

**EZtest™ ZEN Strip for Quantitative Detection of  
Zearalenone (Wheat)**  
(Zearalenone may induce fertility disorders)

**EZtest™ Strip-104W MANUAL**  
(v. 1.00)



## INTRODUCTION

Mycotoxin zearalenone (ZEN) is formed by fungi of the genus *Fusarium*. Zearalenone is a phytohormone which displays, apart from its anabolic properties, mainly estrogenic effects. Because of its estrogenic properties, zearalenone may induce fertility disorders in animals with clinical signs of hyperestrogenism-an aspect of a disease which although reported mainly in hogs, is described in other species such as cow, horse and sheep, too. The potential health risk for human induced by this mycotoxin, which is taken up with foods of vegetable or animal origin, is extensively discussed. Recently, there have been reports of zearalenone contamination in corn, oats, barley, wheat, and grain sorghum.

## 1 INTENDED USE

EZtest™ ZEN strip is lateral flow immunochromatographic assay based on a competitive immunoassay format. With EZtest™ Stripreader, it measures 10ppb-100ppb of zearalenone in wheat.

## 2 KIT CONTENTS

- 1) EZtest™ ZEN strips (25/pk)
- 2) Dilution buffer (10ml)
- 3) 1.5ml Strip Test Vial (50)
- 4) 1ml Pipette Tip (25)
- 5) 200µl Pipette Tip (50)
- 6) Calibration RFID card
- 7) Manual

### Materials required but not provided:

- 1) 200 and 1000µl precision micropipette
- 2) EZtest™ Stripreader (with ZERO card)
- 3) Vortex mixer
- 4) Multi-purpose rotary mixer
- 5) Timer

- 6) Incubator (37°C)
- 7) Weigh scale
- 8) Distilled water or pure water
- 9) Extraction solution: Methanol+Water(70+30)
- 10) Funnel
- 11) Filter paper
- 12) 50mL Extraction tube

### **3 PREPARATION**

- 1) Store test kits at 4~8°C (39~42°F) when not in use, and do not use beyond the expiration date.
- 2) Keep from moisture, and do not use the damaged and damp kits.
- 3) All reagents must be at room temperature before assay is running.
- 4) Do not re-use test strips.
- 5) Avoid swallowing the desiccant.

### **4 SAMPLE PREPARATION**

- 1) Grind samples of wheat to pass a 20 mesh sieve and thoroughly mix prior to sub-sampling. Samples not being immediately analyzed should be stored refrigerated.
- 2) Weigh 5.0 g ground sample and transfer to a 50mL Extraction tube.
- 3) Add 20 mL 70% Methanol/water to the Extraction tube.
- 4) Mix it with rotary mixer for 5 minutes.
- 5) Filter 1-5 mL through a paper filter and transfer 100µl of extract to a 1.5ml Strip Test Vial.
- 6) Dilute 100µl of extract with 400µl of dilution buffer, and mix thoroughly with vortex mixer for 10 seconds.

### **5 TEST PROCEDURE**

- 1) Please read the manual carefully before assay is running.
- 2) All reagents and kit components must be at room temperature 18-30°C (64-86°F) before use.
- 3) Calibrate zero for EZtest™ Stripreader with ZERO card.
- 4) Calibrate EZtest™ Stripreader with RFID card.
- 5) Remove strip sealer, and take out the test strip on a flat surface (such as a countertop).

- 6) Add 100µl of the sample extracts to the circular opening of strip.
- 7) Put the test strip in Incubator (37 °C) to develop color for 15 minutes.
- 8) Put the test strip into the EZtest™ Stripreader, and the result can be read immediately.

## 6 INTERPRETATIONS OF THE RESULTS

- 1) Test range: 10 ppb-100ppb.
- 2) If there is no line in control zone, the test is invalid and the sample should be re-tested by using a valid test strip.

## 7 Contact Information

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