

Pest & Crop Newsletter

Purdue Cooperative Extension Service
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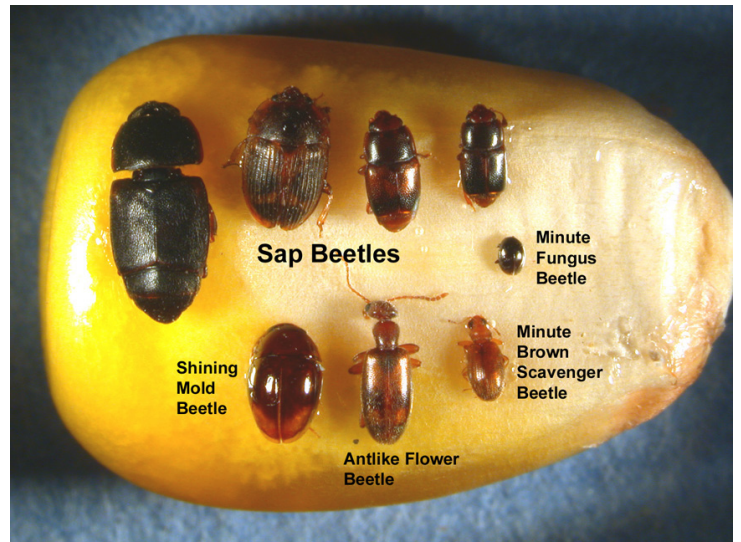
Little Bugs in Corn Ears

(John Obermeyer)

As folks get out to inspect corn ears, especially in northern counties where western bean cutworm is a greater concern, they will find "little black bugs," especially where kernels are damaged. Their presence is in response to previous damage to kernels, which includes insect and/or bird feeding, hail, etc. In addition, hybrids with short ear husks seem to be more prone to exposing kernels, making easy access for rootworm and Japanese beetles to compromise ear tip kernels while feeding on silks. These small, opportunistic insects are feeding on decaying kernels and subsequent molds, NOT directly damaging the crop. They are simply fulfilling their niche in the cycle of life, "clean up in Aisle 3."



Picnic beetle feasting on fresh "goo" while the corn earworm is still feeding in the tip.



Array of beetles that can be found feeding on damaged corn kernels.



Sap beetle adults and larvae feeding on damaged sweet corn kernels.

Purdue Field Day to Feature Research on Sorghum's Value as a Forage Crop

(Keith Johnson)

Diverse types of sorghum provide many opportunities for use as a valuable forage resource. Sudangrass and sorghum x sudangrass provide valuable grazing opportunities in the summer months; they can also be ensiled as traditional chopped silage and baleage. Forage sorghum is a good alternative to corn silage, particularly on droughty soils and where the tar spot fungus has

been problematic on corn.

A news release regarding the forage sorghum field day to be held on September 10 was prepared by Ashvini Malshe with Purdue Agricultural Communications follows. Please share the opportunity with others about the field day.

WEST LAFAYETTE, Ind. – Purdue University Extension will host a Forage Sorghum Field Day on September 10 at the Feldun-Purdue Ag Center (FPAC) in Bedford, Indiana.

“Compared to corn, forage sorghum has attributes of being more drought tolerant, has less nitrogen requirements and no host relationship with the tar spot pathogen,” said [Keith Johnson](#), Purdue professor of agronomy. “We will discuss its production and utilization for silage, grazing and as a standing winter feed source in a winter lot.”

Attendees will also have the opportunity to learn about forage sorghum research from agronomy experts including [Mitch Tuinstra](#), Wickersham Chair of Excellence in Agricultural Research and scientific director of the Institute for Plant Sciences at Purdue. He will share about plant breeding techniques that improve sorghum yield and quality.

Other speakers will include Brad Shelton, FPAC superintendent; Jason Tower, Southern Indiana Purdue Agricultural Center superintendent; Nick Minton, Purdue Extension beef systems specialist; and Jeff Jackson, Croplan alfalfa and forage specialist.

Venue tours will be available during the event, in the afternoon from 3:00 to 5:00 p.m. and in the evening from 6:00 to 8:00 p.m. Dinner and a bull test station tour will be available from 5:00 to 6:00 p.m.

Participants should register by September 5. Contact Brad Shelton, FPAC superintendent, at sheltonb@purdue.edu. For questions or accessibility needs, contact Johnson at johnsonk@purdue.edu.

Writer/Media Contact: Ashvini Malshe, 765-496-7480, malshea@purdue.edu



Sorghum has much value as a grazing and silage resource for ruminant livestock producers.

Photo source – Keith Johnson, Purdue Extension Forage Specialist

An Eerie Poisonous Fog

(Keith Johnson) & (Brad Shelton)



The orange, heavy, and poisonous gas, nitrogen dioxide, flows out the end of a silo bag filled with whole-plant corn chopped and bagged the previous day.

The end of the silo bag was not adequately sealed with a lime pile.

In several weeks, some livestock producers will be chopping whole-plant corn that will be placed in an anaerobic environment so fermentation can occur. During the ensiling process, toxic gasses of nitrogen dioxide (NO₂) and nitrogen tetroxide (N₂O₄) are produced when nitric oxide comes in contact with oxygen. Nitrates that have not been converted to true protein are the source of nitrogen oxides. Nitrates accumulate in plants when drought and/or when excess nitrogen is present in the soil.

Nitric oxide is colorless and nitrogen dioxide is reddish brown. These gases have caused permanent lung damage in people; and have killed both livestock and humans. Greatest concern is the first few days after putting the chopped forage in the silo structure or bag. However, care should be taken for ten days after

packing occurs. These silo gases float down a tower silo chute and into a barn or confined area. Whenever toxic gases are a possibility, care must be taken to protect both humans and animals. Make sure that enclosed areas around the feed storage area (feed rooms, silos, and animal pens) are well ventilated and safe before entry. Doors and windows to enclosed areas should be opened, and silo blowers should run before any attempt is made to enter a tower silo. If there is any doubt about toxic gases being present, a properly fitted oxygen mask should be used in and around the feed storage area.

After fermentation is complete after four weeks, it would be advised to request a nitrate test from a certified laboratory (www.foragetesting.org), especially if the corn was growing in a droughty environment or where excess nitrogen was applied. Nutrition analyses used to balance rations should also be requested. Fermentation does reduce the initial nitrate concentration at harvest. If nitrate concentration is a concern as noted by test results, seek the advice of a trained nutritionist to utilize other feedstuffs to blend with the silage to meet livestock performance goals and that will make the ration safe to feed.

The concern of toxic gasses emphasizes the importance of being safe and healthy with all farming tasks.

The movie above is like one you may have never seen before. It is a "WOW"!

Photo and movie contributed by Brad Shelton, Superintendent, Feldun-Purdue Agricultural Center

Much of the text is from Purdue Extension publication ID-528-W, "Beef Management Practices When Forages are in Short Supply Because of Drought".

<https://www.extension.purdue.edu/extmedia/ID/ID-528-W.pdf>

Tar Spot and Southern Corn Rust Update in Indiana

(Darcy Telenko)

Southern corn rust has now been confirmed in four counties (Knox, Dubois, Warrick, and Shelby) this week in Indiana (Figure 1). While tar spot continues to be documented across the state (Figure 2). I suggest if you have not gotten out and looked for these diseases now is the time. Even if your corn is approaching black layer it will be important to document tar spot in your fields for the future disease management decisions.

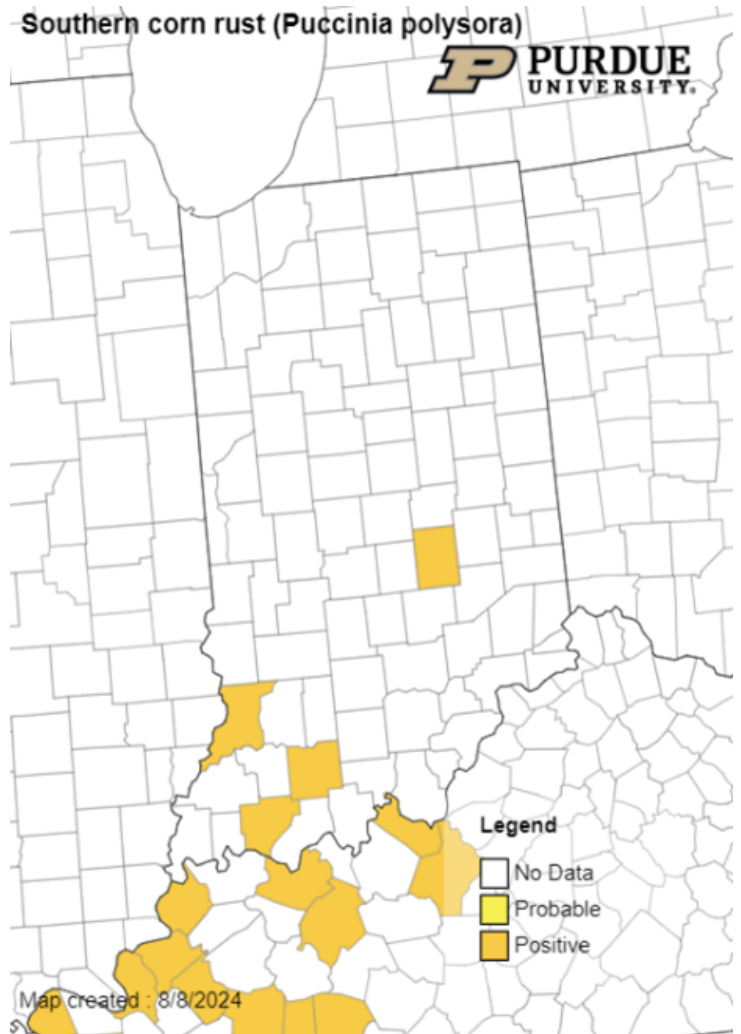


Figure 1. August 8, 2024 map of southern rust (*Puccinia polysora*).

There are currently 41 counties with a positive confirmation of tar spot (Figure 2). As we are learning this season when we have had favorable environmental conditions there may be pockets of tar spot even in areas that have not seen the significant yield impacts previously. In the map all gray counties indicate that tar spot was found in the county in previous seasons.

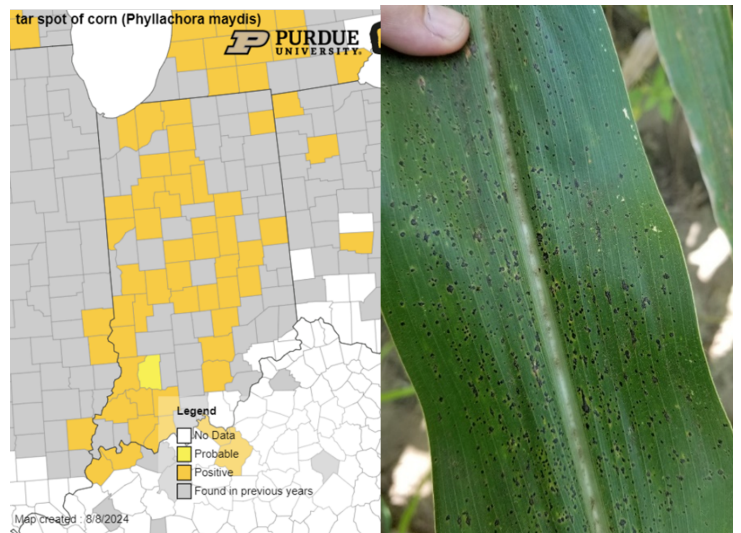


Figure 2. August 8, 2024 map of tar spot (*Phyllachora maydis*) and image of an infected leaf.

I have been getting many questions on if a late season fungicide

or 2nd fungicide application should be applied.

Here are my thoughts on what to consider to make that decision (See Figure 3 and 4).

1. What growth stage is the corn? If at dent (R5) or beyond I would not recommend an application.
2. What has been the history of tar spot in your field? How much disease do you see currently? Where is the disease in the canopy? Just lower leaves or has it moved up to the ear leaf?
3. When was a fungicide applied? If more than 3 weeks then the effective period for many of our fungicides has run out.
4. Has the environment be favorable for tar spot development - there's an app you can use to check your field risk.
5. If you do decide to make a fungicide application at this point in the season, leave check strips to determine if the fungicide gave you a return on your investment.

Tar Spot		
Crop Stage When Tar Spot is First Detected	Possible Benefit From Spraying	Comment
Late Vegetative	Rarely, consult extension specialists before spraying	Scout fields and monitor disease progress; may need a second spray
VT/R1 (Tasseling/Silking)	Yes	May need a second spray
R2 (blister)	Yes	Less likely to need a second spray
R3 (milk)	Yes	No second spray needed
R4 (dough)	Maybe, with severe disease pressure	No second spray needed
R5 (dent)	No	No second spray needed
R6 (black layer)	No	

Figure 3. A decision table for tar spot outlining possible benefits from applying fungicides based on when disease is first detected in a field and crop growth stage. Source: Crop Protection Network <https://cropprotectionnetwork.org/maps/tar-spot-of-corn>

Southern Corn Rust		
Crop Stage When Southern Rust is First Detected	Possible Benefit from Spraying	Comment
Vegetative	Not likely to find southern rust at this stage unless corn is planted very late for the region	Scout fields for disease
VT (tasseling)	Yes	May need a second spray
R1 (silking)	Yes	May need a second spray
R2 (blister)	Yes	Likely to need a second spray
R3 (milk)	Yes	No second spray needed
R4 (dough)	Maybe, with severe disease pressure	No second spray needed
R5 (dent)	Unlikely	No second spray needed
R6 (black layer)	No	

Figure 4. A decision table for southern rust outlining possible benefits from applying fungicides based on when disease is first detected in a field and crop growth stage. Source: Crop Protection Network <https://cropprotectionnetwork.org/maps/southern-corn-rust>

We are still documenting tar spot and southern rust as it is important to understand the disease distribution and severity across Indiana. It is extremely important to know if this disease is present in your fields for future risk assessments and to implement disease management tools if necessary. If you observe tar spot in a county that has not reported this season or would like to share what you have been seeing on your farm, then please send a sample to the Purdue Plant Pest Diagnostic Lab (PPDL)

<https://ag.purdue.edu/btny/ppdl/Pages/Submit-A-Sample.aspx> or email me a photo of the leaf dtelenko@purdue.edu

Cooler temperatures should settle in for a while

(Beth Hall)

After a period of hot and humid weather where heat indices reached triple digits in some locations, we welcome cooler than normal temperatures for the next several days. It is still summer, though, so sweaters, mittens, and scarves will not be necessary! There were a few temperature records broken over the August 5-6, 2024, period, but surprisingly none otherwise across Indiana. What a nice reminder that we are usually hot and humid this time of year! In fact, the July 2024 average daily temperature (as well as the average daily maximum and minimum temperatures) were very close to normal. Does this mean global climate change is not real? Absolutely not! The key word there is “global” and while the average temperatures for the month were near normal, the variability and extremes illustrate how much the atmosphere has been agitated.

Which brings us to precipitation. July’s precipitation was well above normal across much of Indiana except for a few areas (Figure 1). Overall, this seemed to be beneficial for both agricultural production and statewide water supplies. The timing seemed good, too, with rainfall events happening every few days. Unfortunately, several of those events were particularly heavy at times that led to flooded areas, but impacts were predominantly minimal.

Because of these often-timely rainfall events, Indiana remains clear of any drought with only few area still classified as *Abnormally Dry (D0)* by the U.S. Drought Monitor (Figure 2). Unfortunately, the precipitation forecast for the next 7 days (Figure 3) is predicting very little moisture. With cooler temperatures forecasted over this time, evapotranspiration rates should remain lower, but drought development should be monitored closely. Extended climate outlooks (August 15-21, 2024) are favoring above-normal temperatures with near-normal precipitation amounts. Assuming this outlook is correct, any short-term dryness over the next week should hopefully not lead to serious impacts for long.

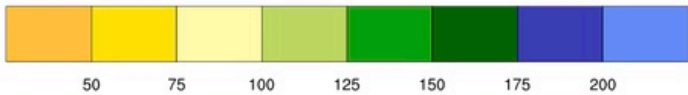
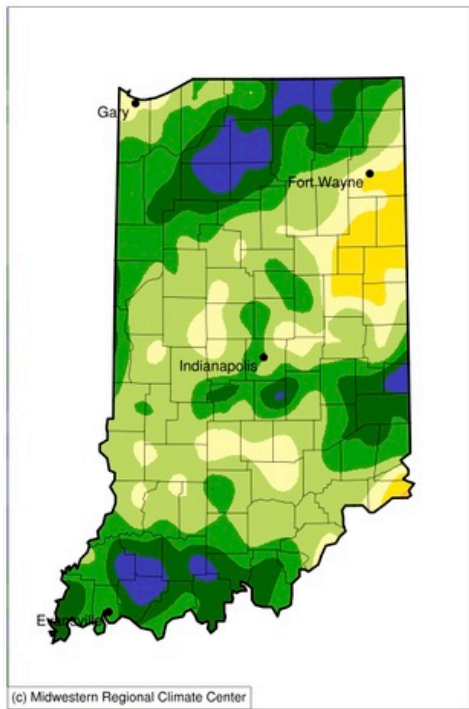
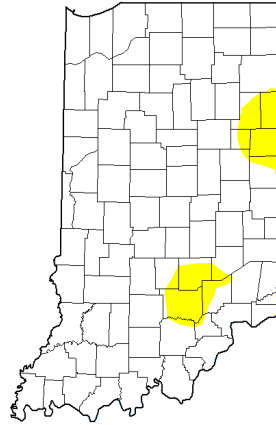


Figure 1. July 2024 precipitation presented as the percentage of normal (1991-2020 base period).

**U.S. Drought Monitor
Indiana**



August 6, 2024
(Released Thursday, Aug. 8, 2024)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	92.90	7.10	0.00	0.00	0.00	0.00
Last Week 07-30-2024	82.08	17.92	0.00	0.00	0.00	0.00
3 Months Ago 05-07-2024	100.00	0.00	0.00	0.00	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 10-01-2023	1.38	98.62	85.30	0.00	0.00	0.00
One Year Ago 08-08-2023	69.54	30.46	6.31	0.00	0.00	0.00

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

Author:
David Simeral
Western Regional Climate Center



Figure 2. U.S. Drought Monitor status for conditions as of Tuesday, August 7, 2024.

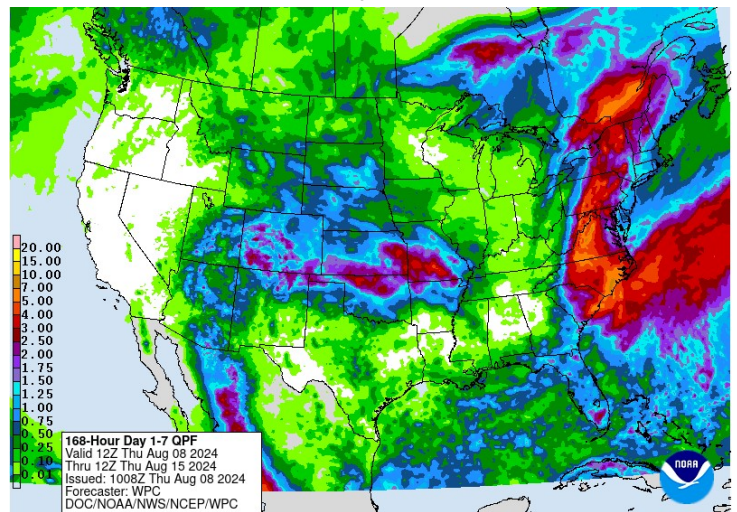


Figure 3. Accumulated precipitation forecast for August 8-15, 2024.

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