Farmers watch for corn ear rot

Farmers have begun to harvest corn in the area and, so far, have been pleased with the yields. In a few fields, farmers have noticed mold on kernels, particularly the ear tips. Small amounts of mold will not affect the overall quality or yield of a field. However, farmers may receive less for their grain if the mold infection is severe.

Ears become susceptible to mold during periods of stress or damage from birds and insects. Generally, heat stress causes more mold problems than excess moisture.

The use of genetically modified corn with the Bt gene, which protects against corn earworm and European corn borer, has reduced the potential for insect damage.

Elevators will reduce the price a farmer receives for grain depending on the percentage of kernels infected with disease. Some diseases produce mycotoxins that are harmful to livestock. If mycotoxin levels are too high in a load of grain, an elevator may reject and not purchase the grain.

Besides the potential for a lower grain price, ear mold in a field may force a farmer to change harvest and storage management. He will need to harvest such fields at a higher grain moisture (harvest earlier) to prevent further disease development. The extra grain drying will increase the storage cost. If not dried quickly to 14 percent moisture, the infected kernels may spread to other areas of the bin. Also, a farmer cannot store diseased kernels for an extended period compared to disease-free grain.

A farmer will have to make combine adjustments to deal with rotted grain and cob. The disease material will break into small pieces and increase the amount of fine particles in the grain. The particles will decrease air flow during grain drying, making it more difficult to dry grain and may allow further mold development in storage.

Farmers will increase the combine's fan speed and other adjustments in an attempt to blow out the lighter particles and diseased kernels during the threshing process. The need to change combine settings from field to field is time-consuming and the whole process will slow down harvest.

There are four types of ear rot that may occur in our area. A description of each one is given here:

- Diplodia ear rot — thick white mass of mold on the ear, usually initiating from the base of the ear and growing toward the tip. Eventually the white mold changes to a gray-brown. Kernels infected appear to be glazed to the husk.

- Fusarium ear rot — White mold develops on infected kernels, which may develop a brown discoloration with light-colored streaks. Infestation generally occurs from bird or insect damage to ears. Affected ears usually have infected kernels scattered over the ear among healthy-looking kernels.

- Gibberella ear rot — White to pink mold covering the ear tip to the upper half of the ear will occur from early infections. However, infections may also occur at the base of the ear, causing the whitish-pink diseased kernels to develop from the base of the ear upward.

- Trichoderma ear rot — Abundant thick greenish mold growth which makes Trichoderma ear rot very easy to distinguish from other ear rot diseases.

Another characteristic feature of Trichoderma is sprouting (pre-mature germination of the grain on the ear in the field). Although some species of Trichoderma may produce mycotoxins, these toxins are usually not found in Trichoderma-affected ears under our growing conditions.

Fortunately, ear rot has not been a major problem in our area, and where they have occurred, non-toxin-forming diseases such as Diplodia have been the most common. However, harvest has just begun and ear rot may become more prevalent as farmers take off corn in more fields.

Local elevators will be testing corn deliveries for disease and mycotoxin levels to make handling and storage decisions. Farmers will note which hybrids have disease incidents and make sure to not select them next year.

Also, a farmer may select hybrids that have the Bt gene to protect against many ear-feeding insects.

Additional information and images of ear molds and rot can be found at https://agrops. ohioline.osu.edu/newsletter/2018-28/ear-rots-corn-telling-them-apart.

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