Status Of Southern Corn Rust In Kentucky

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Two rust diseases may be found on corn in Kentucky: Common Rust (caused by the fungus *Puccinia sorghi*) and Southern Rust (*Puccinia polysora*). Common rust is very common, being found at low levels in many fields in most years. Adequate levels of resistance to common rust are found in the large majority of hybrids adapted to Kentucky. In contrast, southern rust typically doesn't occur in Kentucky corn fields, but when it does, it is capable of causing significant crop damage. The reason for this is because corn hybrids adapted to Kentucky conditions usually are susceptible to highly susceptible and the fungus is able to develop to high levels very quicky in susceptible hybrids.

Some features that distinguish these two rust diseases are as follows:

Common Rust

• Pustule color is brick-red to cinnamon-brown (Figure 1)

• Pustule shape is circular to elongated

• Pustules erupt through both upper and lower leaf surfaces.

• Pustules are found only on leaves

• Develops in cool to mild weather (favored by temperatures of 59-77°F when leaf surfaces are moist)

Southern Rust

• Pustule color is reddish-orange (Figure 2)

• Pustules are small, generally circular

• Pustules are densely crowded on the upper leaf surface and are generally lacking on the lower leaf surface.

• Pustules can occur on leaves and husks.

• Develops in very warm, humid weather (favored by temperatures of 73-82°F when leaf surfaces are moist).

Southern corn rust is potentially increasing as a threat to corn production in Kentucky and beyond. This may be due in part to the fact that, in the overwintering regions for southern rust in Mexico and southern Florida, corn acreage has been increasing in recent years (https://www.npdn.org/webfm_send/1131).

This growing season, southern rust was first reported in the extreme southwest corner of Georgia. It has quickly become widespread on corn crops in the coastal plain of Georgia, and it also was recently reported in southern Alabama (Figure 3). The disease has not yet been reported north of these regions. The USDA IPM-PIPE network will allow real-time monitoring of the progression of the disease as it spreads northward (http://sba.ipmpipe.org/cgi-bin/sbr/public.cgi?host=Corn&pest=southern_corn_rust).

Extension agents, other agricultural professionals, and producers should monitor this disease this season. Given the right weather conditions, it could spread northward early enough to cause damage to some corn crops, particularly late-planted ones. Δ

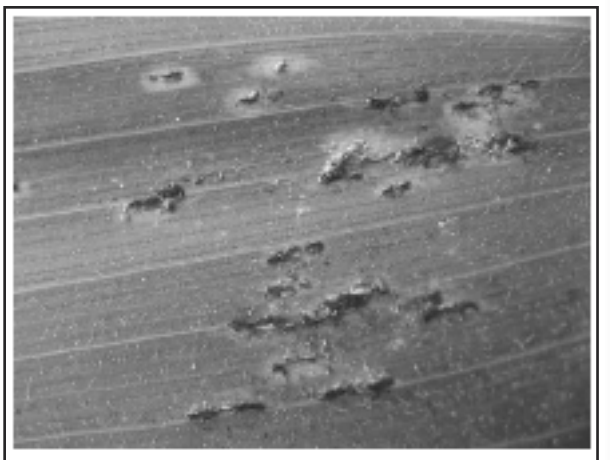

Figure 1. Close-up of common rust of corn.

Image by Alison Robertson, Iowa State University Extension, (http://www.ipm.iastate .edu/ipm/icm/2007 /9-10/southernrust.htm.

Figure 2. Southern rust of corn.

Image by Paul Vincelli, University of Kentucky

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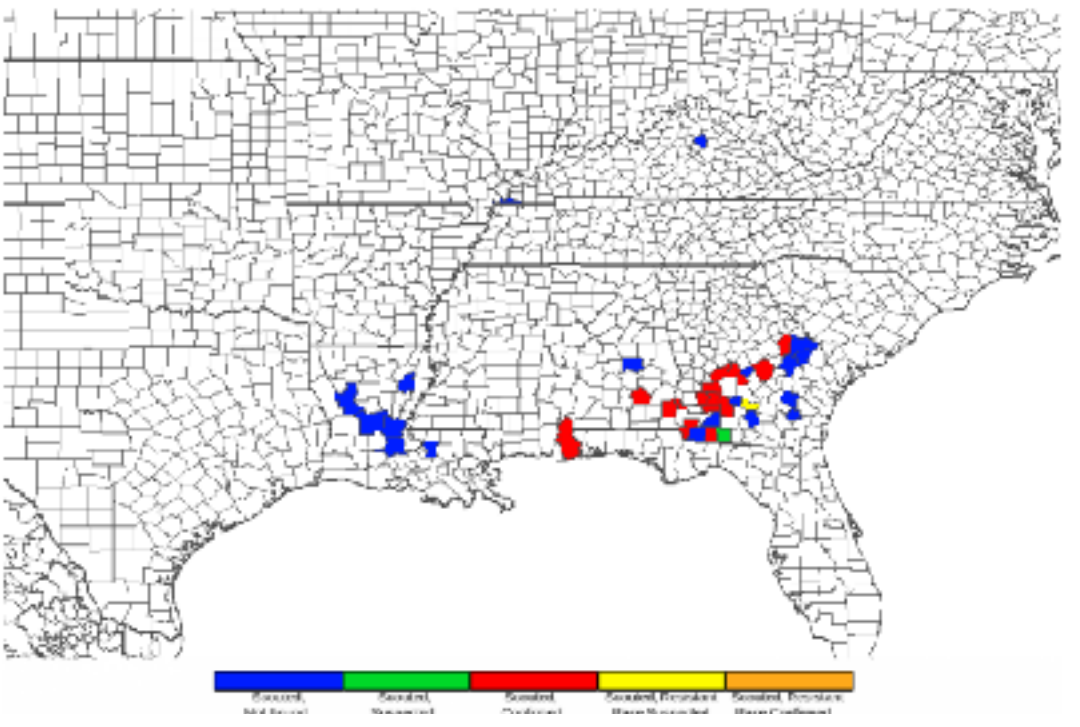

Figure 3. Known distribution of southern corn rust in the continental U.S. as of Sunday, 20 June, 2010. Confirmed records are indicated in red.