AGRONOMY FIELD ALERT!!!

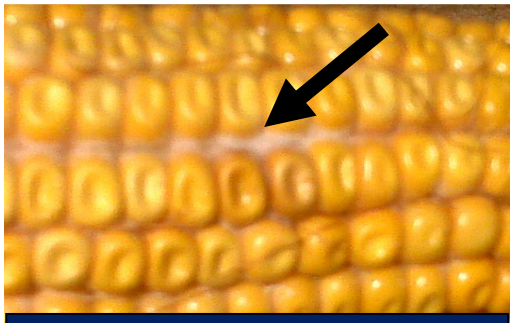
By Matt Hubsch-Legend Agronomist

This year we have obviously witnessed substantial challenges. Anything from uncooperative weather, insect, to numerous foliar and root diseases in our 2009 crop. Now…what could possibly happen from now till we harvest our corn crop?

Well, as I travel through the Dakota's and Minnesota, I find we have two diseases developing in our corn fields…besides stalk rot! The diseases I am referring to is *Diplodia Ear Rot* and *Penicillium Ear Rot,* which seem to be affecting a very wide geographical area. It appears to be definitely more prevalent on hybrids that are considered more "full season" for your specific geography, do to these hybrids having higher moisture content for the disease to thrive. I also have noticed the diseases more prevalent in hybrids that have more restrictive versus "flared" husk, due to higher concentrations of trapped moisture, providing a more favorable environment

Disease identification:

- **Diplodia ear rot** is identified by a white or grayish-brown mycelium that forms on the ear of the corn plant. Typically this fungal disease will start at the base or bottom of the corn ear, working its way towards the tip of the ear. Also, look for black specks on the ear or husk that are small fruiting bodies called *pycnidia.*
- **Penicillium ear rot** can be identified as a blue-greenish mold growing on the kernel or between the rows of kernels.



Diplodia ear rot. Picture taken near De Smet. SD on Oct. 26. 2009

Penicillium ear rot. Picture taken near De Smet, SD on Oct. 26, 2009

Disease Cycle:

- **Diplodia ear rot** will overwinter on corn residue in the pycnidia form, so continuous corn is of higher risk of infection. Dry conditions, followed by extensive rainfall during or after R1 (silking) is favorable for disease progression.
- **Penicillium ear rot** is more prevalent following any type of mechanical or insect injury. Prolonged kernel moisture above 18% is also favorable for fungal disease development and growth.

Loss from Diseases:

Typically, both diseases do not cause any toxic concerns such as Gibberella or Aspergilus ear rot, which can induce mycotoxin and aflatoxins in the grain, but losses can be severe if infection is early…especially with Diplodia ear rot!

If infection of Diplodia ear rot happens early, it can result in a severe drop in test weight and grain quality, resulting in potential "dock" when selling the grain. With both fungal diseases, if grain is severely infected and you are feeding infected grain to livestock, consider mixing infected grain with clean grain to enhance the quality of feed.

With both fungal diseases, drying infected corn to 15% can eliminate or reduce the spread of these diseases.

References: Field Crop Diseases, Information and Management for Illinois, University of Illinois