Aflatoxin Detected in Fields in Central and Southern Iowa

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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
Plant Pathology and Microbiology, Agricultural and Biosystems Engineering

Disciplines
Agricultural Science | Agriculture | Bioresource and Agricultural Engineering | Plant Pathology
Aflatoxin Detected in Fields in Central and Southern Iowa

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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.

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).

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.

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.

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.iowagrain.org.

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