Soybean Fields Yellow Prematurely Says MU Specialist

SPRINGFIELD, MO.

For the most part, the soybean crop in southwest Missouri this season looks very good according to Jay Chism, agronomy specialist with University of Missouri Extension.

An early frost is the greatest threat to the crop this season, especially the late planted double crop beans according to Chism.

"Many soybean fields have symptoms where the uppermost leaves showed a premature yellowing that eventually lead to a blighted brown area on the leaves," said Chism.

The yellow terminal leaves may be caused by Cercospora blight which can infect soybean seeds, pods, stems and leaves, but is commonly found on the seed.

When the fungus infects the seed, the disease is called purple seed stain. The discoloration varies for pale to dark purple blotches that cover the seed coat.

Yields may be only moderately reduced, but a high percentage of seed stain may be evident at harvest. Heavily infected seed, if saved for the following year, could produce diseased seedlings resulting in stand problems.

To manage Cercospora blight, Chism says it is important to rotate crops with at least one year between soybean and other legumes. If infected seed is saved and must be planted, use an appropriate fungicide seed treatment.

"This disease has been hard to diagnose in every field with yellow terminal leaves," said Chism. "We have also seen many fields showing similar leaf yellowing and Cercospora blight was not present."

Many soybean plants that were submitted for tissue analysis were extremely low in potassium.

Typically potassium is deficient under drought conditions. Potassium levels may be ample in the soil but limited root systems do not allow the plant to take in the necessary amount of this essential nutrient.

In many cases agronomy specialists are seeing potassium deficiency due to working the ground when it was too wet according to Chism.

"Anything that limits root growth can lead to nutrient deficiency. Too wet, too dry, soil compaction and a high population of nematodes can all lead to reduced root growth," said Chism. "But as always, it is also very important to have abundant potassium in the soil prior to planting. A soil test is critical if a field is showing unusual symptoms this season."

In cases were potassium deficiency was the problem, late season rainfall helped stimulate more root growth that helped correct the fertility problem.

If Cercospora blight was the problem, warm, humid weather favors the disease development and a large percentage of seed may show the effects of the disease.

"Unfortunately, in some samples sent in for diagnosis the result both a potassium deficiency and Cercospora blight," said Chism. "Therefore, the premature yellowing of many fields is due to a combination of factors this season." Δ