



# Agronomic Spotlight

## Purple Leaf Sheath in Corn

- Purple leaf sheath symptoms include purplish-black lesions primarily on the leaf sheath and is not treatable with a fungicide.
- Purple leaf sheath is common in corn fields; however, does not threaten yield potential.
- Physoderma brown spot, also causes purple lesions in corn and is sometimes mistaken for purple leaf sheath.

### Symptoms

Purple leaf sheath is an abnormality that is common in corn fields; however, it does not threaten yield potential. The condition is characterized by irregular-shaped purplish-brown lesions that appear on the leaf sheath (Figure 1). The leaf sheath is the lower part of the leaf that encloses the stem and is connected to the leaf blade at the junction formed by the leaf collar.



Figure 1. Purple leaf sheath symptoms.

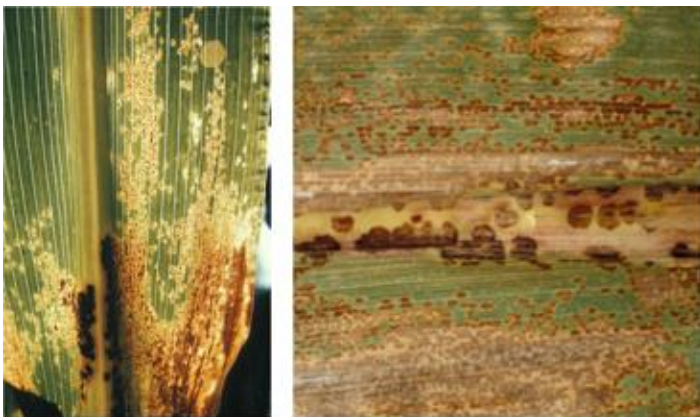


Figure 2. Physoderma brown spot lesions.

Moisture, nutrients, pollen, and anthers collect in the area between the leaf collar and stalk. Yeasts that commonly live on the corn leaf surface, as well as secondary, saprophytic organisms, can thrive on the nutrients in this environment.<sup>1</sup> As a result purplish blotches appear on the corn leaf sheath but are not considered a threat. The stalk underneath the sheath is not infected or discolored.

Water behind the whorl or behind the leaf sheath also provides an environment for the fungus *Physoderma maydis*, which is the cause of Physoderma brown spot (PBS). PBS may be confused with purple leaf sheath; however, PBS lesions will also appear on the leaves. PBS symptoms initially appear as small round to oblong lesions, yellowish to brown in color (Figure 2). Lesions expand in size by joining with neighboring lesions and tend to darken in color from brown to reddish-brown or purple.<sup>2</sup>

### Summary

Purple leaf sheath is a non-infectious disease, which will not have an effect on yield potential. Purple leaf sheath symptoms are common in corn fields; however, frequency of purple leaf sheath lesions do not warrant a fungicide application.

### Sources

<sup>1</sup> Allen, T. 2012. Don't sweat the small stuff: disregard those purple to black spots against the corn stalk at the base of the leaf collar. Mississippi Crop Situation. Mississippi State University. <http://www.mississippi-crops.com/2012/06/04/dont-sweat-the-small-stuff-disregard-those-purple-to-black-spots-against-the-corn-stalk-at-the-base-of-the-leaf-collar/>.

<sup>2</sup> Jackson, T. Physoderma brown spot. Plant disease central. University of Nebraska. <http://pdc.unl.edu/agriculturecrops/corn/physoderma>.

<sup>3</sup> Porter, S.K. 2013. What is all the buzz about the brown spots on corn? <http://universityofillinoisplantclinic.blogspot.com/2013/08/what-is-all-buzz-about-brown-spots-on.html>.

<sup>4</sup> White, D.G. 1999. Compendium of corn diseases, third edition. The American Phytopathological Society.

<sup>5</sup> Bissonnette, S.M., Patakky, N.R., Nafziger, E.D., et al. 2010. Field Crop Scouting Manual. University of Illinois Extension.

Web sources verified 08/31/16. 160817141900

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