

9-4-2014

Watch for Stalk and Ear Rots in Corn

Alison E. Robertson

Iowa State University, alisonr@iastate.edu

Follow this and additional works at: <http://lib.dr.iastate.edu/cropnews>



Part of the [Agricultural Science Commons](#), [Agriculture Commons](#), and the [Plant Pathology Commons](#)

Recommended Citation

Robertson, Alison E., "Watch for Stalk and Ear Rots in Corn" (2014). *Integrated Crop Management News*. 859.
<http://lib.dr.iastate.edu/cropnews/859>

The Iowa State University Digital Repository provides access to Integrated Crop Management News for historical purposes only. Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user. Users should make their own assessment of the information and whether it is suitable for their intended purpose. For current information on integrated crop management from Iowa State University Extension and Outreach, please visit <https://crops.extension.iastate.edu/>.

Watch for Stalk and Ear Rots in Corn

Abstract

As the 2014 growing season draws to a close, agronomists and farmers are reminded to scout for stalk and ear rots of corn. Stalk rots are likely to be a problem this year particularly in fields where leaf diseases occurred and fields with high yield potential. Diplodia ear rot is already prevalent in some fields.

Keywords

Plant Pathology and Microbiology

Disciplines

Agricultural Science | Agriculture | Plant Pathology

IOWA STATE UNIVERSITY
Extension and Outreach
Crops Knowledgebase



Search

Search

[Home](#)

Mailing Lists

Subscribe to ICM News updates and receive email alerts when new information is posted.

Your Email address *

subscribe

unsubscribe

Watch for Stalk and Ear Rots in Corn

ICM News

September 4, 2014

By Alison Robertson, Department of Plant Pathology and Microbiology, Iowa State University

As the 2014 growing season draws to a close, agronomists and farmers are reminded to scout for stalk and ear rots of corn. Stalk rots are likely to be a problem this year particularly in fields where leaf diseases occurred and fields with high yield potential. Diplodia ear rot is already prevalent in some fields.

Stalk rots

Stalk rots may result in premature death of plants (Figure 1) or reduced yield potential. Diplodia stalk rot has been observed in central Iowa.



Figure 1. Stalk rot results in premature plant death.

This stalk rot is easily recognized:

1. Look for minute black specks (pycnidia) buried in the rind of the lower nodes of the corn stalk (Figure 2). In moist conditions, millions of spores may be extruded from the pycnidia (Figure 3).
2. Splitting the stalk will reveal shredded pith.



Figure 2. Tiny black specks (pycnidia) embedded in the rind are diagnostic for Diplodia stalk rot.



Figure 3. Diplodia spores are extruded from pycnidia when humidity is high.

Gibberella stalk rot may also be prevalent this growing season since conditions have been favorable for infection and disease development. This stalk rot is best identified from the pink to red shredded pith tissue. Black specks may also be observed at the lower nodes, but these are slightly larger than those observed with Diplodia, and can be easily scraped off the rind surface using a fingernail.

Identifying at risk fields

Northern corn leaf blight and Goss's leaf blight are widespread throughout the state particularly on susceptible hybrids and these fields should be scouted for stalk rot around black layer. When photosynthesis is compromised as a result of reduced green leaf area due to leaf disease, stalk rots are often a problem. This is because the corn plant is dedicated to filling grain and will cannibalize carbohydrates in the stalk if necessary. Consequently, a good place to start scouting for stalk rots is in fields with leaf blights.

Fields with high yield potential may also be at risk for stalk rots. The cool wet conditions that we had from blister (R2) onwards have favored grain fill. Since **kernel abortion is unlikely after dough** (R4), the corn plant will do everything to finish off the grain at the expense of using carbohydrates stored in the stalk, consequently leading to increased risk of stalk rots.

Ear rots

Ear rots result in reduced grain quality. Diplodia ear rot is favored by cool, wet weather during early ear development. The disease is easily recognized. Look for a dead ear leaf while scouting fields (Figure 4). Oftentimes, a white mold or "black pepper" may be visible in the husks at the base of the ear. Peeling back the husks will reveal the same dense white mold growing up from the base of the ear (Figure 5). No mycotoxins have been associated with Diplodia ear rot in the U.S.



Figure 4. A dead ear leaf is symptomatic of Diplodia ear rot.



Figure 5. Diplodia ear rot. Note the dense white mold growing from the base of the ear. Pycnidia may also be present on the husks.

Cool, wet weather after silking also favors Gibberella ear rot. When the husks of the ears are peeled back, a pink to red mold developing from the tip of the ear is diagnostic for this ear rot. Mycotoxins (DON and zearalenone) are associated with Gibberella ear rot.

Management of stalk and ear rots

Fields in which greater than 10 percent of the plants have stalk and/or ear rots should be scheduled for early harvest. Identifying these diseases can also help with management for future years. Since stalk and ear rot pathogens survive in infested residue, rotation to a nonhost crop such as soybean may help reduce inoculum. Hybrid susceptibility to stalk and ear rots differs among hybrids.

Alison Robertson is an associate professor in the Department of Plant Pathology and Microbiology; she can be reached at alisonr@iastate.edu or 515-294-6708.

Category:

Crop:

Corn

Tags:

Author:



Alison Robertson Associate Professor

Alison Robertson is an Associate Professor of Plant Pathology and Microbiology. Robertson provides extension education on the diagnosis and management of corn and soybean diseases. Her research interests include Pythium seedling disease of corn and soybean and Goss's wilt. Robertson rec...

