



# MANY VOICES, ONE VISION

FARM BUREAU®—CONFRONTING THE ISSUES

## Aflatoxin Testing for Crop Insurance Policy Development 2012

### Issue:

Frequently, producers' grain is docked because of the presence of aflatoxin when offered for sale at the local elevator although the grain is subsequently found to be free of the fungus when samples are submitted for crop insurance reimbursement. In Texas, state officials have developed a voluntary program to remedy this situation. The One Sample Strategy (OSS), administered by the Office of the Texas State Chemist (OTSC), allows grain elevators choosing to participate to use the same aflatoxin test results for both grading and for valuing an insured loss. This single test procedure is conducted at the initial point of sale and the test result is then tagged to the grain to satisfy regulatory requirements and to collect insurance indemnities.

### Background:

Aflatoxin is a naturally produced mycotoxin from the *Aspergillus* family of molds that are common and widespread in nature. These molds are found in the soil, decaying vegetation, hay and decaying grain. Stressful growing conditions, like drought or intense heat, can increase the likelihood of aflatoxin problems in harvested grain. Aflatoxin is not uniformly distributed in each ear of corn, each plant or across a corn field. Its presence, measured in parts per billion, means that just a few kernels in a sample could trigger a positive aflatoxin test result. Currently, many elevators test a truckload of corn multiple times, varying the sample collection points. In fact, a 30 percent variation in levels among aflatoxin samples is common when a truckload of corn is tested multiple times using official procedures. When the official procedures are not followed, a 60 percent variation in aflatoxin samples can occur. Consequently, each separate sample is likely to yield different results that create uncertainty in testing results, and on through to the corn market.

The Food and Drug Administration limits the use of grain with aflatoxin because it is a "Group One" carcinogen. Contamination is both a public health and an animal health issue because a high dose of the toxin can cause illness, including acute liver cirrhosis, and cancer leading to death in both humans and animals.

Usually corn with aflatoxin levels less than 20 parts per billion (ppb) can enter commercial marketing channels. The exception is corn for use in dairy feed, which has a zero tolerance level for aflatoxin. When aflatoxin levels exceed 20 ppb, the ability to use corn becomes more complicated as the concentration levels affect the feed value to various livestock species.

Corn with aflatoxin levels of 20 ppb or higher may trigger an insurance indemnity. Crop insurance policies can value a loss due to aflatoxin prior to harvest, in the combine or in a grain truck before entering on-farm or commercial storage. The quality loss from aflatoxin is an insurable loss with discount factors determined by the aflatoxin level and reduction in grain value.

To be considered a covered loss, crop insurance policies require that samples must be pulled by a disinterested third-party. USDA's Risk Management Agency (RMA) uses the sampling guidelines and procedures developed by the FGIS to test and grade grain. Careful attention to the sampling procedures is crucial in obtaining an accurate test result. FGIS reports that 90 percent of the errors in aflatoxin testing result from improper sampling, which reinforces the need to ensure there is an accurate sampling protocol such as in the OSS framework. Similarly, thorough recordkeeping that accurately matches the grain samples to the farmer is important for crop insurance purposes.

The purpose of the OSS program is for the result from a single sample set of aflatoxin tests to be used in determining purchasing, regulatory and crop insurance aflatoxin-related decisions regarding a particular truckload of corn. To fulfill this purpose, the program trains and verifies the proficiency of individual grain elevator employees to accurately pull samples and conduct tests to measure aflatoxin levels in corn using quality, standardized sampling, grinding and testing equipment and methods. The OTSC procedures prescribe the recommended testing kits and require the testing equipment to be cleaned between tests following a prescribed methodology. The OTSC conducts spot checks of the participating elevators throughout harvest to ensure all procedures are being followed. These results, when generated by an approved elevator participating in the OSS, will be recognized by the Office of the Texas State Chemist for regulatory compliance and by USDA's Risk Management Agency (RMA) for crop insurance purposes.

**Questions:**

1. Would it be beneficial to have a federal "single test" procedure that could be used nationwide?
2. What common procedures might be established?
3. Will the Federal Grain Inspection Service (FGIS) be responsible for evaluating the procedures and technologies to ensure uniformity and accuracy among the regulatory agencies and the private sector?
4. How could that information be used with crop insurance?

**Farm Bureau Policy:**

335 – Aflatoxin-Vomitoxin

Lines 1-3: Uniform sampling and grading system that takes into account the actual aflatoxin levels;

Lines 4-5: The present uniform test for aflatoxin for use in all states and supports the development of an accurate method for testing and sampling in the marketplace.