PURDUE UNIVERSITY Extension - Entomology

Pest&Crop newsletter

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In This Issue

Armyworm, Surprise Attacks!

(John Obermeyer)

Armyworm moth captures have varied throughout the state for the last eight weeks (see "Armyworm Pheromone Trap Report"). As I observed this week in Tippecanoe County, when larvae are small, their damage is negligible and easily overlooked. On the other hand, as some local producer's found, when they are large, they leave no leaf tissue on grasses in hay! Now, and for the next week or so, high-risk crops should be monitored. Moths prefer to lay their eggs on dense grassy vegetation (e.g., wheat, grass hay, and grass cover crops). Larval development should now have advanced to the point that fields should be assessed for feeding damage.

Forage grass with early armyworm damage: "windowpaning" from newly hatched larvae, marginal leaf notching from half-inch larvae. (*Photo Credit: John Obermeyer*)

Corn – Corn that has been no-tilled into, or growing adjacent to, a grass cover crop (especially cereal rye) should be inspected immediately for armyworm feeding. Hatched larvae will move from the dying grasses to emerging/emerged corn. Armyworm feeding, done at night, gives corn a ragged appearance, with feeding extending from the leaf margin toward the midrib. When larvae are numerous and/or large, damage may be so extensive that most of the plant, except for the midrib and stalk, is consumed. A highly damaged plant may recover if the growing point has not been destroyed. If more than 50% of the plants show armyworm feeding and live larvae less than 1-1/4 inches long are numerous in the field, control may be necessary. Larvae greater than 1-1/4 inches consume a large amount of leaf tissue and are more difficult to control. If armyworm are detected migrating from border areas or waterways within fields, spot treatments in these areas are possible if the problem is identified early enough. Don't rely on Bt-corn for protection, as traits won't stop the armyworm assault.

Typical armyworm marginal leaf notching on corn. (*Photo Credit: John Obermeyer*)

Wheat & Grass Pasture – Examine plants in different areas of a field, especially where plant growth is dense. Look for flag leaf feeding, clipped heads, and armyworm droppings on the ground. Shake the plants and count the number of armyworm larvae on the ground and under plant debris. On sunny days, the armyworm will take shelter under crop residue or soil clods. If counts average approximately 5 or more per linear foot of row, the worms are less than 1-1/4 inches long, and leaf feeding is evident, control may be justified. If larvae are present and they are destroying the flag leaves or the heads, treat immediately.

Armyworm feeding on wheat head and flag leaf damage. (*Photo Credit: John Obermeyer*)

Soybean, After Cover Crop Termination – Armyworm primarily feed on grasses. As seen in the past, they will feed on no-tilled soybean into a cereal rye cover crop. Weeks ago, armyworm moths were attracted to laying eggs on grasses, in which the hatched larvae were quite content on feeding. Then a burn-down herbicide was applied before/at planting and the armyworm were eventually left with no food except for the emerging soybean seedlings. To satisfy their hunger, armyworm will feed on the soybean, but are unable to properly digest this legume for nourishment. Depending on the size of the larvae, and where they feed on the plant, some soybean seedlings may be killed, Obviously, a rescue insecticide treatment is not needed, as the armyworm slowly starve to death and the tattered plants will give way to undamaged leaves.

Slowly starving armyworm on the soil next to unifoliate soybean leaves with marginal leaf notching. (*Photo Credit: John Obermeyer*)

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			
Jennings/SEPAC Ag Center	21	20	39	8	12	11	1	1			
Knox/SWPAC Ag Center	37	242	46	26	16	6	5	3			
LaPorte/Pinney Ag Center	60	296	216	54	56	401	140	5			
Lawrence/Feldun Ag Center	159	99	197	70	41	119	48	329			
Randolph/Davis Ag Center	57	0	0	2	5	414	280	48			
Tippecanoe/Meigs	36	56	51	8	6	39	31	32			
Whitley/NEPAC Ag Center	0	259	179	13	39	323	142	39			

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

A Disappointing Sole Source Forage Fertilizer

(Keith Johnson)

As Purdue University's Extension Forage Specialist, there is one forage production practice recommendation that draws my ire and has become a major pet peeve; so much that every time the recommendation is offered I think I lose another hair follicle on my head and legs. Not many hair follicles are left.

Carefully consider whether a pre-blended sole fertilizer source will meet the forage needs based on a soil test. (Photo Credit: Creative Commons)

It has been said that one cannot attend an agronomic meeting without the importance of soil testing, liming and fertilization being mentioned and discussed. There is a bit of truth in that statement. It is critical to know what nutrients are needed to meet a specific crop's realistic production goal, to keep input costs in check, and to be good stewards of the environment.

My academic pet peeve is the recommendation of "X" hundred pounds of 12-12-12 or 19-19-19 (N-P_2O_5-K_2O) as the **sole source** fertilizer for forages. Why does this disappointment me? Let me give a real happening between a forage producer and me that describes the frustration I have when this recommendation is given, especially when it comes from a fertilizer retailer.

Farmer "Joe" called me and said that he had a soil test in hand and was surprised that the recommendation provided by the fertilizer input provider roughly scratched on the soil test report was 300 pounds of 12-12-12. Farmer "Joe" was well trained and stated, "I went through all the effort of getting the soil sampled and tested and I end up with a recommendation like that." I asked that the soil test information be sent to me. Sure enough, the "300 pounds 12-12-12" numbers and letters

were easily found with no other comments or fertilizer sources cited on the report.

"Joe" was raising an alfalfa-orchardgrass mixture for hay. The alfalfa component of the mixture was half of the dry matter. He didn't need the first 12 of 12-12-12 as the alfalfa, a legume, was supplying adequate nitrogen to the orchardgrass component. "Joe" didn't need the third 12 either as the soil test was very high in potassium (K). A low phosphorus (P) soil test level, coupled with a 6-ton yield goal of hay per acre, indicated that 80 pounds of P_2O_5 should be applied. How much P_2O_5 per acre was recommended by the vendor?; 300 pounds per acre x 0.12 = 36 pounds P_2O_5, far short of the 80 pounds per acre that should be applied. Dollars recommended to be invested in N and K_2O should have been allocated to P_2O_5.

Near-Normal Temperatures With Strong Cold Front; Sparse Precipitation Forecasted

(Kat Slover)

Temperatures throughout the state remained pleasant, but low temperatures briefly dipped into the upper 30s and low 40s as a strong cold front pushed through the Midwest. Through the first 23 days of May, Indiana average temperatures were 0.3°F above normal (Figure 1). Climate Divisions 1 and 7 had the largest departures, which were 0.9°F and 1.1°F above normal, respectively. Since April 1, growing degree days (GDD) have accumulated between 250 and 650 units (Figure 2, left). GDD accumulations were below normal through the south and eastern Indiana and were above normal in central and northwestern Indiana (Figure 2, right).

Climate Division Data by State between Two Dates
From Midwestern Regional Climate Center

Indiana
5/ 1/2023 to 5/23/2023

cd	Temperature temp	norm	dev	Precipitation prcp	norm	dev	percent
1	60.5	59.6	0.9	2.26	2.81	-0.56	80
2	59.4	59.0	0.3	2.29	2.69	-0.40	85
3	58.4	58.7	-0.3	2.24	2.54	-0.30	88
4	61.7	61.1	0.6	2.39	3.10	-0.71	77
5	60.2	60.5	-0.3	2.50	3.10	-0.60	81
6	59.1	59.7	-0.5	2.69	2.98	-0.30	90
7	64.5	63.4	1.1	2.95	3.63	-0.68	81
8	63.4	62.7	0.7	2.87	3.57	-0.70	80
9	61.1	61.9	-0.8	2.53	3.46	-0.93	73
State	61.1	60.8	0.3	2.53	3.11	-0.58	81

Midwestern Regional Climate Center
MRCC Applied Climate System
Generated at:
Wed May 24 06:50:53 CDT 2023

Figure 1: Indiana climate division and state temperature, normal temperature, temperature departure from normal, precipitation, normal precipitation, precipitation departure from normal, and percent of mean precipitation for May 1-23, 2023.

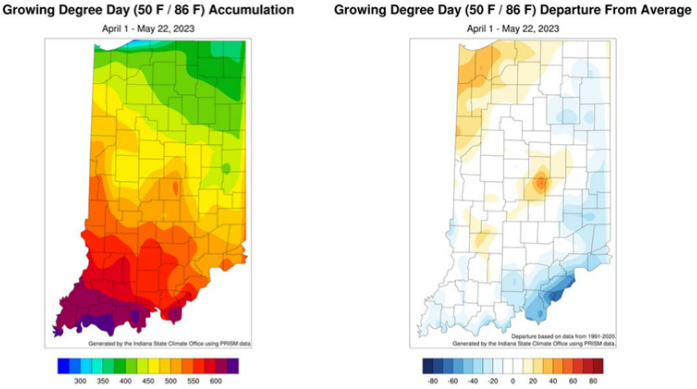

Figure 2: Total Accumulated Indiana Modified Growing Degree Days (MGDDs) April 1-May 22, 2023 (left) and Total Accumulated MGDDs represented as the departure from the 1991-2020 climatological normal (right).

Precipitation trended increasingly below normal for the first 23 days of May, as no Climate Divisions recorded above normal totals (Figure 1). Climate Divisions 3 and 6, both located in eastern Indiana, received the closest to normal precipitation totals this month (88 and 90 percent of normal, respectively). Since April 25, only a small pocket near Fort Wayne and a cutout of Wayne and Randolph counties measured above-normal precipitation (Figure 3, right). Much of the recent rain can be attributed to lingering precipitation along the cold front that extended through the southern Midwest on May 20. The dryness experienced throughout the state brought expansion of abnormally dry conditions in the May 25 US Drought Monitor, which included 8.11 percent more area than last week (Figure 4). The May 22 Indiana Crop Weather Report indicated that both corn and soybean planting and emergence remain above the 5-year average; 77 percent of corn and 72 percent of soybeans have been planted.

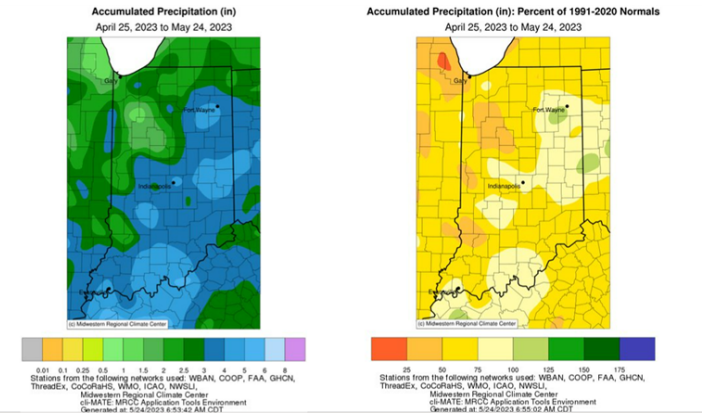

Figure 3: Interpolated map displaying accumulated precipitation for April 25-May 24, 2023 (left). Interpolated map displaying accumulated precipitation as a percent of the 1991-2020 climatological normal (right).

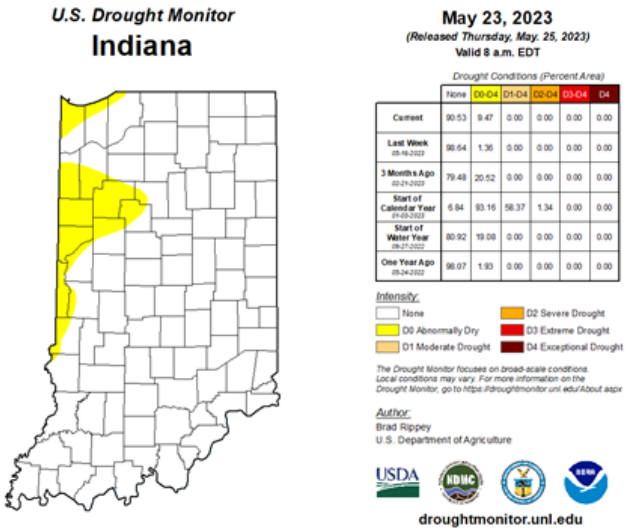

Figure 4: May 23, 2023, US Drought Monitor. The US Drought Monitor is released every Thursday morning by 8:30 AM.

Dry conditions will continue into the near future, as the 7-day precipitation forecast has the entire state missing out on rain (Figure 5). The Climate Prediction Center's 6-10 (Figure 6) and 8–14-day (Figure 7) temperature outlooks both show more than likely chances for above-normal temperatures and below-normal precipitation. These warm and dry conditions will likely worsen drought conditions over the coming weeks. Throughout the summer season, the Climate Prediction Center's seasonal outlooks have equal chances of above and below normal temperatures in Indiana and is leaning towards above-normal precipitation (Figure 8).

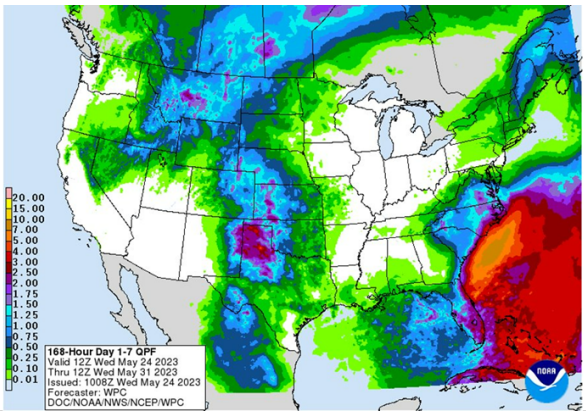

Figure 5: NWS Weather Prediction Center 7-day quantitative precipitation forecast for the continental United States, valid May 24-May 31, 2023.

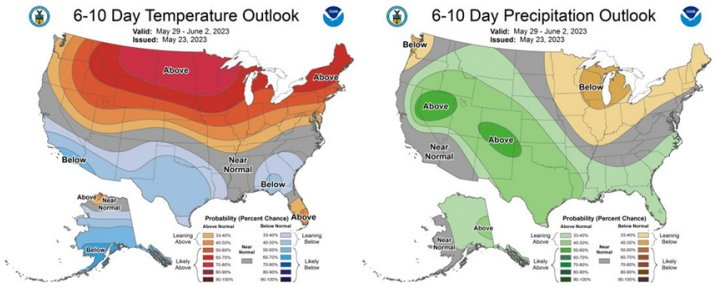

Figure 6: The CPC's 6–10-day temperature and precipitation outlooks, valid for May 29 through June 2, 2023.

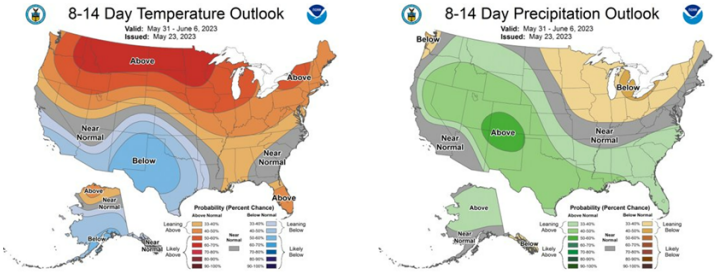

Figure 7: The CPC's 8–14-day temperature and precipitation outlooks, valid for May 31 through June 6, 2023.

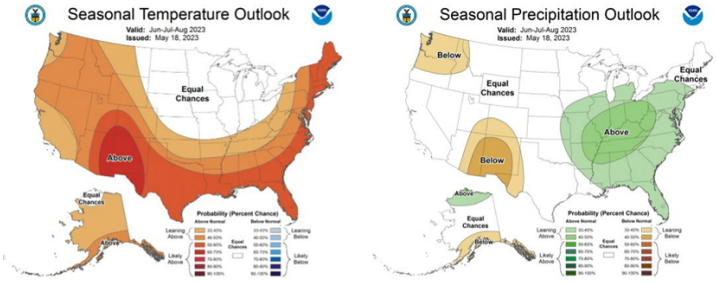

Figure 8: The CPC's Seasonal temperature and precipitation outlooks, valid for June, July, and August 2023.

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