

Guiding Principles for Successful Mycotoxin Risk Mitigation



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Speaker Introductions



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What We'll Cover

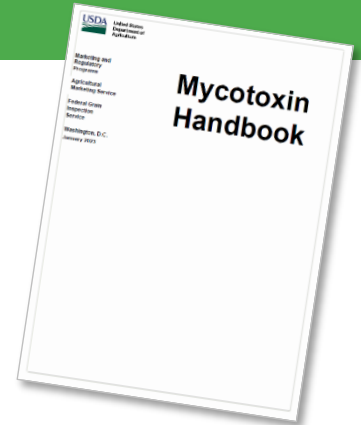
1. **The Goldilocks Problem:** Designing a mycotoxin risk-management program that is “just right” for your organization.
2. **Check Yourself Before You Wreck Yourself:** The sneaky daily mistakes that can increase your mycotoxin risk.

The Goldilocks Problem

Designing A Risk-Sensitive Mycotoxin Control Program That is “Just Right”



Mycotoxins are regulated by the FDA



Aflatoxin
Aspergillus flavus and
Aspergillus parasiticus



Fumonisin
Fusarium
verticillioides



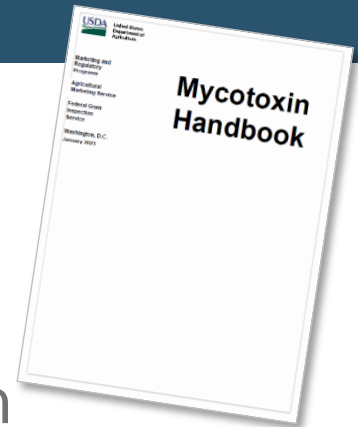
DON/Vomitoxin
Fusarium
graminearum

Intended Use	Action Level (ppb)
Humans, Immature Animals, Dairy Animals	20
Breeding Beef Cattle and Swine, Mature Poultry (e.g. laying hens)	100
Finishing Swine	200
Finishing Cattle, Beef Cattle, Swine or Poultry	300

Intended Use	Action Level (ppm)
Human	2
Horses	5
Breeding Ruminants & Poultry	20
Ruminants >3 Months	60
Poultry for Slaughter	100

Intended Use	Action Level (ppm)
Human	1
Horses	5
Poultry, Dairy Cattle, Immature Animals	10
Mature Cattle	30

Big 6 Mycotoxin Effects on Livestock



AFLATOXIN

Weight loss, low feed efficiency, reduced egg production, and reduced egg weight

DON

Decreases immune and digestive function

FUMONISIN

Decreases immune and digestive function

ZEARALENONE

Reduced fertility and growth performance

T-2/HT-2

Causes oral and digestive tract lesions, reduces nutrient absorption

OCHRATOXIN

Reduces consumption, growth, egg production, and eggshell quality

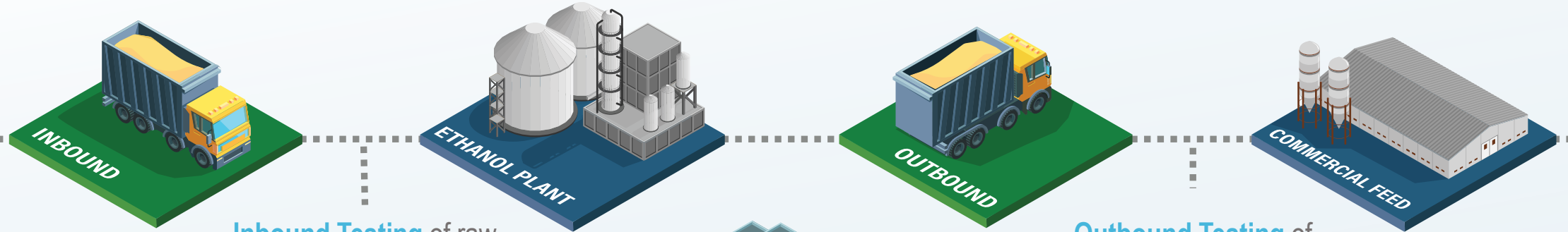
Building Blocks of a Robust Risk-Management Program

Data-Driven Risk Management, Compliance, Spend Optimization



Raw Material (e.g., corn)

Finished Product (e.g., DDGS)



Inbound Testing of raw material for quality compliance

Outbound Testing of feed ingredients for high-risk toxins

Regular Check Sample Testing to ensure operators and equipment are performing as expected

Data Management System provides on-demand insights for data-driven decision-making and swift countermeasure implementation

Outbound Lab Verification of all major mycotoxins for comprehensive compliance

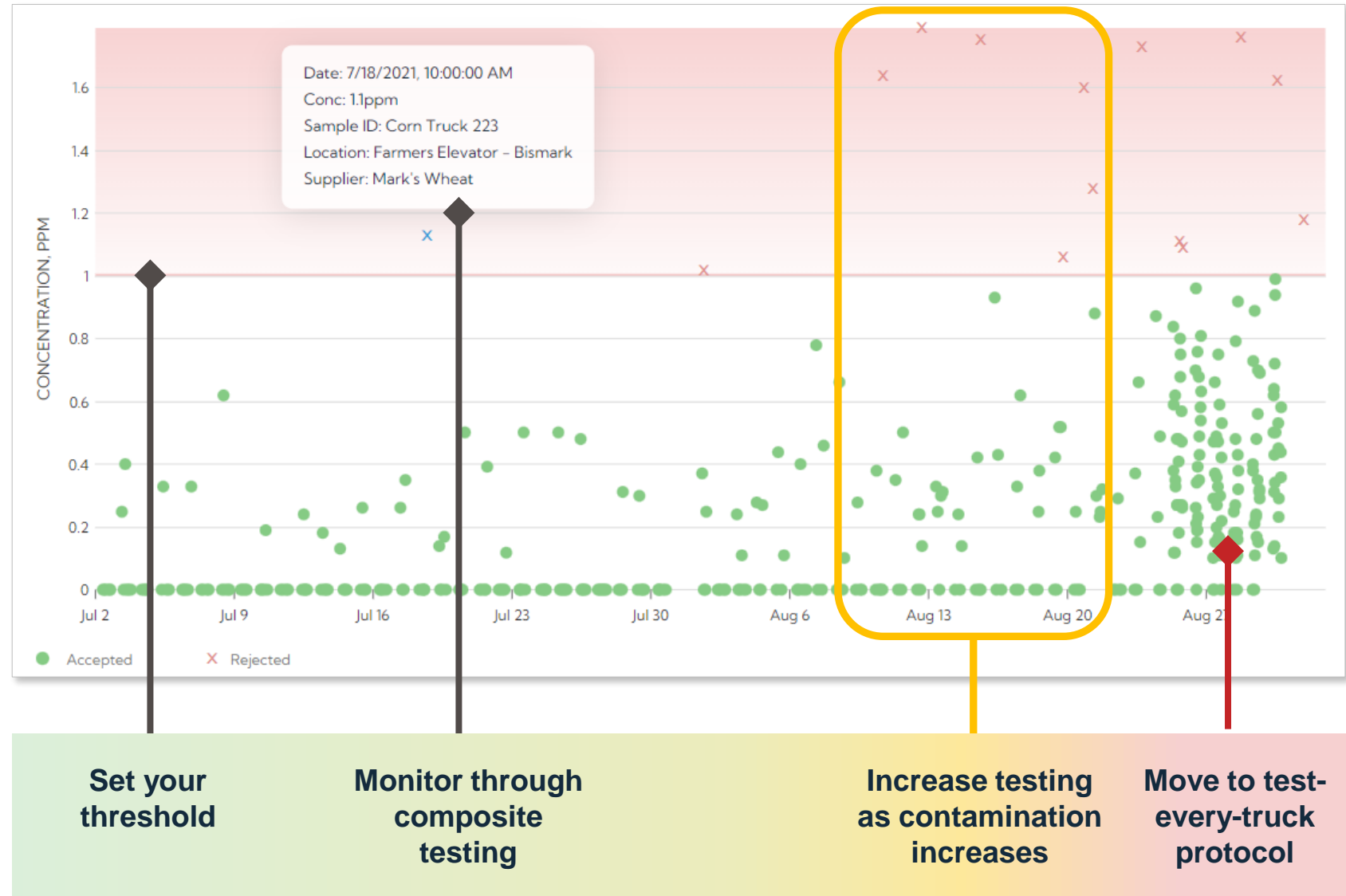


Data is the GOAT

Manage Risk with Real-Time Results



- ✓ Use data to focus your mycotoxin testing and to drive frequency.
- ✓ Monitor mycotoxin results to fine tune testing frequency and thresholds.



Check Yourself

Daily Best Practices that Dramatically
Reduce Mycotoxin Risk



Sampling Pro Tips

Bigger (Sample Size) is Better



FGIS recommends a minimum number of probes... **but larger samples are likely to be more representative of the total load.**

Collect 5 to 10x more grain than you need for testing at the grinding step, your sample for testing must be representative of 56,000 lbs. of corn!



Incorrect sampling techniques is the greatest source of error in mycotoxin testing

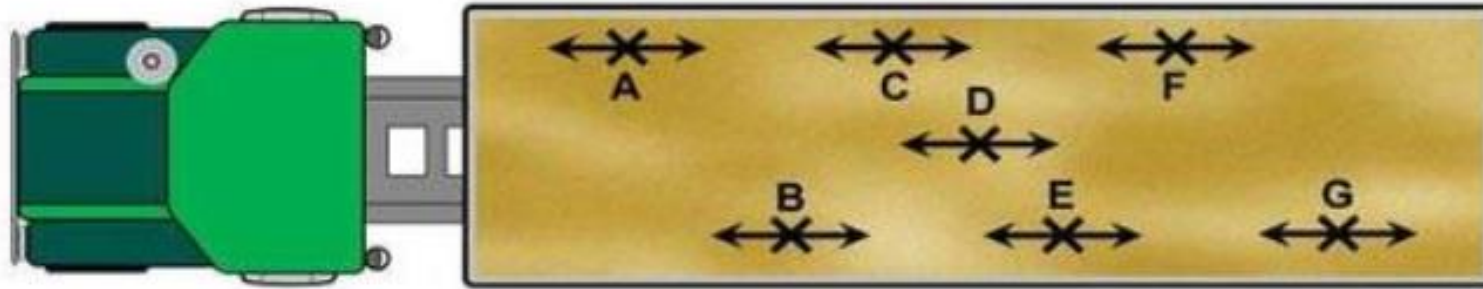


Sampling Pro Tips

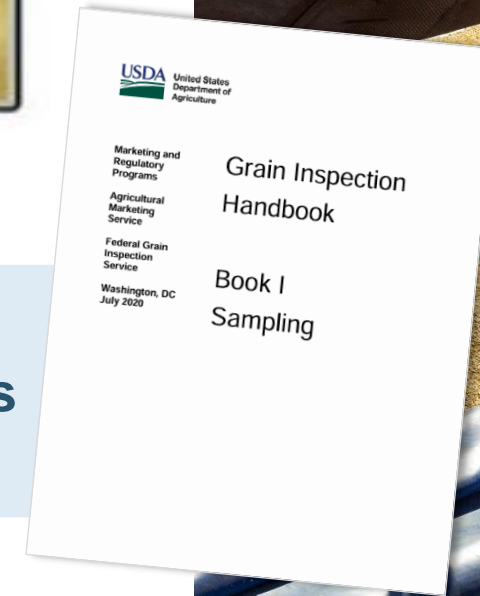
Know Your Numbers



FGIS recommends a minimum of **7 probe insertions at a 10° angle.**



To avoid cross-contamination during sample collection, thoroughly clean your pneumatic or hand probe and lines between loads.

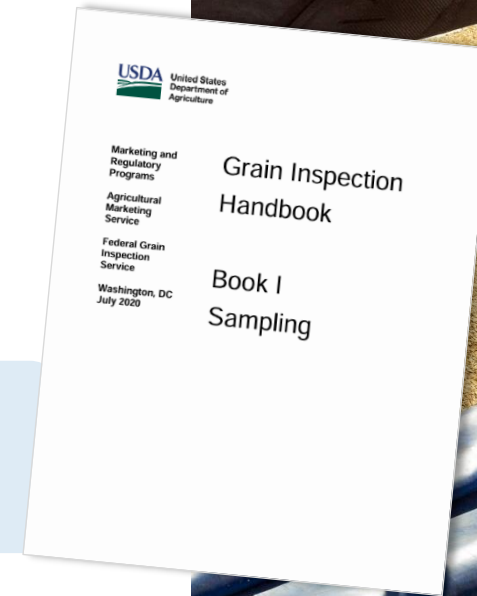
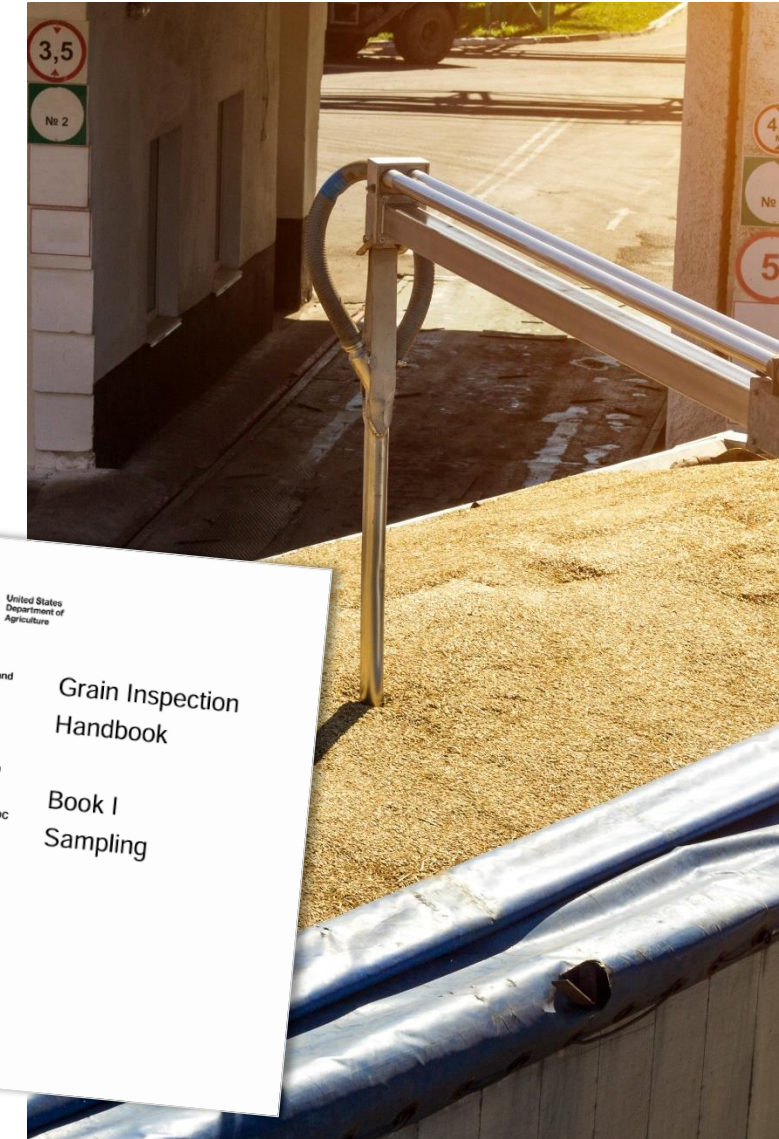


Sampling Pro Tips

Randomizing your sample

Taking a good representative sample is only the first step. **You also need to randomize the sample, which helps prevent any sampling bias.**

A **Divider** breaks the sample down into smaller subsamples. Continue to split your sample with the divider until you reach the sample size you need for grinding.



It is recommended to divide and homogenize every sample at least twice before testing.

Best Practices Checklist

The Daily Grind

Grind is a critical factor in extraction and strip flow.

- ✓ Always calibrate grind consistency to the specifications of your vendor
- ✓ Post-grind, use a spoon to thoroughly homogenize the sample a final time before testing.
- ✓ Recalibrate your grinder periodically, especially before harvest or large production runs



Perfect Grind:

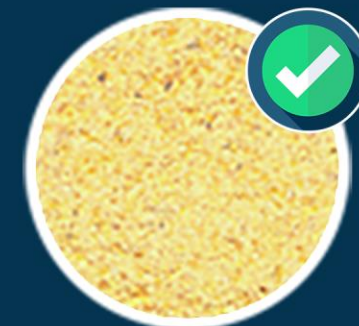
Follow the directions of your test manufacturer



Too Coarse

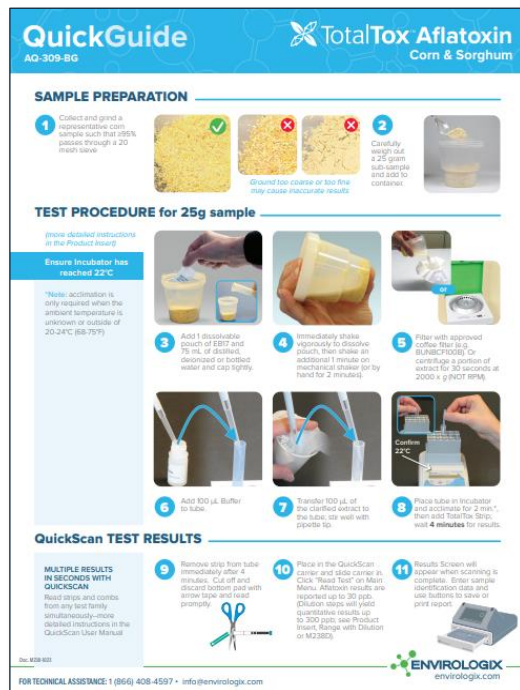


Too Fine



Just Right

Your testing plan is only as good as the operators running it.



- ✓ Keep **testing protocol guides** clearly posted at each station for operator reference.
- ✓ Conduct **annual refresher trainings** at a minimum to ensure operators are aligned on small details with big impacts like pipetting volumes and shake times.
- ✓ Implement a **Check Sample** program using a known contamination sample to ensure operators can run the protocol correctly.

CONTACT INFORMATION:

**Come see us at our booth today
Or
Contact us at info@envirlogix.com**

Thank You!

