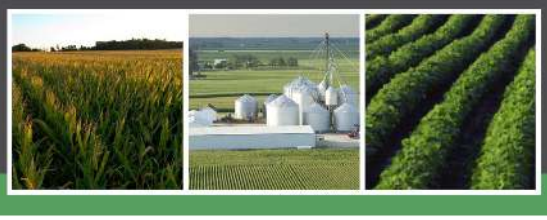

Agronomic Spotlight

Nigrospora Ear and Cob Rot

- Nigrospora ear and cob rot is caused by the fungus Nigrospora oryzae.
- This disease is widely distributed throughout corn growing areas, although in most years it is uncommon and infection often goes unnoticed until harvest.
- Damage is most severe when normal plant growth is interrupted or plants are killed prematurely.

Symptoms

Symptoms of Nigrospora ear and cob rot are seldom noticed before harvest. Infected ears weigh less than healthy ears, are chaffy, and have kernels that are loose on the cob. Infected ears often have large numbers of black spore masses scattered in the pith of the cob and on the tips of kernels (Figure 1). Gray to black fungal growth (mycelia) can be present on and between kernels (Figure 2). Affected kernels may be slightly bleached and have white streaks extending from tips to crowns. Kernels can also be easily pressed into infected cobs. Infection often becomes obvious at harvest. Shanks, bases, and cobs of heavily infected ears can be shredded during mechanical harvest (Figure 3) and the process of shelling can break cobs into small pieces.

Figure 1. Nigrospora infected ear with black spores in pith.

Disease Development

The fungus survives on plant debris. It is a weak pathogen and generally does not infect ears unless plants are weakened or killed prematurely by drought, foliar disease, frost, root injury, or stalk rot. Corn grown in infertile soil tends to be more susceptible to Nigrospora ear and cob rot. This may be because poor fertility can lead to premature plant death. Infection usually begins at the base of the ear, although it can begin at the ear tip. Nigrospora-rotted corn has almost the same nutritional value as disease-free corn and is not known to produce mycotoxins.

Figure 2. Dark gray mycelia at base of ear. Photo courtesy of Gary Munkvold, Iowa State University.

Management

Because Nigrospora attacks plants that are weakened, cultural practices that promote general plant health may minimize the risk of Nigrospora ear and cob rot. Selecting corn products with good stalk strength and a solid disease package can help decrease the likelihood of plants being killed prematurely by foliar and stalk diseases. Maintaining proper fertility and insect control can also help avoid plant stress and premature death. Crop rotation, especially in fields with conservation tillage, can help reduce overwintering of Nigrospora in crop residue. Proper drying and storage can help minimize further fungal growth in stored grain.

Figure 3. Shredded cob. Photo courtesy of Don White, University of Illinois.

Sources

Corn Ear and Kernel Rots. 1991. University of Illinois Extension. RPD No. 205. http://ipm.illinois.edu/. Compendium of Corn Diseases. APS Press. Nigrospora ear rot. The Ohio State University. https://u.osu.edu/. Web sources verified 08/30/16. 130822014107

For additional agronomic information, please contact your local seed representative. This publication was developed in partnership with Technology Development & Agronomy by Monsanto.

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.