

Field Crop Diseases – What Is Showing Up And What Is Not

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This is another challenging year for field crops in Missouri. Most of the state was unusually wet early in the season so planting was delayed and crops are not quite as far along in growth stages as is normal. Since mid-season, fluctuations in weather conditions have further challenged crops. The southern portion of the state has seen near record to record precipitation with extensive flooding. The northern portion of the state has been quite dry and is, again, in the initial stages of drought. These variations in environmental conditions have influenced which diseases are showing up in both corn and soybean fields.

The most widespread problem on corn this season appears to be rust. Both common rust and southern rust have been found in varying levels in fields across the state. Most field corn hybrids are fairly resistant to common rust so it typically doesn't have a major impact on yield. Many field corn hybrids do not have good resistance to southern rust so that disease can impact yield. Once corn plants are past the R3 growth stage, yield losses are less likely. Gray leaf spot has not been particularly widespread although there have been a few scattered reports of this disease on corn.

It is a little early to know how severe corn stalk rots and corn ear and kernel rots will be. However, there have already been cases of ear rots on corn- especially *Diplodia* ear rot, *Penicillium* ear rot and *Fusarium* or Gibb ear rot. The recent stretch of hot, dry weather may slow the development of these ear rots but might also lead to *Aspergillus flavus* ear rot. See accompanying articles on corn ear and kernel rots and on corn stalk rots.

So far, the most common disease complaint on soybean has been sudden death syndrome.

Symptoms of this disease are quite evident in some regions of the state and surprisingly absent in other regions. Wet soil conditions when plants are in the seedling stages of growth favor infection by the soil-borne pathogen and cool, wet conditions as the crop moves from vegetative to reproductive stages of growth favor foliage symptom development of SDS.

The soybean vein necrosis virus which was so widespread during the 2012 season doesn't appear to be as prevalent this season. Very early symptoms of this virus disease were found in fields in central Missouri but there have been few questions related to this disease from other areas of the state.

Downy mildew and bacterial blight are evident in the upper canopy of many fields. Downy mildew symptoms on the upper leaf surface might be mistaken for the early symptoms of sudden death syndrome. However, turning the leaves over will aid in distinguishing between these two diseases. With downy mildew a grayish purple mold growth develops on the lower leaf surface beneath the yellow lesions. This year the mold growth is quite obvious. *Septoria* brown spot lesions may be evident on lower leaves but doesn't appear to be moving up in the canopy in most fields. There have been a few reports of frogeye leaf spot but that disease has not been as prevalent as normal thus far this season. See accompanying article on late season soybean diseases.

Soybean rust has NOT been reported from Missouri this season. The recent reports of positive finds in Drew and Desha counties in southeast Arkansas raised concern that soybean rust might move into Missouri for the first time in several years. Δ

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