PURDUE UNIVERSITY Extension - Entomology

Pest&Crop newsletter

Issue: 2023.13
June 16, 2023

Purdue Cooperative Extension Service and USDA-NIFA Extension IPM Grant
This work is supported in part by Extension Implementation Grant 2017-70006-27140/ IND011460G4-1013877 from the USDA National Institute of Food and Agriculture.

In This Issue

Armyworm Pheromone Trap Report – 2023

(John Obermeyer)

County/Cooperator	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11
Dubois/SIPAC Ag Center	0	80	56	14	25	48	3	4	6	0	0
Jennings/SEPAC Ag Center	21	20	39	8	12	11	1	1	0	1	8
Knox/SWPAC Ag Center	37	242	46	26	16	6	5	3	0	0	0
LaPorte/Pinney Ag Center	60	296	216	54	56	401	140	5	5	3	2
Lawrence/Feldun Ag Center	159	99	197	70	41	119	48	329	91	11	18
Randolph/Davis Ag Center	57	0	0	2	5	414	280	48	9	15	0
Tippecanoe/Meigs	36	56	51	8	6	39	31	32	23	6	6
Whitley/NEPAC Ag Center	0	259	179	13	39	323	142	39	2	1	0

Wk 1 = 4/1/23-4/5/23; Wk 2 = 4/6/23-4/12/23; Wk 3 = 4/13/23-4/19/23; Wk 4 = 4/20/23-4/26/23; Wk 5 = 4/27/23-5/3/23; Wk 6 = 5/4/23-5/10/23; Wk 7 = 5/11/23-5/17/23; Wk 8 = 5/18/23 – 5/24/23; Wk 9 = 5/25/23-5/31/23; Wk 10 = 6/`/23-6/7/23; Wk 11 = 6/8/23-6/14/23

Take Time to Evaluate Your Pasture Management

(Keith Johnson)

Managing pasture properly requires much skill, just like any agronomic crop. Much skill is required to do it in an “A” grade fashion because there is a livestock component to the agricultural system, too. Proper pasture management is more than opening the gate to the pasture and letting livestock graze season long. *Make a pledge that you will not overgraze pastures this year. The greatest curse to the yield and persistence of perennial forages is overgrazing.*

Taking time to evaluate pasture condition weekly with follow through of taking care of potential concerns like overgrazing and pests (insects, weeds, disease) is an important practice. (*Photo Credit: Keith Johnson*)

The following table includes several statements that need to be followed as recommendations to have a successful pasture program. Take the time to do a self-evaluation of how good a job **you** are doing with each statement given. Rankings “Strongly Disagree” or “Disagree” require some attention to have topnotch pasture for your livestock.

If you have not developed a team of resource people that can help you with your questions about forage management, a good starting point is to contact your county’s Purdue Extension Agriculture and Natural Resources Educator and Natural Resources Conservation Service (NRCS) personnel. These individuals have a network within their own organizations and know local-regional agribusinesses and producers that will be able to help you with your questions.

Excellent detailed information developed by NRCS employees about pasture assessment can be found at this link National_Pasture_Condition_Scoring_Guide_and_Score_Sheet_-

_January_2020.pdf (usda.gov).

Developing excellent pasture management skills require much effort, but the wellbeing of your forages and livestock will improve because you do.

Statement	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
I soil test at least every third year and apply lime and fertilize based on the test results.					
I know the major soil types on my farm by name and know their strengths and weaknesses.					
I can identify the major forages growing in my pasture and know their strengths and weaknesses.					
I remove livestock from a paddock when cool-season grass/legume forage growth is at least 4 inches in height.					
I stockpile perennial pasture in the late summer and early fall.					
I evaluate pasture growth and potential concerns (overgrazing, weeds, insects, diseases) in the pasture weekly and take action if needed.					
I document when livestock are moved from paddock to paddock.					
Where possible and applicable, I graze crop residues and double crop forages to full potential on my farm.					
I have an agronomist on my list of professionals that has a passion for forage crops.					

Birdsfoot Trefoil – An Underutilized Pasture Legume

(Keith Johnson)

Article is in memory of Henry Mayo, Purdue University Extension Sheep Specialist and a birdsfoot trefoil advocate.

You don't see birdsfoot trefoil in many Indiana pastures. This perennial legume is in full bloom now with obvious bright yellow-orange flowers. It is especially noted along many roadways in the state. The positive characteristics of this forage makes this legume worthy of consideration.

Other yellow-blooming plants that may be observed now in a pasture or roadway setting are yellow sweetclover and black medic. The inflorescences of all three plants are distinctive from one another.

Leaf arrangement of birdsfoot trefoil

Black medic inflorescence

Overgrazing must be avoided if birdsfoot trefoil is to survive. Basal leaves must not be grazed if birdsfoot trefoil is to remain in the pasture. With many livestock producers utilizing rotational stocking and better awareness that overgrazing should be avoided, this forage has a place in many Indiana pastures.

Information that follows about birdsfoot trefoil is from the Purdue Forage Field Guide (ID-317) with some modifications.

Minimum Soil Requirements: Somewhat poorly drained, medium fertility, pH 6.0-6.8.

Plant Characteristics: Perennial legume. Has taproot and yellow-orange flowers. Grows 15-44 inches tall. Appears to have five leaflets per leaf, but the two at the base of the stem are considered stipules by some agronomists. Has high palatability, good winter hardiness, and fair drought tolerance. Maintains quality better than many other legumes because of a high leaf to stem ratio. If needed, deferring grazing until viable seed are present in seedpods can increase birdsfoot trefoil composition.

Yellow blossoms appear with long day/short night hours

Sweetclover inflorescence

Birdsfoot trefoil umbel inflorescence

Birdsfoot trefoil seedpod with immature seed

Seed Characteristics: Seeds per pound: 370,000. Emergence time: 7 days. Optimal germination temperature: 68°F. Seeding dates: March 1-May 1 or August 1-September 1. Pure live seed per acre: 4-6 pounds. Inoculate seed with a specific rhizobia bacterium.

Birdsfoot trefoil seed

Uses and Comments: A good complement with adapted cool-season grasses when used as pasture. Good flower nectar resource for honey bees. **Not a bloat concern.** Some varieties are better for pasture as they are less erect in growth than those varieties best used as hay.

Distribution: The Upper Midwest and Northeast USA.

Cautions: Disease is a concern in high-humidity, high-temperature environments. **For best persistence, make sure basal leaves are present after grazing or cutting**.

If livestock producers have concern about bloat and do not permit their livestock to overgraze the forage, birdsfoot trefoil may be a worthy legume to include with cool-season grasses.

Photo credits:

Sweetclover and birdsfoot trefoil pictures were provided by the Purdue University Crop Diagnostic Training and Research Center. Aaron Patton, Purdue Turf Extension Specialist, provided the black medic picture.

2022 Summary Of U.S. Agricultural Confined Space-Related Injuries And Fatalities

(Bill Field)

The following are highlight from the 2022 findings:

• No fewer than 83 cases, 24 fatal and 59 non-fatal,1 involving agricultural confined spaces were documented in 2022, representing a 40.7% increase over the 59 cases in 2021

• There were no fewer than 42 grain related entrapments in 2022 representing a 44.8% increase over 2021. This was the highest number of grain entrapments in over a decade. The balance of 41 cases involved livestock waste handling facilities, entanglements inside confined spaces, falls from confined space structures, and grain dust explosions or fires

• Eight incidents involved more than one victim

• Eleven cases involved livestock waste storage pits or lagoons, eight of which were fatal

• Three grain dust explosions resulting in 18 non-fatal injuries were documented2. Fifteen of these injuries were attributed to a single incident in Iowa.

• One female case was documented in 2022, which occurred inside a cotton module builder

• 29% (24) of 2022 cases were fatal compared to 59% historically

• Iowa reported the most cases, 24, including those relating to fires and explosions (fifteen of these cases resulted from a single explosion incident), followed by Indiana (6), Minnesota (6) and Ohio (6)

• Iowa reported the most grain-entrapment cases in 2022 (9). Indiana, Iowa, Minnesota and Illinois, in that order, have historically recorded the most grain entrapment cases

• OSHA Regions 5 and 7 have historically accounted for 67.9% of all documented agricultural confined space-related incidents

To read this complete report see the link below:

2022 Summary of US Ag Confined Space 5-30-232022 Summary of US Ag Confined Space 5-30-23

Our hope for rain came true. Is it enough?

(Beth Hall)

After several weeks of little-to-no rain, Indiana welcomed some much-needed precipitation over the last several days. While amounts ranged from 1-to-3 inches (except for a few counties in west-northwest Indiana (see Figure 1)), the state is still several inches from recovering from the deficit and relieving most impacts. The U.S. Drought Monitor this week (based upon data through the morning of Tuesday, June 13th) now has all of Indiana in some category of abnormal dryness or drought (Figure 2). The driest location is northwestern Indiana where severe drought (D2) is impacting several counties. Most of northern and some central Indiana counties are in moderate drought (D1) with southern Indiana Abnormally Dry (D0). After the additional precipitation that fell on June 13th along with what is forecasted (Figure 3) through next Thursday, Jun 22nd, there is a strong probability that drought will not worsen for much of the southern half of the state. Northern counties risk further drought impacts, particular as temperatures return to normal and above-normal levels. Vegetation may show brief signs of improvement, but hydrological indicators may take longer and need more precipitation to fully recover.

Climate outlooks continue to favor near-normal precipitation across much of the state with northwestern Indiana showing weak probabilities favoring below-normal amounts over the next 2 weeks. Above-normal temperatures are also favored which will increase evapotranspiration rates and continue to cause a water balance deficit. While this is relatively normal this time of year, we are still trying to recover from the lack of precipitation prior to this past week, so some timely, above-normal precipitation would be preferred.

Speaking of temperatures, most of Indiana has had slightly below normal (1-4 degrees) temperatures over the past several weeks that have been nice and helped minimize some moisture loss. We should start seeing those temperatures return to more seasonal, if not above-normal values so keep an eye on water resources and soil moisture when you can. The Indiana State Climate Office manages a mesonet (network of high-quality weather stations; https://ag.purdue.edu/indiana-state-climate/purdue-mesonet/purdue-mesonet-data-hub/) across the state that includes soil moisture and soil temperature sensors at 2-inch, 4-inch, 8-inch, and 20-inch depths. Monitoring those values could be a useful indicator for irrigation and other watering management planning.

Figures 4 and 5 show the latest modified accumulated growing degree-day maps and departure from average, respectively. These maps represent accumulations since April 15th and indicate most of Indiana is slightly behind the climatological average for this time of year.

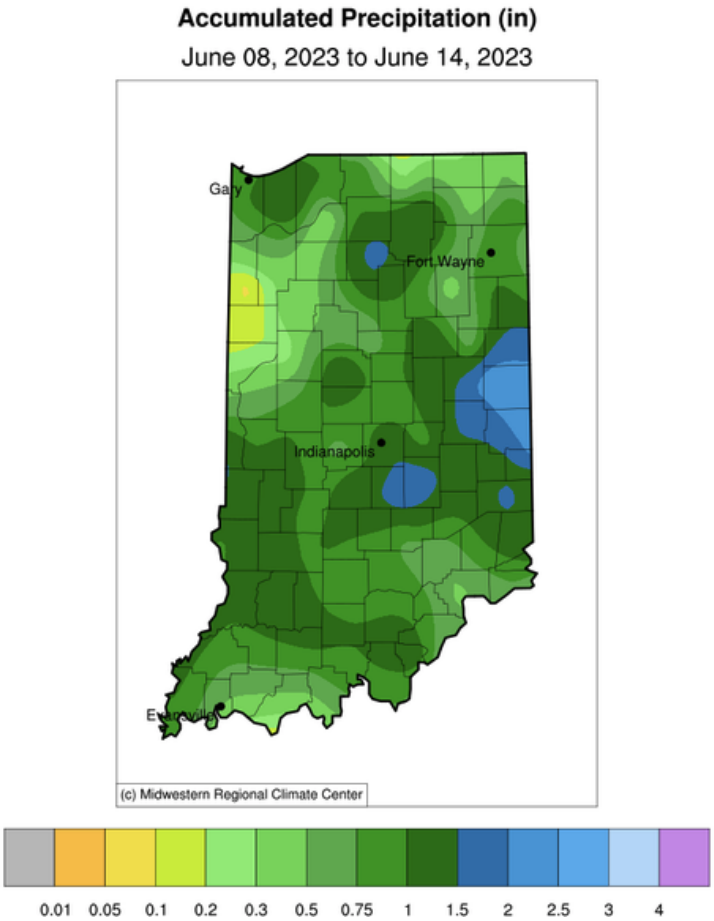
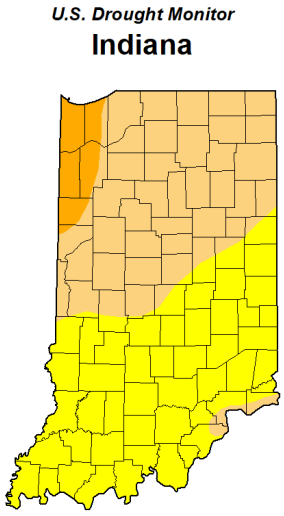


Figure 1. Accumulated precipitation (in inches) from June 8-14, 2023.



June 13, 2023

(Released Thursday, Jun. 15, 2023)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	49.65	5.35	0.00	0.00
Last Week *06-06-2023*	3.32	96.68	21.68	0.00	0.00	0.00
3 Months Ago *03-14-2023*	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year *01-03-2023*	6.84	93.16	58.37	1.34	0.00	0.00
Start of Water Year *09-27-2022*	80.92	19.08	0.00	0.00	0.00	0.00
One Year Ago *06-14-2022*	94.23	5.77	0.00	0.00	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:
Adam Hartman
NOAA/NWS/NCEP/CPC

droughtmonitor.unl.edu

Figure 2. U.S. Drought Monitor for Indiana as of June 13, 2022. Source: https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?IN

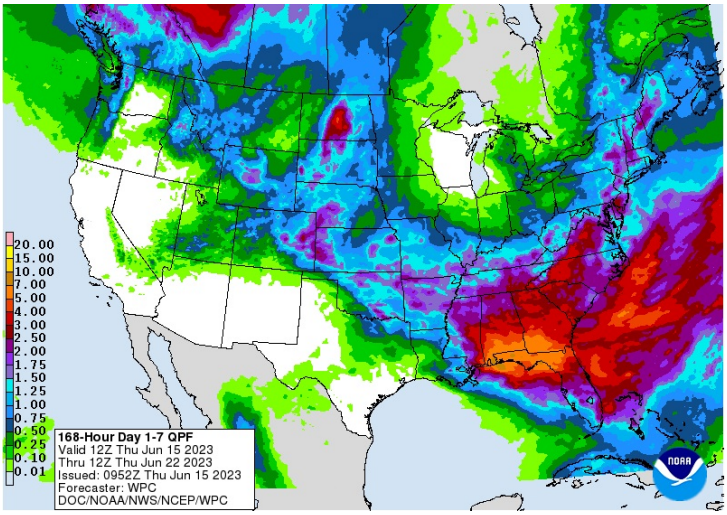


Figure 3. Forecasted precipitation amounts (inches) for June 15-22, 2023.

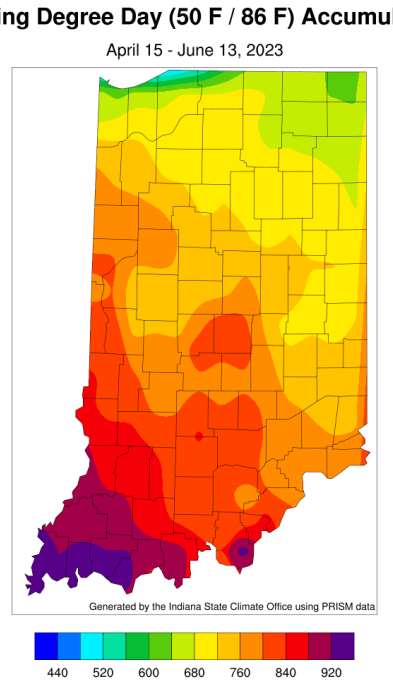


Figure 4. Modified growing degree day (50°F / 86°F) accumulation from April 15-June 13, 2023.

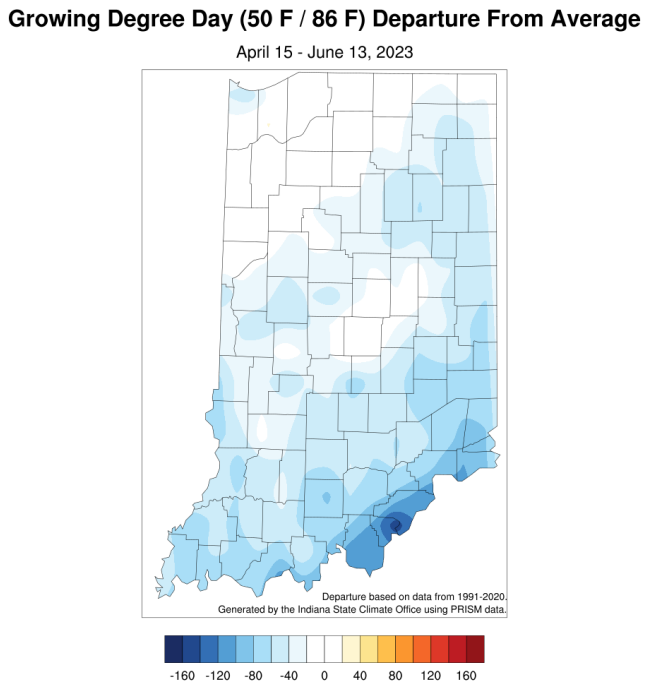


Figure 5. Modified growing degree day (50°F / 86°F) accumulation from April 15-June 13, 2023, represented as the departure from the 1991-2020 climatological average.

Pest&Crop newsletter © Purdue University - extension.entm.purdue.edu/newsletters/pestandcrop
Editor: Tammy Luck | Department of Entomology, Purdue University, 901 W. State St., West Lafayette, IN 47907