CERTIFICATION

AOAC Research Institute

Performance Tested Methods℠

Certificate No.

081003

The AOAC Research Institute hereby certifies the method known as

Aflatoxin Plate Kit

manufactured by

Beacon Analytical Systems, Inc.
82 Industrial Park Road
Saco, Maine 04072 USA

This method has been evaluated and certified according to the policies and procedures of the AOAC *Performance Tested Methods*℠ Program. This certificate indicates an AOAC Research Institute Certification Mark License Agreement has been executed which authorizes the manufacturer to display the AOAC Research Institute *Performance Tested Methods*℠ certification mark on the above-mentioned method for the period below. Renewal may be granted by the Expiration Date under the rules stated in the licensing agreement.

Bradley A. Stawick, AOAC Research Institute Senior Director

Issue Date	November 08, 2026
Expiration Date	December 31, 2027

METHOD NAME	CATALOG NUMBER	ORIGINAL CERTIFICATION DATE
Aflatoxin Plate Kit	20-0017	August 23, 2010

PRINCIPLE OF THE METHOD

The Beacon Aflatoxin kit is a competitive enzyme-labeled immunoassay. Aflatoxin is extracted from a ground sample by blending with methanol/water. The extract is filtered, diluted and tested in the immunoassay. Aflatoxin-HRP enzyme conjugate is pipetted into the test wells followed by calibrators or sample extracts. Following, aflatoxin antibody is pipetted into the test wells to initiate the reaction. During a 10-minute incubation period, aflatoxin from the sample and aflatoxin-HRP enzyme conjugate compete for binding to aflatoxin antibody which, in turn, binds to the test well. The test wells are coated with a goat anti-rabbit IgG antibody. Following this incubation, the contents of the well are decanted, and the wells are washed to remove any unbound toxin or enzyme-labeled toxin. Subsequently, a clear substrate is added to the wells, and any bound enzyme-toxin conjugate causes the conversion to a blue color. After a second 10-minute incubation, the reaction is stopped and the amount of color in each well is read. The color of unknown samples is compared to the color of the calibrators, and the aflatoxin concentration of the samples is derived.

CERTIFIED CLAIM STATEMENT: The Aflatoxin Plate Kit is certified for the determination of total aflatoxins (including aflatoxin B_1, aflatoxin B_2, aflatoxin G_1 and aflatoxin G_2) within the scope of Tables 1 and 2.

Table 1. Method performance claims

				Performance supporting certification			
Matrix	Test portion	Extraction solvent	Range, µg/kg	LOD, µg/kg	LOQ, µg/kg	Recovery, %	RSDr, %
Peanut	50 g	80:20 MeOH/Water	5-48	0.56-1.3	1.7-3.9	73.0-122	4.47-21.4
Corn	50 g	80:20 MeOH/Water	5-112	0.39	1.2	71.9-101[a]	6.15-15.4[a]

[a] Data reflect intermediate precision and recovery.

Table 2. Method selectivity

Compounds	Concentration	No. target compounds reacting
4 target aflatoxins[a]	5 µg/kg	4[b]

[a] Comprising aflatoxin B_1, aflatoxin B_2, aflatoxin G_1 and aflatoxin G_2

[b] Reactivities were aflatoxin B_1 (100%), aflatoxin B_2 (8%), aflatoxin G_1 (24%) and aflatoxin G_2 (6%)

Table 3. Method history

No.	Date	Summary	Supporting data
1	August 2010	Original Certification	Certification Report