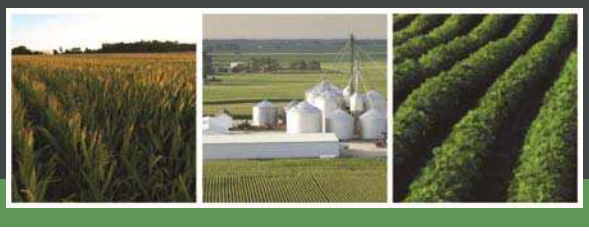

Agronomic Spotlight

Managing Cercospora Leaf Blight and Purple Seed Stain

- Humid or wet and warm temperatures favor Cercospora leaf blight development.
- Wind and rain during the growing season can spread spores to soybean plants.
- Red, orange, or bronze colored upper leaves and a leathery appearance are symptoms.
- Purple seed stain can result if seeds become infected.

Cercospora leaf blight is a warm temperature (75 to 80º F) fungal (*Cercospora kikuchii)* disease. Humid and/or wet conditions favor *Cercospora* spore development. Poor drainage, high plant densities, and poor air circulation are also favorable factors for the development of the disease.[1] The fungus can overwinter on infected residue and seed. During the growing season, wind and splashing rain can deposit fungal spores on soybean plant tissue causing infection to begin.

Figure 1. Upper leaves of *Cercospora* infected plants turn red, orange, or bronze in color and have a leathery characteristic.

Characteristics

The upper leaves of infected plants that are setting seeds become dark red, orange, or bronze colored and have a leathery appearance (Figure 1).[2] Very small, dark lesions develop on or near major leaf veins and on petioles, which can lead to premature defoliaton.[3] Leaves that are sunburned and plants that are characterized by early senescence can be confused with Cercospora leaf blight.[1]

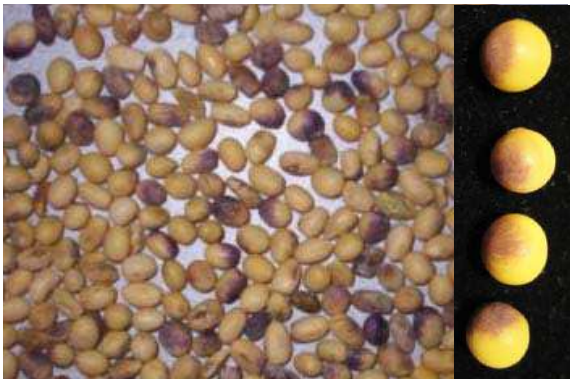

Figure 2. *Cercospora* infected seeds can result in purple seed stain.

Seeds can become infected when the fungus grows into the upper vein on a pod, resulting in purple seed stain (Figure 2).[1] Purple seed stain may range from tiny purplish marks to blotches covering most of the seed.[2] Planting infected seed the following year can result in reduced germination, emergence, and vigor.

Management Recommendations

Fungicide applications are a potential option during the growing season and should be based on disease severity and timing. Applications for late-season diseases are generally made between growth stages R3 and R5 (pod development stages). Fungicide applications after plants reach full maturity or after the R6 growth stage are generally not recommended.

Crop rotation and tillage, which can help reduce disease inoculum, and the use of certified seed are cultural controls that should be considered when developing crop plans for the next growing season.[2] Infected residue that decays quickly helps prevent an increase in the pathogen.

Effect on Yield

The potential for the disease to reduce yields ranges from very low to substantial depending on disease onset timing, speed of development, and environmental conditions.[3] Should favorable conditions develop early in the growing season and continue throughout the growing season, the potential for a negative effect on yield increases.

Sources:
[1] Cercospora leaf blight. 2014. Soybean Research & Information Initiative. North Central Soybean Research Program. http://www.soybeanresearchinfo.com. [2] Yang, X.B. 2004. Soybean *Cercospora* diseases show up. Integrated Crop Management. IC-492(17). Iowa State University. http://www.ipm.iastate.edu/ipm/icm/2004/7-26-2004/cercospora.html. [3] Hershman, D.E. 2009. Cercospora leaf blight in Kentucky. Plant Pathology Fact Sheet. PPFS-AG-S-20. University of Kentucky.
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