Breaking News on Food Processing & Packaging

Aflatoxin detection kit validated by USDA

By Jane Byrne, 01-Aug-2008

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A tool that provides quick and cost effective analysis of aflatoxin levels in raw materials and their derived products has been rated effective by the USDA, said developer Euro-Diagnostica.

The Netherlands-based company said that its Flow-Through Rapid Test (FTRTest) for Aflatoxin B1 (AFB1) has received approval from the United States Department of Agriculture's Grain Inspection, Packers and Stockyards Administration (GIPSA).

In order to ensure that reliable, rapid tests are commercially available, GIPSA provides a validation programme to verify the performance of kits. The manufacturer is required to submit data that supports the claims of the rapid test.

The supplier of mycotoxin diagnostic equipment said that the certification verifies the reliability and accuracy of its AFB1 detection kit.

Mycotoxins

Mycotoxins in food are produced by fungal contaminants and can be genotoxic carcinogens. They continue to pose a modern day problem that the food industry must tackle on a daily basis, causing particular concern for bakery firms as they remain stable during processing and, if found in the raw grain, can reoccur in foods containing wheat flour.

The EU legal limit for mycotoxins in finished products, such as bread and breakfast cereals, is 500 parts per billion (ppb). However, studies have revealed that flour may contain 750ppb.

Aflatoxins, in particular, have garnered increasing attention in recent years. They are highly toxic substances naturally formed by the fungus *Aspergillus flavus* on foodstuffs, particularly nuts and dried fruit grown in warm humid conditions.

They have been shown to be carcinogenic in animals, and aflatoxin B1, the most toxic, is classified as both a human carcinogen and mutagenic.

This month, the 31st session of the Codex Alimentarius Commission adopted guidelines for the maximum levels for aflatoxins in almonds, hazelnuts and pistachios; thus foodstuffs contaminated with higher levels cannot be used for production or consumption.

Rapid detection

Conventional detection methods for AFBI require trained personnel, a laboratory environment, expensive equipment and often several hours or days in analytical time, whereas with the FTRTest kit no training is required, screening takes ten minutes and can be done in processing plants, claims Euro-Diagnostica.

The company said the detection kit, which conforms to EU regulations, is self-contained, and thus no additional equipment is required, and it also enables visual evaluation of the results.

The FTRTest is based on a precise and highly sensitive assay that can detect AFB1 in cereals, nuts, spices and their derived products with sensitivities down to the EU stipulated limit of 2 parts per billion (ppb), said the firm.

Food samples are prepared for analysis by simply shaking the sample by hand in the presence of an extraction solution.

The company also provides FTRT tests for other mycotoxins such as Ochratoxin A, and Zearalenone.