

AGRONOMIC ALERT



PURPLE SEED STAIN IN SOYBEAN

Purple seed stain and Cercospora leaf blight are caused by the fungus *Cercospora kikuchii*. Both phases of the disease are favored by wet conditions late in the season. With severe weather in August and September affecting the Southeast U.S. and East Coast, purple seed stain is showing up in soybean growing areas from Louisiana and Mississippi to Missouri, Pennsylvania, and Maryland.

Disease Symptoms

Seeds infected with *C. kikuchii* may appear healthy or have pink to purple colored spots varying in size from specks to large blotches (Figure 1). In all cases, the discoloration extends out from the seed hilum¹.

Purple seed stain does not reduce yield potential. However, the crop may be downgraded and its value lessened due to color variation. If discoloration extends over more than 50% of the seed coat, germination and seedling emergence may be affected. Seeds that are very discolored tend to have higher protein content and lower oil content than seeds that are not discolored. The leaf blight phase generally has a minimal effect on yield potential, however, a reduction in photosynthetic ability can occur.

Disease Cycle

The fungus survives in infected seeds and plant residue. Spores develop during warm (75 to 80° F) and humid weather and are blown by wind or splashed by rain to new soybean tissue.

Seed infection occurs when the fungus enters the pod and grows through the upper vein². Initially, the hilum becomes infected with the disease eventually spreading to the seed coat.

When infected seeds are planted, the fungus grows into the cotyledons and stem from the seed coat. If seed infection is relatively mild, the seed coat may fall off before seedling infection can occur. In more severe cases, seedling infection may kill plants at an early stage. Seedlings may also be infected, but remain symptomless until later in the season.

Management Considerations

Seed lots with high levels of purple seed stain should be

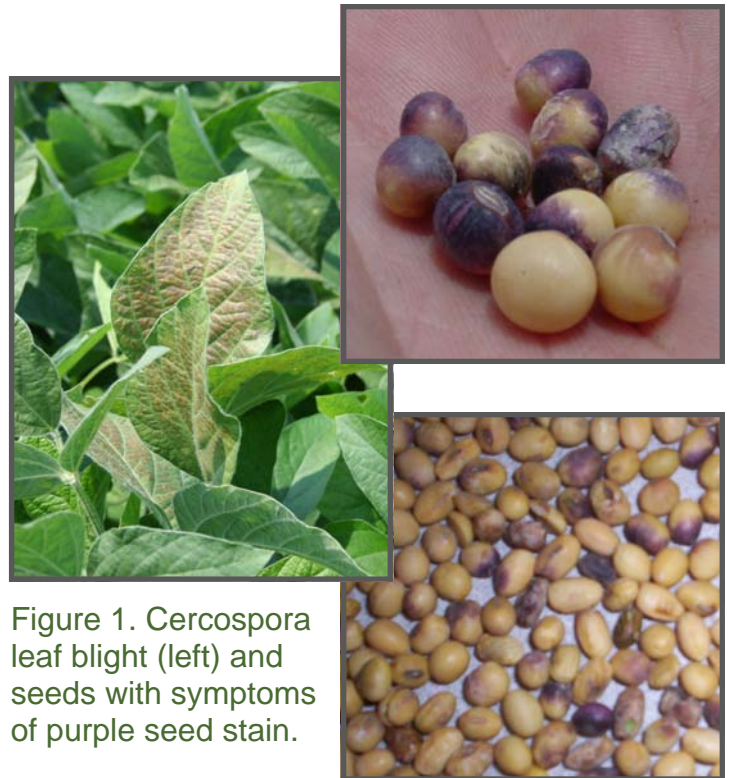


Figure 1. *Cercospora* leaf blight (left) and seeds with symptoms of purple seed stain.

treated with a seed treatment fungicide. Application of foliar fungicides during early pod stages may help prevent foliar blight and pod infections. Crop rotation and tillage can be useful to manage infested residue and help decomposition before another soybean crop is planted.

Sources: ¹L.J. Giesler. Purple seed stain and *Cercospora* blight. University of Nebraska-Lincoln. [Online] <http://pdc.unl.edu>. (Verified 10/11/11); ²*Cercospora* leaf blight. Plant Health Initiative. [Online] <http://www.planthealth.info>. (Verified 10/12/11).

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** Technology Development by Monsanto and Design® are trademarks of Monsanto Technology LLC. All other trademarks are the property of their respective owners. ©2011 Monsanto Company MEA101211