## **Agronomy Profile**



# Aflatoxins

### **Overview**

Aflatoxin is produced by the mold fungi *Aspergillus flavus* and *Aspergillus parasiticus*. Drought, extreme heat and corn ear injury from insects increase corn's susceptibility to aflatoxins, which are harmful to livestock. Growers that do not adhere to FDA aflatoxin guidelines risk action from federal agencies.

#### What you should know

- Aflatoxin fungi feed on starch inside corn kernels, entering during stress from drought, humidity or insects.
- The FDA has guidelines to protect consumers and livestock. The FDA threshold is 20 parts per billion for aflatoxin-contaminated corn. This can be reached with 1 contaminated kernel in a 5-pound sample.
- Reduce plant stress to reduce the potential for aflatoxin development. Plant at an optimum date and space plants effectively. Proper fertilization, weed control and pest control can also help to lower stress.

### **Action steps**

- 1. **Identify problems early:** Before harvest, examine fields for ear molds, especially if stress conditions have been ideal for aflatoxin development. If you observe mold development, talk with an agronomist about conducting sample testing.
- 2. **Sample and test:** Perform a "black light" test to illuminate the fungi's yellowgreen fluorescence. If high pre-aflatoxin fungi levels are found, perform a diagnostic test from a chemical supply company or provide samples to an approved chemical testing laboratory.
- 3. Act quickly: For suspected aflatoxin fields, harvest corn as quickly as possible. Within 24-48 hours, artificially dry corn to less than 15% moisture content to reduce the risk of continued aflatoxin development.
- 4. **Reduce contamination:** Cool grain to below 55°F to slow fungal growth. Before, during and after harvest, clean bins and grain handling devices to reduce the risk of contamination. Properly adjust combines and harvest equipment to reduce further kernel damage that could lead to the spread of disease.

#### For more information, contact:



www.nutechseed.com 1-888-647-3478



Prior to harvest, survey select ears of corn for molds, especially if growing conditions have been stressful.



- Drought and insects increase stress in corn and can lead to destructive aflatoxins, which are produced by molds.
- FDA aflatoxin guidelines protect consumers and livestock.
- Effective agronomic practices can reduce plant stress to prevent aflatoxins.
- Monitoring for molds and using harvest and storage best practices can help protect your crop.

#### NOTES: