

Pest & Crop newsletter

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.

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Japanese Beetle Emerging, More Of An Annoyance Than Threat To Field Crops

(Christian Krupke) & (John Obermeyer)

Japanese beetle adults are emerging, though slowly, throughout the state. This will continue for the next several weeks, and the adults will live through much of the month of August. It isn't uncommon for beetle emergence to spike shortly after a rainfall, as this softens up the soil for their climb to the surface.

These adults are the product of eggs that were laid by female beetles last summer. After eggs hatched last year, the grubs immediately began to feed on roots and decaying organic matter in the soil. They continue their feeding from late summer into the fall and this is not economically important damage - the grubs are small and the plants are large by this point. The grubs overwintered several inches deep in the soil and returned to near the soil surface to feed early this spring.



Freshly emerged Japanese beetle from the soil (Photo Credit: John Obermeyer)

Adult Japanese beetles will feed on more than 300 different species of plants, but are especially fond of roses, grapes, smartweed, soybeans, corn silks, flowers of all kinds, and overripe fruit. Beetle damage to cultivated crops is often minimal and defoliation (leaf removal) on soybean usually looks much worse than it is and is mostly confined to edges. The beetles often congregate in several areas of a soybean field, feeding on and mating in the upper canopy. This is often observed by producers driving by field margins. The beetles iridescent, metallic color catches the attention of those doing "windshield" field inspections. Closer inspections will often reveal that weeds, especially along the fence lines, have made fields even more attractive to the beetles.

Although soybeans can sometimes sustain economic damage from the feeding of the beetles, the plant has an amazing ability to withstand considerable damage (defoliation) before economic losses occur. The impact of defoliation is greatest during flowering and pod fill because of the importance of leaf area to photosynthesis, and ultimately to yield. Therefore, thresholds are different at different times - nearly 30% soybean defoliation before bloom or 10% defoliation from bloom to pod fill can be tolerated before yields are economically affected. This average defoliation must occur on the whole plant, not just

the upper canopy. In corn, Japanese beetle feeding on corn silks is usually minimal and spotty. Field inspections will often reveal that this feeding is not prevalent much beyond field borders. If beetles are feeding on corn silks, an insecticide should be applied only if silks are being cut off to less than 1/2 inch **before** 50% pollination has taken place. This level of damage is rare in recent years. Beetles are often attracted to dead or dying silks to feed, obviously beyond 50% pollination.

2023 Western Bean Cutworm Pheromone Trap Report

(John Obermeyer)

County	Cooperator	WBC Trapped						
		Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7
		6/15/23-6/21/23	6/22/23-6/28/23	6/29/23-7/5/23	7/6/23-7/12/23	7/13/23-7/19/23	7/20/23-7/26/23	7/27/23-8/2/23
Adams	Roe/Mercer Landmark, Decatur	0	0	1				
Allen	Anderson/Blue River Organics, Churubusco	2	1	0				
Allen	Gynn/Southwind Farms, Ft. Wayne	2	0	0				
Allen	Kneubuhler/G&K Concepts, Harlan	0	1	0				
Bartholomew	Bush/Pioneer Hybrids, Columbus	0	0	0				
Benton	Vickrey/Advanced Agrilytics, Trap 1	0	3	0				
Benton	Vickrey/Advanced Agrilytics, Trap 2	0	0	0				
Benton	Vickrey/Advanced Agrilytics, Trap 3	1	0	0				
Benton	Vickrey/Advanced Agrilytics, Trap 4	4	0	0				
Benton	Vickrey/Advanced Agrilytics, Trap 5	1	0	1				
Benton	Vickrey/Advanced Agrilytics, Trap 6	2	0	1				
Benton	Vickrey/Advanced Agrilytics, Trap 7	2	0	1				
Benton	Vickrey/Advanced Agrilytics, Trap 8	0	0	2				
Blackford	Thurman/Ceres Solutions, Warren	0	0	0				
Clay	Mace/Ceres Solutions, Brazil	0	0	0				
Clay	Fritz/Ceres Solutions, Clay City	0	0	0				
Dubois	Eck/Dubois Co. CES, Jasper	0	0	0				
Elkhart	Kauffman/Crop Tech Inc., Millersburg	0	0	0				
Fountain	Mroczkiewicz/Syngenta, Attica	4	5	13				
Hamilton	Campbell/Beck's Hybrids	0	0	0				
Hendricks	Nicholson/Nicholson Consulting, Danville	0	0	0				
Howard	Shanks/Clinton Co. CES, Kokomo	0	0					
Jasper	Overstreet/Jasper Co. CCSI, Wheatfield	1	8	16				
Jasper	Ritter/Dairyland Seeds, McCoysburg		0	1				
Jay	Boyer/Davis PAC, Powers	0	2	2				
Jay	Shrack/Ran-Del Co-Alliance, Parker City	0	0					
Jennings	Bauerle/SEPAC, Butlerville	0	0	0				
Knox	Clinkenbeard/Ceres Solutions, Edwardsport	0	3	0				
Knox	Edwards/Ceres Solutions, Fritchton	0	0	0				
Kosciusko	Jenkins/Ceres Solutions, Mentone	0	0					
Lake	Kleine/Rose Acre Farms, Cedar Lake	0	0	1				
Lake	Moyer/Dekalb Hybrids/Shelby	3	1	5				
Lake	Moyer/Dekalb Hybrids/Schneider	1	1	10				

LaPorte	Rocke/Agri-Mgmt. Solutions, Wanatah	1	0	14
Miami	Early/Pioneer Hybrids, Macy	0	2	4
Montgomery	Delp/Nicholson Consulting, Waynetown	0	0	
Newton	Moyer/Dekalb Hybrids, Lake Village	0	0	2
Perry	Lorenz/Lorenz Farms, Rome 1	0	0	0
Perry	Lorenz/Lorenz Farms, Rome 2	0	0	0
Porter	Boyer/PPAC, Wanatah	0		
Posey	Schmitz/Purdue CCSI, Blairsville	0	0	0
Posey	Schmitz/Purdue CCSI, Cynthiana	0	0	0
Pulaski	Capouch Chaffins/M&R Ag Services, Medaryville	0	0	
Pulaski	Leman/Ceres Solutions, Francesville	0	0	0
Putnam	Nicholson/Nicholson Consulting, Greencastle	1	0	1
Randolph	Boyer/DPAC, Farmland	0	2	1
Rush	Schelle/Falmouth Farm Supply Inc., Carthage	0	0	0
Scott	Tom Springstun/Scott Co. CES, Scottsburg	0	1	0
Shelby	Fisher/Shelby County Coop, Shelbyville	0	0	0
St. Joseph	Carbiener, Bremen	0		
Starke	Capouch Chaffins/M&R Ag Services, Monterey	0	0	
Starke	Capouch Chaffins/M&R Ag Services, San Pierre	0	0	
Sullivan	McCullough/Ceres Solutions, Farmersburg	0	0	0
Sullivan	McCullough/Ceres Solutions, Dugger	0	0	0
Tippecanoe	Bower/Ceres Solutions, Lafayette	10	48	42
Tippecanoe	Nagel/Ceres Solutions, W. Lafayette	0	0	0
Tippecanoe	Obermeyer/Purdue Entomology, ACRE	0	0	0
Tippecanoe	Vickrey/Advanced Agrilytics, Trap 1	1	1	0
Tippecanoe	Vickrey/Advanced Agrilytics, Trap 2	0	0	0
Tippecanoe	Westerfeld/Bayer Research, W. Lafayette	0	0	0
Tipton	Campbell/Beck's Hybrids	0	0	0
Vigo	Lynch/Ceres Solutions, Clinton	0	1	0
Whitley	Emley/NEPAC/Schrader	0	0	2
Whitley	Emley/NEPAC/Kyler	0	0	1

* = Intensive Capture...this occurs when 9 or more moths are caught over a 2-night period

Possible Financial Help For Livestock Producers If Drought Remains Or Returns

(Keith Johnson)

A couple of weeks ago I had conversation with several State of Indiana Farm Service Agency (FSA) employees. I was being proactive learning about financial opportunities for livestock producers in case continuation of dry weather conditions prevailed and there was more negative impact on pasture availability and water supply. **It was stated that for any financial assistance from the programs, that pasture and hay, as with all crops, must be noted as part of the 2023 acreage with the county FSA office by July 15.**



The picture of a pond that has no water was taken at the Feldun-Purdue Agricultural Center during the 2012 drought. Financial assistance through the Farm Service Agency may be available to producers with livestock enterprises in areas experiencing a lengthy or extreme drought. (Photo Credit: Keith Johnson)

Fortunately, areas of Indiana have been receiving some rainfall that will reduce the likelihood of the FSA programs being a consideration, but for those that have been at D2 (Severe Drought designation) for many weeks, and if dry weather persists for another month, it would be wise to keep in contact with their county FSA personnel. I will not reiterate the information in the links below with text in the article, but encourage those that are in very dry areas to read the fact sheets.

LFP – Livestock Forage Disaster Program

Information Fact Sheet

https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdfiles/FactSheets/fsa_lfp_livestockforageprogramfactsheet_2022.pdf

Electronic Fillable Application Form

<https://irp.cdn-website.com/4cf33c6f/files/uploaded/CCC0853-2021.pdf>

ELAP – Emergency Assistance for Livestock, Honeybees and Farm-Raised Fish Program

Information Fact Sheet

https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdfiles/FactSheets/2022/fsa_elap_generalfactsheet-22.pdf

Electronic Fillable Application Form

<https://forms.sc.egov.usda.gov/efcommon/eFileServices/eForms/CCC851-851A.PDF>

An aside – Monitoring the health of your livestock is always important – hot or cold; low humidity or high humidity; wet

or dry. During this problematic summer, continue to provide cool and clean water, shade if possible, and feed sources that meet livestock nutritional needs.

Lots Of Rain. Is The Drought Over?

(Beth Hall)

For the past seven weeks, abnormally dry conditions gradually spread and intensified across Indiana to eventually cover over 98% of the state. Conditions were looking dire, those with late-planted crops may have started getting worried, and water supply managers may have started expressing quiet concerns for those reliant upon groundwater. Then the rain came. Over the past two weeks, most of Indiana has received at least 1.5 inches of rain with southern and eastern counties receiving over three inches. In fact, some counties have received over five inches (Figure 1)! Does this mean our drought is over?

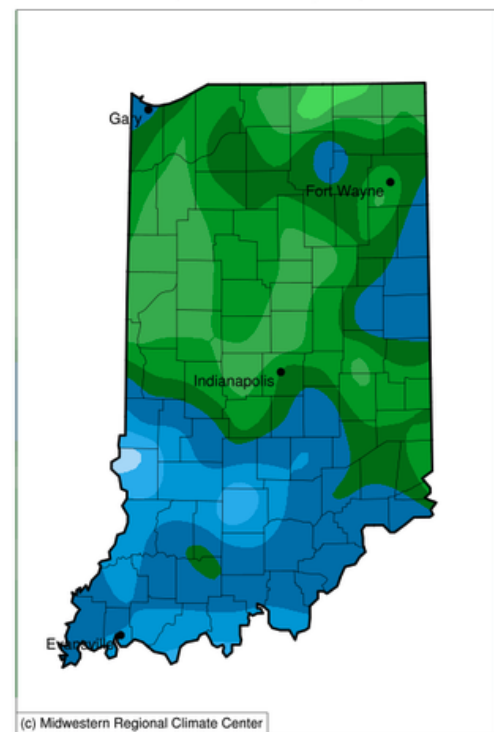


Figure 1. Total precipitation (in inches) from June 22 through the early morning of July 5, 2023.

Once again, the answer depends upon where in Indiana one is located. For those in southern and eastern Indiana, conditions are looking good. Comparing that same 2-week period to climatology indicates that the rain that fell over this period was above normal with several counties getting over twice the amount of rain that is typical (Figure 2). Unfortunately, most counties in central, western, and northern Indiana are still struggling to not only receive

normal amounts of rain but catch up from the serious deficits that have been accumulating.

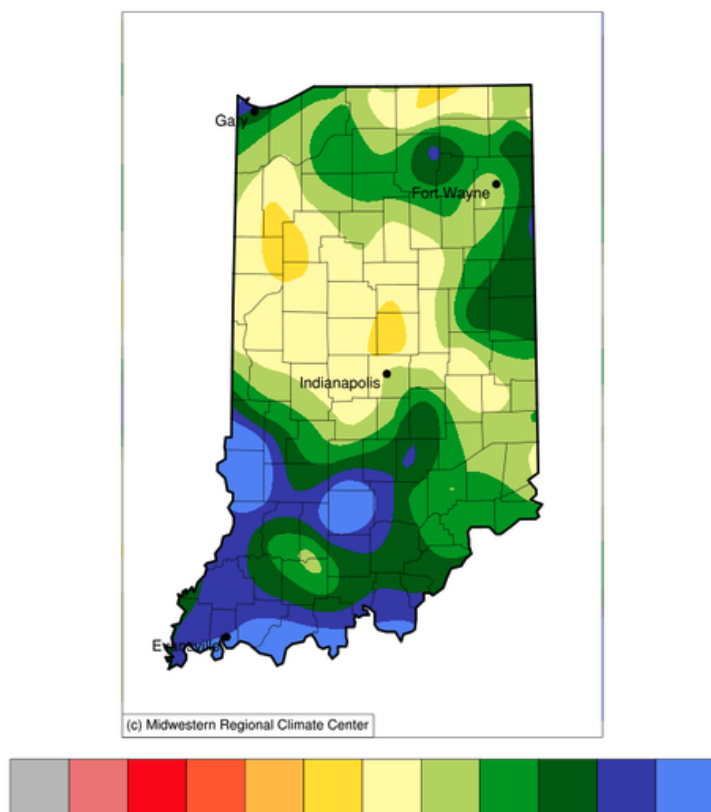


Figure 2. Percentage of the total precipitation amount received from June 22 through July 05, 2023, compared to what normally has fallen during that same period from 1991-2020. A value of 100% would equal the climatological normal amount.

Figure 3 presents the latest release of the U.S. Drought Monitor (USDM) for Indiana based upon data through July 4, 2023. It is important to realize that the USDM incorporates a variety of both quantitative and qualitative information when determining changes each week and reflects the fact that drought rarely go away quickly. One or two weeks of above-normal precipitation will likely provide short-term improvements, but a more sustained pattern of normal precipitation would be needed to eliminate drought completely.

U.S. Drought Monitor Indiana

July 4, 2023
(Released Thursday, Jul. 6, 2023)
Valid 8 a.m. EDT

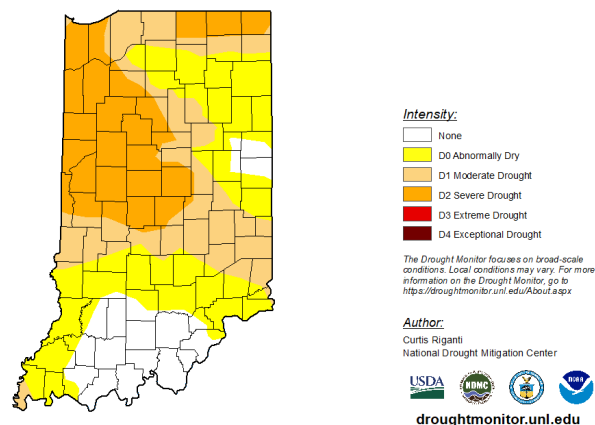


Figure 3. U.S. Drought Monitor for Indiana as of July 4, 2023. Source: <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?IN>

Another factor that will be slowing the rate of drought improvement is the increase in temperature likely to continue over the next several months. This will increase the rate of evapotranspiration further offsetting what precipitation may fall. Over the past two weeks, temperatures have been near normal. However, while short-term (1 to 2 weeks) climate outlooks are favoring below-normal temperatures, it is the warmer time of the year. We have certainly been feeling the heat the last several days! Accumulated modified growing degree days since April 15 (Figure 4) are still at least 60 units below normal with southern counties lagging by almost 200 units (Figure 5).

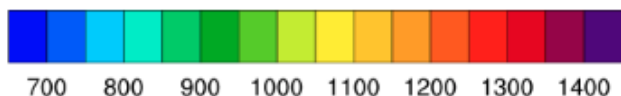
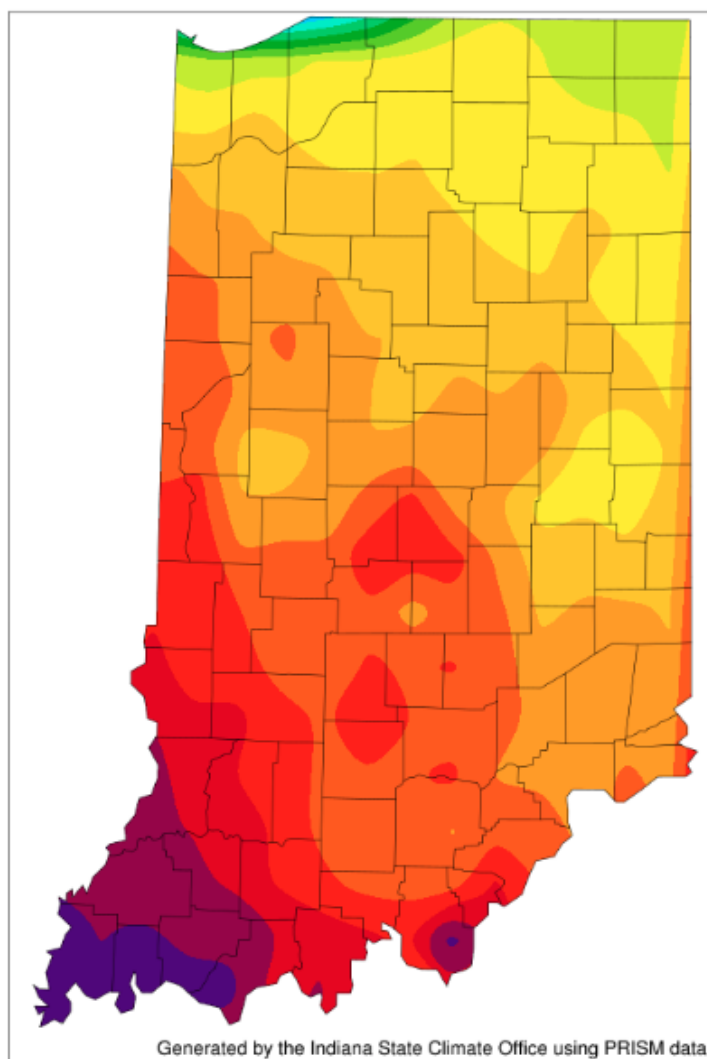


Figure 4. Modified growing degree day (50°F / 86°F) accumulation from April 15-July 4, 2023.

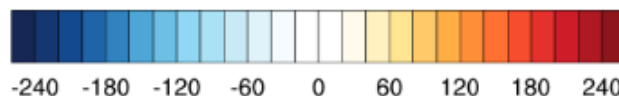
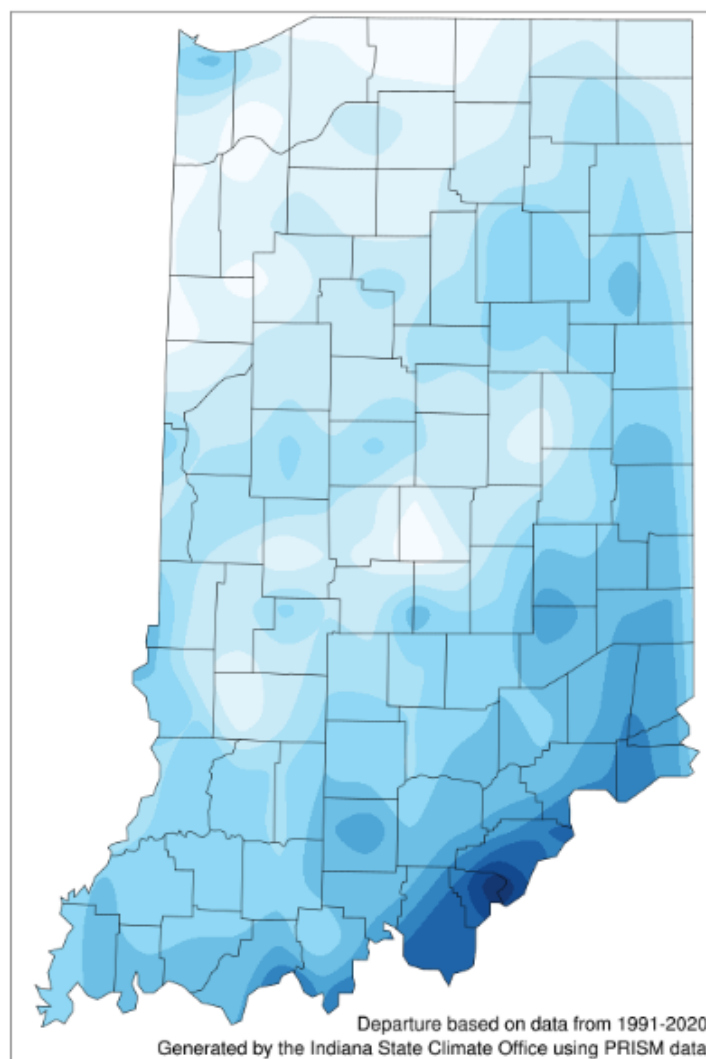


Figure 5. Modified growing degree day (50°F / 86°F) accumulation from April 15-July 4, 2023, represented as the departure from the 1991-2020 climatological average.

The good news for those still wanting more rain is that the climate outlooks for the next two weeks as well as the month of July are favoring above-normal precipitation. It is still too early to know if this will fall evenly over time or as heavy downpours with potential severe weather involved. Regardless, the additional rainfall will be welcomed and hopefully will continue to improve drought conditions for the entire state!

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