

RIDA QUICK AFLATOXIN
TEST METHOD

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GENERAL INFORMATION

The RIDA Quick Aflatoxin Test method, product number R503C uses lateral flow test strip technology (immunoassay) that provides qualitative aflatoxin test results at a 20 ppb detection threshold for corn only.

The instructions presented in this document cover only the procedure for performing the analytical test for official inspections. For questions regarding this procedure, contact Dr. Ajit Ghosh of the Technology and Science Division by phone at 816-891-0417 or email at Ajit.K.Ghosh@usda.gov.

Refer to the current policies and/or instructions issued by the Policies, Procedures, and Market Analysis Branch (PPMAB) of the Field Management Division for information on use of this test kit in official inspections including sampling, general sample preparation (e.g., grinding and dividing), reporting and certification of test results, laboratory safety, and hazardous waste management. For questions regarding these policies and/or instructions, contact Patrick McCluskey of PPMAB by phone at 816-659-8403 or email at Patrick.J.McCluskey@usda.gov.

Approved Test Kit Information	
Test Kit Vendor:	R-Biopharm Inc. 1-636-667-4028
Test Kit Name:	RIDA Quick Aflatoxin Test
Product Number:	R503C
Effective Date of Instructions:	07/15/2015
Instructions Revision Number:	0
Type of Service:	Qualitative
Detection Threshold	20 ppb
Supplemental Analysis:	No
Approved Commodities:	Corn only
Extraction Method:	70% Methanol / 30% water (distilled or deionized)
Test Format:	Lateral Flow Strip
Detection Method:	Visual

EXTRACTION PROCEDURES

1. Extraction procedures for Corn.
 - a. Transfer 50 grams (± 0.2) of ground sample into a clean extraction mixing jar.
 - b. Add 100 mL of the (70/30) methanol/water extraction solvent.
 - c. Cover the extraction jar and shake by hand or mechanical shaker with similar shaking motion for 1 minute.
 - d. Allow sample to settle for 1 minute.
 - e. In a centrifuge or suitable tube, dilute sample extract with distilled or deionized water at a 1 to 1 ratio (1 mL extract + 1 mL distilled or deionized water). This is a 1:1 ratio.
 - f. This is the diluted sample extract for testing.

TEST PROCEDURES

1. Aflatoxin Test Cassette Assay.
 - a. Allow the aflatoxin test cassette, and grain extract to equilibrate to room temperature before conducting any testing. Temperature variation can affect test results.
 - b. Remove a test cassette from the foil pouch. Do not use if foil pouch seal is not intact.
 - c. Label the cassette in the designated area.
 - d. Using a fixed 150 μ L pipettor (precision type), pipette 150 μ L of 1:1 diluted sample extract to the sample area of the RIDA Quick Aflatoxin Test cassette.
 - e. Read test results after 3 minutes as explained below in the Interpretation of Results section.

INTERPRETATION OF TEST RESULTS

Development of a Control Line within 3 minutes indicates that the aflatoxin test cassette has functioned properly. Any test cassette that does not develop a Control Line is invalid, and should be discarded. See visual examples below (Figures 1 & 2).

1. Negative Result.

A sample containing aflatoxin residues less than or equal to 20 ppb will develop 2 distinct lines, the Control Line and the Test Line, in the test area.

2. Positive Result.

A sample containing aflatoxin residues in excess of 20 ppb will develop 1 distinct line, the Control Line, and **No** test line.

Figure 1: Positive Result - Aflatoxin Level greater than 20 ppb. Lower Aflatoxin levels produce test line of increasing intensity

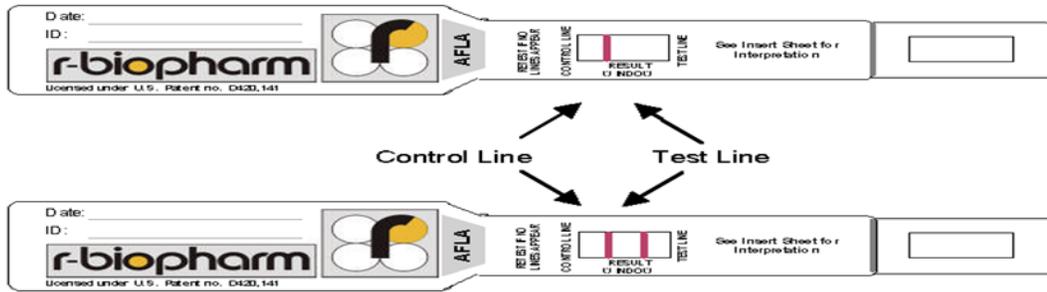


Figure 2: Negative Result - Aflatoxin Level less than 20 ppb

<u>Control Line</u>	<u>Test Line</u>	<u>Interpretation</u>
Control Line Present	Test Line Present	Negative
Control Line Present	No test line	Positive
Test is invalid if no Control Line is visible.		

REPORTING AND CERTIFYING TEST RESULTS

Refer to the current instructions issued by the Policies, Procedures, and Market Analysis Branch of the Field Management Division for reporting and certification of test results. For questions regarding these instructions, contact Patrick McCluskey (816-659-8403 or Patrick.J.McCluskey@usda.gov).

EQUIPMENT AND SUPPLIES

1. Materials Supplied in Test Kits.
 - a. Aflatoxin Test Cassette, sealed in individual foil pouch.
 - b. Package insert sheet.
2. Materials Required but not Provided.
 - a. 150 mL extraction jars, Graduate cylinder.

- b. Methanol reagent grade or better, Deionized or Distilled Water.
- c. Timer, 150 μ L pipettor or equivalent, Disposable pipette tips.
- d. 500 μ L pipettor or equivalent.
- e. 1 L bottle.

STORAGE CONDITIONS

- 1. Storage Conditions.
 - a. Test kits should be stored at room temperature between 15 to 30° C (64 - 86° F), or refrigerated between 2 to 8° C (36 - 46° F). The test strip and grain extract should be at room temperature before use.

REVISION HISTORY

Revision 0 (07/15/2015)