



Keeping the Rice Trade Healthy

High in protein, vitamins, minerals and complex carbohydrates, rice is a nutritional staple for more than half of the global population. Enriched rice also supplies folate and brown rice offers a significant source of dietary fiber — up to 9% of the daily recommended level in a single serving. Naturally low in fat and sodium, rice is a nutrient dense component of human, companion animal and livestock diets.

Ideal growing conditions require ample water supply and in tropical regions rice may be cultivated perennially and may produce a ratoon crop for up to 30 years. Unfortunately, the high temperatures and moisture levels which support rice cultivation also may encourage the growth of toxin-producing molds. Aflatoxins, fumonisin, deoxynivalenol (DON) and citrinin, ochratoxin A and sterigmatocystin are potent chemical toxins produced by a variety of fungi which may inhabit rice during growth, storage and throughout processing. Aflatoxin B₁ is among the most potent carcinogens known to man. Classified as Group I carcinogens by the IARC (International Agency for Research on Cancer), aflatoxins are also known to cause acute liver disease, digestive and immunological disruption.

Commonly found in cereals, oilseeds, spices and tree nuts, mycotoxins are very heat stable and not easily destroyed through standard heating and processing techniques. Therefore, routine monitoring strategies provide the best opportunity for identification, management and reduction of aflatoxins in rice across the global food supply chain. VICAM offers a complete family of mycotoxins testing solutions to help you manage the quality of your rice products beginning at harvest, through processing and prior to shipment.

Whether you perform on-site testing or use a trusted analytical laboratory, ask for VICAM by name.

- **USDA Approved Aflatoxin Detection for Brown Rice, Rough Rice, Milled Rice & Rice Bran**
- **Complete Family of Mycotoxin Monitoring Solutions for Point-of-Delivery, Processing or Finished Product Testing**
- **Field and Laboratory Based Methods Maximize Effectiveness of your Mycotoxin Control Strategy**

HERE'S HOW SIMPLE VICAM TESTS ARE TO USE:

EXTRACT SAMPLE

- Grind and weigh sample
- Add extraction solvent and blend
- Dilute and filter

ABSORB AND ELUTE


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

MEASURE

- Inject eluate into HPLC or UPLC®
- Determine toxin concentration


Note: AflaTest Procedure only

VICAM NARROW BORE COLUMNS



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

VICAM WIDE BORE COLUMNS



BENEFITS		AflaTest WB	AflaOchra HPLC	CitriTest HPLC	OchraTest WB
Durable	Long shelf life; requires no refrigeration	X	X	X	X
Versatile	Can be used with a variety of samples	X	X	X	X
Exclusive	Specifically for HPLC, UPLC or LC/MS/MS use	X	X	X	X
Quick	10 minutes to isolate toxin*	X	X	X	X
Wide Range	Excellent dynamic range for quantitation	X	X	X	X
Fast Flow	Passes more sample over column	X	X	X	X

*Excludes preparation and extraction

VERTU QUANTITATIVE LATERAL FLOW STRIP TESTS



BENEFITS		Afla-V
Fast Screening	Results in minutes	X
Simple	No special expertise required	X
Economical	Fewer consumables and reagents	X
Safe	No toxins needed to perform test	X
Rugged	Engineered for real-world environments	X

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