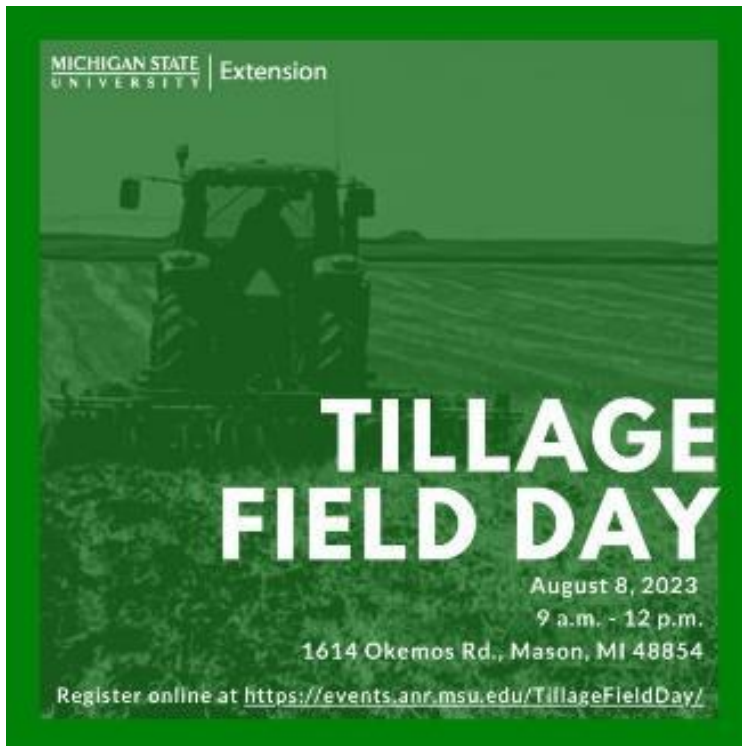


## Southwest Michigan Field Crops Updates July 14, 2023

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.

## Tillage Field Day and In-Service Registration Open Through July 30



<https://events.anr.msu.edu/TillageFieldDay>

## Drought Stress and Wildfire Smoke Resources

Both [MSU Extension](#) and [Purdue Extension](#) have created landing sites for various resources related to drought stress mitigation. The Purdue site has links to several other universities while the MSU site references internal documents and sites.

Incidentally, both [Ohio State University](#) and [Purdue University](#) Extension specialists have written articles about how wildfire smoke may impact crop growth and development.



## Latest Fast Fonz Facts

MSU Extension field crop entomologist Chris DiFonzo produces her “Fast Fonz Facts” periodically with an update on what’s happening in the insect world. Here is a portion of her July 7 post regarding aphids and alfalfa.

A month ago, I heard about a situation in SW Michigan. Apparently, alfalfa fields were sprayed (for leafhopper?), but aphids survived the sprays and increase, the assumption being that they were pyrethroid resistant. I confess that I pooh-poohed these calls. Aphids are always present in alfalfa early in the season, and they feed beneficial insects. The pea aphid, our most common species in Michigan hay, feeds on a range of legume crops and weeds where they are not exposed to insecticides, so it didn’t make sense that a ‘resistant’ population appeared after one pyrethroid application. Also, I had never seen pea aphid at threshold (50 per stem in <10 inch alfalfa / 100 per stem in taller stands) in Michigan. I assumed there were simply more aphids than people were used to seeing (for more about that, see the addendum at the end of this email).

This week I got calls from central Michigan and visited a trouble spot in Gratiot County. Aphids were truly at or over the threshold – see the attached pictures, page 1 & 2. All the fields were sprayed with a pyrethroid, with varying success. I don’t attribute lack of control to ‘resistance’, but to unusually huge starting population of aphids (simply huge numbers to kill) coupled with their unique life style (all female, giving live birth to multiple young per day without having to mate or lay eggs). Even if the spray killed 95%, the survivors reproduce fast in the absence of predators. Another wrinkle is that many growers were simply making their normal application for potato leafhopper. The recommended label rate for PLH is often less than the recommended rate for aphids. For example, Warrior: PLH rate = 0.96-1.6 oz, aphid rate = 1.28-1.92 oz. A less-than-optimal application could have made the aphid situation worse.

What I found: The aphids were pea aphid, *Acyrtosiphon pisum*. Nothing special, just our common aphid in alfalfa. Don’t be fooled by different colors; pea aphids naturally come in yellow, green, and pink color morphs. When I looked at samples under a microscope, none of the aphids were winged but many had wing pads (a shoulder-pad type structure that is the precursor to wings). This tells me that populations are at a peak. When aphid colonies get crowded, they produce winged daughters to fly off and start new infestations. This is about to happen in central Michigan alfalfa fields. The aphids with wing pads will molt into adults and many will fly within the next few days. Depending on the direction they move, they could start new infestations in alfalfa, clover, peas, lupine, etc. Note that they will NOT infest soybeans, dry beans, corn, or beets.

The good news is that with the recent change in weather, favorable conditions are back for a key aphid killer, entomopathogenic fungi. These fungi are natural and present in the soil, waiting to infect an insect host. In the fields I visited, the lower leaves were covered with brown fungus-killed aphids, or ‘cadavers’ (see attached pics,

## Southwest Michigan Field Crops Update – July 14, 2023 - 3

page 3). As long as the enviro conditions are favorable for infection, cadavers spew out spores to infect nearby aphids, killing them in a matter of days. The fungi need high humidity for 24-48 hours to infect and kill. Thus fungal infection can be higher on lower leaves or in taller alfalfa, where humidity is higher. Irrigation helps, but only if humidity remains elevated in the canopy for an extended time. If alfalfa is irrigated but the leaves dry out fast, the aphid population can still be high (nice juicy plants) without getting the benefit of death by fungus. Once infection starts, and I presume it has in many fields in central Michigan, pea aphid numbers may quickly drop in a matter of days. Predators and parasitoids were also present in the same fields, attacking pea aphids.

**Management:** This is a bit tricky. I have never seen a pea aphid explosion, and I don't have experience with some of the new insecticides targeted for aphids.

\* Using the info provided, check your fields to see if the population is increasing (fat healthy looking aphids) or being killed by fungal infection and beneficials. The threshold for pea aphid is 50 or 100 per stem in <10 inch or >10 inch alfalfa, respectively. I don't have a lot of wisdom here; you will have to make a gut level decision based your tolerance for letting nature take its course for a few days to see what happens, vs avoiding risk of any future loss.

\* If you decide to spray, use the high label rate for aphids, and follow label recommendations for pressure, nozzles, and gallons per acre. Coverage is key. You aren't spraying easy-to-kill PLHs that move around and walk over residue to die. You are targeting lazy aphids on the undersides of leaves that will reproduce quickly if left alive.

\* Products: If you did not spray yet with a pyrethroid (Declare, Fastac, Mustang, Warrior/ Lamba cy, many more), I believe you can achieve good control with a label rate for aphids and an application optimized for coverage. Pyrethroids do better under moderate temps. For those who had poor control with a pyrethroid, dimethoate or methomyl (eg Lannate) are options; these are older OPs. Preharvest intervals are 3-7 days. There are two new modes of action specifically for aphids: flupyradifurone (Sivanto) and sulfoxaflor (Transform WG). Sivanto is systemic and controls aphids and PLH. Transform has some movement into leaves and is labeled for aphids and plant bugs. They are used in veg crops, but I don't have personal experience with them, since they are not used on soybean aphid in Michigan. I would appreciate feedback if you do use one of them.

\* See full list of registered products in the MSU Insect guide, forage chapter, table 5

<https://www.canr.msu.edu/resources/insect-guide-for-forages>

\* Leave a check strip – even a small area will do. That will show if the application was effective, and needed, or if fungi came through in the end.

\* Harvesting is another option, a good one if fungus is wiping out your population. But don't count on harvest to kill healthy aphids. They will climb back on to new growth. However, it may be easier to cover the new growth with a spray.

**Final Addendum:** Why did this happen? Whatever the cause, its regional and not specific to pea aphid. I'd guess a combo of a mild winter and plus very favorable weather in May and June. The aphid species which overwinter locally (like soybean aphid and black bean aphid) seemed to get an early start, likely because of high winter survival. The dry conditions in May/ June favored aphid development and feeding, and no mortality from fungus. Pea aphids aren't the only species going wild. Populations of many aphid species are unusually high this year in crops, on weeds, and in natural areas. So high, in fact, that swarms of winged aphids are descending on eastern cities and freaking people out. Google recent articles or see the June 30 2023 New York Times article "First the Smoke, Then the Bugs: New Yorkers, already alarmed about smoky skies, have been complaining about swarms of insects that appear to be aphids." <https://www.nytimes.com/2023/06/30/nyregion/nyc-bugs-gnats.html> . Pea aphids from your alfalfa fields may be contributing to the harassment of New Yorkers even as you read this.

From the June edition of Fast Fonz Facts:

### Why sucking insects do better under warm, dry conditions

\*\*Development is faster: Insects and mites develop faster from juvenile to adult with increasing temperature and go through more generations. Development is even faster if both day and nighttime temps are elevated. Thus far, it's often been cool in the morning, but if during a hot spell, the favorable temperature for development probably occurs for a longer period, not just during the day but for 24 hours, as both day and night temps are elevated.

**\*\*The diet might be better:** Insects feeding on a drought-stressed plant may have a better-quality host. Concentrations of nitrogen-type compounds such as amino acids typically are higher in the sap of drought-stressed plants. For sucking pests, this is ideal. Insects that suck plants usually get enough sugars in their diet, but they are nitrogen-limited. A stressed plant with higher concentration of nitrogen compounds is a steak dinner instead of a fast-food burger.

**\*\*The injury is worse:** Feeding of sucking pests under dry conditions just adds insult to injury. Thrips and spider mites feed by poking into individual plant cells, which lose water and dry up quickly when there is low humidity. Potato leafhopper and tarnished plant bug saliva disrupts plant cell growth and disrupts water flow, something the plant can't afford under dry conditions. With adequate moisture and irrigation, plants can replace the liquid sucked by insects or compensate for their injury, but under drought conditions this is less likely.

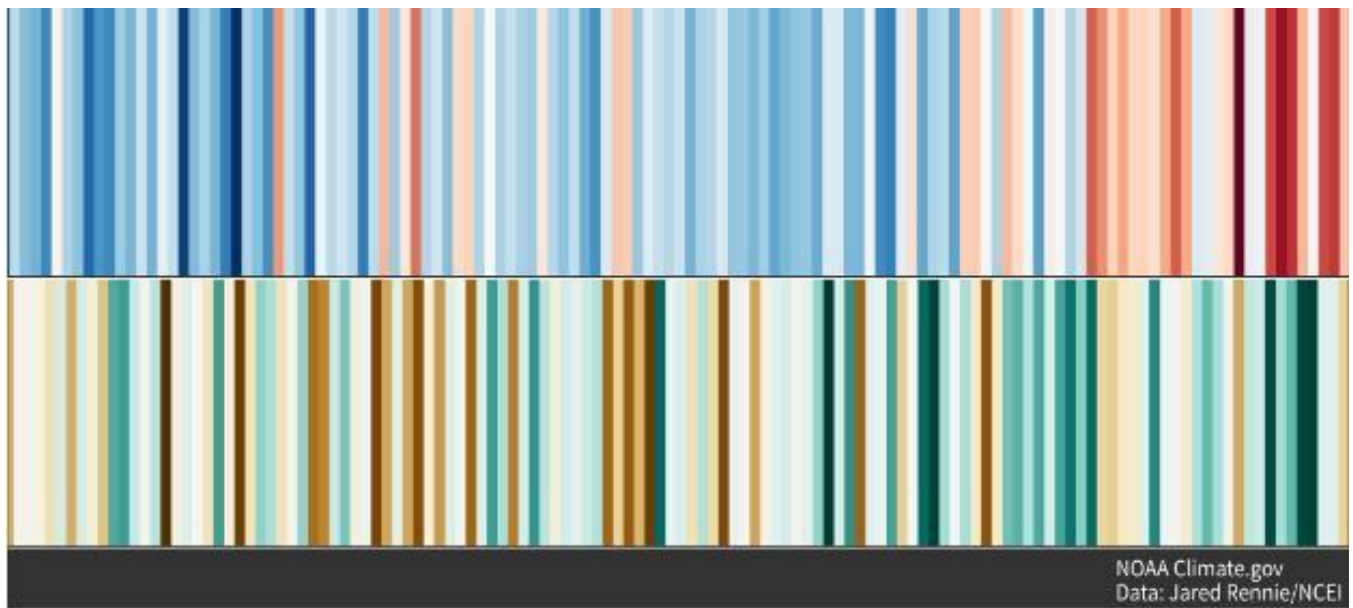
**\*\*Biocontrol may be less:** Entomopathogenic (insect-killing) fungi naturally control potato leafhopper, aphids, and spider mites. In dry weather and low humidity, these fungi don't have the right conditions to infect and wipe out a growing pest population. This is especially true along field edges and dirt roads. Dust particles on the leaves dry out the plant surface so that entomopathogens are less active. A dusty back road is a good location to look for yellowing along field edges that could be the first sign of spider mite.

**\*\*Insecticides have limits:** Pyrethroids tend to work better under cool conditions, so control with this group of products may be less. UV light breaks down pesticides, and under sunny conditions insecticides don't last as long on foliage and residue levels drop. At the same time, most insecticides wipe out beneficial insects. If insecticides break down fast and the biocontrol is gone, pest insects or mites can recolonize or rebound quickly, much quicker than their natural enemies can recover. This is especially true of parthenogenic pests like mites and aphids. Remember, a mom aphid gives live birth to pregnant daughters, without even mating.

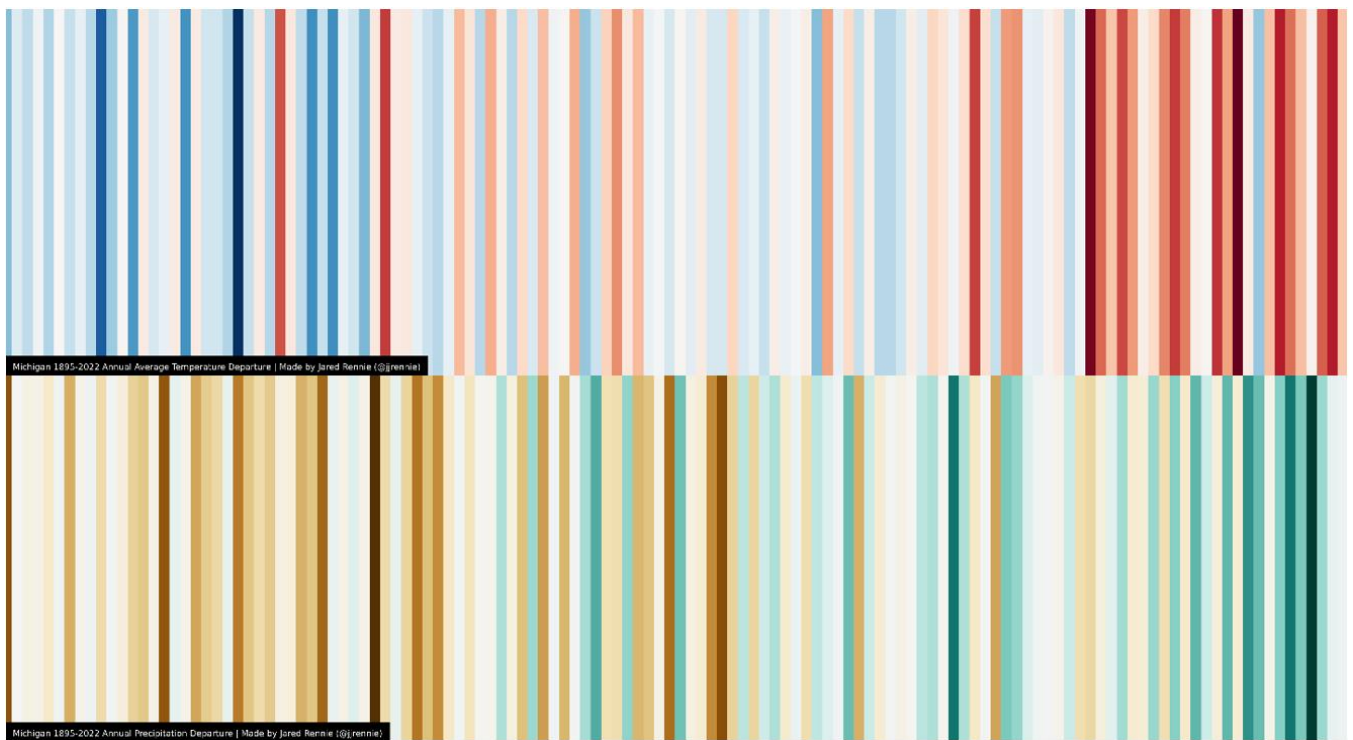
Final thought before pulling the trigger on an insecticide spray: Spraying too early or for insurance (throwing insecticide in the tank as you go over the field) can be just as bad as not spraying, especially under dry conditions which are favorable for aphids, thrips, and mites. Think about how spraying now will impact your fields later if it stays dry. Spraying now might lead to a spider mite outbreak or higher aphid populations in a few weeks. That is because the insecticide application will wipe out beneficial insects. If you do spray, choose the right product. Use something with a lower chance of flaring mites – dimethoate, orthene/ acephate, Lannate, bifenthrin. Check that your crop is on the label for that active ingredient. Be sure to get good coverage because surviving aphids, mites and thrips especially can reproduce fast and rebound.

## Climate “Stripes” Show Century-Long Trends

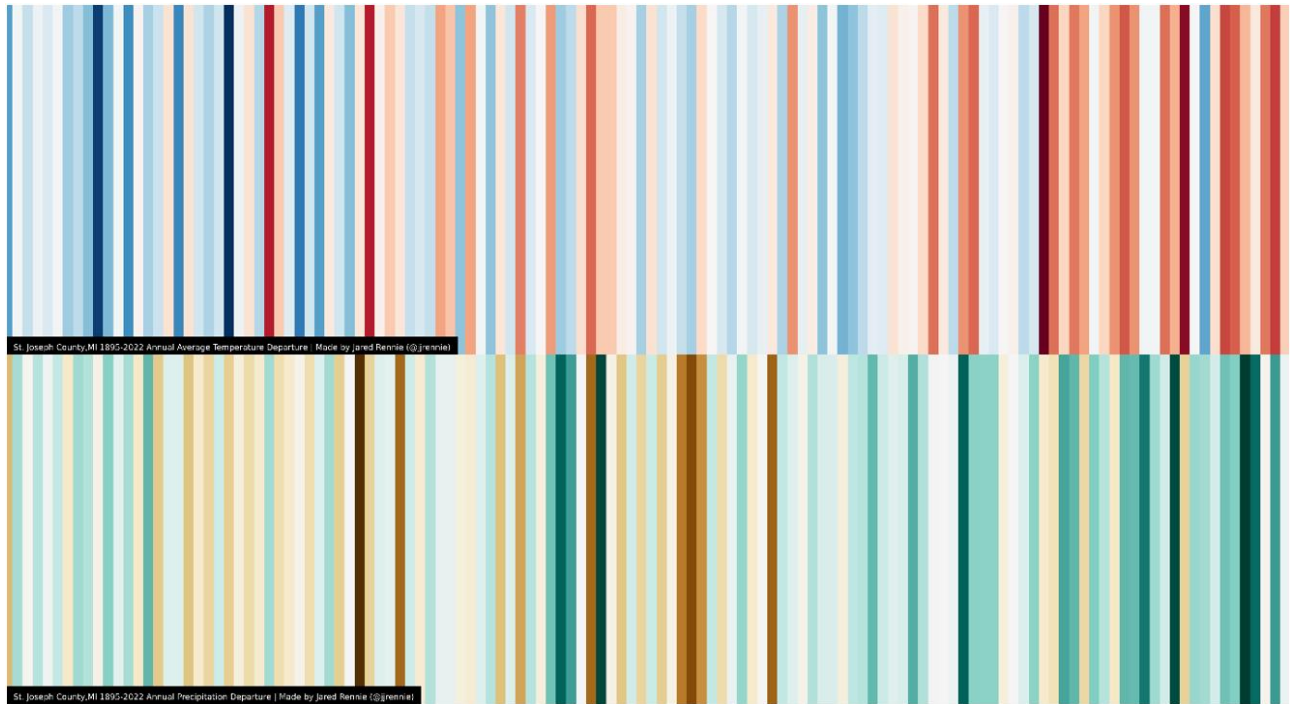
The National Oceanic and Atmospheric Administration (NOAA) has created graphics from its extensive database to show the trend of temperature and precipitation changes over the past century. The climate “stripes” graphics are available on [the NOAA website](#). “These bar-code-like images turn a location’s annual climate data into rows of colored stripes that show yearly temperature and precipitation compared to the long-term average—red bars for warm years, and blue for cool ones; green for wet years, and brown for dry ones.” Graphics can be seen for the entire country, for each state, and each county. The temperature trend is more pronounced with the last ~30 years having most of the warmest years on record. The precipitation graphics are less pronounced but generally show a trend of a wetter climate over time for Michigan.



Annual average temperature (top) and total precipitation (bottom) “stripes” for the contiguous U.S. depict comparison with the 20th century average (1895-2022).



Annual average temperature (top) and total precipitation (bottom) “stripes” for Michigan depict comparison with the 20th century average (1895-2022).



Annual average temperature (top) and total precipitation (bottom) “stripes” for St. Joseph County depict comparison with the 20th century average (1895-2022).

## Biotech Varieties/Hybrids in Michigan

The USDA recently posted this information on biotech market penetration in Michigan for corn and soybean and I thought you all might be interested.

### Biotechnology Varieties as a Percent of All Planted Acres - Michigan and United States: 2022 and 2023

Commodity	Michigan		United States	
	2022 (Percent)	2023 (Percent)	2022 (Percent)	2023 (Percent)
Com				
Insect resistant (Bt)	2	2	3	3
Herbicide resistant	11	9	9	9
Stacked gene varieties	81	81	81	82
All biotech varieties	94	92	93	93
Soybeans				
Herbicide resistant	93	93	95	95

## Van Buren MAEAP Fruit Field Day

The Van Buren Conservation District will hold a MAEAP Field Day at Stocchiero Farms August 17, 2023. This MAEAP Field Day is an educational event for local farmers to connect with resource professionals and learn about topics relevant to their farm. Speakers from the Van Buren Conservation District and Natural Resources Conservation Service will discuss state and federal resources available to farmers and discuss a range of topics. Topics will include soil quality, cover crop planting examples, orchard fencing, and more. Fruit and vegetable farmers will find this to be a valuable event to connect with staff and to learn as well as connect with each other.

This event is free and open to the public with registration being required. Food and refreshments will be provided. To register go to [www.VanBurenCD.org/maeap-field-day-2023](http://www.VanBurenCD.org/maeap-field-day-2023) and be sure to register by August 11, 2023. With questions, please contact Senior MAEAP Specialist Kyle Mead at 269-205-3377 or email [MAEAP@VanBurenCD.org](mailto:MAEAP@VanBurenCD.org).

## Note on Pesticide Exam Test-Taking

The Michigan Department of Agriculture and Rural Development (MDARD) was recently notified by Metro Institute about multiple cheating incidents at pesticide certification testing centers. The incidents took place at several testing locations, and each one involved an applicant attempting to use their smart phone during the exam.

**Applicants are not allowed to have a phone or any other unauthorized material in their possession while taking an exam.** During check-in, Metro Institute collects and places all phones in a locked locker. Simply possessing a phone or unauthorized material during an exam is a violation of the exam rules and constitutes cheating. Be sure to thoroughly review all exam rules prior to taking it and remember exam rooms are always monitored by live proctors and security cameras.

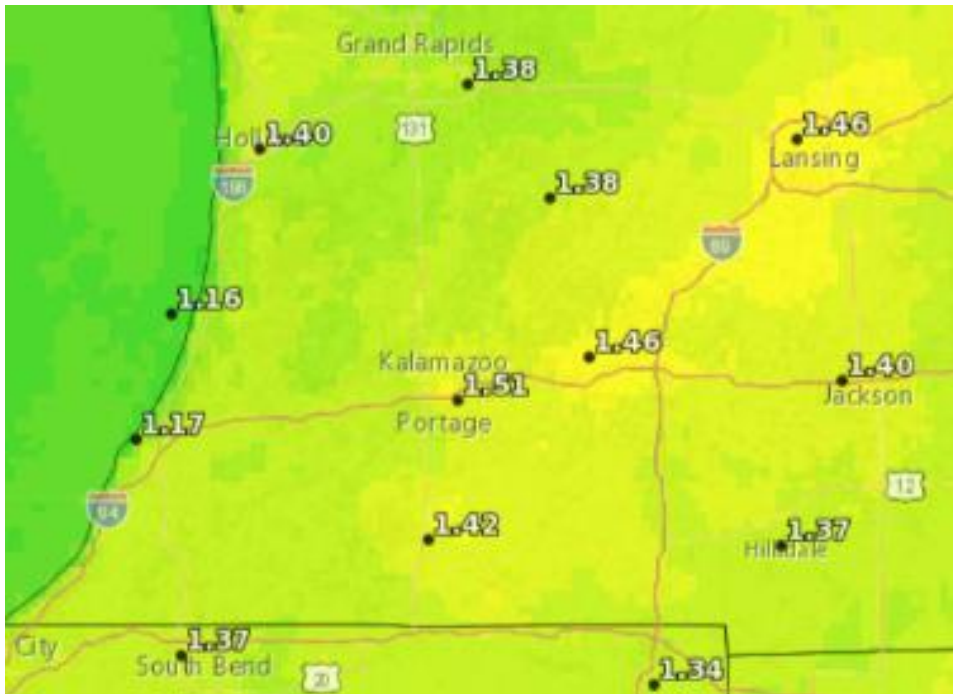
MDARD takes these incidents very seriously. Applicants caught cheating or violating any exam rules will be immediately expelled from the session (forfeiting their exam score and testing fee), barred from taking certification exams for six months, and may be denied a certification credential for at least one year.

Candidates applying for certification are strongly encouraged to confidently understand the study material before taking a certification exam session. If you need additional help preparing for exams, contact the [Michigan State University Pesticide Safety and Education Program](#).

## Weather and Crop Update

### Weather

Temperatures this past week were near normal in the region. The forecasted reference evapotranspiration rate (FRET) is similar to last week with 1.4-1.5 inches for most of the region for the week ending July 19 which is slightly above normal. The 6-10 outlook calls for near-normal temperatures shifting to a slight chance of above-normal in the 8-14 day outlook.

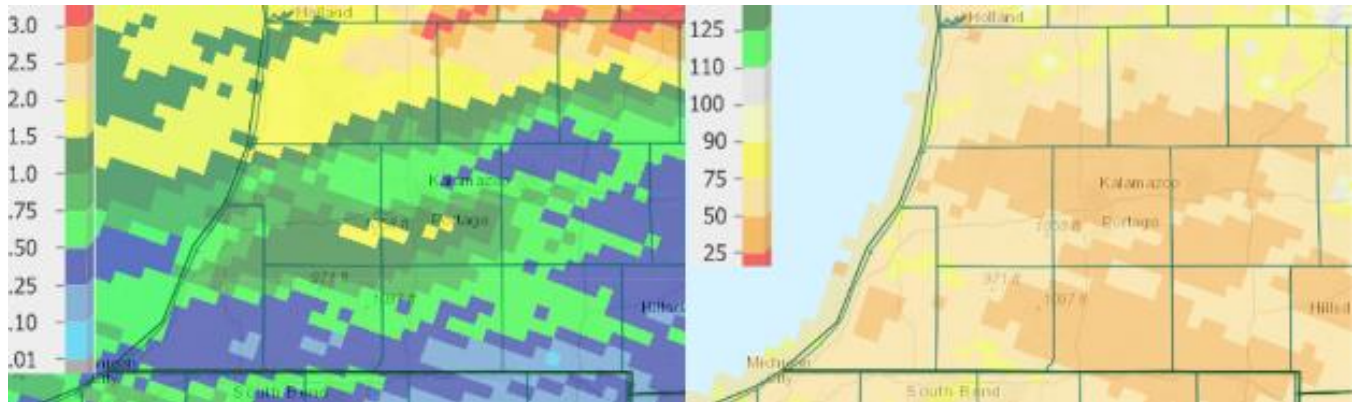


Total weekly forecasted reference evapotranspiration rate (FRET) for the week ending July 19.

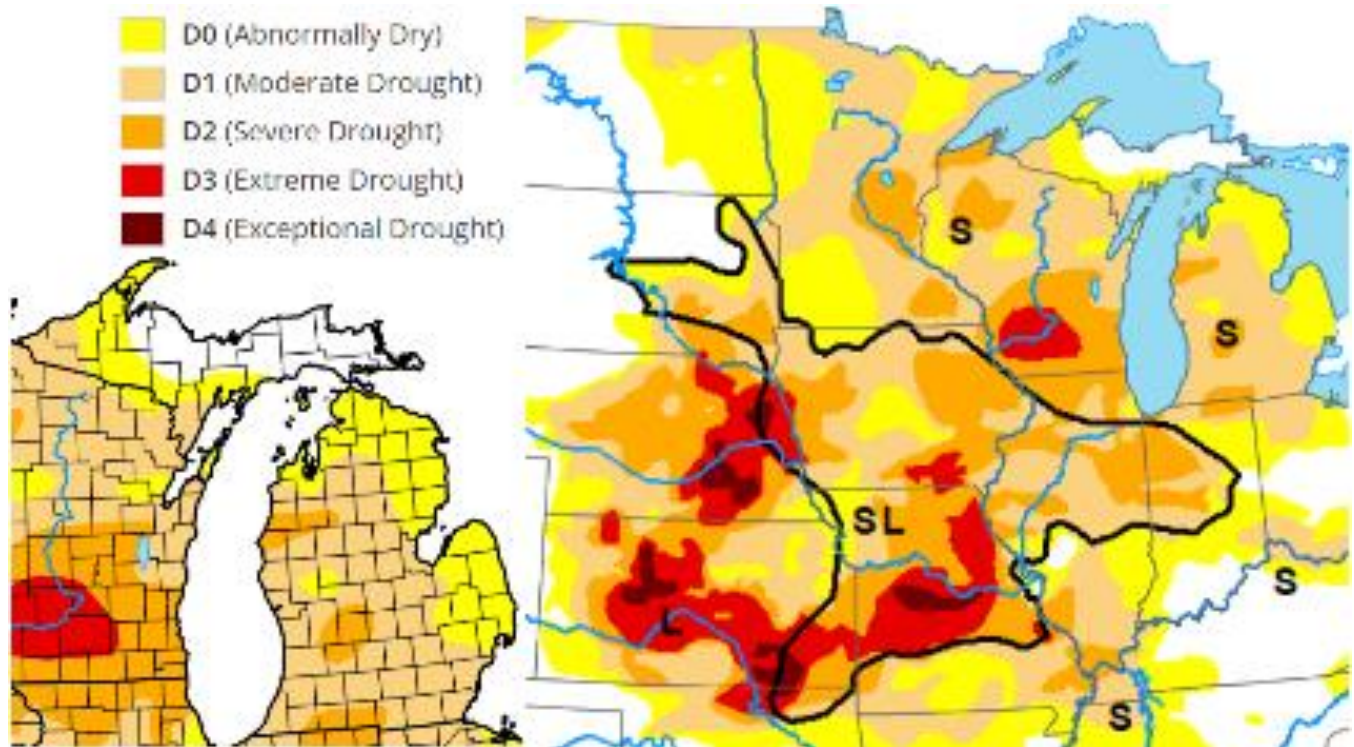
As predicted a couple of weeks ago, we have been getting more frequent chances of rain each week, and recent rain events have helped crops progress. However, we are still well below normal for rainfall totals, just not as

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much as we would have been without the recent rains...sort of like our growing national debt after some politician takes a few line items out of the budget and so we won't be as far in debt as we could be. The central part of the state received 2-4+ inches of rain on Wednesday although most of the southwest received less than one inch. The drought monitor (July 13 release) is once again largely unchanged from the prior week—53% of Michigan is now in D1 (moderate) drought and 7% is in D2 (severe) drought. The forecast for the coming week is for 0.75-1.5 inches of rain in the southwest, most of that predicted to fall between this Friday and Saturday. Both the 6-10 and 8-14 day outlooks show near-normal chances of rain through July 26.

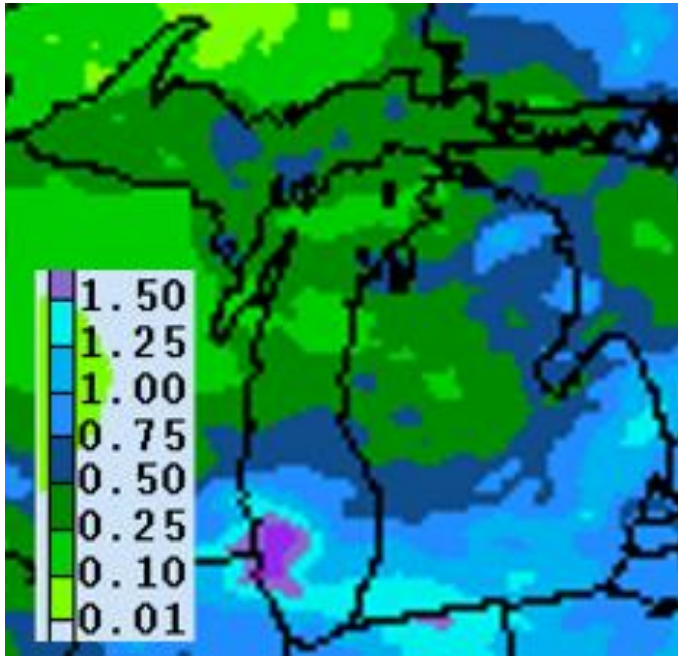


Precipitation totals for the past 24 hours (left) and percent of normal for the past 60 days (right) as of 10:00am on July 13.

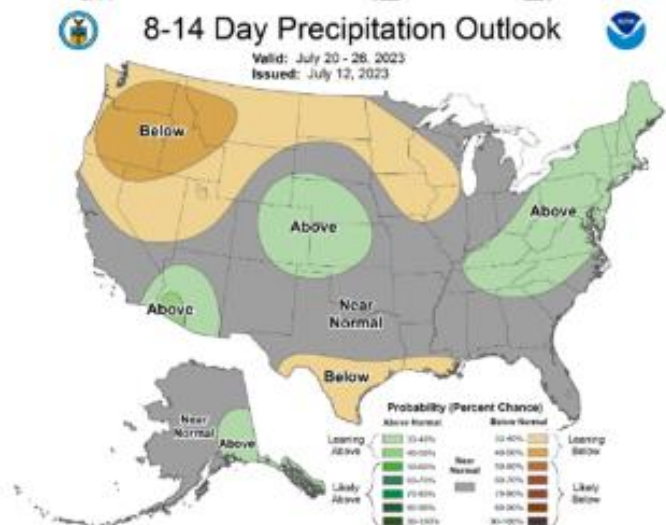
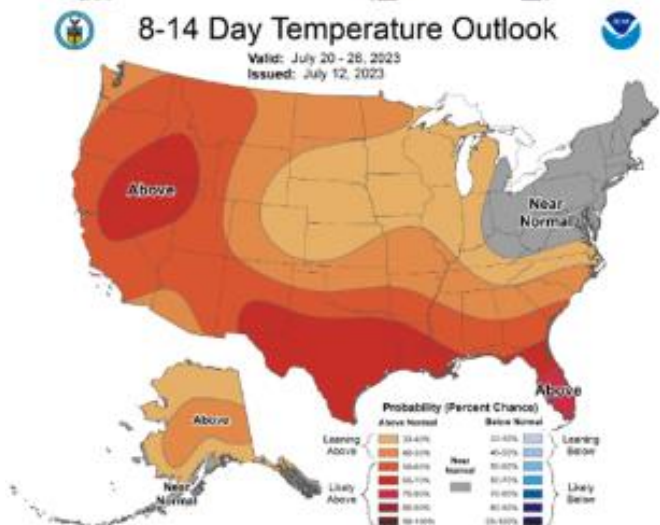
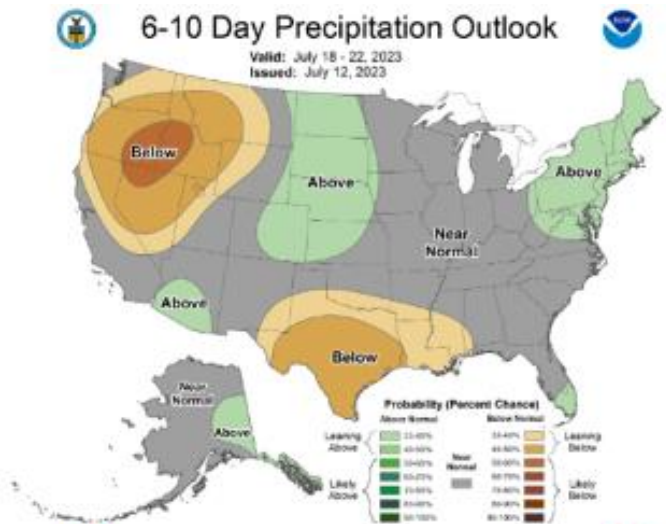
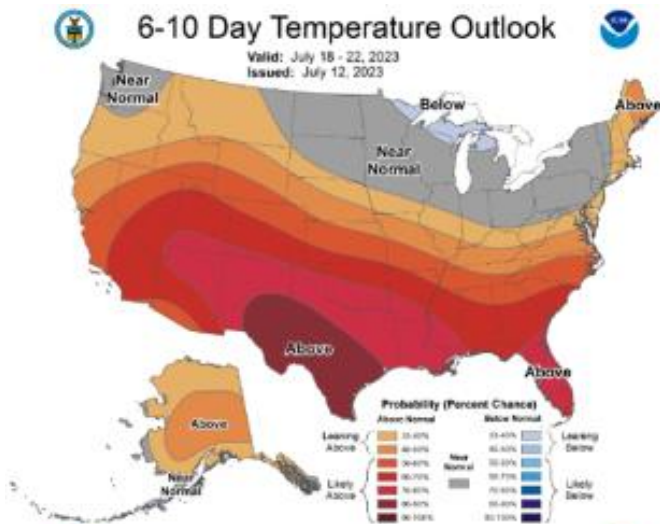


Drought monitor released July 13.





Precipitation forecast for July 13-20.

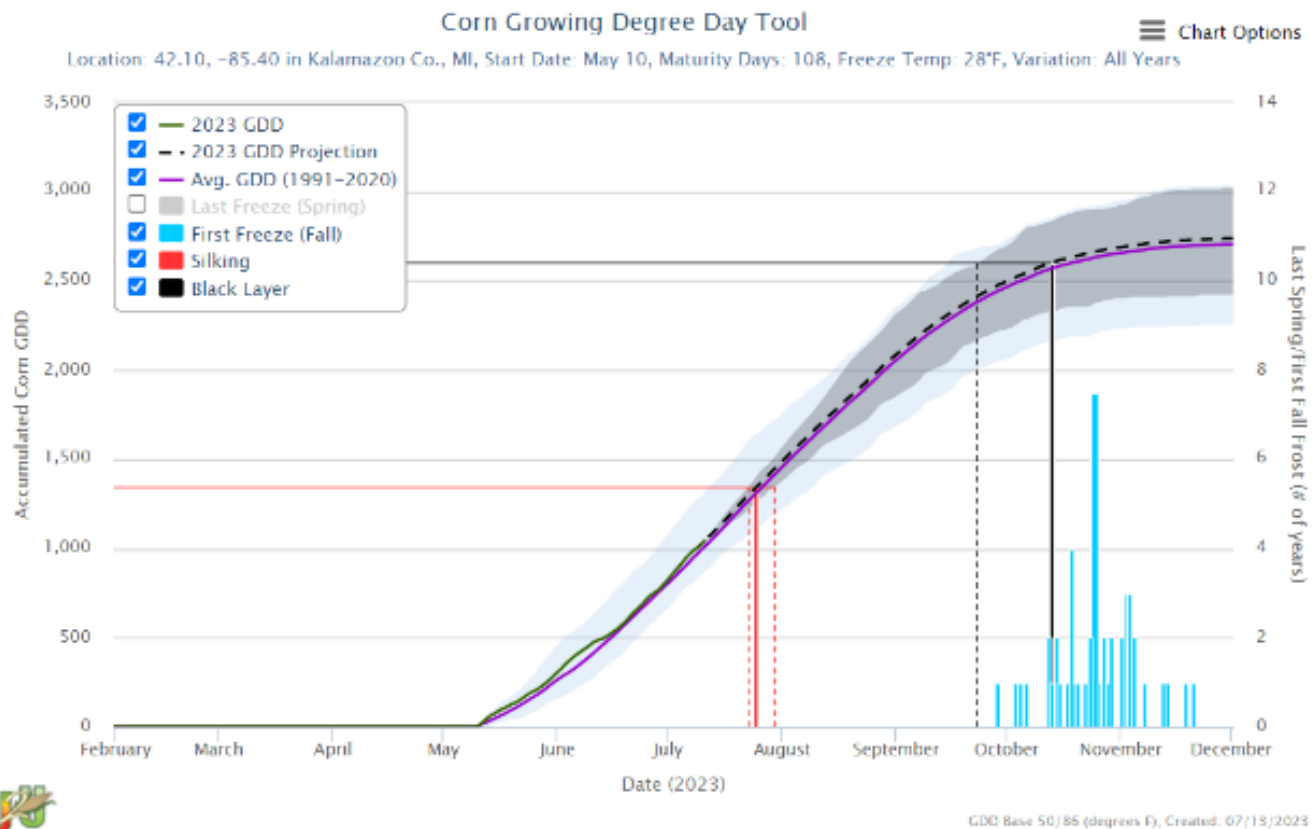


The 6-10 day (July 18-22, top) and 8-14 day (July 20-26, bottom) outlooks for temperature (left) and precipitation (right).

**Crops and Pests**

**Corn and soybean** have been helped along by rains earlier in the month, and this last round of showers will definitely help. The addition of 120 growing degree days (GDD base 50) over the past week has resulted in the addition of nearly two leaves in corn. At this point, it is difficult to determine the exact leaf stage as the lowest leaves will have fallen off. Counting the number of exposed leaf collars and adding 1-3 will give you an estimate. Corn requires roughly 66 GDD<sub>50</sub> to add a new leaf up through V14 at which point development speeds up and only ~48 GDD<sub>50</sub> are required for each leaf stage until tasseling, the next key stage, followed by silking. According to the [U2U Useful to Usable online corn development tool](#), 108-day corn planted on May 10 near Kalamazoo should be silking between July 23 and 30. However, we have only accumulated 960 GDD<sub>50</sub> since May 10 to date with another 160 GDD<sub>50</sub> forecasted over the coming week, so things would need to warm up quickly to reach that mark.

GDD Start:   Comparison Years:  Corn Maturity Days:  Silking GDDs:   
 Freeze Temperature (°F):  Variation:  Current Day:  Black Layer GDDs:



Corn development model U2U for 108-day corn planted on May 10 in Kalamazoo County.

Soybean has reached R2 (full flower, open flowers at one of the top two nodes) in some fields and most fields visited were at R1 (beginning flower, at least one open flower at any node). I did visit a couple of fields that had not begun flowering yet which is unusual given the time of year. Jim Specht, Professor Emeritus of Agronomy from the University of Nebraska – Lincoln, wrote in a personal communication that floral initiation is triggered by photoperiod and temperature but is not impacted by dry weather. MSU Extension soybean educator Mike Staton says the minimum nighttime photoperiod requirement for our region is well before June 21, so late flowering appears to be due to cool temperatures and variety. Purdue’s soybean specialist Shaun Casteel explained in their [current Pest and Crop Newsletter](#) that soybean flowering is late this year in Indiana as well but that it is not a cause for alarm, although he did suggest considering a later timing for fungicide and insecticide applications this year.

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Staton reported one field in Ionia County at R3 already (beginning pod, pods 3/16 inch at one of the four uppermost nodes). For those who don't stage crops often, I thought it would be helpful to see plants at various stages of flower development (see pictures, flowers can be white or purple). If not aborted, each spent flower will develop into a pod with R3 typically initiated around 10 days after the beginning of R2.



Soybeans planted May 10 in 15-inch rows fully canopied and at full flower (R2, inset). Photos courtesy of Eric Anderson.



Progression of soybean flower formation: pre-flower buds (upper left), open flower (upper right), flowers mostly desiccated (lower left), and flower death (lower right). Photos courtesy of Eric Anderson.

**Winter wheat** harvest has begun throughout the state with 3% harvested by the end of last week. With mostly warm and dry conditions since July 5<sup>th</sup>, harvest has increased in the region with several fields taken since the end of last week. MSU Extension state climatologist Jeff Andresen says wheat harvest should be able to resume early next week after showers end on Saturday, although there are slight chances of rainfall almost daily next week. According to USDA’s July 1 small grains report, they are expecting yields to be down 12% from last year across Michigan with 71 bushels estimated.

For those considering harvesting straw, A&L Great Lakes Lab posted the following reminder recently about the value of wheat straw with regards to nutrient removal.

“IPNI nutrient removal data shows wheat straw removing 12 pounds N, 3.3 pounds of P<sub>2</sub>O<sub>5</sub>, and 24 pounds of K<sub>2</sub>O per ton. An 80 bushel per acre wheat crop will produce on average 4 ton per acre of straw with a low harvest cut height. Be sure to calculate the cost to replace those nutrients when pricing the straw product. The cost to replace the P and K removed in the straw is approximately \$50 per ton. The replacement cost of the N, P, and K is about \$55 per ton. These prices will vary with the fertilizer market. Several factors can affect the actual removal rates such as rainfall following harvest and prior to baling that will leach a portion of the potassium back to the soil.”



Wheat harvest has begun in southwest Michigan. Photo courtesy of Eric Anderson.

**Insects.** Purdue’s western bean cutworm (WBC) counts for the northern sites for the week ending July 5 were mostly 1’s and 0’s although both Lake and LaPorte counties’ traps were in the teens. Those numbers jumped this week with one trap in Lake catching 26 and one in LaPorte catching 75. Traps in St. Joseph and Kalamazoo counties also jumped a bit this past week as these buggers apparently have a pretty good sense of when pre-tassel corn is expected.

Moth counts in western bean cutworm (WBC) traps in St. Joseph and Kalamazoo counties.

	3-Jul	10-Jul
WBC1	1	2
WBC2	1	9
WBC3	4	26
WBC4	0	7

**Irrigation.** A summary of crop coefficients and water needs for corn and soybean in the coming week is found in the table below with an estimated weekly FRET value of 1.5 inches.

Summary of rooting depth and crop water need for corn and soybean given a weekly evapotranspiration rate of 1.5 inches.

Crop stage	Crop coefficient (K <sub>c</sub> )	Rooting depth (in)	% of Growing season	Water needed this week (in)
<b>Corn</b>				
V4	0.20	10	15	0.30
V6	0.39	15	20	0.59
V8	0.56	20	27	0.84
V10	0.76	23	34	1.14
V12	1.0	26	50	1.50
V14	1.1	28	55	1.65
V16-VT	1.2	30	60	1.80
<b>Soybean</b>				
V3	0.6	16	11	0.90
R1	1.0	24	26	1.50
R2	1.1	24	32	1.65
R3-R6	1.2	24	41	1.80

## Southwest Michigan Field Crops Update – July 14, 2023 - 14

“Cover crops after wheat” was the topic of this week’s [MSU Extension Field Crops Virtual Breakfast](#) with Brook Wilke, MSU’s Associate Director for Science and Agronomy for the Long-term Agroecosystem Research project at the Kellogg Biological Station. The window after wheat harvest is a good time to implement efforts to improve soil health as there are typically three or more months remaining of the growing season for a cover crop to establish and accumulate below- and above-ground growth. Wilke discussed numerous options for species and gave recommended seeding rates and estimates of cost per acre.

Legumes such as hairy vetch, clovers, sunn hemp, peas and even soybean can provide a source of nitrogen for the next crop. Nitrogen credits of 0-100 lb N per acre can be achieved, although the upper end of that range is rare, and the exact amount depends on species, amount of biomass accumulated (depends on planting time, fall weather, first frost, etc.), and the timing and method of termination. Read the paper, “[Estimating Plant Available Nitrogen Release from Cover Crops](#)” for more information.

One strategy that is useful for early cover crop adopters and those wanting to simplify spring workload is to choose species that will winterkill. Examples include oats and radish, brassicas such as mustards and rapeseed, buckwheat, sorghum sudan and sunflower. Although you may have survivors during mild winters in Michigan like the one we just had, these species will usually not survive the winter.

You can also plant grass species such as cereal rye, barley triticale, or annual ryegrass. Keep in mind that annual ryegrass can be challenging to control, and since spring tillage typically brings up large clumps due to the extensive root structure, this species is best for no-till systems. Also keep in mind that you will have volunteer wheat growing in the field, so grass rates can be lowered to take that into account.

Wilke also addressed the risks associated with planting cover crops, particularly those that overwinter and especially in a dry spring like we just had when soil moisture could become depleted with late termination. He suggested terminating cover crops in April and avoiding tillage to avoid loss of too much water. On the flip side, when soils are too wet in the spring, cover crops can help to dry out fields and make them more accessible.

Several other points raised during the presentation included:

- Consider planting overwintering cover crops in rows where the next crop will be planted to dry out soils for planting but using species that will winterkill between those rows.
- All cover crops need to be incorporated after wheat as the residue on the surface and typically moisture-depleted soils near the surface will impede establishment.
- Consider using the lower end of seeding rate recommendations to achieve the benefits of the cover crop and reduce costs.
- If using mixtures, mix different plant types together, don’t overthink what species to include, and reduce seeding rates proportionally.

If you were not able to join the session, the recordings will be closed-captioned and available at the [Field Crops Virtual Breakfast](#) webpage and the MSU Extension Field Crops Team social media platforms: [Facebook](#), [Spotify](#), [YouTube](#), [Apple Podcasts](#), and [Twitter](#).

## Calendar

(Note: Titles are clickable links to online content when highlighted and underlined)

- Jul 17** [Biochar in Michigan Field Day](#). 9am-12pm, 8:30am registration. Kellogg Biological Station, 3700 E. Gull Lake Drive, Hickory Corners, MI. Registration closes July 7<sup>th</sup>.
- Jul 20** [Virtual Breakfast – Tar Spot in Corn with Marty Chilvers](#). 7-8am. Register online once for the entire series.
- Jul 27** [Virtual Breakfast – Bug Update with Chris DiFonzo](#). 7-8am. Register online once for the entire series.

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- Aug 3**      **Virtual Breakfast – Identifying and Correcting Drainage Underperformance Issues with Ehsan Ghane.** 7-8am. Register online once for the entire series.
- Aug 8**      **Tillage Field Day.** 8:30am-12pm. MSU Mason Research Farm, 1614 Okemos Rd, Mason, MI. Focus on different tillage implements and their impact on the soil. Open to the public, cost is free but registration is required.
- Aug 8**      **Tillage In-Service.** 12:15-4pm. MSU Mason Research Farm, 1614 Okemos Rd, Mason, MI. More in-depth discussions on tillage and soil health. Open to MAEAP technicians, Conservation District staff, and MSU Extension staff. Cost is \$10, includes lunch, register online.

## MSU Extension Digest Briefs

### PUBLISHED ON JULY 13, 2023

- **TILLAGE AND SOIL HEALTH FIELD DAY QUICKLY APPROACHING** - Farmers have a direct impact on soil quality through many of their field practices, including tillage. Learn about tillage equipment on Aug. 8 at the Tillage and Soil Health Field Day and In-service in Mason.
- **FUNGICIDE USE FOR MANAGING WHITE MOLD IN SOYBEANS** - Consider these factors when deciding if and when fungicides should be applied to manage white mold in soybeans, as well as selecting effective fungicides and equipping and operating sprayers.

### PUBLISHED ON JULY 12, 2023

- **JULY WEATHER RESULTS IN PEAK WATER USE FOR MOST FIELD CROPS** - Be prepared if rain falls short.

### PUBLISHED ON JULY 11, 2023

- **TAR SPOT IN CORN CROPS DISCUSSED IN UPCOMING FIELD CROPS VIRTUAL BREAKFAST SERIES** - The July 20 Field Crops Virtual Breakfast will feature Martin Chilvers discussing corn tar spot.
- **MSU RESEARCHERS RECEIVE \$750K GRANT TO STUDY SOIL HEALTH AMID CHANGING RAINFALL PATTERNS** - The funding comes from the U.S. Department of Agriculture's National Institute of Food and Agriculture.

### PUBLISHED ON JULY 6, 2023

- **WHAT'S THAT BLACK MOLD ON MY WHEAT?** - Sooty mold and black point are appearing on wheat.
- **DEALING WITH DROUGHT-STRESSED FORAGES** - Do you have a plan for your drought-stressed forage fields?

### PUBLISHED ON JULY 5, 2023

- **RECORDKEEPING FOR WOMEN IN AGRICULTURE SEMINAR SERIES IN THE THUMB** - Learn about maximizing your farm's recordkeeping at a meeting designed for women with children's activities provided.
- **THRIPS, APHIDS AND MITES: PIERCING-SUCKING PESTS THAT THRIVE IN DRY WEATHER** - Due to the warm, dry nature of this summer, concerns of insect problems are on the horizon for field crops.
- **UNDERSTAND THE INHERENT UNCERTAINTY OF YOUR PHOSPHORUS MONITORING STRATEGY** - Grab sampling has the lowest accuracy and automated monitoring has the highest accuracy in the phosphorus load estimate.

### PUBLISHED ON JUNE 29, 2023

- **UPCOMING FIELD DAYS IN SOUTHERN MICHIGAN** - Summer is in full swing and there are many opportunities for farm field days coming up in the Western Lake Erie Basin.

### PUBLISHED ON JUNE 28, 2023

- **CALL TO REGISTER FOR MICHIGAN'S 2023 FARM DRAINAGE FIELD DAY** - Promoting soil health, nutrient management and water management on Aug. 8-9, 2023.

## Southwest Michigan Field Crops Update – July 14, 2023 - 16

### PUBLISHED ON JUNE 27, 2023

- [A GUIDE FOR MONITORING PHOSPHORUS](#) - Subsurface drainage discharge and surface runoff are pathways for phosphorus (P) loss from subsurface-drained farms.
- [REVISING YOUR GRAIN MARKETING STRATEGIES DURING A DROUGHT](#) - Have you reviewed your market strategies and are they keeping up with changes in the market environment?
- [PRICING STANDING FORAGE](#) - How to determine forage prices - finding a starting point for short-term sales.
- [FRUIT AND VEGETABLE GROWERS MAY BE ELIGIBLE FOR ADDITIONAL USDA PANDEMIC FUNDS FOR A LIMITED TIME](#) - Deadlines of programs for losses from 2020 and/or 2021 have been extended to July 14.
- [DE GRINS OER DAIRY IN BLANCHARD WILL HOST JULY 29 BREAKFAST ON THE FARM](#) - Looking for a free, fun educational farm tour? Mark your calendars for July 29 when Michigan State University Extension and De Grins Oer Dairy partner to give consumers a taste of modern dairy production.
- [MEET THE FAMILY BEHIND DE GRINS OER DAIRY - 2023 BREAKFAST ON THE FARM HOSTS](#) - The Okkema family of De Grins Oer Dairy in Blanchard Michigan, is excited to host Breakfast on the Farm. Tjerk, Ramona and their family will welcome visitors on July 29 for a free, farm-cooked breakfast and self-guided tour.

### PUBLISHED ON JUNE 26, 2023

- [DEAN BAAS RECOGNIZED AS AN NCR-SARE HERO](#) - North Central Region Sustainable Agriculture Research and Education (NCR-SARE) celebrates Michigan cover crop advocate.

### PUBLISHED ON JUNE 21, 2023

- [HELPING YOUR FARM MANAGE DROUGHT CONCERNS AND PESTICIDE COSTS](#) - MSU Extension adds new decision tool to help consider costs of pesticide strategies.

### PUBLISHED ON JUNE 20, 2023

- [BASICS OF ELECTRICAL WEED CONTROL](#) - Electrical weeding is an option for eliminating escaped weeds in numerous agricultural industries.
- [ELECTRICAL WEED CONTROL IN VEGETABLES AND FIELD CROPS](#) - Electrical weed control is an emerging method for managing late-season, escaped and herbicide-resistant weeds in organic and conventional fields.
- [UPCOMING EVENT ON BIOCHAR IN MICHIGAN AGRICULTURE](#) - Join us July 17 at the Kellogg Biological Station for an educational discussion and field tour on biochar use in field crops.

### PUBLISHED ON JUNE 19, 2023

- [SHOULD YOU PLANT DOUBLE CROP SOYBEANS IN MICHIGAN?](#) - The high soybean price has increased interest in planting double crop soybeans after wheat harvest this summer. Producers need to understand and manage the risks of this practice.

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