

# Pest & Crop Newsletter

Purdue Cooperative Extension Service  
and USDA-NIFA Extension IPM Grant



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## Critical Time For Black Cutworm Scouting

(Christian Krupke) & (John Obermeyer)

Could this be a cutworm year? Definitely a maybe. Rainfall has delayed field work (e.g. weedy fields) and corn planting (i.e., lots of emerging corn). Many arriving black cutworm moths have been captured since late March. Warmer temperatures have accelerated development of black cutworm larvae, so that some have undoubtedly moved on and will not be present to feed on emerging corn. Refer to the accompanying map of accumulated heat units (base 50°F) from April 1. To date, according to the black cutworm developmental model, larvae are large enough throughout most of Indiana to be cutting corn, yet very little corn is up at this time. These next couple weeks will be the critical time for cutworm scouting, especially in high-risk fields (i.e. corn that has emerged, or will within the few days).

Scout by inspecting 20 consecutive plants in each of 5 areas of a field (100 plants) for cutworms and feeding activity. Be sure to check areas that had an accumulation of weedy growth before or at the time of planting. Count and record the number of plants cut or damaged and determine the percentage of plants affected. Also collect black cutworm larvae (usually found near the damage, just beneath the surface during the day) and determine the average instar stage. A foliar, rescue insecticide may be necessary if 3% or more of the plants are damaged and black cutworm's average larval instar is from 4 to 6. An instar guide is available inside the front cover of the *Corn and Soybean Field Guide* (a.k.a., pocket guide).



Black cutworm instars, 3rd through 5th, all capable of severely damaging corn. (Photo Credit: John Obermeyer)



Cut corn seedling with black cutworm larva found just beneath the soil surface. (Photo Credit: John Obermeyer)

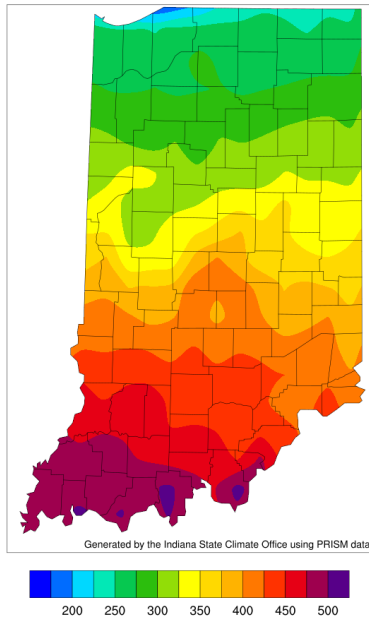
Since black cutworm has been a **very** minor pest across most of the Midwest in many years, producers may have a false sense of security with the seed-applied insecticides and/or Bt-traited corn – these offer plant protection that is inconsistent, at best. This is a case when timely scouting and rescue treatments of foliar insecticides when necessary are the tried-and-true approach with this stand reducer.

The following classic vids address the many interacting variables that must converge before black cutworm is a significant risk to

our corn crop. We hope these vids help make you more aware...happy scouting!

### Growing Degree Day (50 F / 86 F) Accumulation

April 1 - May 7, 2024



Early armyworm damage to small grain leaves, starts as window-pane-like feeding then progresses to leaf notching. (Photo Credit: John Obermeyer)

Like every year, some (true) armyworm moths can overwinter here, but some are also blown here from states to the south and west. Don't confuse this annual pest with the fall armyworm (different species, different life cycle and cannot overwinter here) that doesn't arrive until mid-later summer. The fall armyworm caused a stir late in 2022 with damage to many forage fields, especially alfalfa. Contrast this with the (true) armyworm's preferred hosts, that being grasses. Highest risk crops for egg laying are where dense grassy vegetation, e.g., wheat, grass hay, grass cover crops exist. Ideally, grass cover crops, will be terminated 2-3 weeks before corn emergence to prevent the "green bridge." With this spring's wet and windy weather, spraying of cover crops has been delayed and the 2-3 week host-free window hasn't been possible.

Armyworm larvae, from 0.5 to 0.75 inch long, can be found mostly by the damage they cause to small grain and seedling corn leaves. Larvae feed from the edge to the midribs of grassy leaves, giving a ragged appearance. Larvae mostly hide during the day under crop residues or soil clods. Heavy infestations, left unchecked, can denude corn/small grains/grass hay seemingly overnight. Once armyworm get to 1.5 inch long, they will climb the small grain plants and clip heads and then the destruction and carnage really starts accelerating. Concentrate your scouting efforts where the growth of small grains/cover crops were the most lush in the field. Happy scouting!

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## Armyworm Moth Captures Varied, Larval Activity Soon To Be Detected

(Christian Krupke) & (John Obermeyer)

Over the past six weeks, armyworm moth captures at the Purdue Ag Research Centers (see accompanying "Armyworm Pheromone Trap Report") have been variable. The last few weeks of catches in Whitley County (NE Indiana) have been impressive! What do they mean? They are indicative of risk level, but not a guarantee and act as a reminder to conduct timely scouting in high-risk fields when larvae are actively feeding, now through late May. The increased popularity of cereal rye as a cover crop presents new opportunities for egg-laying females to find suitable food sources. The timing of planting this year, where many cover-cropped or weedy fields may be "planted green" is not helpful to those trying to avoid hungry armyworms.





Ragged looking corn seedling leaves from early armyworm feeding. (Photo Credit: John Obermeyer)

## Armyworm Pheromone Trap Report - 2024

(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	8	41	101	81	18					
Jennings/SEPAC Ag Center	1	8	58	137	60	18					
Knox/SWPAC Ag Center	0	0	41	31	13	8					
LaPorte/Pinney Ag Center	0	44	51	65	33						
Lawrence/Feldun Ag Center	4	125	248	103	69	86					
Randolph/DPAC Ag Center	0	0	25	90	84	0					
Tippecanoe/ACRE	0	4	37	27	68	30					
Whitley/NEPAC Ag Center	0	0	62	179	381	507					

Wk 1 = 4/1-4/3/24; Wk 2 = 4/4-4/10/24; Wk 3 = 4/11-4/17/24; Wk 4 = 4/18-4/24/24; Wk 5 = 4/25-5/1/24; Wk 6 = 5/2-5/8/24; Wk 7 = 5/9-5/15/24; Wk 8 = 5/16-5/22/24; Wk 9 = 5/23-5/29/24; Wk 10 = 5/30-6/5/24; Wk 11 = 6/6-6/12/24

## Fusarium Head Blight (Scab) And Wheat Update

(Darcy Telenko)

Wheat is starting to head out across the central and northern Indiana, with flowering not too far behind. Our plots in southern Indiana hit early anthesis (flowering) last week and we put out our Feekes 10.5.1 fungicide trials out at Southwest PAC, Vincennes, IN. The wheat was 50% flower. Rainy, wet conditions can favor many fungal diseases in wheat. Our southern neighbors have started reporting multiple diseases in wheat. These include - strip

and leaf rust. We did find Septoria leaf spot in the lower canopy in our southwest plots.

There are a number of resources available to help distinguish wheat leaf diseases, they include the Purdue Wheat Field Guide ([https://www.edustore.purdue.edu/item.asp?Item\\_Number=ID-448](https://www.edustore.purdue.edu/item.asp?Item_Number=ID-448)) and "Identifying Rust Diseases of Wheat and Barley." [https://www.ars.usda.gov/ARSUserFiles/50620500/Cerealarusts/Rust\\_Diseases\\_National.pdf](https://www.ars.usda.gov/ARSUserFiles/50620500/Cerealarusts/Rust_Diseases_National.pdf)

Samples can always be submitted to the Purdue Plant Pest Diagnostic Lab for disease identification and confirmation. <https://ag.purdue.edu/btny/ppdl/Pages/default.aspx>

Fusarium head blight (FHB) is caused by the fungus *Fusarium graminearum*. During flowering (anthesis) **warm, wet weather** with high relative humidity will favor the development of Fusarium head blight (scab). It infects wheat during flowering, beginning at Feekes 10.5.1 (Figure 1). Symptoms of FHB will appear as bleached spiklets on the head later in the season (Figure 1). Infection can lead to small or shriveled grain kernels referred to as "tombstones." In addition to shriveled grain, this fungus can produce mycotoxins such as deoxynivalenol (DON), which can accumulated in the infected grain.



Figure 1. Wheat beginning to flower and Fusarium head blight infection. (Photo Credit: Darcy Telenko)

Looking at the **Fusarium Risk Tool** wheat scab risk there are a number of areas starting to move into medium risk (orange color; Figure 2), there are also some areas that are red if wheat is planted to a susceptible cultivar. The risk is reduced if the cultivar is moderately susceptible or moderately resistant to Scab where most of Indiana remains in the low risk (yellow color; Figure 3). There's a new feature on the Scab risk map that enables users to view graphs of recent trends in humidity and disease risk. The graphs are activated by clicking on any point in the risk map (Figures 4). Looking at this new feature if you have planted a very susceptible (VS) cultivar the forecasted risk is inching up into high risk (red).

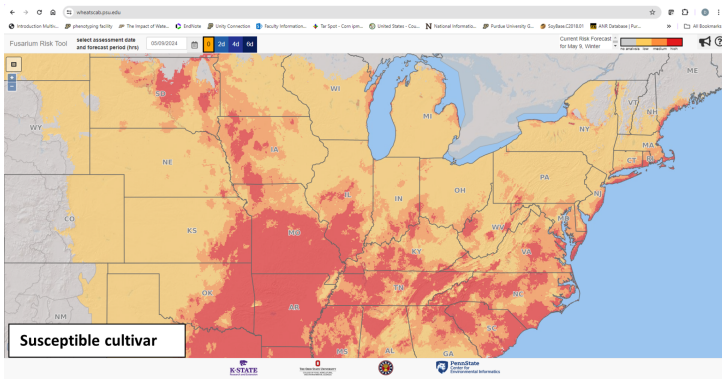


Figure 2. Fusarium risk tool for May 9, 2024 for a susceptible cultivar.

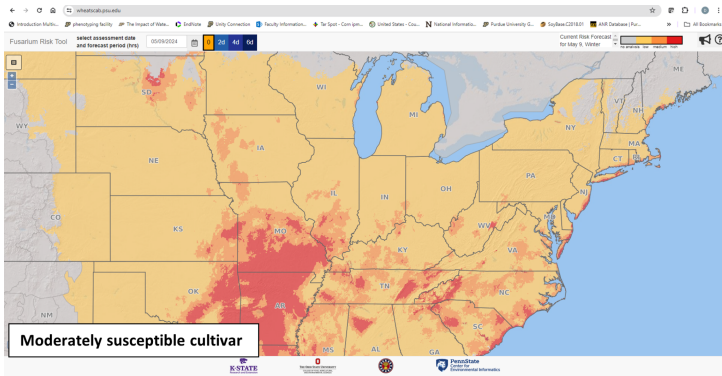


Figure 3. Fusarium risk tool for May 9, 2024 for a moderately susceptible cultivar.

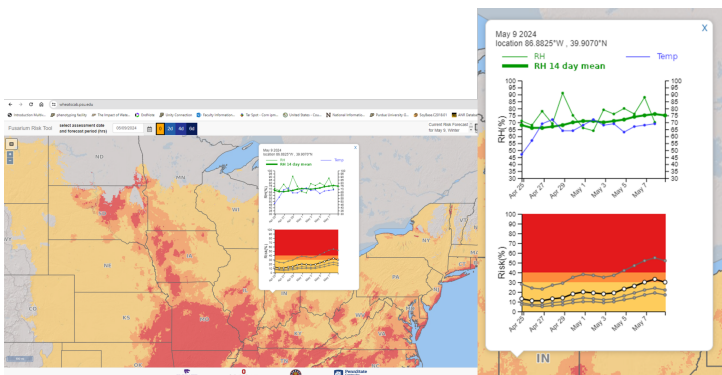


Figure 4. The new feature on the Scab risk map that enables users to view graphs of recent trends in humidity and disease risk. The lower graph plots the risk for each of the wheat models for very susceptible, susceptible, moderately susceptible and moderately resistant winter wheat cultivars. The trends show that if a very susceptible cultivar is planted the risk has moved to high if the wheat is currently flowering.

Keep in mind that actual disease risk depends heavily on the growth stage of wheat in your area. We are approaching a critical time here in Indiana. These risk estimates are most relevant just prior to flowering (Feekes 10.5.1) or the early stages of grain development. Fusarium head blight risk is highest when there are three or more days with extended periods of high relative humidity and moderate temperatures (65 to 80°F) during the early stages of kernel development.

A fungicide application might be considered if a Fusarium head blight (FHB) susceptible variety is planted, or if you are worried about scab on your farm. These applications should be made at Feekes 10.5.1, or early flowering to suppress FHB. Fungicides

recommended for FHB and DON include Prosaro, Proline, Miravis Ace, and Sphaerex. The use of products containing strobilurin fungicides may result in higher levels of DON accumulation in grain when damaged by FHB. These are not labelled for FHB management.

*Fungicide Efficacy Tables* are updated yearly and available from the Crop Protection Network publications <https://cropprotectionnetwork.org/publications/fungicide-efficacy-for-control-of-wheat-diseases>

These tables can help you identify products to use based on your targeted disease. As a reminder follow the label on harvest restriction as some products may have 30 to 45 days required between last fungicide application and harvest. Once the full head has emerged flowering will likely occur in 3-5 days, depending on weather and variety. It is time to keep an eye on your fields. Those most at-risk would-be fields that were planted to a Fusarium head blight susceptible variety or those with limited rotation that follow a previous crop of wheat or corn.

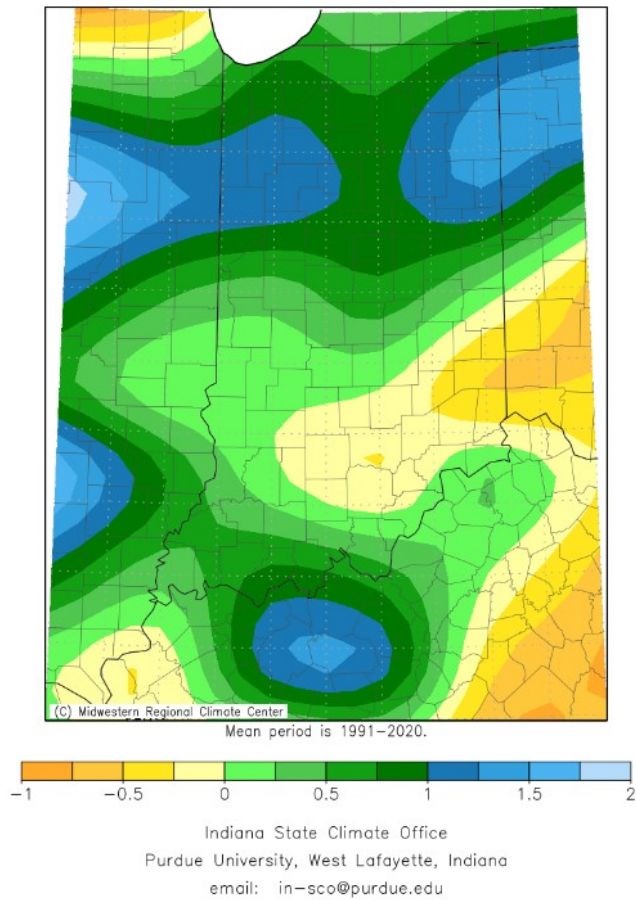
## Indiana Is Drought Free, But Long-Term Precipitation Deficits Remain

(Jacob Dolinger)

Abundant rainfall has eliminated any drought across the Hoosier State, and we have April showers to thank for that. Fort Wayne had its wettest April on record with a whopping 7.39 inches of precipitation, over 3 inches above the normal 3.74 inches for April. In Indianapolis, it was the 8<sup>th</sup> wettest April on record with 7.77 inches, and in Frankfort, it was the 2<sup>nd</sup> wettest with 7.99 inches. 30-day precipitation departures reveal above normal precipitation for just about the entire state (Figure 1).



Accumulated Precipitation (in): Departure from Mean  
April 8, 2024 to May 7, 2024



Accumulated Precipitation (in): Departure from Mean  
February 8, 2024 to May 7, 2024

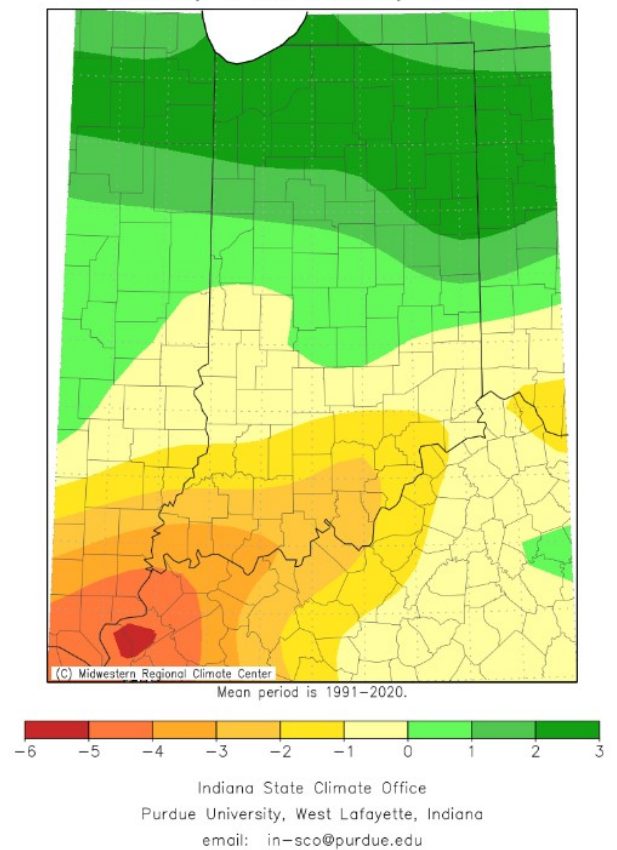


Figure 2: 90-day precipitation departures across Indiana for February 8-May 7.

Figure 1: 30-day precipitation departures across Indiana for April 8-May 7.

90-day precipitation departures tell a different story, with parts of southern Indiana up to 3 inches below normal (Figure 2). Even more significant are the 1-year departures, with most of the state anywhere from 4 to 12 inches below normal (Figure 3). Indiana will continue to need consistent precipitation to maintain the short-term recovery seen so far this Spring. The National Weather Service’s Climate Prediction Center (CPC) has forecasted near normal precipitation for most of the state for May 15-21, leaning above normal for southern Indiana. Through May 31, the outlook is for above normal precipitation for solely southern Indiana and near normal elsewhere. In total, the Weather Prediction Center (WPC) expects 0.5-1 inch of rain for most of Indiana through May 16.

Accumulated Precipitation (in): Departure from Mean  
May 1, 2023 to May 7, 2024

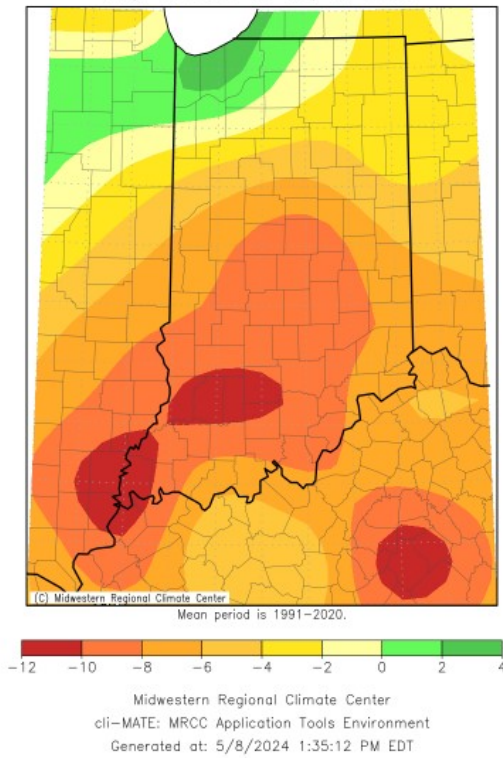


Figure 3: 1-year precipitation departures for Indiana for May 1, 2023-May 7, 2024.

In the agricultural growth department, Indiana is above normal.

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Much of central and southern Indiana are now well above normal when it comes to Modified Growing Degree Data accumulations (Figure 4). Since more precipitation is expected—and above normal temperatures are expected through at least May 17, according to the CPC—expect MGDD accumulations to climb more in the coming weeks.

**Growing Degree Day (50 F / 86 F) Departure From Average**

April 15 - May 7, 2024

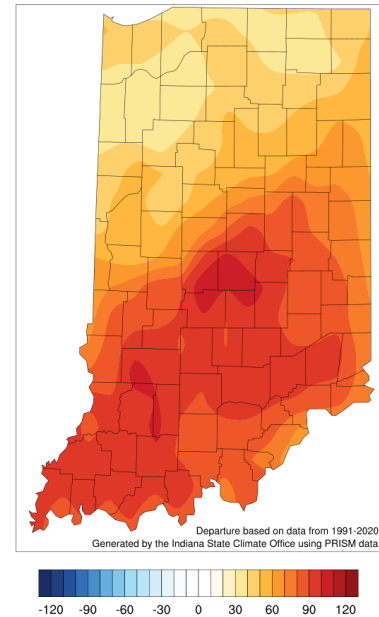


Figure 4: MGDD Accumulation Departures for Indiana for April 15-May 7, 2024.

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