

Identifying Tar Spot in Corn

Tar spot is a relatively new disease to the United States. In 2018, the disease was more widespread and more severe than in the previous three years. If you think you have tar spot in a field, send samples to a laboratory to confirm the presence of the disease.

What to Consider

Tar spot is a corn disease caused by the fungus *Phyllachora maydis*. It was first confirmed in the United States in 2015 in Illinois and Indiana, and has since been confirmed in surrounding states: Iowa, Wisconsin, Michigan, and Ohio. Infection and disease development are favored by cool, humid conditions with extended periods of leaf wetness.

Symptoms of Tar Spot:

- Symptoms begin as oval to irregular bleached to brown lesions on leaves in which black spore-producing structures called ascomata form (Figure 1).
- Black spots on the leaf that cannot be rubbed off.
- Lesions protrude from the leaf surface, giving affected leaf areas a bumpy feel.
- Lesions may coalesce to cause large areas of blighted leaf tissue, which can be mistaken for saprophytic fungal growth on dead leaf tissue.
- Symptoms can also be present on leaf sheaths and husks.

Impact on Crop

Tar spot was discovered in U.S. corn fields in 2015. During 2015-2017, the disease did not cause significant economic damage. However, in 2018, the disease was more widespread and more severe than in the previous three years.

Like other foliar diseases, the impact of tar spot depends on how early infection occurs and how severe the infection is. When leaves are severely infected during grain fill, sugars may not be available, and plants may stop filling ears prior to black layer, which can result in an overall loss in kernel weight and yield. When photosynthesis is reduced because of a loss of leaf area, stalks may be cannibalized for sugars, which can result in poor standability and lodging.

In some areas where tar spot has occurred, there are many fields that will likely see little to no yield loss because the disease came in later or symptoms did not develop to levels that affect yield.



Figure 1. Symptoms of tar spot.



Figure 2. Heavy tar spot infestation in corn field.

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While the potential impact of the disease is still being determined, late-season agronomics are currently being evaluated in many fields infected with tar spot.

Management Options

Farmers should scout and prioritize fields for harvest as tar spot may contribute to weaker stalks later in the growing season. Though the disease does not typically cause significant economic damage some parts of the upper Midwest in 2018 have had higher-than-usual levels of the disease, leading to poor late-season standability, and in some cases severe yield loss.

Because the symptoms of tar spot can easily be confused with other diseases, like saprophytic fungi or corn rust, it is important to get a laboratory diagnosis. If you suspect tar spot, please contact your local agronomist to collect a sample for diagnostics.

A timely fungicide application may help lessen the effects of tar spot in corn. Delaro[®] applied at 8 oz/acre, with 2 GPA when applied aerially, or 10 GPA when applied by ground at VT-R1 timing is labeled for control of key Midwestern diseases, such as gray leaf spot, Northern corn leaf blight, rust, and tar spot. Tar spot is currently labeled under a 2(ee) for the following states: Iowa, Illinois, Indiana, Michigan, Wisconsin, and Ohio.

IMPORTANT: This bulletin is not intended to provide adequate information for use of this product. Read the label before using this product. Observe all label directions and precautions while using this product. Delaro[®] is not registered in all states.

Sources:

¹ Wise, K. and Ruhl, G., Creswell, T. 2016. Diseases of corn. Tar spot. BP-90-W. <https://www.extension.purdue.edu>

² Robertson, A., Zaworski, E. 2016. Tar spot confirmed in corn in eastern Iowa. Iowa State Extension. <https://crops.extension.iastate.edu>

³ Chilvers, M., McCoy, A., Byrne, J. 2017. Corn tar spot confirmed in Michigan. Michigan State Extension. <http://msue.anr.msu.edu>

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