



Agronomic Alert

Tar Spot in Corn

- Tar spot, a corn disease not previously reported in the United States, has recently been identified in northern Indiana and northern Illinois.
- The potential impact of the disease (if any) is still being determined. At this late point in the growing season, no in-season management is needed.

Tar Spot Confirmed

Tar spot, a corn disease not previously reported in the United States, has recently been identified in northern Indiana and northern Illinois. Samples that tested positive for *Phyllachora maydis* include Cass and Carroll counties in Indiana, and LaSalle, Dekalb, and Bureau counties in northern Illinois. This is the first confirmation of this disease in the United States.

Symptoms of Tar Spot

The symptoms of tar spot are distinctive and look like spots of tar on the leaf. Symptoms begin as oval to irregular bleached to brown lesions on leaves in which black spore-producing structures called ascomata form (Figure 1). Lesions protrude from the leaf surface, giving affected leaf areas a rough or bumpy feel. The structures can densely cover the leaf, and may resemble the rust fungi pustules. Lesions may coalesce to cause large areas of blighted leaf tissue, which can be mistaken for saprophytic fungal growth on dead leaf tissue. Symptoms and signs of tar spot can also be present on leaf sheaths and husks. Infection and disease development occur under cool, humid conditions.

Prior to the Indiana/Illinois findings, tar spot was known to occur only in cool humid areas at high elevations in Latin America. There are actually two fungi that cause tar spot disease on corn: *Phyllachora maydis* and *Monographella maydis*. While *Monographella maydis* is known to cause economic yield losses in Latin America, *Phyllachora maydis* is not known to significantly reduce yield potential. Other pathogens may be confused with tar spot, especially the teliospore (black) phase of corn rust. Also, there are many fungi, called saprophytes that feed on dead corn tissue and form black splotches on the leaves. To date only one of the pathogens, *Phyllachora maydis*, has been found in IN and IL.

Tar Spot Impact

It is not yet clear how the disease was introduced in Illinois and Indiana. No species of *Phyllachora maydis* are reported to be seedborne or infect other host plants.

The potential impact of the disease (if any) is still being determined. Because it is late in the growing season, no in-



Figure 1. Black ascomata, the fruiting structure of the fungus that causes tar spot, on a corn leaf.

season management is needed if the disease is present in corn fields. If you suspect tar spot please contact your local brand representative to collect a sample for diagnostics.

Sources:

- ¹ Chalkley, D. Systematic Mycology and Microbiology Laboratory, ARS, USDA. . Invasive Fungi. Tar spot of corn-*Phyllachora maydis*. September 23, 2015. <http://nt.ars-grin.gov/taxadescriptions/factsheets/index.cfm>.
- ² Wise, K. and Ruhl, G. September 11, 2015. Tar spot confirmed in the United States. Purdue Pest & Crop Newsletter. Issue 24. Purdue Cooperative Extension Service. <http://extension.entm.purdue.edu/pestcrop/2015/issue24>.
- ³ Bissonnette, S. September 21, 2015. Corn Disease Alert: New fungal leaf disease "Tar Spot" *Phyllachora maydis* identified in 3 northern Illinois counties. The Bulletin. University of Illinois Extension. <http://bulletin.ipm.illinois.edu>
Web sources verified 09/25/2015.

For additional agronomic information, please contact your local seed representative. Developed in partnership with Technology, Development & Agronomy by Monsanto.

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