

Hardin County Extension News Release

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Tar Spot Found in County Corn Fields

Hardin County – A new corn disease has shown up in the county that was first found in Ohio cornfields in 2018. Tar spot was first found in a field in northwest Hardin County while OSU Extension Water Quality Associate Boden Fisher and Hardin County OSU Extension Educator Mark Badertscher were doing yield estimates the week of August 9. Samples were taken to Williams County Extension Educator and plant pathologist Stephanie Karhoff for initial confirmation of the disease. Later in the week, samples were taken to an OSU Extension Ag Crops Team meeting for OSU Extension Corn Disease State Specialist Dr. Pierce Paul to confirm the existence of tar spot.

The week of August 16, the Hardin County Extension office was notified of other infected fields located in northeast Hardin County and southeast Hancock County. These fields were examined by industry agronomists and OSU Extension for recommendations. Later that week, a report of tar spot was reported in western Hardin County on sweet corn. The week of August 23, the Extension office received reports of the suspected disease spreading further south of McGuffey and possibly south of Ridgeway. Visits to these fields are being made to confirm whether the fields are infected with the disease.

Tar spot is a relatively easy disease to diagnose. As the name suggests, it usually shows up as raised, black spots, primarily on the leaf blast. The size of the spots may vary, but they all have a very similar appearance – raised, circular-to-irregularly shaped, black spots. Infections looked at in southern Hancock County were on the entire stalk, leaves, sheaths, and husks. This is the earliest we have seen tar spot in the state since it was first reported in 2018. Results from studies out west suggest that yield losses due to tar spot tends to be highest when it develops and spreads before tasseling (VT) on susceptible hybrids.

Warm, wet, and humid conditions seem to favor the development and spread of tar spot, so keep your eyes on the weather, and watch the progress of the disease. If it continues to spread, a fungicide application may be warranted, but efficacy of fungicides against tar spot is still being investigated. Tar spot severity on ear leaves at growth stage R5 (dent stage) can exceed 50 percent in susceptible hybrids when conditions are favorable for the disease. After observing the disease, corn pathologists at universities in Illinois, Indiana, and Wisconsin have suggested that the leaves of infected plants prematurely senesce when ear leaf severity is greater than 30 percent.

Preliminary data from the Midwest indicates that severe tar spot outbreaks can reduce yield by more than 30 bushels per acre. Yield losses are a function of reduced ear weight, poor kernel fill, loose kernels, and vivipary (a condition in which the seed germinates while still on the cob). Observations also suggest that stalk rot and lodging are increased when tar spot severity is high. Severe tar spot also reduces forage quality.

You can diagnose corn tar spot in the field by examining corn leaves for the presence of black, tar-like spots. To date, tar spot has been observed most often during mid- to late grain fill (growth stages R3-R6) and usually on leaves below or near the ear leaf. You can observe stomata in green and senesced tissues. Occasionally, you may also observe necrotic brown tissue surrounding the black structures, which produces a fisheye appearance. If you suspect tar spot, bring corn leaves to the Extension office or send a sample to the state diagnostic lab to confirm the diagnosis.

Most of what we know about tar spot has originated from Mexico and Central America. However, differences in the environments, fungal populations, hybrid genetics, and cropping systems may influence disease development in different areas. Our understanding of this disease in the United States is limited because of its very recent history. Recommendations for this new disease include managing residue, rotating to other crops, avoid highly susceptible hybrids, and investigate fungicides.

Questions remain about late applications of fungicides. According to Purdue University Extension, if the corn is at R4 (dough stage) or beyond, an application should not be made. Items to consider are the history of tar spot in your field, how much tar spot is present, many fungicides are effective for 3 weeks, and whether conditions favorable for tar spot development. 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.