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Pest & Crop Newsletter

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In This Issue

Alfalfa Weevil Management Guidelines

(Christian Krupke) & (John Obermeyer)

Pest managers in southern Indiana should begin scouting their alfalfa for leaf feeding from weevil larva. This pest is often overlooked during the early spring planting season, but is a consistent resident of most alfalfa fields. These insects are highly cold tolerant, so our cold snaps during this past winter are unlikely to have negatively affected weevil populations.

Most alfalfa producers will have some familiarity with this pest and will have “favorite” insecticides for management. These are most often pyrethroids, which are tried and true and still generally effective. However, in recent years there have been increasingly frequent reports of resistance to pyrethroids rendering sprays less effective. These reports have originated primarily in northern and western geographies, but there is no reason it could not happen here. In short, it’s a good time to do a post-treatment survey for live weevil larvae after spray applications. And remember to rotate chemistries (even varying the pyrethroid of choice is better than doing the same thing every year). There are also non-pyrethroid options for control of this pest. See the alfalfa weevil management recommendations, here.

Producers can manage this pest most effectively by utilizing heat unit accumulations data (base 48°F) to determine when sampling should begin and when an action should be taken, The management guidelines listed below should be used to determine when alfalfa weevil should be controlled in southern Indiana. Refer to the following map for alfalfa weevil development in your area.

Alfalfa Weevil Management Guidelines Southern Indiana

Heat Units	% Tip Feeding	Advisory
200		Begin sampling. South facing sandy soils should be monitored earlier.
300	25	Re-evaluate in 7-10 days using the appropriate HU or treat immediately with a residual insecticide if 3 or more larvae are noted per stem and % tip feeding is above 50%
400	50	Treat immediately with a residual insecticide.
500	75	Treat immediately.
600	75+	If cutting delayed more than 5 days, treat immediately.
750		If harvested or harvesting shortly, return to the field in 4-5 days after cutting and spray if 1) there is no regrowth and weevil larvae are present OR 2) feeding damage is apparent on 50% of the stubble and weevil larvae are present.

Alfalfa weevil adult. (*Photo Credit: John Obermeyer*)

Alfalfa weevil larva and tip feeding. Unrolling of leaves will be necessary to view the larvae. (*Photo Credit: John Obermeyer*)

Field Crop Disease Monitoring Resources

For Indiana In 2025

(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 (Fig. 1), wheat stripe rust (Fig. 1), southern rust of corn, and tar spot (Fig 2). 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. There are also a few other disease maps that might be of interest, such as soybean red crown rot (Fig 3), soybean rust and southern root-knot nematode.

General resources for all field crops:

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

- Applied Research in Field Crop Pathology for Indiana
- Tar spot and southern rust in season maps
- In-season updates on diseases in Indiana

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

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

We will continue keeping a close eye on a number of diseases in corn and soybean as we get into the growing season. Research funding from the Indiana Corn Marketing Council and Indiana Soybean Alliance are supporting sample processing, therefore there will be no charge for Indiana growers to submit corn or soybean disease samples to the Purdue Plant Pest Diagnostic lab**.**

Mail to: Plant and Pest Diagnostic Laboratory, LSPS-Room 116, Purdue University, 915 W. State Street, West Lafayette, Indiana 47907-2054. The lab is operating and the building is open. If dropping off a sample is more convenient than shipping, please call or email the lab prior to stopping by Phone – 765-494-7071 or Email – ppdl-samples@purdue.edu .

Examples of disease prediction and/or tracking maps.

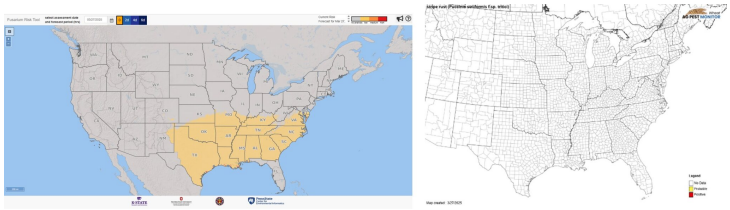

Fig 1. Wheat: Fusarium head blight risk map for moderately susceptible cultivar on 3/27/2025: http://www.wheatscab.psu.edu/ and wheat stripe rust tracking: https://wheat.agpestmonitor.org/stripe-rust/

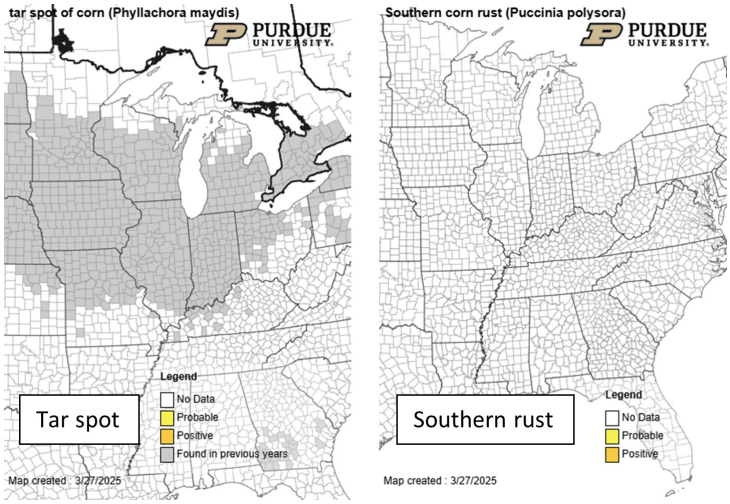

Fig 2. Corn: National corn tar spot and southern rust tracking https://indianafieldcroppathology.com/

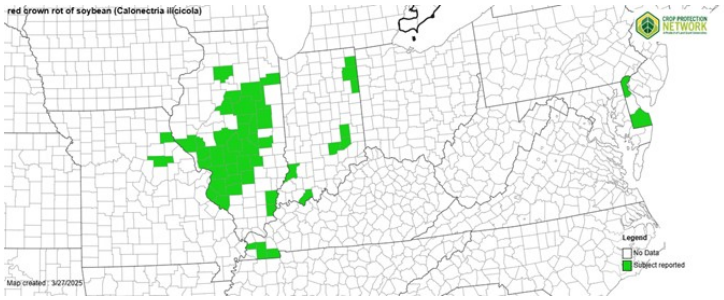

Fig 3. Soybean: National soybean red crown rot map, this map shows where red crown rot has currently been confirmed. https://cropprotectionnetwork.org/maps/red-crown-rot-map

How Is There Still Drought With All This Rain?

(Beth Hall)

If one looks at the latest U.S. Drought Monitor map for Indiana (Figure 1), one might scratch their head – particularly as it has been raining and the chance for severe weather is in the forecast for this weekend. Well, drought is a tricky thing.

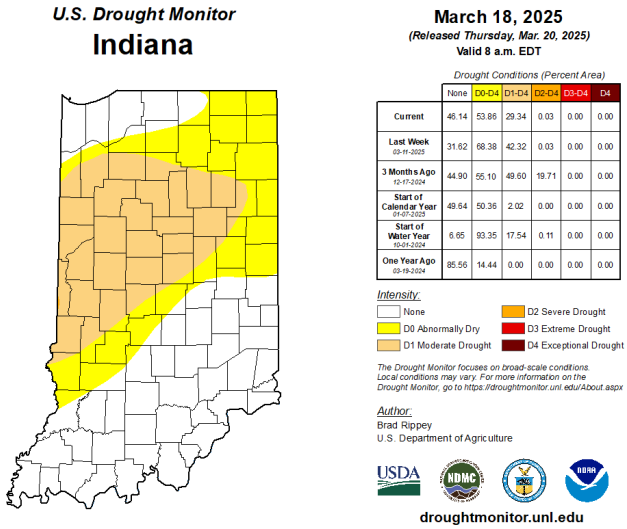

Figure 1. U.S. Drought Monitor status for conditions as of Tuesday, March 18, 2025.

Critically, there are several types of drought. Meteorological drought tends to only focus on how much precipitation has fallen and how that amount compares to historical totals for that same period. Since drought tends to consider periods of time from 30 days to several consecutive months, recent heavy rains – while likely above normal compared to that same period, historically – may not be enough to ignore the longer-termed deficits of the recent 30, 60, or 90 days. Figure 2 illustrates how the total precipitation from since February 24th and January 24th through March 25th compared to historical amounts over that same period. The maps indicate where there are warmer colors (e.g., orange) total precipitation is still below normal through parts of central and southwestern Indiana.

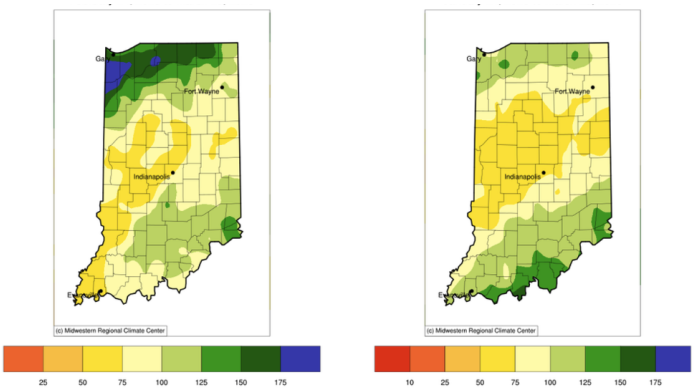

Figure 2. Precipitation represented as the percentage of normal (base period 1991-2020) where a value of 100(%) would represent normal conditions. Map on left represents precipitation from February 24 through March 25, 2025. Map on right represents precipitation from January 24 through March 25, 2025.

Another type of drought is hydrological. This focuses on impacts from precipitation deficits on water systems such as groundwater, lake and pond levels, and streamflows. Some of these can respond quickly to rainfall events (e.g., streamflows), others may take longer to recover (e.g., groundwater). Additionally, hydrological indicators may not be co-located with where the rain fell. In other words, while sufficient rain may have fallen locally, streams and groundwater that have water sources elsewhere may be significantly below normal due to a lack of precipitation elsewhere. This may result in local impacts, particularly if the streams and groundwater are a critical water source to the local environment. Figure 3 shows the 28-day averaged streamflows and ground water levels as a percentage to normal conditions. Note both products indicate areas where levels are below normal are focused in a similar area to where the U.S. Drought Monitor is indicating abnormal dryness and moderate drought.

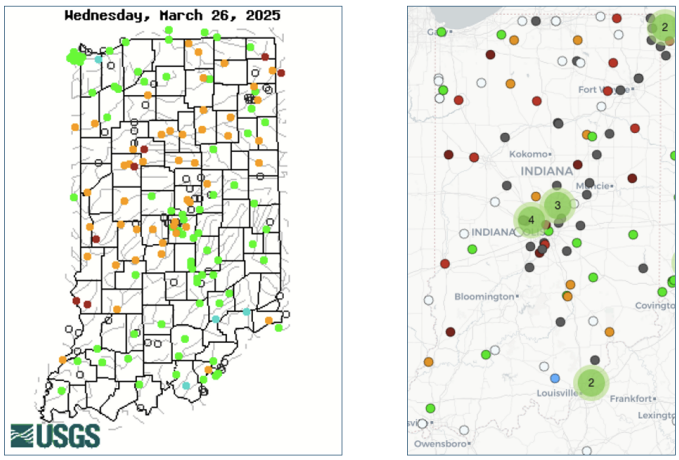

Figure 3. Hydrological maps showing 28-day average streamflow (left) and groundwater levels (right) as a percentage of normal conditions as of March 27th. Warm colors on both maps indicate below-normal conditions and cool colors indicate above-normal conditions. The circles with numbers inside on the groundwater map indicate multiple stations clustered that would have required further zooming in to see.

The last type of drought (for this article) is agricultural drought. This type can usually respond rather quickly when precipitation is abundant. Indicators can be visible stress on crops and dry soil moisture. At this time of year, there is not a lot of crop vegetation to assess drought intensity. Soil moisture monitoring from the Purdue Mesonet suggest most soils across the state are plenty moist from 2 inches down to 20 inches. However, modeled soil moisture products from the National Oceanic and Atmospheric Administration indicate soils across central Indiana, when averaged over a longer period, are drier than normal.

Ultimately, the U.S. Drought Monitor considers a wide range of indicators and products. Additionally, they invite input from state drought task teams to inform them of what the local community is seeing in addition to observational data. The Indiana State Climate Office leads this effort in Indiana along with participation from a wide range of programs such as the Indiana Department of Natural Resources, Indiana Departments of Emergency Management and Homeland Security, U.S. Department of Agriculture, National Weather Service, and Purdue Extension. The national U.S. Drought Monitor author has the final say in what the weekly map will look like. Hopefully, this helps explain why the weekly map might seem to contradict what outside conditions may look like. Period of consideration (last 30 days to 4-6 months), types of drought to consider, and the wide range of indicators must all be captured in this single product.

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