



CATALYST FOR SUCCESS

➔ AFLATOXINS

TOXINS IN PEANUTS, VEGETABLE MATTER, AND MILK

Aflatoxins occur naturally in peanuts, peanut meal, cottonseed meal, corn, dried chili pepper, etc. However, the growth of mold does not always indicate the presence of toxin since the yield of Aflatoxins is dependent on growth conditions such as moisture, temperature, and aeration. The Aflatoxins are characterized as B for blue fluorescence and G for green fluorescence. The numerical subscripts indicate relative chromatographic mobility. Besides the toxins commonly found in vegetable matter (B1, B2, G1, and G2), Aflatoxins M (for milk) are found in milk of cows fed toxic meals. The highly toxic M metabolites are 4-hydroxylated Bs.

The most important feature of the post-column method described here is that all four Aflatoxins are detectable at the same fluorescence emission wavelength in a single run. The Pickering Pinnacle PCX with a 1.4 mL reactor is recommended for this method.

METHOD

Analytical Conditions

Column: MYCOTOX™ column, Catalog No. 1612124

Temperature: 42 °C

Flow Rate: 1.0 mL/min

Mobile Phase: MeOH, CH₃CN, H₂O; 22:22:56, Isocratic

Post-column Conditions

Post-Column System: Pinnacle PCX with 1.4 mL reactor

Temperature: 95 °C

Reagent: I2 100 mg/L in water

Flow Rate: 0.31 mL/min

Detection: Fluorometer, Xenon lamp

λ_{ex} : 365 nm, λ_{em} : 430 nm

REFERENCES

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