



GOVERNO DO ESTADO DE SÃO PAULO
SECRETARIA DE AGRICULTURA E ABASTECIMENTO
AGÊNCIA PAULISTA DE TECNOLOGIA DOS AGRONEGÓCIOS
INSTITUTO DE TECNOLOGIA DE ALIMENTOS

ANALYSIS REPORT: **MB 6045/06**
DATE OF ISSUANCE: **10/13/06**
LATERAL FLOW DEVICE: **QuickTox™ Kit for aflatoxin bulk grain AS101BG (Lot 93555)**
INTERESTED PARTY: **EnviroLogix Inc**
ADDRESS: **500 Riverside Industrial Parkway, Portland, Maine 04103, USA, www.envirologix.com**
DATE OF ANALYSIS: **07/01/06**
NATURE OF ANALYSIS: **Performance test for aflatoxin kit**
ANALYSTS: **Hector Abel Palacios Cabrera Ph.D, Beatriz Thie Iamanaka M.A.**

1. METHODOLOGY

1.1 Sample preparation

Tests were carried out with corn. Sample was ground to approximately 1mm particle size, corresponding to 16mesh (sieve n°18).

1.2 Extraction method

Kits were operated according to the manufacturer's instructions. 50g were extracted with 100mL of 70% methanol in shaker for 2min. An aliquot of 150µL of top layer solution was transferred to the sample vial and diluted with 150µL of water. Tests were carried out in duplicate.
For the ruggedness assays, half of the sample amount was used (25g).

1.3 Interpreting the results

The strips were put inside the vial for 5min and the final assay interpretation was read.

2. RESULTS

2.1 Spiked samples-corn

Samples were spiked with aflatoxin B₁ standard at different levels and the results are shown in Table 1. Control samples were carried out in parallel.

Levels B ₁ (µg/kg)	Corn		
	1	2	control
3,8	-	-	-
15,2	+	+	
38,1	+	+	

2.1.1 Ruggedness

For ruggedness tests half of the sample amount was used with respective dilution. The results are shown in Table 2.

Levels B ₁ (µg/kg)	25g/50mL		control
	1	2	
3,8	-	-	-
15,2	+	+	
38,1	+	+	



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3. COMMENTS

- The extraction method was simple and very accessible, and no sophisticated instruments were necessary to carry out the analyses.
- No effect on the performance was noted using 25g of sample. It was shown that it is possible to use a smaller amount of sample when necessary.
- The strips were capable of detecting aflatoxins in corn in contaminated samples with more than 20µg/kg as the manufacturer declares. Positive results were checked in samples containing less than 20µg/kg (15,2µg/kg). In this case the manufacturer also recommends the use of another quantitative method.
- In this new strip design was seen an improvement in line intensity, and the correlation with the concentration of aflatoxin B₁ in the sample was positive; that is, negative samples showed two strong lines in a short time.

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