



Keeping the Ethanol Trade Healthy

HERE'S HOW SIMPLE VICAM TESTS ARE TO USE:

EXTRACT SAMPLE

- Grind and weigh sample
- Add salt and methanol/
water mixture
- Filter

DILUTE AND FILTER

- Dilute extract
- Filter

ABSORB AND ELUTE

- Pass filtrate over selected
affinity column
- Wash column
- Elute toxin and collect in a cuvette

MEASURE

- Add developers and place cuvette
into a calibrated fluorometer, or
- Inject eluate into HPLC or UPLC
- Determine toxin concentration

Global demand for renewable energy sources has placed ethanol at the leading edge of modern agriculture. Ethanol production from corn also creates valuable coproducts used as livestock feed ingredients, such as Corn Distillers Dried Grains (DDG), Distillers Dried Grains with Solubles (DDGS) and Condensed Distillers Solubles (CDS). The quality of these coproducts is critical to their value as feed ingredients and is directly linked to the corn used for ethanol production. Mycotoxins such as aflatoxin, fumonisin and DON (vomitoxin) become concentrated in finished coproducts up to 3 times the level found in inbound corn – creating the need for ongoing monitoring of corn prior to use and screening of outbound coproducts to ensure that livestock feeds are free from the health risks associated with mycotoxin contamination.

The U.S. Food & Drug Administration (FDA) has established limits of 20 parts per billion (ppb) for aflatoxin in dairy feed, and levels up to 300 ppb for non-dairy animal feeds. The FDA's working group on fumonisins advises fewer than 5 parts per million (ppm) for horse feed, 10 ppm for swine and less than 50 ppm for cattle feed. For DON, the FDA advises no more than 5 ppm for swine and 10 ppm for chickens and ruminants older than 4 months.

VICAM provides AOAC and USDA-GIPSA approved solutions for your mycotoxin monitoring program. With rapid, accurate and rugged methods for HPLC and fluorometric detection, VICAM makes mycotoxin testing simple and accessible to real world testing environments. Market your ethanol coproducts with confidence – whether you perform on-site testing or use a trusted analytical laboratory, ask for VICAM by name.

- **USDA-GIPSA approved results for your coproducts stream**
- **Expert Solutions for on-site screening and quantitation**
- **Accurate, Precise Results for Inbound Corn, DDG, DDGS and CDS**

VICAM NARROW BORE COLUMNS



BENEFITS		AflaTest	DONtest HPLC	FumoniTest
Durable	Long shelf life; requires no refrigeration	X	X	X
Versatile	Can be used with a variety of samples	X	X	X
Convenient	For use with fluorometric or HPLC	X		X
Easy	No special skills required, test can be performed virtually anywhere	X		X
Quick	Less than 10 minutes to isolate toxin	X		X
Safe	Requires less toxic materials than other methods	X	X	X

VICAM WIDE BORE COLUMNS



BENEFITS		AflaTest WB	DONtest WB	FumoniTest WB
Durable	Long shelf life; requires no refrigeration	X	X	X
Versatile	Can be used with a variety of samples	X	X	X
Exclusive	Specifically for HPLC, UPLC or LC/MS/MS use	X	X	X
Quick	10 minutes to isolate toxin	X	X	X
Fast Flow	Passes more volume over the column	X	X	X

Subject to change without notice.

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