Applied Research Report

Effect of Aflaguard on Aflatoxin Levels in Corn

Stephen Biles, Extension Agent - IPM for Calhoun, Refugio and Victoria Counties
Phoenix Rogers, Calhoun County Extension Agent - AG
Jerry Gray, Refugio County Extension Agent – AG
Joe Janak, Victoria County Extension Agent – AG

Cooperators: Michael Marragia, Marshall Lange, Bill Obsta,
Duane Nunley, and Jimmy Jackson

Summary

A trial was conducted with the purpose of evaluating the effect Aflaguard has on reducing aflatoxin concentrations in corn. Five fields were treated with aflaguard in 2008 at 10 or 20 lbs product per acre. Aflatoxin levels were statistically lower in Aflaguard treated fields than in fields not treated with Aflaguard.

Materials and Methods

A trial was established in June 2008. Whole fields were treated with Aflaguard at 10 or 20 lbs. per acre within one week of silking. Application was made using an airplane with a spreader. The fields were compared to nearby untreated fields or the same corn hybrid. At harvest time, 10 samples were taken from each field and sent to the UDSA Peanut Research Laboratory in Georgia for analysis.

Results and Discussion

In both 2007 and 2008, aflatoxin levels were statistically lower in Aflaguard treated fields than in fields not treated with Aflaguard (Tables 1 and 2). None of these fields had levels of aflatoxin high enough to result in economic losses to the grower. The question still remains concerning how this product will perform in a “high” aflatoxin year; a year in which corn aflatoxin levels exceed 300 ppb (parts per billion).

Table 1. Aflatoxin levels from corn samples taken from Aflaguard treated and untreated fields in 2008.

Farm	Untreated	Treated
A	6.0	0.4
B	21.3	1.3
C	7.5	1.5
D	87.5	1.6
E	1.1	17.4*
Average	24.68 ppb	1.2 ppb

*This was a highly unusual set of samples. Eight of ten samples had ≤ 1.0 ppb of aflatoxin while the other two contained 50.4 and 121.3 ppb. We have not seen that kind of spread in data from any other field in this study.

Table 2. Aflatoxin averages from corn samples taken from Aflaguard treated and untreated fields in 2007 and 2008.

	Untreated	**Treated**
2007	6.1ppb	2.3 ppb
2008	24.68 ppb	1.2 ppb

Trade names of commercial products used in this report are included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.