Ear Rots of Corn

Purdue University Cooperative Extension Service
Ear Rots of Corn

Ear rots reduce yield, quality and feeding value of corn. A number of ear rots occur every year. But just how prevalent and severe they become depends on weather conditions.

DIPLODIA EAR ROT

In Indiana, diplodia ear rot, or dry rot, is the most common. Symptoms may appear as early as mid-August, especially during a wet growing season. Husks of infected corn look bleached instead of green. And by harvest, the entire ear is rotten, grayish-brown and shriveled.

Ears infected somewhat later are covered with a whitish mold. Those infected still later may show no outward signs of disease, but breaking the ear will reveal mold between the kernels and discolored kernel tips.

Diplodia ear rot is caused by Diplodia maydis, the same fungus that causes diplodia stalk rot. Infection usually begins at the base of the ear, rarely at the tip.

All corn is susceptible to this disease. Presently, no inbred lines are completely resistant. But most commercial hybrid companies avoid using highly susceptible inbreds. Otherwise, no specific control has been developed.

GRAY EAR ROT

Gray ear rot has rarely been a problem in Indiana.

In its early stages, gray ear rot resembles diplodia ear rot. Grayish white mold develops between the kernels at the butt of the ear. The husks are bleached and tightly cemented together. At harvest, these ears are slate gray and are generally upright on the shanks. If an infected ear is broken, the pith will be slate gray with small, black specks scattered throughout the tissue. The kernels may have dark gray streaks or small black specks beneath the seed coat.

The disease is caused by the fungus Physalospora zeae, which not only attacks ears, but also causes large lesions on the leaves. It is on these infected leaves that the fungus produces spores.

The only known control is use of hybrids adapted to your area.

FUSARIUM EAR ROT

This disease, sometimes called pink kernel rot, is found every year but generally is not as destructive as diplodia ear rot.

The first symptom is a pink coloration on the caps of individual kernels or groups of kernels scattered over the ear. As the disease progresses, infected kernels become powdery pink. The disease seems to spread from the points where ear worms have entered the ear.

Fusarium ear rot is caused by the fungus Gibberella fukikuroi (Fusarium moniliforme), which overwinters in rotten ears, other corn plant refuse and in the soil.
To control this ear rot, avoid hybrids with poor husk covering and those showing tendencies toward popped kernels or silk cut. The inbred lines P8, L317 and 38-11 appear somewhat susceptible to fusarium ear rot and tend to transmit this susceptibility to their hybrids.

GIBBERELLA EAR ROT

This ear rot rarely causes much damage in Indiana. Infected corn, however, is particularly poisonous to hogs. In fact, hogs usually refuse to eat it.

The disease is identified by a brick-red mold, which usually enters the tip and progresses toward the butt of the ear. Husks are reddish-pink and cemented together by the mold growing between them.

Gibberella ear rot is caused by Gibberella zeae, the same fungus responsible for gibberella stalk rot. Wheat scab and barley scab are also caused by this fungus.

At present, there is no control for this disease.

NIGROSPORA EAR ROT

Nigrospora ear rot, or cob rot, shows up in corn that is suddenly hit by root injury, cold, stalk rot or leaf blight. This disease is also more likely to attack corn grown on low fertility soil.

Affected ears are lightweight. Kernels are somewhat bleached and chaffy and can be easily pressed into the cob. Shanks of infected ears appear shredded, often the full length of the cob. When the ear is broken, the cob is found to be dry rotted with small, black specks (spores) scattered throughout the shredded pith. Tips of the kernels also show masses of these black specks. In cobs of only mildly infected ears, the chaff on the tip or butt will be chocolate brown instead of the normal bright red.

Nigrospora ear rot is caused by the fungus, Nigrospora oryzae (Basisporem gallarum), which overwinters on plant refuse in the field. The fungus will kill infected kernels planted in cold, wet soil, which is unfavorable to rapid germination.

Presently, the only control for nigrospora ear rot is blight and stalk rot-resistant hybrids. These hybrids seem resistant to cob rot also.

OTHER EAR ROTTS

There are a few other ear rots of corn, but they are generally more prevalent on inbred lines than on hybrids.

Penicillium ear rot appears as bluish-green mold on the kernels. Aspergillus ear rot is characterized by black, fluffy mold on and between the kernels. Hormodeadrum kernel rot appears as greenish-black, felt-like mold on the caps of the kernels.

These diseases generally appear when fall weather conditions delay drying of the ears in the field.

11/62

Cooperative Extension Work in Agriculture and Home Economics
State of Indiana, Purdue University
and the United States Department of Agriculture Cooperating
H. G. Diesslin, Director, Lafayette, Indiana
Issued in furtherance of the Acts of May 8 and June 30, 1914
Diplodia ear rot
Gray ear rot
Gibberella ear rot
Fusarium ear rot