



July 6, 2016

Tar Spot of Corn

- **Causal Agent:**
Phyllachora maydis
- **Pathogen type:**
fungal
- **Hosts:**
sweet and field corn
- **Scout:** foliage, leaf sheaths and husks
- **Symptoms:**
usually seen on the oldest leaves first

— smooth and shiny circular to oval lesions which give rise to raised and dark-colored spore producing structures resulting in the infected foliage having a bumpy feel and appearance

— young lesions are surrounded by chlorotic borders and may coalesce resulting in a blighted appearance

— usually manifest 10-18d before silks

— favored by high humidity, 7 hrs of leaf wetness (min), low light intensity, high levels of nitrogen fertilizer and more than one corn crops per year.

- **1st Florida Report:**
Belle Glade, 06/2016

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Tar Spot of Corn Detected for the First Time in Florida

This disease, originally detected last year in Indiana and Illinois as a national first, has just turned up in the Everglades Agricultural Area of south Florida. Researchers have confirmed UF/IFAS EREC Plant Pathologist Dr. Richard Raid's diagnosis of *Phyllachora maydis* causing the disease known as Corn Tar Spot. At present, this plant pathogen is only known to infect sweet and field corn.

Tar Spot symptoms are typically seen on the most mature leaves first and usually manifest around 10-18 days prior to silking. The disease symptoms may also be found on leaf sheaths and ear husks.

Symptoms originate as smooth and shiny oval to circular lesions surrounded

by a chlorotic border (Figure 1). Lesions resulting from infected tissue become necrotic and give rise to dark spore-producing structures (ascomata) as the disease progresses (Figure 2). These structures protrude from the leaf surface, making the symptomatic areas of the leaf rough or bumpy to the touch.

With time and environmental conditions conducive to disease development, the ascomata can become numerous and densely cover the leaf. Individual lesions may coalesce to cause large areas of blighted leaf tissue, which can be mistaken for saprophytic growth on dead leaf tissue.

Conditions conducive to disease development are high relative humidity, leaf

wetness of at least seven hours at night, low light intensity, high levels of nitrogen fertilizer and more than one continuous crops of corn per year.

The source of *P. maydis* inoculum is windborne spores which can disperse upwards of 80 yards from their source. Long distance dispersal of *P. maydis* spores through tropical storms or hurricanes is hypothesized but not yet confirmed. *P. maydis* has not been shown to be associated with seed. 0

P. maydis alone causes moderate foliage symptoms but a more severe form of the tar spot complex occurs when there is a joint infection of *P. maydis* and *Monographella maydis*. To date, *M. maydis* has not been reported in the United States.

Tar Spot of Corn caused by the fungal pathogen *Phyllachora maydis*

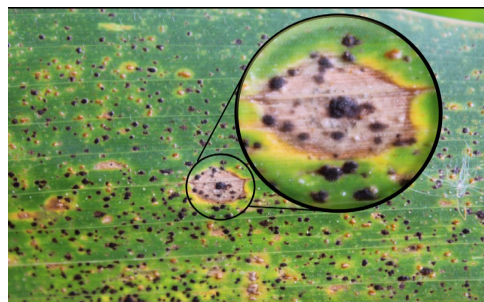


Figure 1. *Phyllachora maydis* leaf lesion.
Photo: Richard Raid, UF/IFAS EREC.

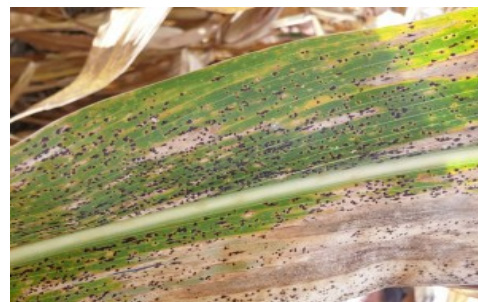


Figure 2. Tar spot symptoms on corn leaf.
Photo: Kiersten Wise, Purdue University.