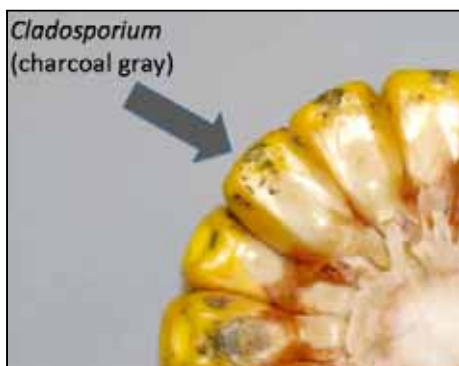
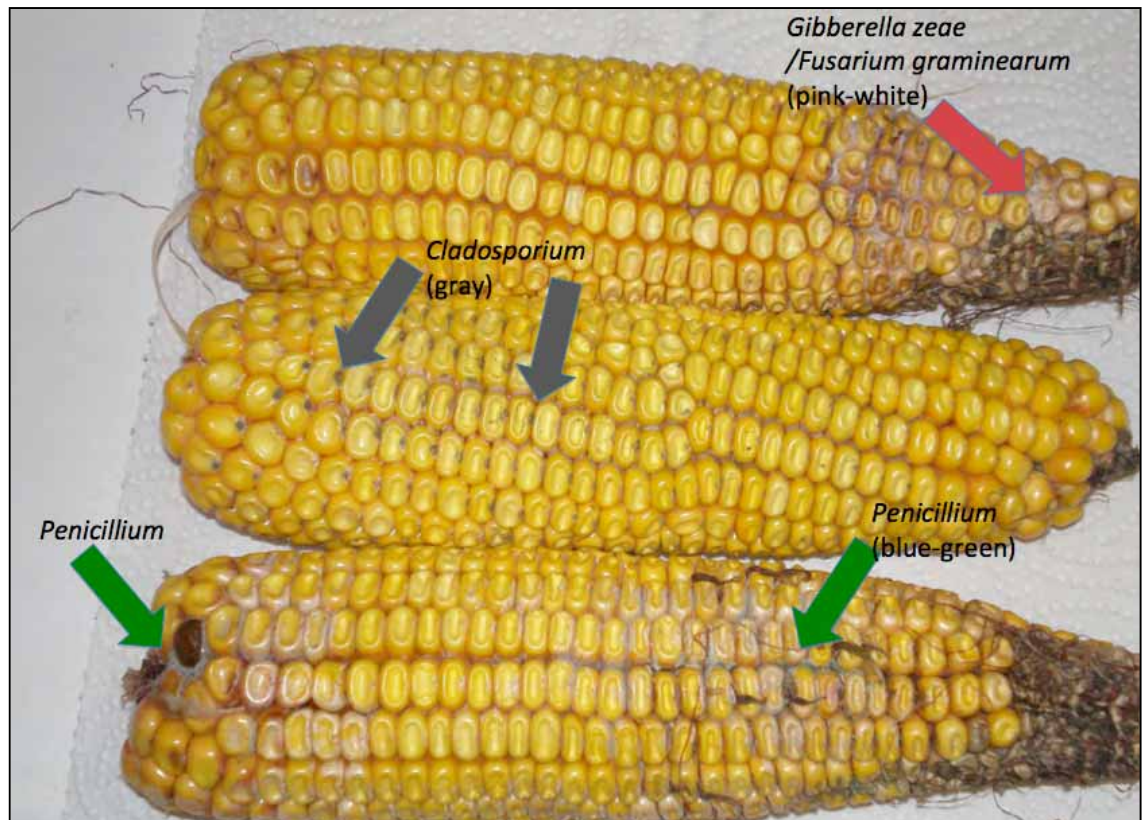


Corn Ear Rot: The Newest Fungus Amongst Us!

Dr. Heather Darby, UVM Extension Agronomist

Just when we thought the season had been wrapped up another weather related challenge has appeared! Over the last week many reports of moldy corn have been reported to the Extension office. These ear rots are a result of a variety of conditions such as wet and cool weather, delayed dry down in the field and early frost. Most of these fungi probably infected the corn during flowering and ear development stages. However, the current weather conditions have allowed them to explode in growth. In addition, there are several surface fungi that are starting to colonize the ears as well. The ear rots being reported throughout Vermont include *Diplodia*, *Gibberella*, *Fusarium*, *Penicillium*, and *Cladosporium*. In general it is relatively easy to tell ear rots apart based on the color of the fungal growth on the ear. Below are descriptions and photos of the common ear rots being seen in Vermont.

Gibberella Ear Rot is a pink to red mold that usually starts at the tip of the ear and progresses towards the base of the ear. *Gibberella* ear rot develops best when cool temperatures and frequent rainfall occur during the 3-week period after silk emergence. Hybrids that dry-down with the ear in a declined position are less likely to have problems with *Gibberella* and other ear rots. The fungus that causes this ear rot produces several mycotoxins including DON (vomitoxin), zearalenone and T-2 toxin.

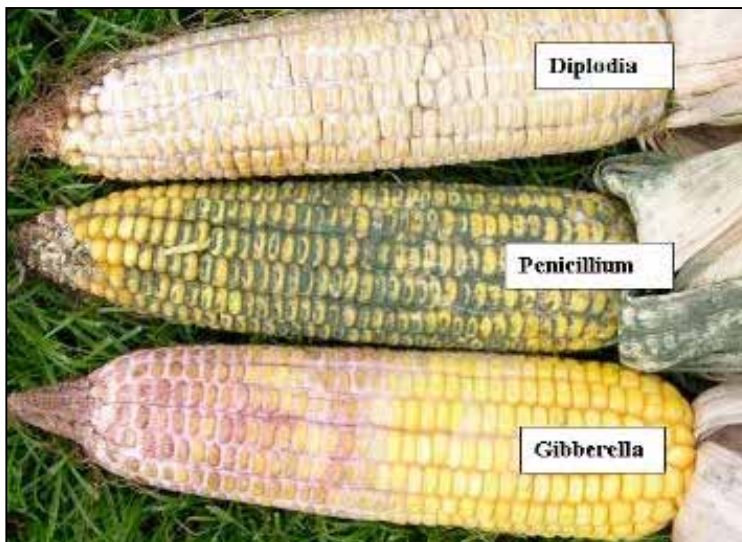


Penicillium Ear Rot is characterized by a distinct light blue-green powdery mold that grows between kernels and on the ear surface in tufts or clumps. Infected kernels are typically bleached and streaked. This type of penicillium is not known to produce toxins.

Cladosporium Ear Rot is a saprophytic fungus that is greenish-black and sooty in appearance. These molds are secondary fungi that tend to develop on the corn when wet weather occurs as the crop is maturing or if the harvest is delayed. These fungi often colonize plants that are stressed, frosted, or prematurely ripened. *Cladosporium* fungi do not produce mycotoxins.

Fusarium Ear Rot is white to pink- or salmon-colored mold, which occurs anywhere on the ear or on scattered kernels. Infected kernels are often tan or brown, or have white or pinkish streaks. The Fusarium ear rot is usually scattered all over the ear. The fungus enters through the silk, and the disease develops best when warm, wet weather occurs during the 2 to 3 weeks period after silking. The fungi that cause Fusarium ear rot produce mycotoxins known as fumonisins.

Diplodia Ear Rot generally starts at the base of the ear and can be recognized by a dense white to gray mold growing between and/or on the kernels. The high levels of infection being observed are a result of the frequent rainfall just before and throughout silking. Infected kernels will have a light test weight and have reduced nutritional value. Diplodia ear rot fungus is not known to produce any mycotoxins



What to Do? Now that the fungus is actively growing on the corn there isn't much you can do to reduce the invasion. The best means of slowing the damage is to get the corn harvested as soon as possible. Once harvested (or during harvest), the grain should be cleaned to remove chaff, pieces of cob, and damaged or moldy kernels. Next the grain needs to be dried to 15% or less moisture and cooled down below 50F as quickly as possible. The grain should be monitored on a regular basis during storage. These measures will keep the fungus from growing on the grain in storage. Although most of these fungi will not cause harm to humans or livestock there are a few that can produce harmful toxins. Before the corn is fed it should be tested for presence of mycotoxins.

For more information on ear rot identification or mycotoxin analysis please contact the UVM Extension Office at 802-524-6501 or heather.darby@uvm.edu or the UVM Plant Diagnostic Lab at 802-656-0493 or ann.hazelrigg@uvm.edu.

For a view of a video clip of discussion on these ear rots, go to <http://pss.uvm.edu/vtcrops/>.

Images courtesy of Stan Dybka, Growmark FS and Gary Bergstrom, Cornell University

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