

Deoxynivalenol (Vomitoxin) Test

Cat. No.:DTS436

Pkg.Size:

Intended use

CD Deoxynivalenol Rapid Test is a competitive immunoassay for the semi-quantitative detection of the presence of Deoxynivalenol in grain or feed.

General Description

Deoxynivalenol (DON, vomitoxin) is a type B trichothecene, an epoxy-sesquiter-penoid. This mycotoxin occurs predominantly in grains such as wheat, barley, oats, rye, and maize, and less often in rice, sorghum, and triticale. The occurrence of deoxynivalenol is associated primarily with *Fusarium graminearum* (*Gibberella zeae*) and *F. culmorum*, both of which are important plant pathogens which cause *Fusarium* head blight in wheat and *Gibberella* ear rot in maize. A direct relationship between the incidence of *Fusarium* head blight and contamination of wheat with deoxynivalenol has been established. The incidence of *Fusarium* head blight is strongly associated with moisture at the time of flowering (anthesis), and the timing of rainfall, rather than the amount, is the most critical factor. *F. graminearum* grows optimally at a temperature of 25 °C and at a water activity above 0.88. *F. culmorum* grows optimally at 21 °C and at a water activity above 0.87. The geographical distribution of the two species appears to be related to temperature, *F. graminearum* being the commoner species and occurring in warmer climates. Deoxynivalenol has been implicated in incidents of mycotoxicoses in both humans and farm animals.

Principle Of The Test

CD Deoxynivalenol Test is based on competitive lateral flow immunochromatographic assay. The DON conjugate in the test zone will capture the immuno-gold (colloid gold-DON antibody conjugate), when there is very little dissociative DON in the extraction. A visible red test band indicates a negative result when the control band (C zone) shows that the card is valid. The test band (T zone) will be not visible if DON is present in concentration of the cut-off value and above which explains a positive result.

Reagents And Materials Provided

10× foil pouches each contains one DON cassette with a pipette and a desiccant
1×concentrated assay diluent (20×, 8mL)
2×centrifugal tube (15 mL)
Product Manual

Storage

The kit can be stored at room temperature (2-30°C). The test kit is stable through the expiration date (18 months) marked on the foil pouch. DO NOT FREEZE. Do not store the test kit in direct sunlight.

Assay Procedure

- 1.Assay diluent preparation: dilute 20 × concentrate with distilled water (i.e. 1 mL + 19 mL). In case of precipitates, bring the diluents to room temperature and mix well into solution.
- 2.Grind a representative sample to the particle size of fine instant coffee (50% passes through a 20 mesh screen). Weigh out 1.0

g ground portion of the sample into the centrifugal tube (15 mL).

3. Add assay diluent into the tube and cover the lid. Shake for 5 min and do a centrifugation at 4000 rpm for 1 min. Use the supernatant in the assay. NOTE: Please refer to below table for the amount of applied assay diluent.

Cut-off (ppb) 200 500 1000

Assay Diluents (mL) 2.0 5.0 10.0

4. Take out the cassette from the foil pouch and place it horizontally.

5. Suck the liquid and drop 3 drops into the assay sample hole "S".

6. Interpret the result in 3-5 minutes. Result after 5 minutes is considered as invalid.

Interpretation of Results

Positive: Only one clear band in C zone indicates a positive result. The concentration of Deoxynivalenol will be determined by the amount of assay diluent added as per table.

Negative: The presence of both bands in C zone and T zone.

Invalid: No band appears in C zone.

Precautions

For best results, please strictly adhere to these instructions.

All reagents must be at room temperature before running the assay.

Do not remove test cassette from its pouch until immediately before use.

Do not reuse the test kit.

Do not use the test beyond its expiration date marked on the foil pouch.

The components in this kit have been quality control tested as standard batch unit. Do not mix components from different lot numbers.

Limitations

CD Deoxynivalenol Test is a useful tool offering a rapid and accurate testing in field screening, exceeding with its convenience. It provides a semi-quantitative method to detect the Deoxynivalenol above 200 ppb in grain or feed. If you want a quantitative result, please adopt other methods such as ELISA/HPLC in practice.