Diplodia Ear Rot Causing Problems In Corn Across The State

DR. CARL BRADLEY

URBANA, ILL.

Diplodia ear rot, caused by the fungus Stenocarpella maydis (formerly Diplodia maydis), has been widespread in corn in Illinois this year. Reports have indicated that several fields are affected and that some may have incidence as high as 70 percent. Other ear rots have been reported, but Diplodia is apparently affecting the most acres this year. The high levels of infection being observed are a result of the frequent rainfall just before and throughout silking; ears are most susceptible to Diplodia from silking to approximately 3 weeks later.

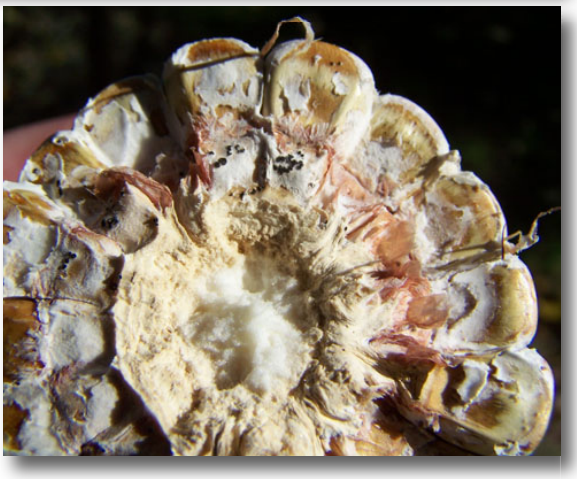
Symptoms of Diplodia ear rot. Ears affected by Diplodia may have a white mold growing on and/or between the rows of corn. Ears affected within two weeks after silking may be completely "mummified," while in later infections a light, cottony growth may be observed growing on the ear. Speck-sized fruiting bodies (pycnidia) will be formed by the Diplodia ear rot fungus and often can be observed on the sides of the kernels.

Symptoms of Diplodia ear rot. Black specks on kernels are fruiting bodies (pycnidia) produced by the Diplodia ear rot fungus.

What types of loss will be incurred? Kernels affected by Diplodia ear rot will be light, so overall test weight can be reduced. In fields with high levels of ear rot, discounts applied at the elevator can be expected for the presence of damaged kernels. In severe cases, the cob may also be rotted, which means that pieces of the cob will not separate well from the grain. In these cases, additional discounts for presence of foreign material may also be applied. In the U.S., the Diplodia ear rot fungus is not known to produce any mycotoxins, but other fungi may colonize affected ears and kernels, and some of these, like Fusarium, may produce mycotoxins.

I have Diplodia ear rot – what do I do now? To prevent additional fungal growth and disease spread within ears, it is best to harvest affected fields as soon as possible and to dry the grain to below 18 percent moisture (or below 15 percent for long-term storage). If you have crop insurance, contact your agent as soon as possible, as specific documentation may be needed for a claim to be filed. Despite the fact that the Diplodia ear rot fungus is not known to produce any mycotoxins in the U.S., moldy grain should always be tested before being fed to livestock. In Illinois, grain can be tested for the presence of mycotoxins at the Department of Agriculture's Centralia Animal Disease Laboratory.

How can I prevent Diplodia ear rot next year? The first step in managing Diplodia ear rot is to choose hybrids with better resistance. In a year with severe Diplodia ear rot like 2009, seed companies and growers should be able to identify hybrids to be avoided and those that appear to resist Diplodia a little better. Seed companies generally provide ratings of their hybrids for susceptibility to Diplodia ear rot. For 2010, avoid planting corn back into fields that had severe Diplodia ear rot in 2009. Although the days of the moldboard plow are gone, burying corn residue affected by Diplodia is one way to manage the inoculum levels that may be present next year. However, one must balance between tilling for disease management and leaving residue to help prevent soil erosion. Foliar fungicides should have very little effect, if any, on Diplodia ear rot, and it is important to note that none of the foliar fungicides registered for use on corn has Diplodia ear rot on the label. Δ



CARL BRADLEY: Extension Plant Pathologist, University of Illinois