



Mycotoxin | Test 1

Environmental Consulting Services – Dairy

Researcher:

Environmental Consulting Services, Gordon W. Rose, Ph.D., Study Director

Evaluation Substrate:

Ground corn, treated and untreated with candidate mycotoxin-binding compounds. The treated substrates involved the following concentrations of the compounds being tested for mycotoxin-binding effectiveness:

1. NovaSilT - 5.0 kilos per metric ton, w/w (2.24 grams/pound of substrate)
2. Milbond TX - 5.0 kilos per metric ton, w/w (2.24 grams/pound of substrate)
3. AZOMITE® - 1.0% w/w (4.48 grams/pound of substrate)

Mycotoxin Employed:

Aflatoxin B₁ (Sigma), 1.0 mg per pound of experimental substrate (ground corn).

Aflatoxin B₁ Assay Method:

Neogen Corporation Aflatoxin B₁ Field and Dilution Assay kit. The ground corns plus mycotoxin-binding compound plus Aflatoxin B₁ were thoroughly admixed, allowing to remain intact for a 48-hour exposure interval and assayed for residual, unbound Aflatoxin B₁. The untreated control substrate containing the experimental addition of Aflatoxin B₁ only (1.0 mg/pound of Substrate)

Assay Results:

<u>Substrate Identifications</u>	<u>PPB's Aflatoxin Residuals</u>
Untreated Control (B ₁ Only)	>10,000
NovaSilT treated	>4,000 <5,000
Milbond TX treated	>3,000 <4,000
AZOMITE® treated	>2,000 <3,000

Study Conclusion:

The in vitro evaluation of the identified candidate mycotoxin-binding compounds indicated a significant reduction in the experimental levels of Aflatoxin B₁.