

Southwest Michigan Field Crops Updates November 2022

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.

Keep In Mind Soil Test K And pH Are Affected By Low Soil Moisture

Here is a recent article by Purdue's soil fertility specialist Jim Camberato for those who did soil sampling during dry periods earlier this fall. [The full article can be found here.](#)

The accurate analysis of representative soil samples to determine lime and fertilizer needs is fundamental to crop production. Dry soils are hard soils, so be sure to sample the full 8" depth, otherwise soil test results will be higher than actual values. The opposite will occur if surface soil is lost from the sample core. When soils are excessively dry it is more difficult to keep the entire core in the probe with the surface soil likely to fall out of the probe. In most soils the highest pH and nutrient values are in the upper inches of soil, so if this soil does not make it into the sampling bucket soil test values will be lower than actual values.

Unfortunately, even if soil sampling is accurate persistent dry weather resulting in prolonged periods of low soil moisture can affect soil test potassium (K) and pH, resulting in misleading soil test values. Dry weather soil tests can still be useful if one understands the potential impact of low soil moisture on soil test K and pH and uses this knowledge to adjust the interpretation of soil test results.

SOIL TEST POTASSIUM

Typically soil test K levels are lower than expected in a dry fall. One factor contributing to low soil test K is more than half of the K taken up by the crop during the growing season remains in the residue and has not been returned to the soil by rainfall. Soybean and corn tissues at harvest contain about 80 pounds K₂O per acre at grain yields of 60 and 200 bushels per acre, respectively (Table 1). Tissue K is returned to the soil as plant tissue decays and falls to the ground and as rainfall leaches the K out of this tissue and the standing crop. Research conducted in Iowa² showed that most of the K in soybean tissue is removed from the residues with 5-10 inches of rainfall, and only 12% of the original K content remained after 20 inches of rainfall (an amount typical of an Indiana fall and winter). In contrast, K removal from corn residues was much slower and less complete – 10 to 15 inches of rainfall were needed to remove approximately 50% of the original tissue K content, and 31% of the K in corn tissue at physiological maturity still remained in the tissue after 20 inches of rainfall. In the Iowa study every 10 pounds of K₂O per acre returned to the soil increased soil test 4 parts per million (8 pounds per acre). Therefore, the difference in soil test K in a dry fall could be approximately 32 parts per million (64 pounds per acre) if all the tissue K at maturity remained in the residues of 60 and 200 bushel per acre soybean and corn crops.

Table 1. Approximate potassium (K₂O) content of soybean and corn grain and tissue at maturity¹.

	Soybean	Soybean (60 bu/a)	Corn	Corn (200 bu/a)
Crop	lb K ₂ O/bu	lb K ₂ O/a	lb K ₂ O/bu	lb K ₂ O/a
Grain	1.15	69	0.20	40
Residue	1.4	84	0.4	80

In addition to dry weather reducing the return of K in plant tissue to the soil, the availability of soil K as measured by soil test methods is also affected by low soil moisture. Most Indiana soils contain 2:1 clays that vary in soil test K with soil moisture. When field moist soil high in K is dried for analysis, soil test K decreases. In contrast, when soil testing low in K is dried, an increase in soil test K occurs. If persistent dry conditions continue prior to soil sampling, K availability will likely be overestimated in low testing soils and underestimated in high testing soils. In Indiana topsoils the change in soil test K with drying has been approximately $\pm 15\%$ at the highest and lowest soil test K levels examined.

SOIL pH

Low soil moisture can also affect soil pH. If soil moisture has been insufficient for normal amounts of limestone reaction in soils limed this past spring, then soil pH may be lower than expected. The limestone remains in the soil, however, and with good winter moisture it will react and continue to increase soil pH.

Additionally, soil pH measured in water can also be affected by dry soil conditions. If higher than normal levels of fertilizer salts remain in the soil sample due to dry weather, then the pH reading may be about 0.1 to 0.5 pH units lower than the actual pH. This is an artifact of how pH is measured and occurs only if the measurement is made in water. Some soil testing laboratories avoid this problem by measuring soil pH in a salt solution and then calculate what the pH would have been if measured in water, without the influence of salt. Ask the soil testing laboratory what method they use to determine if a low pH measurement may just be an artifact of excess salts remaining in the sample or if it may actually be low.

New Site Opened for Pesticide Applicator Computer Testing

Metro Institute recently opened a new testing center location in Battle Creek. The new testing center is open Tuesday - Thursday 11:00 AM-5:00 PM. Here are the details for the new location along with several others in or near the southwest region.

- Sylvan Learning, 4625 Beckley Rd, Battle Creek, MI 49015
- Southwestern Michigan College, 58900 Cherry Grove Road, David Briegel Building Room 1103, Dowagiac, MI 49047
- Kalamazoo Valley Community College, 6767 West O Avenue, Texas Township Campus Room 2210, Kalamazoo, MI 49009
- Sylvan Learning, 1350 West Centre Avenue, Ste. 120, Portage, MI 49024
- Grand Rapids Community College, 143 Bostwick Ave NE Grand Rapids, Student Center Building Room 325, Grand Rapids, MI 49503
- Sylvan Learning, 3910 Burton St. SE, Suite 102, Grand Rapids, MI 49546

Michigan Farmers Asked to Help Determine Cost to Pollinate Crops

On Nov. 1, USDA's National Agricultural Statistics Service (NASS) will mail the 2022 Cost of Pollination Survey to Michigan crop producers. The survey will be sent to nearly 16,000 producers nationwide.

"Honey bees are important pollinators of crops ranging from almonds to zucchinis," said Marlo D. Johnson, Regional Director, USDA NASS, Great Lakes Region. "To help accurately depict the health of the pollination industry in the United States, NASS will ask crop producers about their use of honey bees, the fees they paid for honey bee pollination, and any other expenses related to pollinating their crops."

Survey recipients are asked to respond securely online at agcounts.usda.gov through the Respondent Portal, by mail, or fax. Those who do not respond by Nov. 14 may be contacted by a NASS representative to arrange an interview to complete the survey.

All information reported by producers will be kept confidential, as required by federal law. NASS will publish the survey data Jan. 11, 2023, on the NASS website at nass.usda.gov and in the NASS Quick Stats searchable database at www.quickstats.nass.usda.gov.

For assistance with the survey, producers are encouraged to call the NASS Great Lakes Regional Office at 800-453-7501.

PFAS in Drinking Water Survey

Below is a link to a survey to assess attitudes and perceptions concerning risks to drinking water in Michigan, with a focus on PFAS. This survey was developed by a research team at MSU and funded through the US Geological Survey's Water Resources Research Program. It is being distributed widely to residents throughout Michigan. If you would like to take part in the survey, you can access it at: https://msu.co1.qualtrics.com/jfe/form/SV_cG9dCnHTlaUwWmW. It has been reviewed and has been approved for distribution by the MSU Institutional Review Board Office in the Office of Research Regulatory Support. Participation in this survey is completely voluntary. As an incentive to participate, every 10th email submitted at the end of the survey (up to 550 emails) will receive a \$25 Amazon gift card. This information will not be connected with survey responses in any way.

If you would like more information, feel free to contact one of the investigators on the project: Dr. Mark Axelrod (axelrod3@msu.edu); Dr. Lois Wolfson (wolfson1@msu.edu); Ms. Ruth Kline-Robach (kliner@msu.edu) or Dr. Stephen Gasteyer (gasteyer@msu.edu).

MSU Open Positions in Agriculture

There are several job postings currently open within MSU Extension in agriculture - I am summarizing a few of them below. These are at a Masters degree level or a Bachelors and an earned Masters within the first ~5 years of employment. All open positions are posted on the [MSU Careers website](https://www.msu.edu/careers). Feel free to forward these to those who may be interested. If you or someone you know may be interested in a career with Extension and would like to talk with me to get "the inside scoop", don't hesitate to reach out.

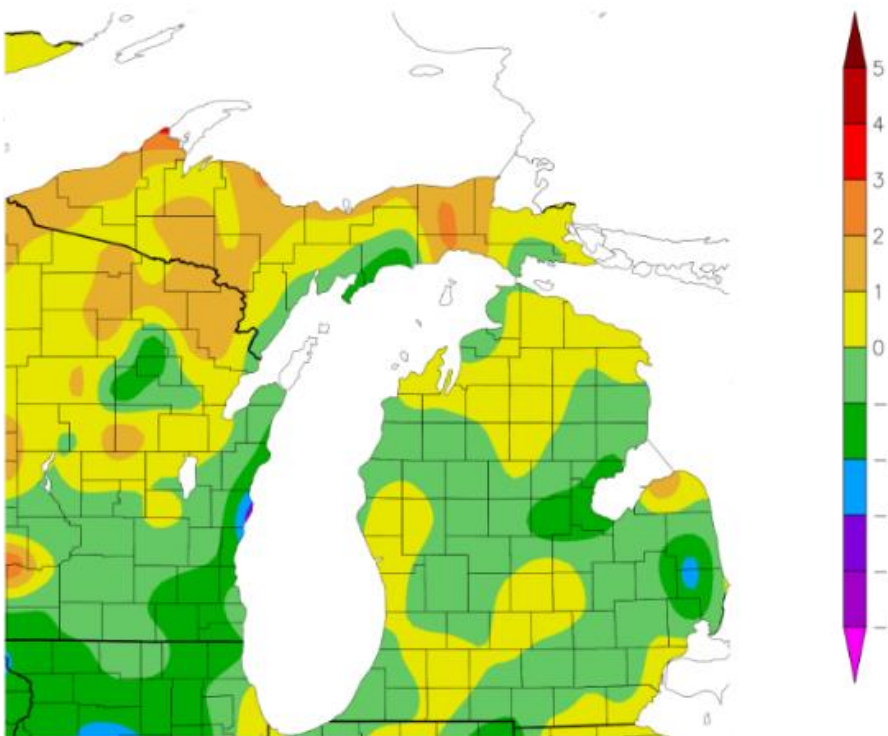
- Extension Educator - Regenerative Ag Systems, #822302, at the Kellogg Biological Station: In this position, you will identify, design, and implement projects that address priority concerns regarding the adoption of regenerative ag systems in Michigan and evaluate educational programs that meet industry needs. Application Deadline: 11/28/2022.

- Extension Educator - Compost Systems, #822390, on Campus: In this position, you will identify, design, implement and evaluate educational programs that meet outreach needs related to agricultural, commercial, and municipal compost systems. Application Deadline: 11/28/2022.
- Extension Educator - Conservation Agronomist, #823791, based in Jackson County. In this position, you will identify, design, implement and evaluate programs that meet outreach needs related to the adoption of agriculture cropping systems, including diversified crop rotations, cover crops, changes in tillage practices, technological innovation, advanced fertility management, and the inclusion of agricultural conservation practices into farming systems. Application Deadline: 11/28/2022.

Weather and Crop Update

Weather

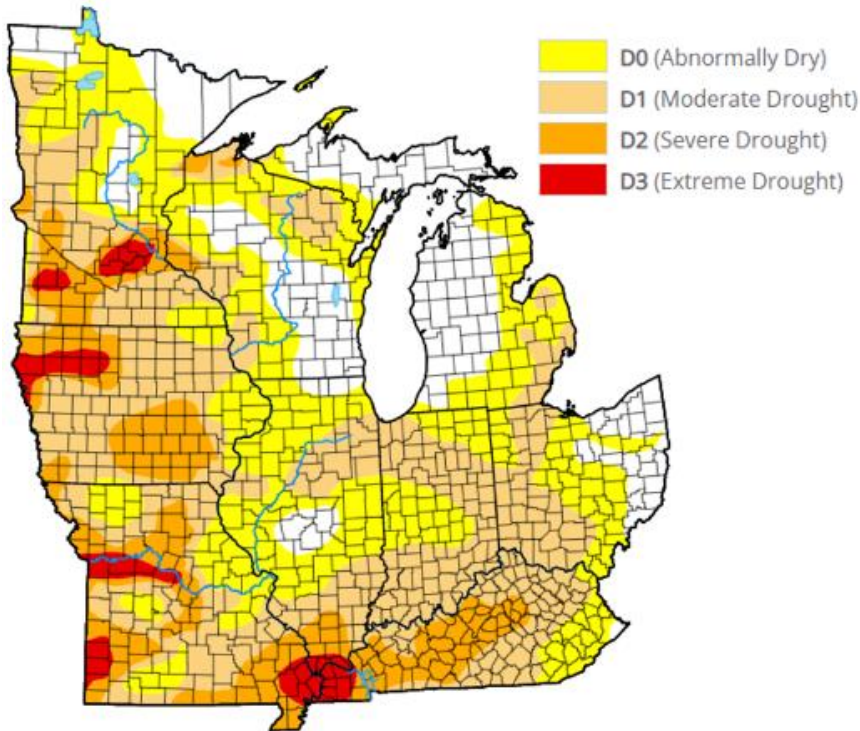
Temperatures were within one degree of normal during October. Both the 6-10 day and 8-14 day outlooks call for above-normal temperatures through the middle of November.



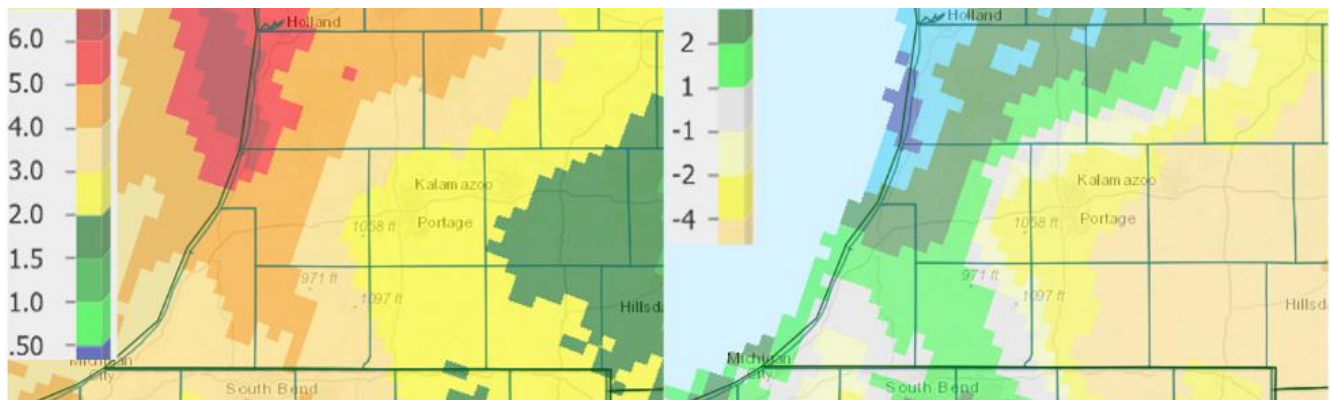
Departure from normal temperature for the month of October.

Precipitation was between 2 inches below normal toward the eastern side of the region and 2 inches above normal along Lake Michigan in October. That was about the same scenario in September, and the current drought monitor reflects that pattern. The forecast for the coming week calls for between 0.5 and 1.0 inch. The medium-range outlooks call for near-normal chances of precipitation through the middle of the month. The winter precipitation outlook based on current modeling is for above-normal precipitation levels for the Lower Peninsula.

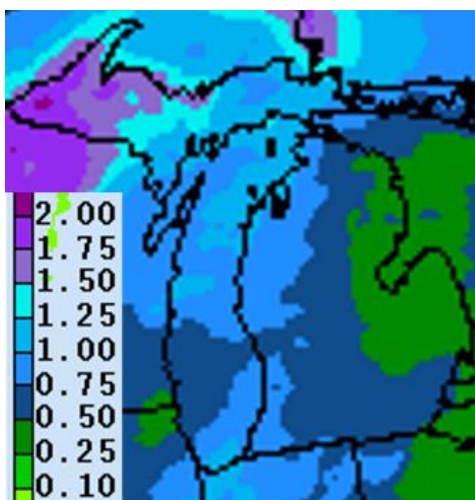
Southwest Michigan Field Crops Update – November 2022 - 5



Drought monitor released October 27.

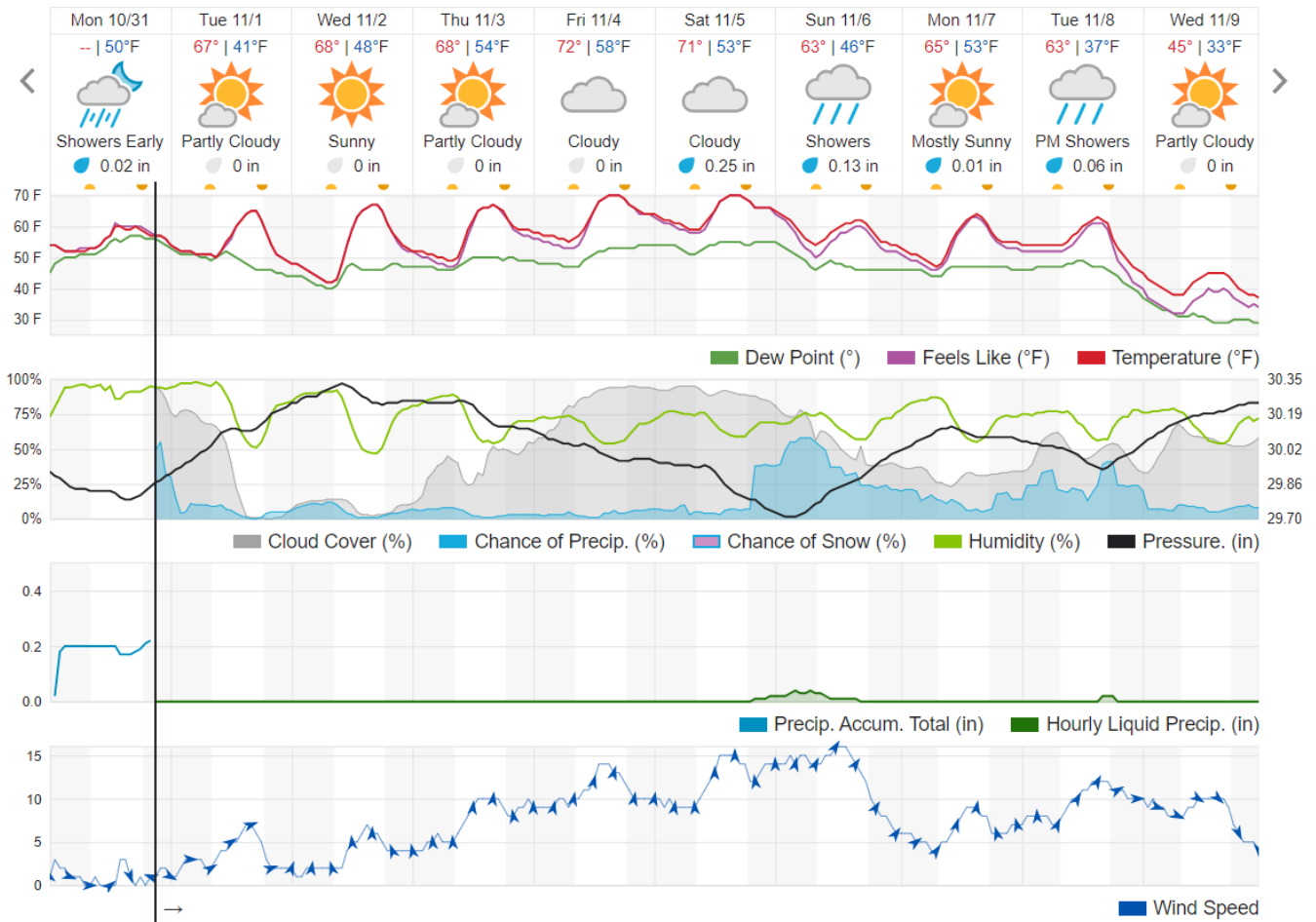


Precipitation totals (left) and percent of normal (right) for the past 30 days as of October 31.



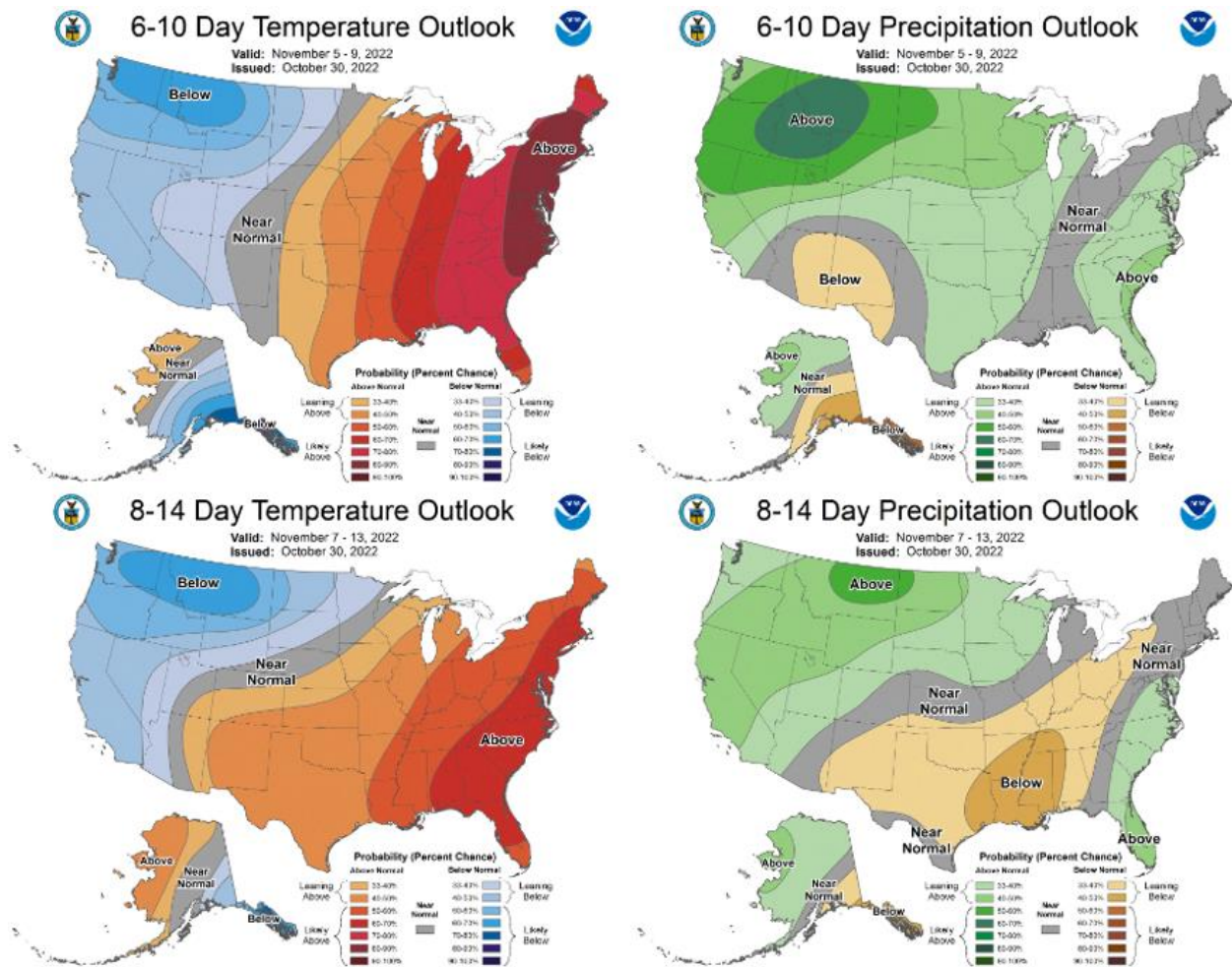
Precipitation forecast for Oct 31-Nov 7.

Southwest Michigan Field Crops Update – November 2022 - 6

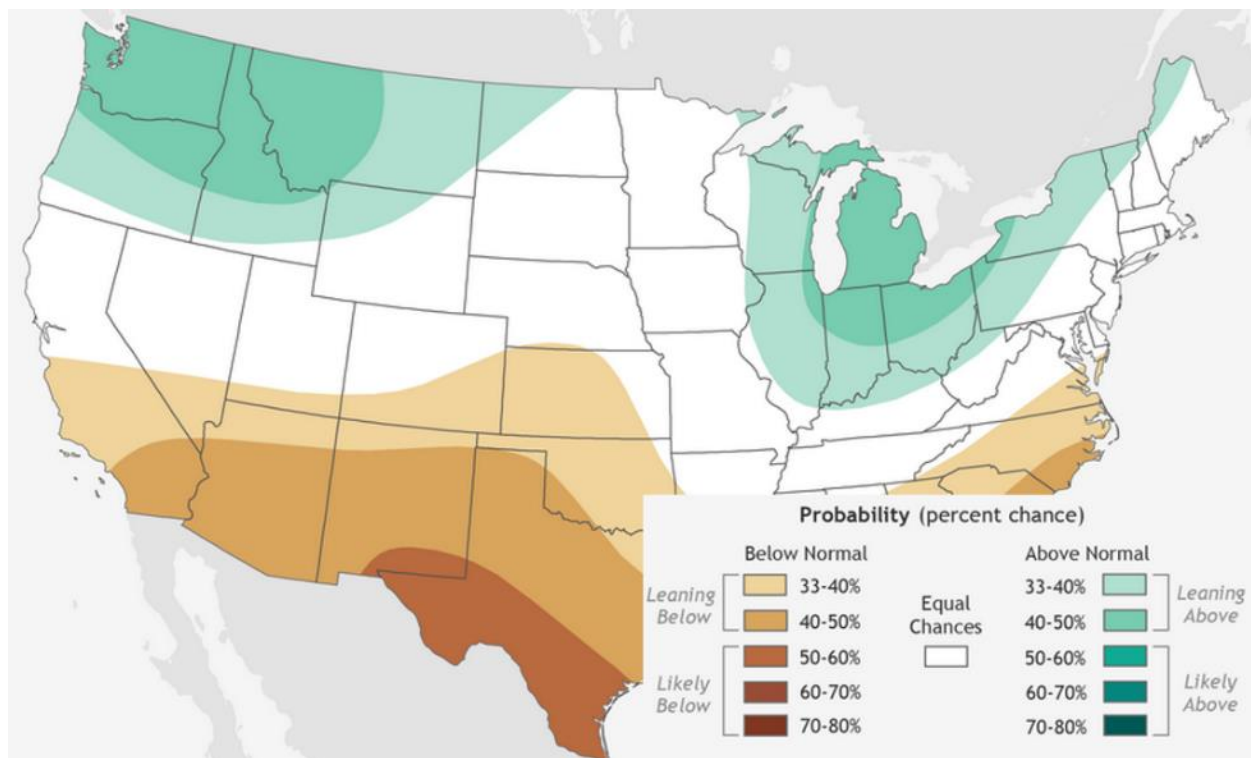


The 10-day weather forecast for Kalamazoo according to wunderground.com.

Southwest Michigan Field Crops Update – November 2022 - 7



The 6-10 day (Nov 5-9, top) and 8-14 day (Nov 7-13, bottom) outlooks for temperature (left) and precipitation (right).



Precipitation winter outlook from NOAA.

Crops and Pests

Corn is 43% harvested in Michigan, which is equal to the 5-year average, according to the USDA Crop Report. I would estimate that we are closer to half harvested in our region. **Soybean** is 77% harvested in Michigan which is 11% ahead of average, and I would estimate that we are between 80 and 90% harvested down here. Every farmer I have talked with has reported better than average yields on both corn and soybean which reflects the very good growing conditions we had throughout much of the season.

Wheat is 94% planted and 74% emerged in the state as of the end of last week which is 9% ahead of normal. Seeding rates should be increased to the upper end of the recommended range - closer to 2.2 million seeds/acre.

Preliminary Winter Calendar

I will update this as more details become available

Titles are clickable links to online content when highlighted and underlined

- November 22, 2022** [Strategies for 2023 Farm Inputs](#). 7:00-8:30pm. 1 RUP, 1 CEU. Cost is free. Register online.
- December 6-8, 2022** [Great Lakes Fruit and Veg Expo](#). Grand Rapids.
- December 13-14, 2022** [Indiana Certified Crop Advisor Program](#). Indianapolis, IN. Register online.
- December 16, 2022** [Michiana Irrigation Association Winter Workshop](#). 8:30am-3:30pm. Das Dutchman Essenhaus, 240 US-20, Middlebury, IN. Contact Deanna Mumby (mumbyde@yahoo.com) or Lyndon Kelley (kelleyl@msu.edu) to register.
- December 19, 2022** [Integrated Crop and Pest Management Update](#). 9am-4pm. MSU Livestock Pavilion. Offered in-person and virtually. Cost is \$65 in-person (\$80 at door) or \$35 online, both include 2023 MSU Weed Control Guide. RUP & CCA credits (6 each) available. Register by Dec 11.
- January 4-5, 2023** [Ohio Organic Grains Conference](#). Founder's Hall at Sauder Village, 22611 State Rt. 2, Archbold, OH. Register online.
- January 10-11, 2023** [MABA 2022 Winter Conference & Trade Show](#). Lansing, MI.
- January 12, 2023** [Michigan Soybean Regional Meeting](#). 8:45am-12:30pm. GreenMark Equipment, 16700 Heimbach Rd., Three Rivers, MI. The Michigan Soybean Checkoff program is covering all costs, but pre-registration is requested to ensure an accurate count for lunch and materials. Contact Mike Staton (staton@anr.msu.edu, 269-673-0370, ext. 2562) with questions.
- January 17-19, 2023** [Fort Wayne Farm Show](#).
- January 23, 2023** [MSU Extension Pest and Crop Management SW Regional Update](#). 9am-3pm. Dowagiac Conservation Club, Dowagiac, MI. Cost is \$40. Register online.
- January 25-26, 2023** [Great Lakes Crop Summit](#). Soaring Eagle Casino, Mt. Pleasant, MI.
- February 1-2, 2023** [Southwest MI Hort Days](#). Lake Michigan College's Mendel Center, 1100 Yore Avenue, Benton Harbor, MI. Contact Renee Tinkey at 269-944-1477 ext. 201 for more information.
- February 6, 2023** [Field Crops Webinar Series Begins](#). 7-8pm Monday evenings through March 27. Cost is \$20/person for 8-week series. 1 RUP, 1 CCA credit available for each live session. Register online. Contact Eric Anderson (eander32@msu.edu, 269-359-0565) with questions.
- February 7, 2023** [MSU Extension Pest and Crop Management SE Regional Update](#). 9am-3pm. Old Mill Museum, 242 Toledo St, Dundee, MI (5 min from Cabela's). Cost is \$40. Register online.
- February 15-18, 2023** [Louisville Farm Machinery Show](#).

- February 20, 2023** [**Branch County Farmers Day Field Crops Sessions**](#). 8am-12pm. Coldwater, MI, exact location TBD. RUP and CCA credits available. Call the Branch County Extension office (517-279-4311) for more details.
- February 20, 2023** [**In-Person Pesticide Applicator Training/Testing**](#). 8am-2pm. Coldwater, MI, exact location TBD. Pesticide training+testing session will be offered concurrently with the BCFD field crops educational session. This is the only testing session scheduled this winter for south-central MI. Must attend both training and testing. Core exam only, no categories, and no RUP credits available. Cost is \$25 for training, separate fee paid to MDARD for licensing. Register online.
- February 22, 2023** [**MI Wheat Annual Meeting**](#). Frankenmuth, MI.
- March 6, 2023** [**Michiana Irrigated Corn and Soybean Production Workshop**](#). 8:30am-4pm. Blue Gate Restaurant, Shipshewana, IN. Register online after the first of the year. Call Purdue Extension (260-636-2111) for information.
- March 7-9, 2023** [**MSU Drainage Design Workshop**](#).
- March 9-11, 2023** [**Commodity Classic**](#). Orlando, FL.

MSU Extension Digest Briefs

PUBLISHED ON OCTOBER 31, 2022

- [MICHIGAN PESTICIDE APPLICATOR RECERTIFICATION CREDITS AVAILABLE IN PERSON AND ONLINE BEFORE THE END OF THE YEAR](#) - Growers needing a few more credits to renew their pesticide applicator license have some online and in-person opportunities available.
- [HEROES TO HIVES ONLINE PROGRAM MOVES TO MICHIGAN FOOD & FARMING SYSTEMS FOR THE 2023 BEEKEEPING SEASON](#) - Michigan State University Extension continues to provide educational resources and host hands-on beekeeping workshops to veterans and the program.

PUBLISHED ON OCTOBER 29, 2022

- [INPUT PURCHASING PLAN TEMPLATE \(EXCEL\)](#) - MS Excel based template for use in creating an input purchasing plan.
- [INPUT PURCHASING PLAN TEMPLATE \(WORD\)](#) - MS Word based template for use in creating an input purchasing plan

PUBLISHED ON OCTOBER 28, 2022

- [STRATEGIES FOR 2023 FARM INPUTS](#) - A November 22 MSU Extension webinar will discuss lowering your costs while maximizing your cash.

PUBLISHED ON OCTOBER 27, 2022

- [RECONDITIONING OVERLY DRY SOYBEANS IS PROFITABLE BUT RISKY](#) - Recommendations for adding value to overly dry soybeans and reducing the risks when reconditioning them.

PUBLISHED ON OCTOBER 21, 2022

- [FIELD STOCKPILING OF MANURE AND POULTRY LITTER](#) - Preparing for field amendment when the time is right.

PUBLISHED ON OCTOBER 19, 2022

- [SUSPECT HERBICIDE RESISTANCE? SUBMIT WEED SEEDS FOR SCREENING](#) - Collect weed seeds September-October to submit for herbicide resistance screening.

PUBLISHED ON OCTOBER 17, 2022

- [MICHIGAN PESTICIDE APPLICATOR REVIEW SESSIONS, RECERTIFICATIONS CREDITS AND TESTING OPTIONS FOR FALL 2022 AND WINTER 2023](#) - Frequently asked questions about when and where pesticide applicators can earn education credits or take the certification exam.
- [MAXIMIZE SEED AND CHEMICAL PURCHASES WHILE REDUCING COSTS](#) - Introducing new decision tools from MSU Extension.

PUBLISHED ON OCTOBER 14, 2022

- [HOW WILL PFAS IMPACT THE MICHIGAN CATTLE INDUSTRY?](#) - Forever chemicals are a known contaminant throughout Michigan that has been found in beef.

PUBLISHED ON OCTOBER 13, 2022

- [PESTICIDE COST COMPARISON DECISION TOOL](#) - The Pesticide Cost Comparison Decision Tool provides farm producers with an ability to consider integrated pest management strategies and product costs.
- [SEED SELECTION COST COMPARISON DECISION TOOL](#) - The Seed Selection Cost Comparison Decision Tool provides farm producers with an ability to consider yield and economic returns of selecting seed products.
- [A FIELD GUIDE TO SOIL SAMPLING](#) - Soil sampling is a foundational step to make effective farm management and soil fertility decisions. This step-by-step field guide is a summary of best practices and recommendations for composite soil sampling to help you do just that.
- [SUPPORT BEES, OTHER POLLINATORS THROUGH THE POLLINATOR PROTECTION FOR PESTICIDE APPLICATORS ONLINE COURSE](#) - Pesticide applicators in Michigan can earn one restricted use pesticide (RUP) credit in this free, self-paced, online course.

PUBLISHED ON OCTOBER 11, 2022

- [PROVIDING TIMELY AND RELEVANT INFORMATION FOR FIELD CROP PRODUCERS IN CHALLENGING TIMES](#) - Michigan State University Extension works to improve farm personnel well-being and income, expand agriculture-related businesses and increase employment opportunities, making agriculture one of the strongest industries within Michigan.
- [PODCAST CELEBRATES 50 YEARS OF INTEGRATED PEST MANAGEMENT PROGRESS](#) - Join researchers and educators as they reflect on the past, present and future of integrated pest management.

PUBLISHED ON OCTOBER 10, 2022

- [TIPS FOR IMPROVING THE WATER QUALITY PERFORMANCE OF CONSERVATION DRAINAGE PRACTICES](#) - Learn which pipe property improves the water quality performance of saturated buffers, denitrifying bioreactors and phosphorus removal structures.

PUBLISHED ON OCTOBER 7, 2022

- [NEMATODE DIAGNOSTICS, A CHANGING OF THE GUARD AT MSU PLANT & PEST DIAGNOSTICS](#) - Long-time nematology diagnostician, Fred Warner, has retired and testing continues under the direction of Angie Tenney.
- [INTEGRATED CROP AND PEST MANAGEMENT UPDATE HELD AS HYBRID ON DECEMBER 19, 2022](#) - The 24th annual Integrated Crop and Pest Management Update will be offered in-person and virtually and feature crop and pest management recommendations, on-farm research data and pesticide certification credits.

PUBLISHED ON OCTOBER 4, 2022

- [USDA RENEWS INSURANCE OPTION \(PACE\) TO PROTECT NITROGEN INVESTMENT IN 2023](#) - Still Only Available in Select Michigan Counties.
- [CEREAL RYE VARIETIES GROWN IN MICHIGAN SHOW SUBSTANTIAL DIFFERENCES IN GROWTH HABIT, YIELD AND QUALITY FOR DISTILLED SPIRITS](#) - Growers and distillers can use this information to select the best rye varieties for Michigan.

Eric Anderson
Michigan State University Extension
Field Crops Educator - St. Joseph County
612 E. Main St., Centreville, MI 49032
(269) 359-0565 (Home Office)
(269) 467-5511 (Extension Office)
eander32@msu.edu

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