



Keeping the Wheat Trade Healthy

HERE'S HOW SIMPLE VICAM TESTS ARE TO USE:

EXTRACT SAMPLE

- Grind and weigh sample
- Add water or solution
- Blend

FILTER

- Filter and dilute

APPLY TO TEST STRIP

- Add diluent and sample extract to dilution tube
- Apply to DON-V Strip Test
- Allow strip to develop for 4 minutes

MEASURE

- Insert strip into Vertu reader
- Determine toxin concentration

The impact of mycotoxins on wheat reaches across human, companion animal and livestock populations and has serious economic implications throughout the global food supply chain. Vomitorin (DON) is the most common mycotoxin associated with wheat, although virtually all major mycotoxins have been isolated from wheat, including ochratoxin A, T-2, HT-2, zearalenone, fumonisin, citrinin and aflatoxins.

As DON levels reach 1 ppm in swine rations, feed intake declines, directly impacting weight gain and ultimately, production. If contamination exceeds 5 ppm, feed refusal becomes severe and vomiting may occur. FDA and EU regulations define acceptable levels of DON in grains, feed rations and foods intended for human consumption.

Current EU maximum levels are: 1.25 ppm for unprocessed cereals; 1.75 ppm for unprocessed durum wheat, oats and maize; 0.75 ppm for cereals and pasta intended for direct human consumption; 0.5 ppm for bread and 0.25 ppm for cereals and foods intended for infants and young children. EU regs for OTA in wheat are 3 ppb for processed cereals and 5 ppb for unprocessed cereals. The FDA guidelines are 1 ppm for human foods, 5 ppm for grains and grain byproducts intended for swine feed rations and 10 ppm for grains and byproducts intended for cattle and poultry feeds. All other animals, including companion animals are subject to the 5 ppm maximum level guidance by the FDA.

VICAM offers complete qualitative and quantitative testing solutions for DON, aflatoxin, ochratoxin A and all major mycotoxins of concern for wheat. Field, storage, processing and laboratory environments rely on VICAM's family of solutions for rapid screening at point of receipt, quantitation on-site and single or multiple mycotoxin detection with immunoaffinity columns followed by HPLC, UPLC® or LC/MS/MS detection.

The Vertu® system with DON-V and Ochra-V offers quantitative on-site detection of DON and ochratoxin A for the field, processor and laboratory in a simple, precise format that may be performed virtually anywhere.

Methods Available for Wheat Quality Measurement

- Immunoaffinity Columns for single or multiple mycotoxin detection by LC or LC/MS/MS
- Qualitative Screening for DON in as few as 3 minutes
- Quantitative Strip Tests provide numerical data for aflatoxin, DON and ochratoxin A in 5 minutes

VICAM NARROW BORE COLUMNS

BENEFITS		AflaTest	DONtest	OchraTest
Durable	Long shelf life; requires no refrigeration	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	OchraTest WB
Durable	Long shelf life; requires no refrigeration	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
Wide Range	Detects high levels of toxins	X	X	X
Fast Flow	Passes more volume over the column	X	X	X

VICAM MULTI-ANALYTE COLUMNS

BENEFITS		AflaOchra HPLC
Convenient	Only one sample and one procedure required to detect multiple toxins	X
Durable	Long shelf life; requires no refrigeration	X
Economical	One test provides results for multiple toxins, saving time and materials	X
Fast	Passes more volume over the column	X
Exclusive	Specifically for HPLC, UPLC, LC/MS/MS use	X
Wide Range	Detects levels as high as 100 ppb for OTA and Aflatoxin	X

VICAM VERTU QUANTITATIVE STRIP TESTS

BENEFITS		Afla-V	DON-V	Fumo-V	Ochra-V
Fast Screening	Results in 5 minutes*	X	X	X	X
Simple	No special training required	X	X	X	X
Convenient	Easily performed onsite or in the lab	X	X	X	X
Durable	Long shelf life	X	X	X	X
Accurate	Real-time data which can be printed or downloaded to a computer	X	X	X	X

*Excludes preparation and extraction

Subject to change without notice.

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