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Alison E. Robertson

Iowa State University, alisonr@iastate.edu

Charles R. Hurburgh Jr.

Iowa State University, tatry@iastate.edu

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Abstract

Within the past two weeks, there have been several reports of aflatoxin detected in southern Iowa and also a few reports from central Iowa. Levels of aflatoxin have ranged from 8 ppb to almost 200 ppb. The FDA action level for aflatoxin in grain is 20 ppb.

Keywords

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Aflatoxin Detected in Fields in Central and Southern Iowa

By Alison Robertson, Department of Plant Pathology, and Charles Hurburgh, Department of Ag and Biosystems Engineering

Within the past two weeks, there have been several reports of aflatoxin detected in southern Iowa and also a few reports from central Iowa. Levels of aflatoxin have ranged from 8 ppb to almost 200 ppb. The FDA action level for aflatoxin in grain is 20 ppb.

Thus far, the problem does not appear widespread; however, fields across the state are at risk for aflatoxin considering the hot, dry conditions we have had during pollination and are having now as much of the crop reaches black layer (see [Aspergillus ear rot and aflatoxin production](#)).

To determine if a field is at risk for aflatoxin, scout for aspergillus ear rot at black layer. [Downed corn](#) and more stressed areas of the field are a good place to start scouting. This ear rot is easily identified as an olive green powdery mold that usually occurs at the ear tips (Figure 1).



Figure1. Typical signs of Aspergillus ear rot from a field in southeast Iowa.

If aspergillus ear rot is detected, call your insurance adjuster immediately. Corn will only be adjusted in the field. Once the grain is in the bin, it is no longer covered (see [Crop quality issues from the drought of 2012](#)).

Harvest the corn as soon as possible. The goal is to cool (below 50F) and dry (<15 percent moisture) the grain as quickly as possible to prevent the fungus from growing and producing aflatoxin (see [Aspergillus ear rot and aflatoxin production](#)). [Some companies](#) are offering discounts on drying this growing season.

Elevators will use up to three methods to check for aflatoxin. The black light method is used to detect glowing particles in the grain, which indicate a potential for aflatoxin. A specific fluorescence denotes the presence of kojic acid and, therefore, actively growing *Aspergillus flavus*, the fungus that produces aflatoxin. Other tests kits may be used to qualitatively (yes or no) or quantitatively (ppb) detect aflatoxin. These kits require a 5lb sample of grain to be collected and ground and then a subsample of ground grain is tested. Sampling error for aflatoxin is known to be large. A list of GIPSA approved test kits may be found at <http://www.iowagrains.org>.

Alison Robertson is an assistant professor of plant pathology with research and extension responsibilities in field crop diseases. She can be reached at 515-294-6708 or e-mail alisonr@iastate.edu. Charles Hurburgh is a professor in the Department of Ag and Biosystems Engineering. He can be reached at 515-294-8629 or e-mail tatry@iastate.edu.

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