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アプリケーションノート

Aflatoxins in Peanuts

YU Yanbin, WAN Shuwei, TAN Peigong, WANG Xiaogang, MIAO Zaijing

Ministry of Agriculture, Qingdao, Environmental Protection Agency, Qingdao, Waters Corporation

This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This application brief describes the analysis of alfatoxins in peanuts.

Introduction

This application brief describes the analysis of alfatoxins in peanuts.

Experimental

Pretreatment

1. Add 5 g of sodium hydroxide to 20 g of homogenized sample, followed by 30 mL of n-hexane.

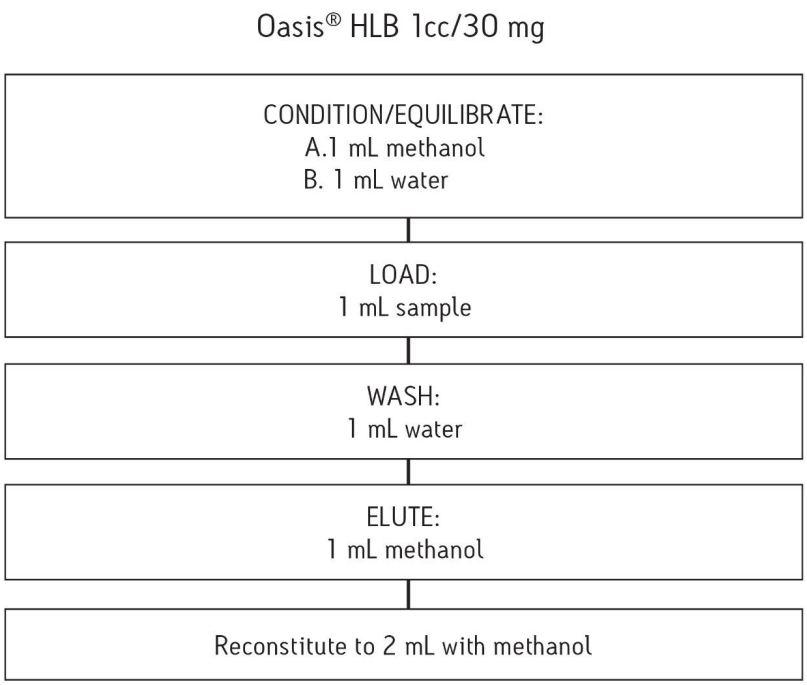
2. Add 100 mL 60% aqueous methanol and homogenize.

3. Ultrasonicate for 30 minutes.

4. Filter sample through 15 cm filter paper.

5. Take 1 mL aliquot from 60% methanol layer for SPE cleanup.

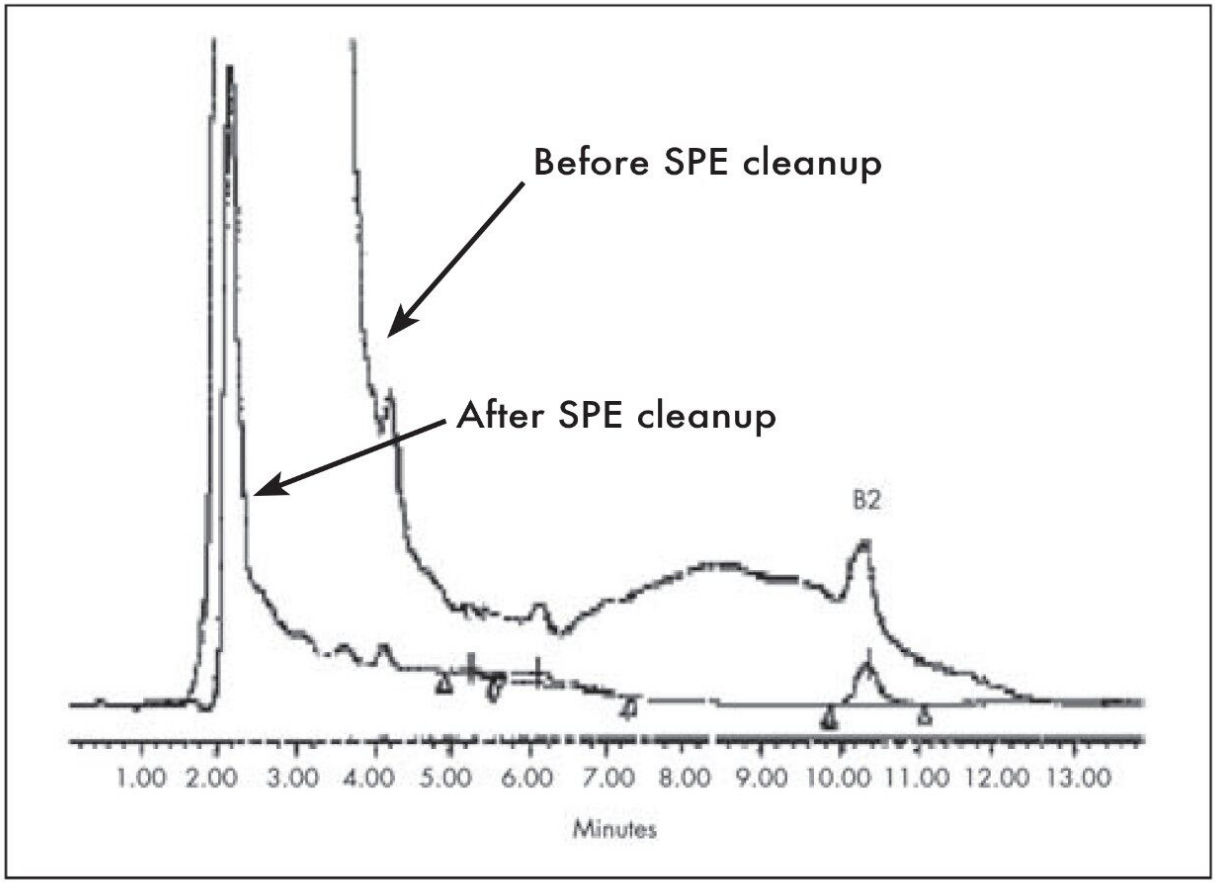
SPE Procedure



LC Conditions

Instrument:	Alliance HPLC 2695 System
Column:	Symmetry Shield RP18, 4.6 x 150 mm, 5 µm
Flow rate of iodine:	0.2 mL
Flow rate:	1 mL/min
Mobile phase:	A. methanol B. water
Isocratic gradient:	35% A: 65% B, for 20 minutes
Column temperature:	30 °C
Derivatization temp.:	80 °C
Excitation wavelength:	365 nm
Emission wavelength:	455 nm
Post-column derivatizaton reagent:	Dissolve 200 mg iodine in 10 mL methanol, top up 1000 mL with water
Detector:	2475 Multi Wavelength Fluorescence

Results and Discussion



Matrix interference is greatly reduced when sample is cleaned up by using Oasis HLB SPE cartridge.

Analyte	Recovery %	Detection (p/µg kg)
Aflatoxin G2	101± 7.18	0.11
Aflatoxin G1	72.8±3.63	0.20
Aflatoxin B2	97.5±5.48	0.12
Aflatoxin B1	68.8±5.48	0.24

Results of B1, B2, G1, G2 in peanuts (n=5)

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