

Field Facts: Tar Spot

Much remains to be learned about the long-term economic effect and best management practices of tar spot, which has a very limited history in the United States. However, a recent Strategic Farming webinar conducted by the University of Minnesota Extension showed that Midwest growers were losing 20 to 60 bu/A in locations with severe tar spot.

"This pathogen is overwintering in debris in the northern Corn Belt. It's here, and it's going to be here for future seasons," said Darcy Telenko, Ph.D., Field Crop Pathologist, Purdue University. "We need to figure out how to reduce the yield impacts that come with the disease."



Fast facts

- Tar spot favors cool temperatures (60° to 80°F), high relative humidity (>75%), frequent cloudy days and seven-plus hours of dew at night.
- Tar spot is the physical manifestation of fungal fruiting bodies, the ascomata, developing on the leaf.
 - The ascomata look like spots of tar, developing black oval or circular lesions on the corn leaf.
 - The texture of the leaf becomes bumpy and uneven when the fruiting bodies are present.
 - These black structures can densely cover the leaf and may resemble the pustules of rust fungi.
- Tar spot spreads from the lowest leaves to the upper leaves in fields with previous history, leaf sheathes and, eventually, the husks of the developing ears.
- Tar spot is polycyclic, meaning the disease will have multiple cycles in-season, producing spores that can spread to new plants under favorable environmental conditions.
- Tar spot has been proven to survive for at least one year (more suspected) in corn residue.
 - Note: Managing corn residue doesn't eliminate the risk of tar spot. Spores can still come from neighbors' fields or from fields counties away.

Control tips

- Use tolerant hybrids. If tar spot is a problem in your area, customers will want to consider tolerant hybrids as their first defense against the disease.
- Scout vigilantly. Scouting the lower canopy will help determine if a fungicide application is warranted. "You can't just do a drive-by scouting of this disease," Telenko warned. "If you're seeing signs of tar spot on the upper canopy, the disease has already gained access and spraying [a fungicide] will not most likely reduce disease at this point."
- Time fungicide applications wisely. To improve efficacy and reduce risk of fungicide resistance, encourage customers to watch for favorable disease conditions and be ready to react if the season changes. Applying too early or too late will likely only result in wasted product.
 - In trials with high disease pressure, fungicides provided 3% or more yield protection, equating to 7 to 18 bu/A. "The return on investment for using a fungicide is there. If you protect 7 bushels, you pay for that fungicide application," Telenko said.

The best tar spot management program will be specific to each customer and, in most cases, will vary by each field. These resources can help you guide customers in making cost-effective disease management decisions this season:



Tar spot distribution map



Fungicide efficacy for control of corn diseases



Strategic Farming webinar: Corn tar spot – Distribution, development and management



More tar spot resources from Corteva

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