

10/22/2007 University of Missouri Extension Agronomy Update
Preventing Corn Stalk Lodging in 2008 and Reducing SCN in Soybean Fields
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In the 2007 corn crop, stalk rot diseases were present at varying levels and resulted in moderate to severe stalk lodging in some fields. In discussion with corn producers, several have questioned whether a foliar fungicide application would have been beneficial, in terms of yield potential and a reduction in lodging. Questions have also arisen as to overall management tactics to use, in reducing stalk rot incidence.

Generally, hybrid selection, crop rotation, and fertility and residue management are recommended to reduce the prevalence of stalk rot diseases. MU Extension plant pathologist, Laura Sweets, notes that stalk rots are caused by several different disease fungi that decompose dead plant material in the soil. Therefore, stalk rot diseases survive from one growing season to the next in the soil, infested corn residues or on the seed.

Stalk rot becomes a problem when plants are stressed during the grain filling stage of development, notes Sweets. When corn plants are stressed, whether it be by corn borer feeding, moisture stress, low soil potash levels, or other stressors, the corn has greater susceptibility to infection by the stalk rots. Producers who experienced substantial lodging are encouraged to investigate the affected field's fertility levels, namely potash. Potash shortages have been correlated with increases in stalk rot. Producers are also encouraged to note any correlation between stalk rot infection and hybrids.

Would a fungicide application have reduced stalk rot and stalk lodging? In 2007, Headline® fungicide was applied to numerous corn acres in this region of Missouri; however, Headline® is not assumed to be systemic enough to control stalk rots in corn. With that said, because Headline® helps to control leaf diseases, it may indirectly control some of the stalk rots, such as anthracnose. It has been shown that the level of stalk rot increases as the level of leaf disease increases. University plant pathologists are currently investigating the indirect effect fungicides may have on reducing stalk rot diseases.

Lastly, regarding soybean cyst nematode management: Purdue weed scientists Bill Johnson and Earl Creech, have identified six winter annual weeds that serve as alternate hosts to soybean cyst nematode. Soybean fields with these hosts may be increasing in SCN counts at a faster rate than fields without these weed hosts. It is therefore suggested that soybean growers control the following winter annuals: henbit, purple deadnettle, field pennycress, shepherd's purse, small flowered bittercress, and common chickweed. Henbit and purple deadnettle serve as the strongest hosts for soybean cyst nematode and as such, a fall herbicide application may be warranted, to control the winter annuals.