

FUNGICIDE

COVER XL[®]

CONTROL OF TAR SPOT ON CORN UNDER 2(EE) RECOMMENDATION



WHAT IS TAR SPOT?

Tar spot is a relatively new disease in the U.S., first reported on dent corn in Indiana and Illinois during the 2015 growing season. Following an epidemic outbreak in northern Indiana in 2018, tar spot was detected in 172 counties across six states. It has since caused significant production and economic yield losses across Iowa and the Great Lakes region and has also been identified in Pennsylvania and Georgia.

HOW DO I IDENTIFY TAR SPOT?

Tar spot is caused by the fungus *Phyllachora maydis* and is identified by small, raised black circular spots on corn leaves, husks and stalks, called fungal stromata. These may be surrounded by a tan halo, or fish-eye lesion. Each stromata can produce thousands of spores.

Tar spot can be confused with black saprophytic organisms that grow on dead leaf tissue. Where saprophytes have a dusty appearance and can easily be rubbed away, tar spot stromata cannot be removed.

HOW DOES TAR SPOT AFFECT A CORN PLANT?

Yield losses from tar spot are due to reduced photosynthetic capacity of the plant during grain fill timing. This results in poor grain fill, kernel abortion and reduced kernel weight. Severe infection can cause lodging later in the season. Severely infected fields have experienced yield losses of 20-60 bu/A.

SOURCES

Tar Spot of Corn: What to Know and New Research, Quinn, D. and Telenko, D. (2022, June 14)
<https://extension.entm.purdue.edu/newsletters/pestandcrop/article/tar-spot-of-corn-what-to-know-and-new-research/>

Diseases of Corn: Tar Spot, Telenko, D. and Creswell, T. (2019)
<https://www.extension.purdue.edu/extmedia/bp/bp-90-w.pdf>

WHAT CONDITIONS ARE FAVORABLE FOR TAR SPOT DEVELOPMENT?

Cool, humid weather (60-70 degrees F and >75% relative humidity) with prolonged leaf wetness (7+ hours) creates ideal conditions for disease development. Like many other corn leaf diseases, tar spot is polycyclic, meaning it has the ability to infect, form spores, reinfect and spread in about 21 days.

Previous research has also found that the *Phyllachora maydis* pathogen that causes tar spot can overwinter on infected corn residue left on the soil surface, which increases risk of infection in subsequent years.

HOW CAN I MANAGE TAR SPOT?

While some corn hybrids are more resistant to tar spot than others, currently, there are no hybrids with complete resistance. Therefore, a combination of seed selection, scouting, and fungicide application at the proper timing is critical to prevent yield loss.

Preventative fungicide applications made prior to disease development are very important. In most instances, a fungicide application between the VT growth stage (tassel emergence) and R2 growth stage (blister) is the most effective for controlling tar spot. Mixed mode-of-action fungicides, like Cover XL[®] fungicide are often more effective than single mode-of-action products. **A FIFRA 2(ee) recommendation has been issued for the use of Cover XL fungicide for control of tar spot.** In severe situations, two applications may be required. Consult your local County Extension Service for application and timing recommendations in your state.

Crop rotation and tillage may also help reduce the local disease inoculum in the soil to help reduce tar spot infection. However, research data on these practices is limited and the amount of time an infected field should be rotated away from corn is not currently known.

HELPFUL LINK

Map of areas where tar spot has been identified



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