

## Cercospora Leaf Blight in Soybean

Symptoms of *Cercospora* leaf blight (*Cercospora kikuchii*) can begin to appear later in the growing season. Correctly identifying this foliar disease can help determine potential actions this year and impact future management and seed placement plans.

### Plant Symptoms

**Leaves.** During seed set, the upper leaves of infected plants become dark red or orange and leathery in appearance<sup>1</sup> (Figure 1). This condition can lead to premature leaf defoliation. Other diseases or conditions that can commonly be confused with *Cercospora* leaf blight include sunburn, sudden death syndrome, early senescence, or pod and stem blight<sup>2</sup>.

**Seed.** Infection of the seed can result in purple seed stain, which appears as purple blotches on the seed that may range from tiny marks to covering most of the seed<sup>1</sup> (Figure 1). Planting infected seed the following year can result in reduced germination, emergence, and vigor.

### Development

*Cercospora* leaf blight is caused by *Cercospora kikuchii*, which is related to the fungus that causes Frogeye leaf spot (*Cercospora sojina*)<sup>1</sup>. *Cercospora* can survive and overwinter on plant residue and infected seed. Warm temperatures (75 to 80° F), and humid or wet conditions favor *Cercospora* spore development<sup>2</sup>. Spores can be spread by wind and rain to new soybean tissue where infection occurs<sup>2</sup>. When the fungus grows into the upper vein on a pod, seed can become infected, resulting in purple seed stain<sup>2</sup>.

Other factors that can favor the development of *Cercospora* leaf blight include poor drainage, high plant densities, and poor air circulation<sup>2</sup>. Disease severity can vary by soybean variety.

Yield potential is generally not reduced by the leaf blight or seed infection<sup>2</sup>. Severe seed infection can result in dockage of grain delivered to the elevator<sup>2</sup>.

### Management

**In-season.** Management in-crop may include an application of a foliar fungicide such as Headline® fungicide. Deciding whether to spray can be a tough decision; one that should be



Figure 1. Leaves of plants infected with *Cercospora* leaf blight can have an orange and leathery appearance (left). Purple seed stain can be a result of seed infected with *Cercospora kikuchii* (right).

based on disease severity and timing. Fungicide applications for late-season diseases are generally made between R3 and R5 (pod development stages). Spraying fungicides after plants reach full maturity, or after R6, is generally no longer necessary and not recommended.

**Next season.** When planning for the next growing season, consider management tools such as tillage, crop rotation, and variety selection<sup>1</sup>.

Sources: <sup>1</sup> X.B. Yang. *Soybean Cercospora diseases show up. Integrated Crop Management. Iowa State Univ. IC-492(17). July 26, 2004.*

<sup>2</sup> *Cercospora leaf blight. Plant Health Initiative. <http://www.planthealth.info> (verified 9/26/2011).*