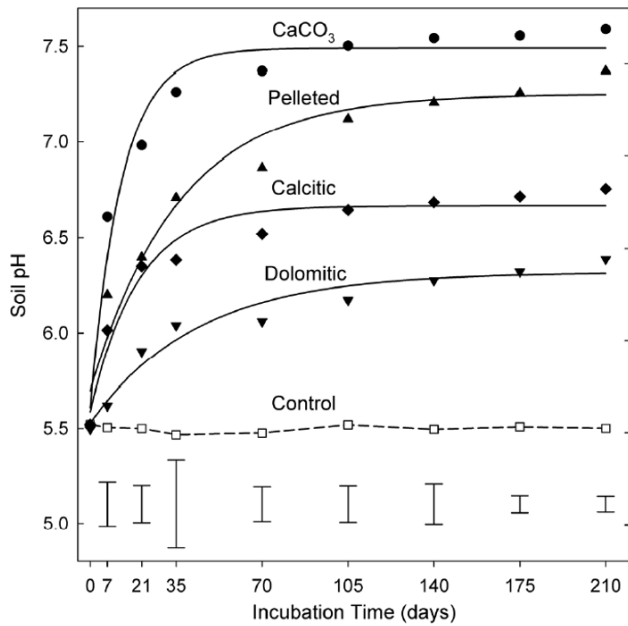
Here are updates from the MSU Extension Field Crops team in Southwest Michigan. If you have any items you would like me to include in future email updates—whether events you want others to know about or topics you would like to have addressed—please send me an email or call the office.

## Pesticide Applicator License Extension Deadline Approaching

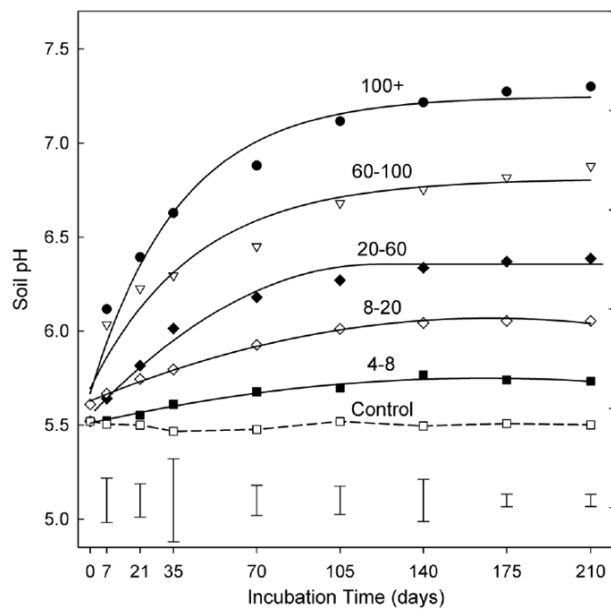
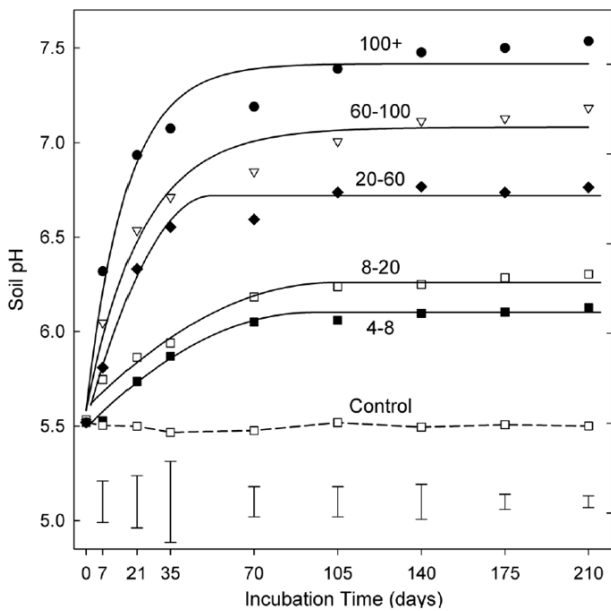
The Michigan Department of Agriculture and Rural Development (MDARD) released a statement at the end of 2020 stating that all licensed pesticide applicators whose certification expired either at the end of 2019 or 2020 would receive an extension of the license until June 30, 2021. At that time, all licenses would need to be renewed either by retesting or by accumulating recertification (RUP) credits. That time is quickly approaching, so if your license expired in the last two years, you have about six weeks to renew. This MSU Extension article—[What are my options when renewing my pesticide certification?](#)—outlines several ways to renew your certification. If your license expired before 2019, or if you have not held an applicators license before, your only option is to take the computer-based test through Metro Institute.

## Neutralizing Ability and Timing Different with Different Ag Lime Sources

I have received several soil lab reports from growers in the region this spring, and many of them are looking to do spring work to prepare for a variety of situations. In many instances, soil pH has been low and the report recommends adding lime. Lime efficacy and efficiency were the topic of a [recent article by A&L Great Lakes Labs](#). They referenced one paper published by Jones and Mallarino (2018) who compared a few types of ag limes with pure calcium carbonate to determine which could raise pH the most and the fastest. Perhaps just as important, they also separated the different particle size fractions in those lime sources and analyzed them for these parameters. Here are the results in graphic form.



Effect of different types of lime on soil pH over time (left) and the efficiency of different fineness fractions of calcitic and dolomitic ag limes.



Effect of different fineness fractions of calcitic (left) and dolomitic (right) ag lime on soil pH over time.

Here are a few key take-aways from this study.

- Dolomitic lime (higher percentage of magnesium) is less effective and slower acting in raising soil pH than calcitic lime
- Finer particles are able to dissolve quicker and are more effective at raising soil pH than larger fractions (the smaller the mesh size noted in the graphs, the smaller the fineness fraction)
- Lime can take several weeks to several months to raise pH, so liming at planting may not fully impact soil pH until after the critical nutrient uptake period for that season
- Note: this study was performed in a controlled setting—results under field conditions will likely be reduced and occur more slowly

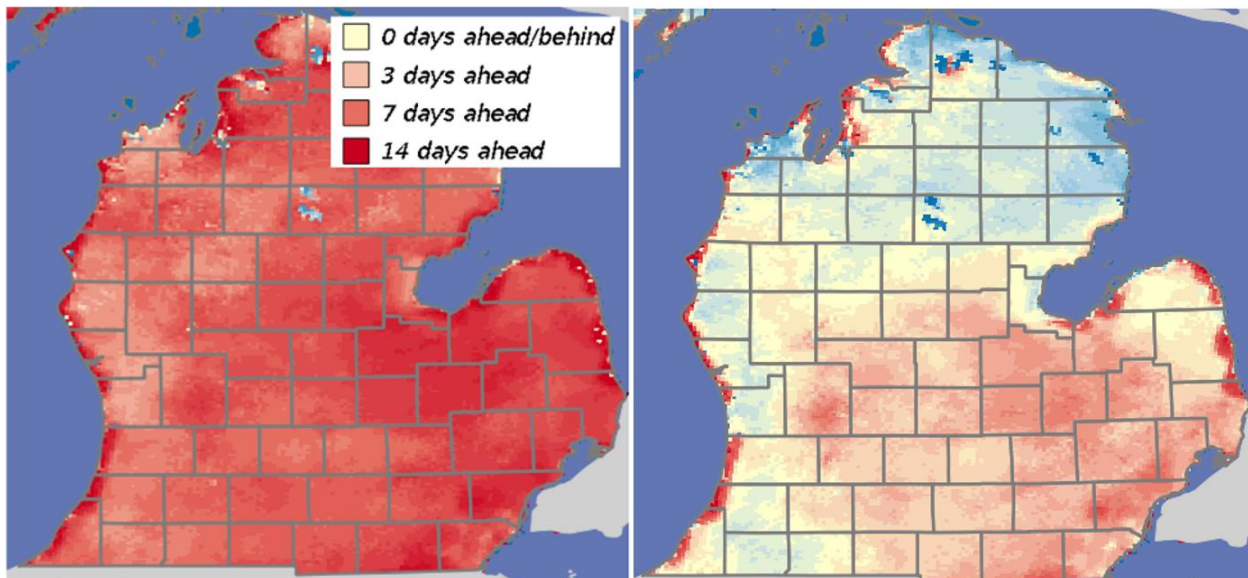
## Weather and Crop/Pest Update

### Weather

We continue to lose ground with the surplus of heat units we had accumulated earlier in the spring—from being more than two weeks ahead to now being a few days behind in some parts of the region. This last week saw average temperatures from 10 to 14 °F below normal...if anyone else had to sit outside watching Little League games in thermals and blankets, you know.

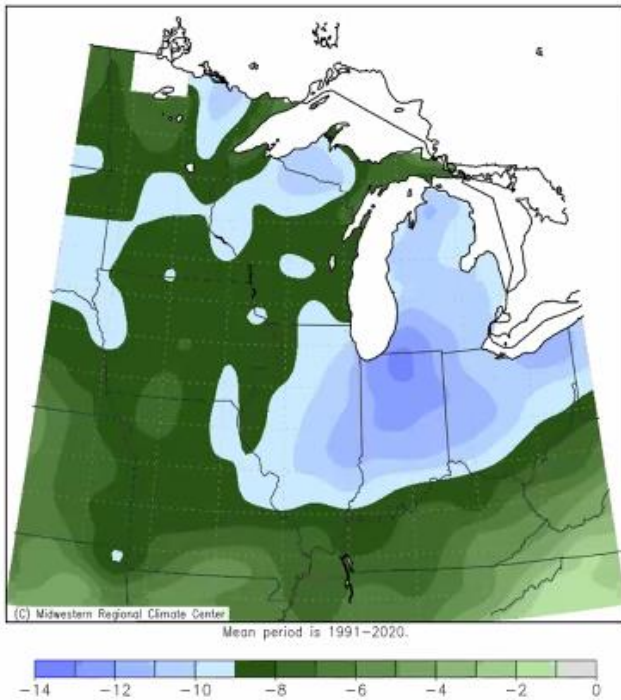
Repeated freeze events over the last week have put a bit of a scare in soybean producers that planted early into near perfect conditions in mid to late April. In many fields, the beans had emerged and some were even to the point of setting the unifoliolate leaves. Temperatures dipped to as low as 24 °F in the Hartford/Lawrence/Watervliet areas overnight on May 11th. Temperatures remained below 28 °F for 3-4 hours at the MSU Extension Enviroweather stations near these locations. Undoubtedly there were lower temperatures experienced in lower lying fields in some of these areas. Exceptionally dry conditions and low humidity levels most likely played a role in the localized temperatures in fields. There are some areas in fields that did have damage that would most likely trigger a “patch in” replant in fields. However, in the majority of cases, these early planted soybeans are likely to come through the freezes remarkably well. MSU soybean educator Mike Staton [wrote an excellent article](#) on how to assess freeze damage to soybean plants in early spring. If you have soybeans that were up and you are trying to assess the damage, we would encourage you to review this article.

Average 2-inch depth soil temperatures remained above 50 °F despite the cool temps, and they should not be a concern for the rest of the planting season. Currently the weather outlooks for mid-May are calling for warmer-than-normal temperatures, and Jeff Andresen, the MSU Extension agriculture climatologist, says we have very likely seen the last of our overnight freezing temperatures as the forecasted daily highs return to 60’s and 70’s and nighttime lows stay in the 50’s starting this weekend.

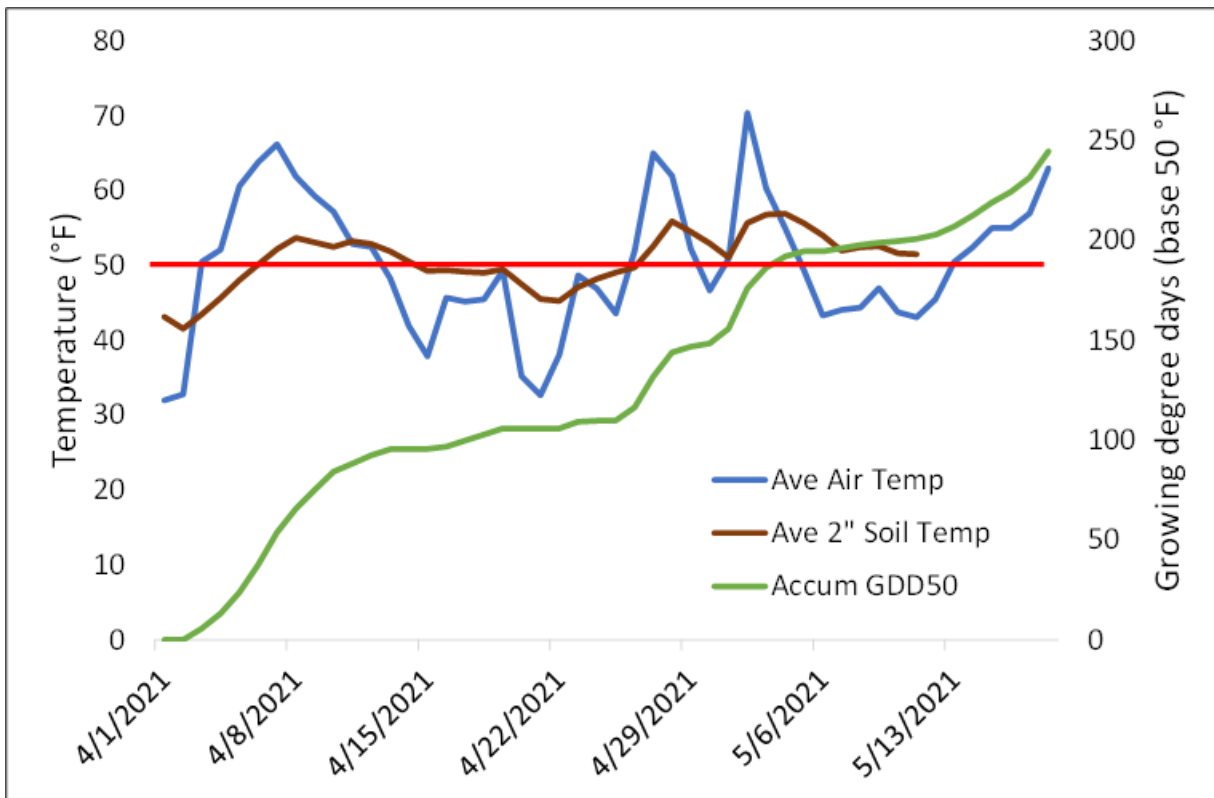


Growing degree day (base 50) comparison with normal from March 1 through April 29 (left) and now through May 11 (right). What a difference a week has made!

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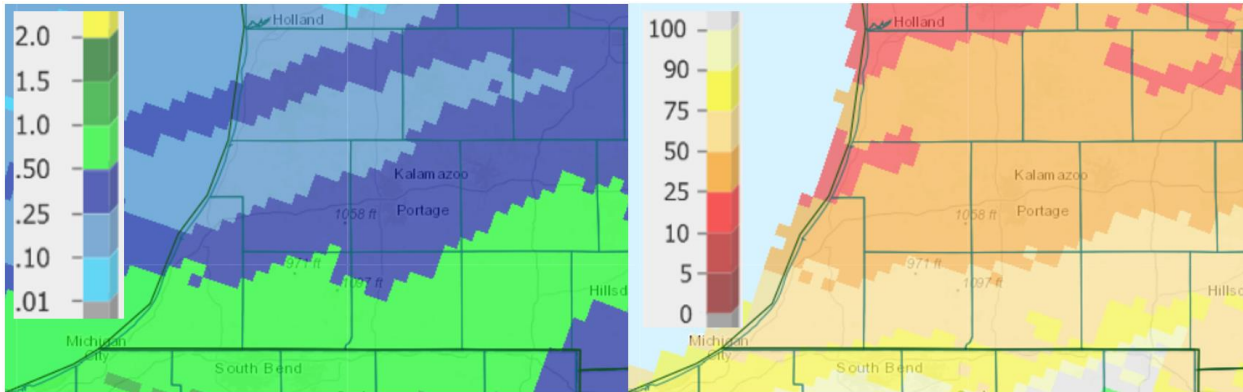
Average temperature departure from normal for this past week (May 5-11). They had to come up with some new colors for how far below normal we were.



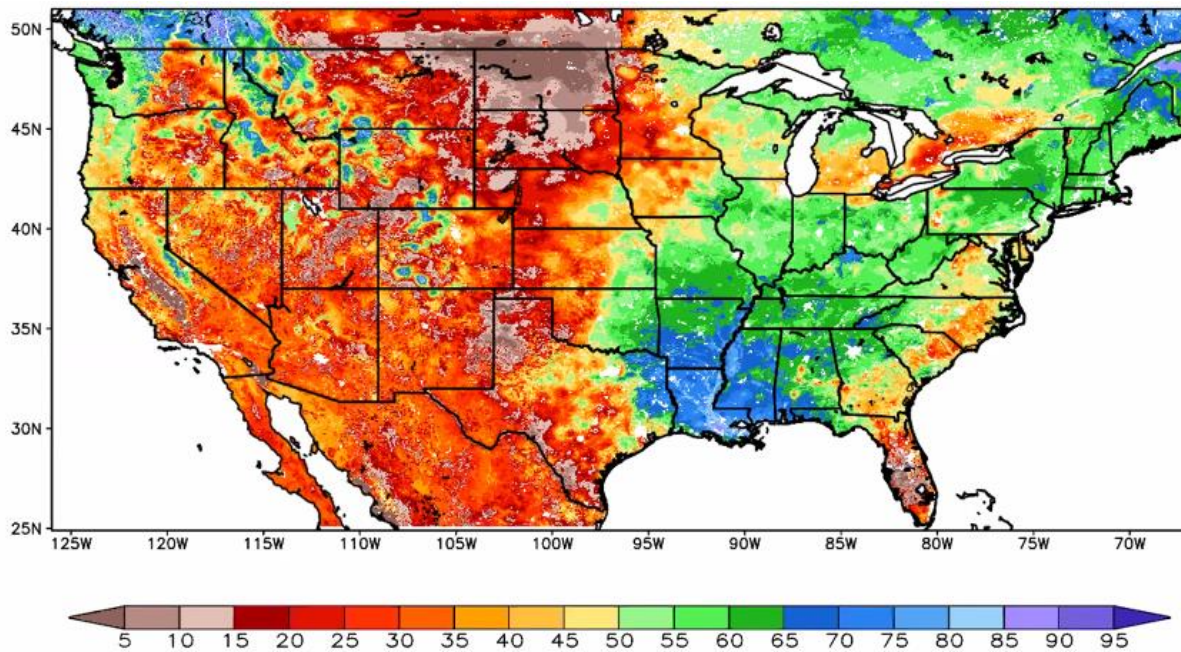
Air and soil temperatures and growing degree day (GDD) accumulation as recorded at the Mendon Enviroweather station. The last seven data points for temperature and GDD are based on current forecasts. The red line highlights the standard minimum desirable soil temperature for planting.

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The southwest region has also continued to be well below normal with precipitation as recent weather systems have kept the moisture just to our south. Most of the region has received 20-75 percent of normal precipitation in the past two weeks, and soil moisture is 30-45 percent in the top three feet. The current edition of the US Drought Monitor shows a slight lessening of the moderate drought conditions for the southern border and the upper Lower Peninsula. The cool temperatures have kept evaporative demand fairly low, but this will change as temperatures begin to warm. The forecast for the coming week calls for another dry week with 0.5 inch rain or less throughout the region. The medium-term forecast changed significantly in the past two days from warmer and wetter than normal to warmer and drier than normal as a particularly strong upper air ridge has formed.

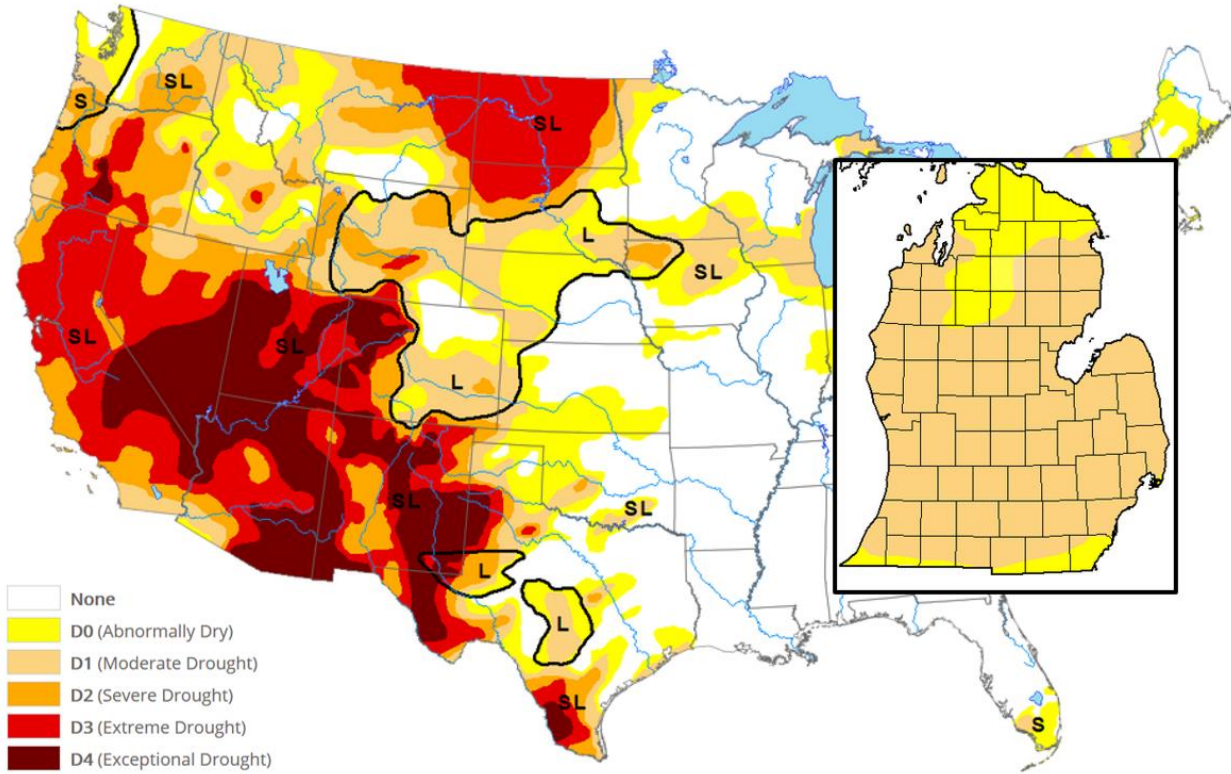


Precipitation totals for the past 7 days (left) and percent of normal for the past 14 days (right). The north-south gradient continues with less than 50% of normal rainfall as you move away from the Indiana border.

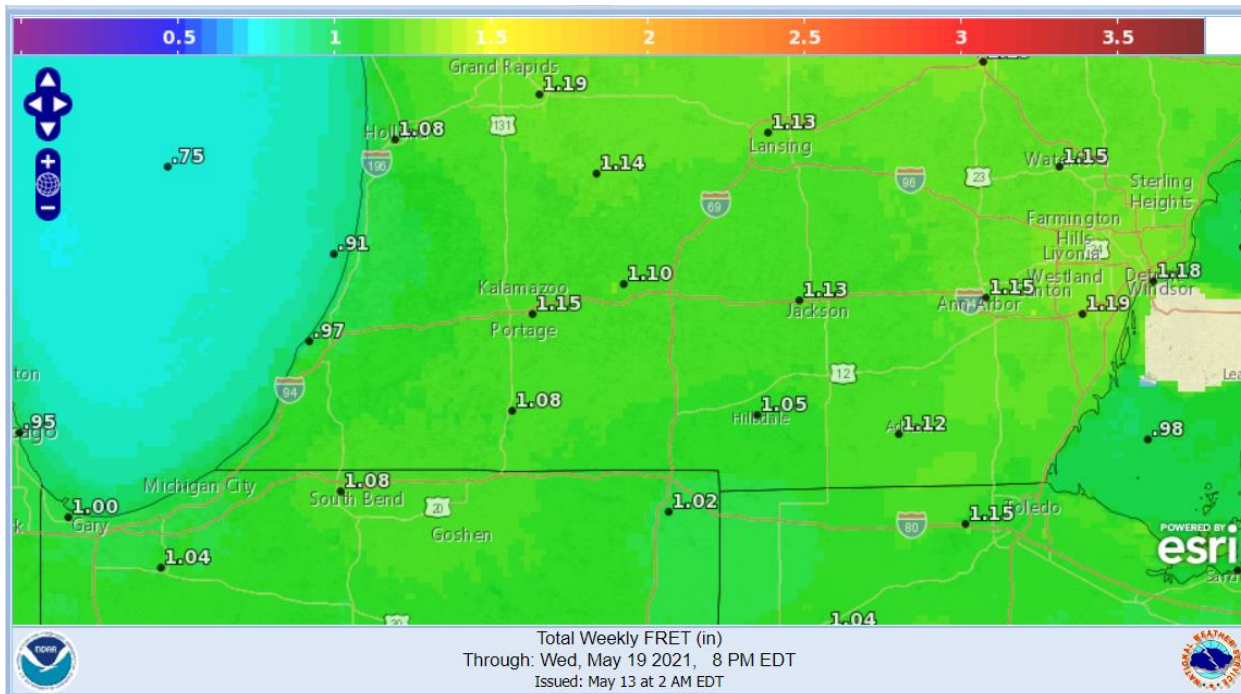


Plant-available relative moisture (percent) in the top three feet (100 cm) as of May 13, 2021.

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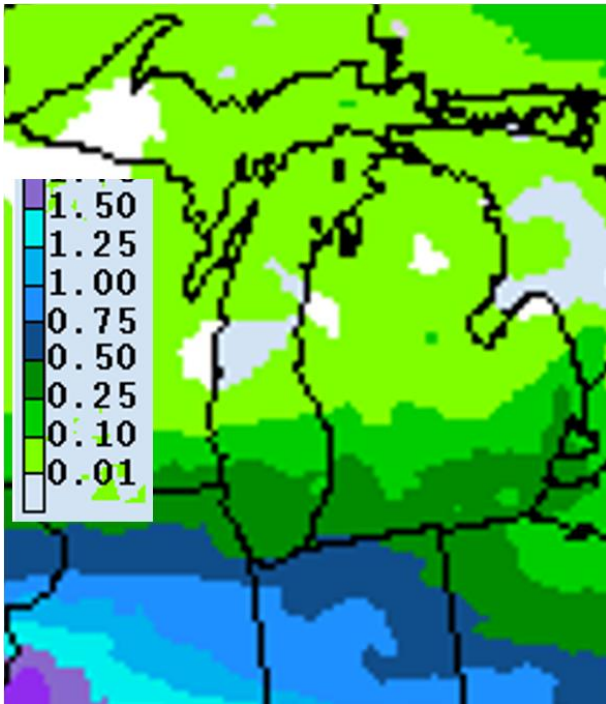


The U.S. Drought Monitor released May 13, 2021.

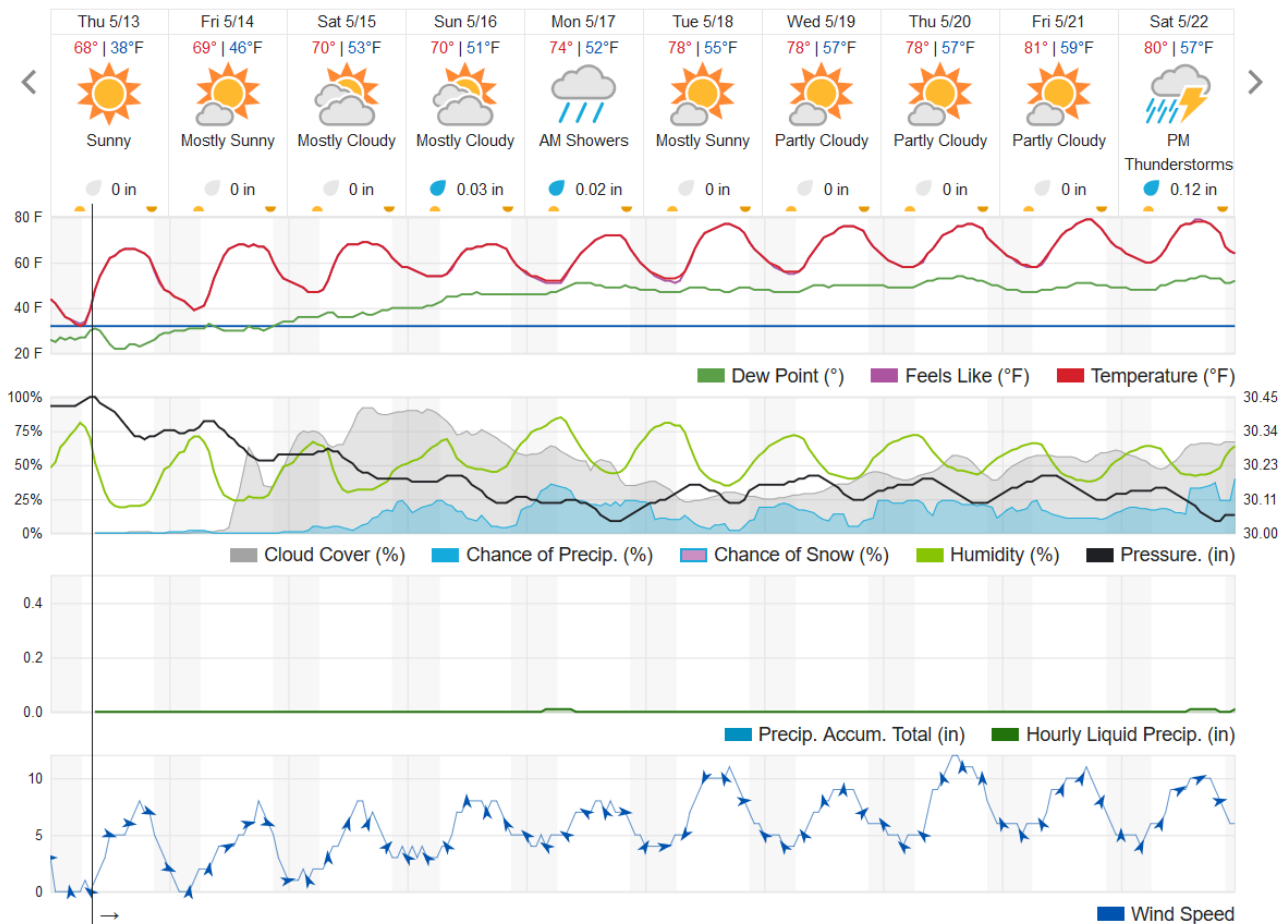


Total weekly forecasted reference evapotranspiration (FRET) May 13-19.

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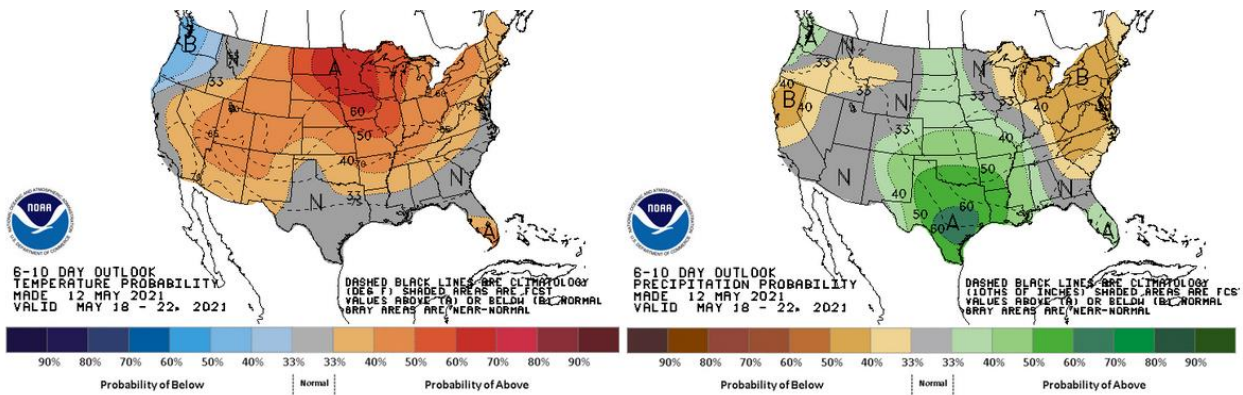


Precipitation forecast for May 13-20.



The 10-day weather forecast for Kalamazoo according to wunderground.com.

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The 6-10 day outlook (May 18-22) for temperature (left) and precipitation (right). The 8-14 day outlook is essentially the same. This forecast changed 180° in the last two days from wetter- to drier-than-normal.

### Crops and Pests

**Wheat** is currently at the jointing stage in our area, although one field scouted had flag leaves emerged. Only minor Septoria signs were seen in the lower canopy in a couple of fields. Herbicide and nitrogen applications should be completed before the flag leaf emerges to avoid injury to this important source of photosynthates for the developing head. The publication, [Fungicide Efficacy for Control of Wheat Diseases](#), from the Crop Protection Network lists several fungicides and their efficacy against several wheat diseases along with harvest interval restrictions.

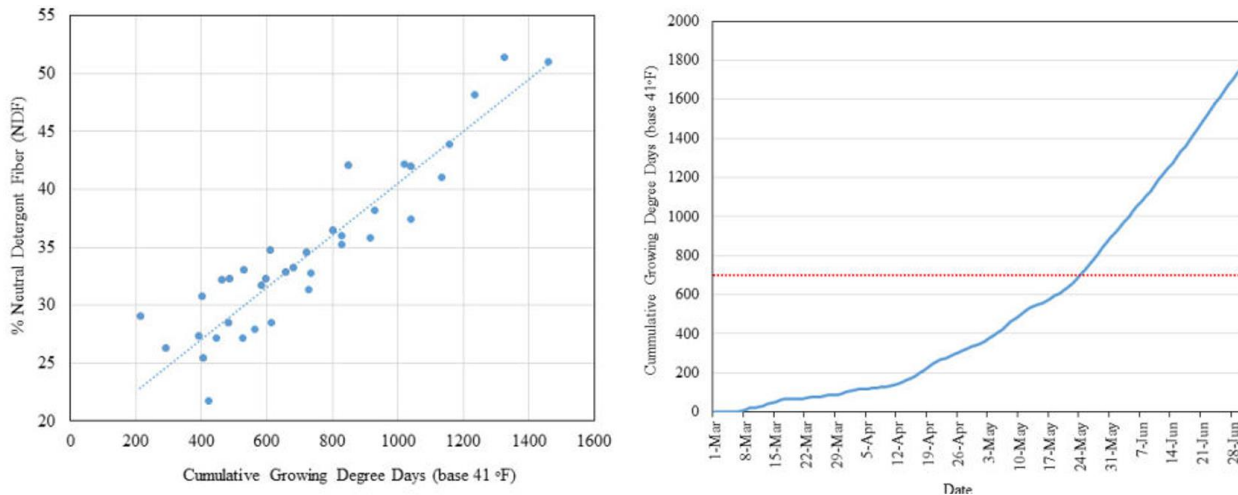
**Alfalfa** is currently in the late vegetative stage and appears healthy overall. However, a concern for this spring continues to be the early development of alfalfa weevil which has begun increased foliar feeding in many fields in Indiana and Michigan. Scouting should begin now, and first hay cutting may be impacted as alfalfa growth slowed down with recent cooler temperatures. Current average GDD<sub>41</sub> accumulation in the region is 510 with another 110 forecasted for the coming week. At that pace, first harvest should be timed for the last few days of May, but scouting individual fields for bud development and knowing your past forage quality values will help dial this in.



Alfalfa weevil (yellow circle) feeding in alfalfa in St. Joseph County. Photo courtesy of Eric Anderson.



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Relationship between growing degree days (base 41°F) and percent neutral detergent fiber in alfalfa (left) and average spring GDD<sub>41</sub> accumulation in Rosemount, MN from 2014-2016. Graphs taken from [Using growing degree days to plan early-season alfalfa harvests](#), University of Minnesota. Rosemount is roughly 3 °N of Kalamazoo, on par with Traverse City.

**Corn** planting progress is well ahead of the average, according to the May 10 USDA Crop Progress report, 46% of the corn crop in Michigan has been planted—13% ahead of last year and 27% ahead of the 5-year average. **Soybean** was 42% planted—10% ahead of last year and 31% ahead of the 5-year average. Corn is 5% emerged and soybean 4%, but that was as of May 9—I suspect by now it is 2-3 times that. It takes approximately 100-120 growing degree days from planting for these crops to emerge, and early-planted corn and beans began to emerge this week in several fields in the area. Corn looks yellowed which is normal for early-season emergence in cool conditions, but this should fix itself when temperatures warm up, especially if we get some much-needed rain or when irrigation is applied.



Emergence of early-planted corn (left) and soybean (right) began this past week in St. Joseph County. Photos courtesy of Eric Anderson.



Freeze injury to emerged soybean. The plant on the left will likely outgrow this while plants with yellowed cotyledons and necrotic lesions on the hypocotyl like the plant on the right should be monitored in the coming week. Photos courtesy of Bruce MacKellar.

Dry conditions this spring are likely to have some other impacts on crops as well. Those still planting corn should be cautious about the amount of starter fertilizer they place in the 2x2 configuration in light textured soils. Salt in higher rate starter fertilizer applications can cause injury because they will likely make up a larger percentage of the soil moisture that the developing plants have access to. A couple things to consider might be to remove any potassium that is being applied as a starter. In addition, you might want to consider limiting your nitrogen (N) application rate to about 40 lbs N per acre. The remainder of the N can be applied side-dress with little risk of yield reductions.

Another issue with the dry conditions can be the lack of moisture for even germination. Mike Staton also discussed some [potential planting depth options for soybeans](#) given the low soil moisture we are seeing in many parts of the southwest Region. Reducing the number of field prep operations or planting no-till where possible can help reduce water loss from the soil due to evaporation.

And finally, we count on rainfall to help activate soil applied pre-emergence or delayed residual herbicide programs. We probably need to be prepared to include a post program if the dry conditions continue and applied herbicides remain on the soil surface for extended periods of time (10 days or more). This may continue to be problematic as some herbicides are in shorter supply this year.

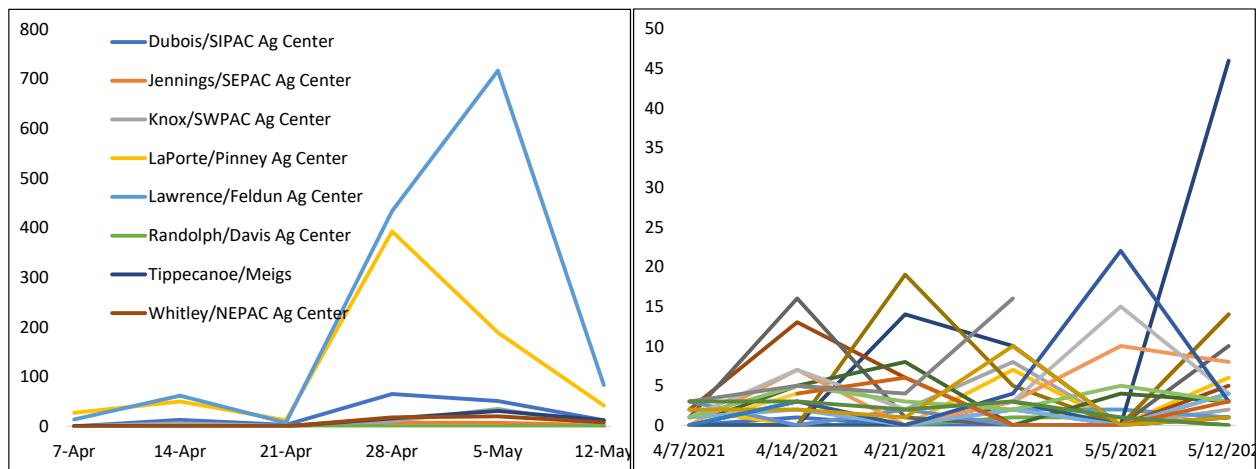
If you have access to irrigation water, irrigating early can help to reduce the risk of all of the situations mentioned above. MSU/Purdue irrigation educator Lyndon Kelley discusses this in his article, "[Water up and irrigate in](#)". With warmer weather in the forecast, it appears that we may be able to irrigate without having to drain the systems for fear of freezing the pipes.

**Asiatic garden beetle** grub scouting by MSU Field Crops Entomologist Chris DiFonzo at the Decatur research site located on Druskovich Farms on Wednesday resulted in very few sitings. She suspects that soil temperatures are still too cold for the grubs and that they have not moved up in the profile yet, but that will change in the coming week. With the dry conditions, we may have a situation where if you do have AGB in higher numbers,

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the white grub damage may be able to injure the plants more because of the anticipated slower growth rates of the corn. Remember, the higher risk areas seem to be fields that were rotated from potatoes or soybeans in 2020. Focus your attention on higher elevation sandier portions of fields that had high numbers of weeds in the field last season, especially marestail.

**True armyworm (TAW)** and **black cutworm (BCW)** moth captures remain low in the region with all traps still catching single-digit numbers of moths in St. Joseph and Kalamazoo Counties. This is likely due to a lack of significant storm systems out of the south that have made it very farm into Michigan. Purdue traps have had sporadic high counts although no peak flight timeframe has been identified yet.



True armyworm (left) and black cutworm (right) moth captures at numerous sites in Indiana. Black cutworm data included in the graph are from northern-most counties while true armyworm traps are located at research stations throughout the state.

Seedcorn maggot attacking soybean seed and seedlings have been reported on a number of occasions this spring in Indiana according to an [article by Purdue's entomologists Christian Krupke and John Obermeyer](#). This pest targets corn and other crops but will feed on soybean as well. Fields with high residue and/or recent manure applications are prime targets for seedcorn maggot, particularly if the seed slot was not fully closed, giving the females easy access to the seed. Seed insecticide treatments will help, but they can attack the developing seedling as well. If you notice skips in the rows and suspect seedling blights, do a bit of digging to see if the culprit isn't seedcorn maggot instead.

## Calendar

Titles are clickable links to online content when highlighted and underlined

- May 20** [Field Crops Virtual Breakfast](#). 7-8am. Head Scab Management with Dennis Pennington and Marty Chilvers. One RUP and one CCA credit available for each live session. No cost to you, register online once for whole season.
- May 27** [Field Crops Virtual Breakfast](#). 7-8am. Dry Bean Considerations with Scott Bales. One RUP and one CCA credit available for each live session. No cost to you, register online once for whole season.
- June 3** [Field Crops Virtual Breakfast](#). 7-8am. Better Irrigation Management Through Monitoring and Scheduling with Lyndon Kelley and Younsuk Dong. One RUP and one CCA credit available for each live session. No cost to you, register online once for whole season.
- June 10** [Field Crops Virtual Breakfast](#). 7-8am. Organic Field Crop Production with Vicki Morrone. One RUP and one CCA credit available for each live session. No cost to you, register online once for whole season.

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- June 17** [Field Crops Virtual Breakfast](#). 7-8am. TBD. One RUP and one CCA credit available for each live session. No cost to you, register online once for whole season.
- June 24** [Field Crops Virtual Breakfast](#). 7-8am. Sugar Beet Cercospora – BeetCast with Jaime Willbur. One RUP and one CCA credit available for each live session. No cost to you, register online once for whole season.
- June 30** [Pesticide Applicator License Extension Deadline](#). Pesticide applicators with expired licenses in 2019 and 2020 must renew by this date to maintain credentials.
- July 12&13** [Large Truck and Tractor Tire Collections](#). 9am-12pm (12<sup>th</sup>) and 4-7pm (13<sup>th</sup>). Van Buren County Building & Grounds, 753 Hazen Street, Paw Paw. The Van Buren Conservation District is hosting large truck and tractor tire collections this year at no direct cost to you. Sign up at the link above, you will hear from the recycling coordinator, Emily Hickmott, by phone or email with more details closer to the event. You can also email her at [resourcerecovery@vanburencd.org](mailto:resourcerecovery@vanburencd.org) with any questions.

## MSU Extension Digest Briefs

### *PUBLISHED ON MAY 13, 2021*

- [BEST PRACTICES FOR HEAD SCAB IN WHEAT COVERED IN MAY 20 FIELD CROPS VIRTUAL BREAKFAST](#)  
Learn about the timing, efficacy, economics and risks associated with treating head scab in wheat.
- [ASSESSING FROST/FREEZE DAMAGE TO EMERGED SOYBEANS](#)  
Due to the severity and broad coverage of recent low temperature events, producers should assess their emerged soybean plants for frost/freeze injury.
- [SOUTHWEST MICHIGAN FIELD CROPS UPDATE – MAY 13, 2021](#)  
Cool and dry weather cleared the way for significant planting progress. As temperatures warm and more dry weather is on the way, concerns arise with crop establishment and early development.
- [WORKING TOWARD A MORE ACCURATE FARM FINANCIAL ANALYSIS](#)  
An accurate farm financial analysis will help you understand your business and improve strategic decision making.

### *PUBLISHED ON MAY 12, 2021*

- [SOYBEAN PLANTING DEPTH CONSIDERATIONS WHEN PLANTING INTO DRY SOIL CONDITIONS](#)  
How to identify and achieve the optimum planting depth if you are faced with dry soil conditions.

### *PUBLISHED ON MAY 10, 2021*

- [WHEAT WATCHERS REPORT – MAY 10, 2021](#)  
Fertilizer and herbicide applications have been on schedule in most areas.

### *PUBLISHED ON MAY 8, 2021*

- [WOMEN IN AGRICULTURE: TAKING A SEAT AT THE TABLE WITH CONFIDENCE](#)  
Women Shaping Agriculture is an initiative in which Michigan State University Extension educators host conversational interviews that enable women to share their experiences and perspectives about their diverse roles in Michigan agriculture.

### *PUBLISHED ON MAY 7, 2021*

- [COVER CROPS TERMINATION METHODS IN MICHIGAN](#)  
Developing a termination method for cover crops is an integral part of the planning process to ensure there is no interference with your subsequent cash crop

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### ***PUBLISHED ON MAY 6, 2021***

- [IS PLANTING SOYBEANS IN 15-INCH ROWS WITH SPLIT-ROW PLANTERS PROFITABLE?](#)  
Results from on-farm research trials and a partial budget economic analysis comparing split-row planters to 30-inch-row planters.
- [REGISTER FOR MONTHLY NOTES FROM THE FIELD SOYBEAN WEBINAR SERIES](#)  
Soybean agronomists across the U.S. are hosting a webinar series this summer to discuss relevant production topics and answer questions.

### ***PUBLISHED ON MAY 4, 2021***

- [UNDERSTANDING THE ROLE OF CARBON IN AGRICULTURE – PART 3](#)  
Ecosystem services—can you have your cake and eat it, too?
- [VIRTUAL CROP SCOUT SCHOOL NOW OFFERED](#)  
The 2021 Virtual Crop Scout School for corn, soybeans, small grains and alfalfa is available now and free to the general public.
- [IRRIGATION AN IMPORTANT TOOL FOR INCREASING PROFITS, MANAGING RISK AND UTILIZING APPLIED NUTRIENTS](#)  
Irrigation plays an important role in Michigan agriculture, contributing the rich diversity of crops grown and ensuring that short-term water deficits do not reduce yields and quality of crops produced.

### ***PUBLISHED ON MAY 3, 2021***

- [MANAGING NEMATODES, COVER CROPS, AND SOIL HEALTH IN DIVERSE CROPPING SYSTEMS](#)  
In recent years, there has been increasing reference to nematodes, soil health, and cover crops in the scientific and popular media. The intertwined nature of these subjects and the mounting science in the literature can sometimes be overwhelming.

### ***PUBLISHED ON APRIL 29, 2021***

- [IN THE WEEDS PODCAST ON FARM FINANCIAL DECISIONS](#)  
This series hopes to guide you in upcoming decisions regarding the farm bill, COVID-19 financial relief and crop marketing.

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