

Pest & Crop Newsletter

Purdue Cooperative Extension Service
and USDA-NIFA Extension IPM Grant



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Armyworm Adults On The Move And An Update On Protection With Bt Traits

(Christian Krupke) & (John Obermeyer)

Over the past two weeks, armyworm moth captures at the Purdue Ag Research Centers (see accompanying “Armyworm Pheromone Trap Report”) have been variable, certainly not eye-popping! This happens most years, as do localized outbreaks. It is a reminder to conduct timely scouting in high-risk fields when the larvae are actively feeding, this is usually in mid to late May. The increased popularity of cereal rye as a cover crop presents new opportunities for egg-laying females to find attractive food sources, so prioritize fields where cereal rye overlaps with corn.

The armyworm’s preferred hosts for egg laying are 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 dreaded “green bridge.” With this spring’s wet and windy weather, spraying of cover crops has been delayed and the 2-3-week window may not be possible.

Of the currently available Bt-traits, only the **Vip3A** protein provides protection from armyworm feeding extensively on corn. The trade names of hybrids containing the **Vip3A** protein vary, one can consult their dealers or this online resource, “The Handy Bt Trait Table.” This table, produced by Christina DiFonzo (Ph.D), Field Crops Entomologist at Michigan State University, can be viewed and downloaded [HERE](#).



Mating armyworm moths, soon to lay eggs!



Hartstack trap used at the Purdue Research Centers for monitoring armyworm moths, notice captured moths in the top cylinder.

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									
Jennings/SEPAC Ag Center	1	8									
Knox/SWPAC Ag Center	0	0									
LaPorte/Pinney Ag Center	0	44									
Lawrence/Feldun Ag Center	4	125									

County/Cooperator	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11
Randolph/DPAC Ag Center	0	0									
Tippecanoe/ACRE	0	4									
Whitley/NEPAC Ag Center	0	0									

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

Small Scale Hemp Processing For Research

(Marguerite Bolt, mbolt@purdue.edu)

With the help of an endowment, a small decorticator was purchased to process hemp stalks. A decorticator has several rollers to crush the stalks and paddles to separate the bast and the hurd. The bast is the long fiber used in fabrics, rope, paper, and for insulation. The hurd is the pithy inner material and is used as an absorbent for spills and animal bedding, for building materials, and plastics. Both the bast and hurd have many other applications that are being investigated.

The HurdMaster decorticator allows us to rapidly process the stalks from our trials. Then we can measure physical and chemical properties of the bast and hurd from different cultivars and management practices. It also allows us to have more material for development of novel products.



Fig 1. The HurdMaster decorticator is used for processing whole hemp stalks out at the ICSIC.



Fig 2. Hemp bast is the outer long fibers of the stalk.



Fig 3. Hemp hurd is the inner pithy component of the stalk.

Field Crop Disease Monitoring Resources for Indiana

(Darcy Telenko)

There are a number of resources available for monitoring field crop diseases here in Indiana. The Purdue Field Crop Pathology Team will be tracking diseases across Indiana and will post updates here in Pest & Crop and on our website <https://indianafieldcroppathology.com/>. You can also follow me on Twitter @DTelenko

National disease tracking and prediction programs are place to monitor for some the more economically important diseases in the Unites States, such as Fusarium head blight in wheat, wheat stripe rust, southern rust of corn, and tar spot. In addition, the [Crop Protection Network](#) site hosts collaborative outputs on important issues affecting field crops in the United States and Canada, this site has numerous resources and fungicide efficacy tables for corn, soybean, and wheat.

General resources for all field crops:

Purdue Field Crop Pathology Extension site:
<https://indianafieldcroppathology.com/>

- o Applied Research in Field Crop Pathology for Indiana

- o Tar spot and southern rust in season maps
- o In-season updates on diseases in Indiana

Crop Protection Network: <https://cropprotectionnetwork.org/>

- o Fungicide efficacy tables can be found here for foliar diseases of corn, foliar and seedling diseases of soybean, and foliar diseases of wheat
- o Web books on tar spot, biopesticides, white mold, and fungicide use
- o Numerous crop protection resources – disease cycles, images, crop loss calculator, severity estimation tool and many more

Examples of disease prediction and/or tracking maps.

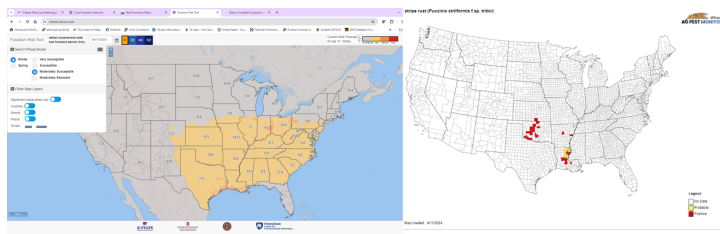


Fig 1. Wheat: Fusarium head blight risk map for moderately susceptible cultivar on 4/11/2024: <http://www.wheatcab.psu.edu/> and wheat stripe rust tracking: <https://wheat.agpestmonitor.org/strip-rust/>

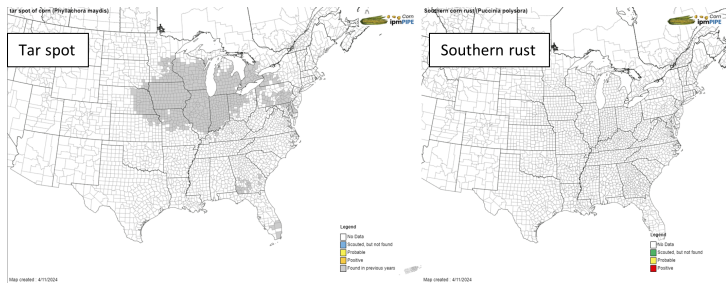


Fig 2. Corn: National corn tar spot and southern rust tracking: <https://corn.ipmPIPE.org/tarspot/> and <https://corn.ipmPIPE.org/southernCornrust/>

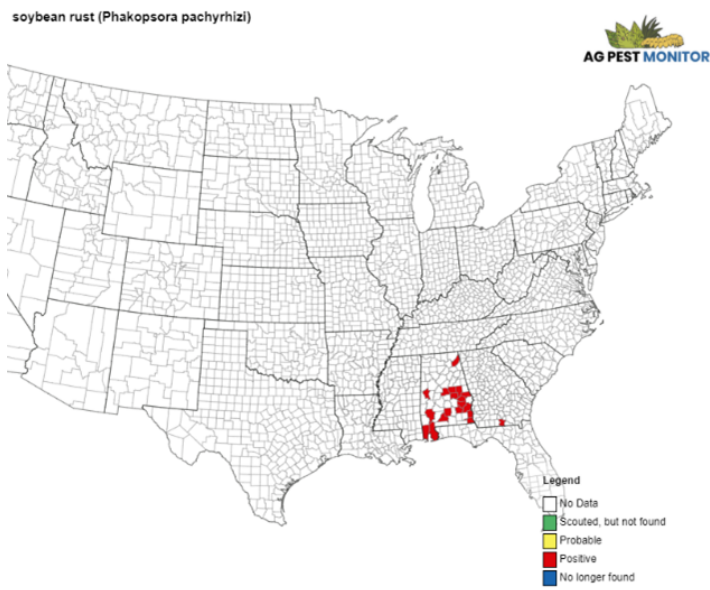


Fig 3. Soybean: National soybean rust tracking: <https://soybean.ipmPIPE.org/soybeanrust/>

Weather Impacts From Eclipse

(Beth Hall)

Something exciting happened this past Monday that many of you might be glad is over and no longer filling your news feed – the total solar eclipse. The Indiana State Climate Office, however, is now getting a chance to dig into the data collected from the Purdue Mesonet – a collection of 14 weather stations around the state – to see the various weather impacts from the event. While 3-second data was collected throughout most of the daylight hours on Monday (and yet to be analyzed), the public can view changes in the 5-minute data on the [Purdue Mesonet Data Hub](#) by clicking on a station, then scrolling down through the time series of various variables. All stations across Indiana experienced a drop in incoming solar radiation (no surprise there), but most stations also recorded at least a 5-degree drop in temperature (Figure 1) and a decrease in wind speed of approximately 5 miles per hour! Check out the data for the station closest to where you were and recall if you felt those various changes!

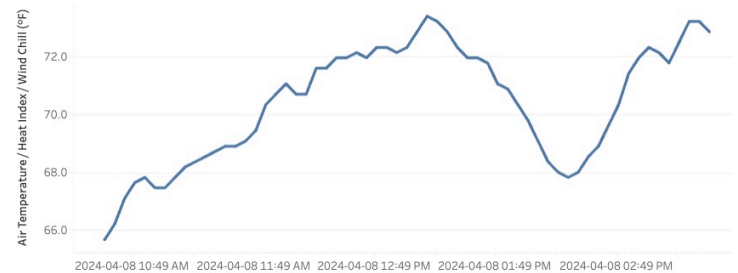
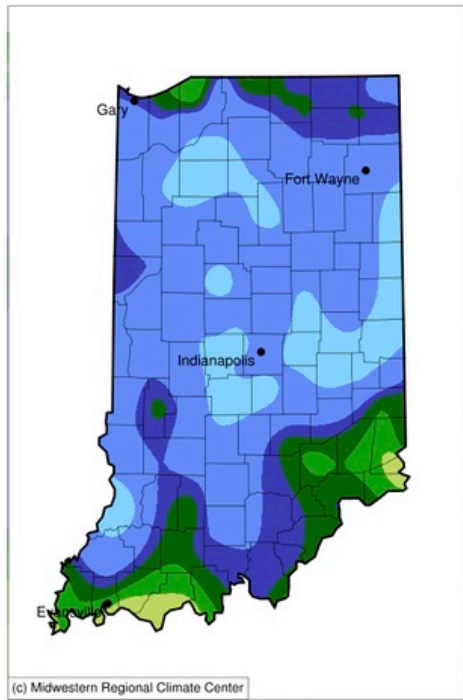


Figure 1. Example time series of temperature during the total solar eclipse that peaked around 2:00 PM local standard time (note: this is 3:00 PM local daylight time) for a station in Randolph County.

Precipitation continues to be above normal with most of Indiana having received at least 200 percent of normal amounts since the beginning of April (Figure 2). While last week has been on the drier side, by the middle and near end of this week more rain has come, keeping amounts high enough to eliminate any drought with only southwest Indiana counties in Abnormally Dry category according to the U.S. Drought Monitor (Figure 3).



**U.S. Drought Monitor
Indiana**



April 9, 2024
(Released Thursday, Apr. 11, 2024)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	93.68	6.42	0.09	0.00	0.00	0.00
Last Week 04-02-2024	88.52	11.48	2.55	0.00	0.00	0.00
3 Months Ago 01-09-2024	10.70	89.30	81.12	12.87	0.00	0.00
Start of Calendar Year 01-01-2024	10.70	89.30	81.12	12.88	0.00	0.00
Start of Water Year 09-01-2023	1.38	98.62	85.30	0.00	0.00	0.00
One Year Ago 04-11-2023	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:
None D2 Severe Drought
D0 Abnormally Dry D3 Extreme Drought
D1 Moderate 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>

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Figure 3. U.S. Drought Monitor map for Indiana based on data through the morning of Tuesday, April 9th.

Modified growing degree days since April 1st are within 5 units of normal as of April 11th with accumulations ranging from 70 units in southern Indiana to as low as 30 units in northern Indiana. Hopefully, this product will get more exciting with time, particularly since the national Climate Prediction Center (CPC) is strongly favoring above-normal temperature over the April 16-20 period. The CPC is also strongly favoring above-normal precipitation over this same period with a possible continuation of wetter-than-normal conditions likely for the following week.

Figure 2. Percent of normal precipitation based upon the 1991-2020 period for April 1st through the morning of April 11th, 2024. Areas above 100 percent are wetter than normal.

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