QuickTox™ Kit for DON (Deoxynivalenol) at 0.5 ppm, 1 ppm, or 2 ppm
Wheat, Corn & Barley

Catalog Number AS 204 BG

Highlights:
- *Results in 5 minutes*
- *Simple protocol – no solvents*
- *Multiple detection levels – one sample prep*

Contents of Kit:
- *50 QuickTox Strips packed in a moisture-resistant canister*
- *50 reaction vials*
- *50 large transfer pipettes marked for 1 mL*
- *50 small fixed-volume pipettes, 150 µL*
- *Dilution Buffer*

Items Not Provided:
- *Plastic sample cups with lids**
- *Graduated cylinder**
- *Timer*

** Available as accessories through EnviroLogix – see list on Page 3*

Place 10 grams of sample into cup

Add water and shake vigorously for 30 seconds, allow to settle

Intended Use

The QuickTox Kit for DON (deoxynivalenol, vomitoxin) is designed to quickly extract and screen wheat, corn and barley for the presence of deoxynivalenol residues. This Kit will provide a qualitative screen for deoxynivalenol residues at any of three cutoff levels in bulk grain samples: 0.5 ppm, 1 ppm, and 2 ppm.

How the Test Works

A composite grain sample is first collected, then extracted to solubilize any deoxynivalenol present. Each sample should be ground to a fineness of at least 20 mesh and extracted with tap water. This extract is further diluted in the Dilution Buffer provided for testing with the QuickTox Kit.

Each QuickTox Strip has an absorbent pad at each end. The protective tape with the arrow indicates which end of the strip to insert into the reaction vial. The sample extract travels up the membrane strip and is absorbed into the larger pad at the top of the strip. The portion of the strip between the protective tape and the absorbent pad at the top of the strip is used to view the reactions as described under "Interpreting the Results."

Preparation of the Sample

Step 1: Determine Number and Size of Sub-samples

1. Collect a composite sample according to your own sampling plan or USDA/ GIPSA guidelines. Consult USDA/GIPSA reference documents such as **http://archive.gipsa.usda.gov/reference-library/handbooks/grain-insp/grbook1/bk1.pdf** to help design a plan that fits your needs.

2. Grind samples using a mill which provides a sample that passes through at least a 20 mesh sieve. Mix ground material thoroughly before sub-sampling.

Step 2: Extract sample

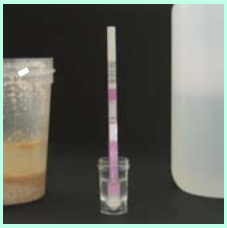
1. Weigh 10 grams of milled sample into a disposable sample cup with lid and add 50 mL of room temperature tap water. For samples larger than 10 grams, add five volumes of room temperature tap water; e.g., for 50 grams, add 250 mL.

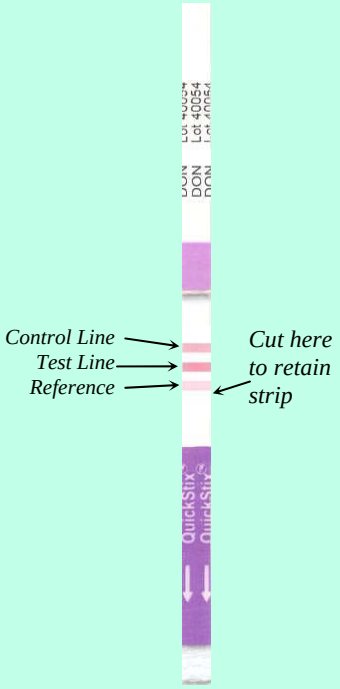
2. Cap sample cup tightly and shake vigorously by hand for 30 seconds. Ensure that entire sample appears completely wet and thoroughly mixed.

3. Allow sample to settle until 2 distinct layers are visible and fine particles are mostly settled (1-3 minutes, depending on grind). The top layer containing the DON residues will be used in testing.

Add Dilution Buffer to vial


Add extract and mix


Place strip in vial



Step 3: Dilute extract with Dilution Buffer (select screening level)

	0.5 ppm	1.0 ppm	2.0 ppm
1.	Using a transfer pipette, place **0.25 mL Buffer** into reaction vial.	Using a transfer pipette, place **0.5 mL Buffer** into reaction vial.	Using a transfer pipette, place **1 mL Buffer** into reaction vial.

Note: The transfer pipette has marks showing 0.25, 0.5 and 1 mL. Read instructions on page 4 in "Precautions and Notes" to familiarize yourself with its use.

2. Using the fixed-volume pipette, transfer **150 µL** from the top layer of sample into reaction vial containing Buffer. Avoid particulates.

   Note: The fixed-volume pipettes are provided to ensure the correct volume of test sample is added. Read instructions on page 4 in "Precautions and Notes" to familiarize yourself with its use.

3. Mix Buffer and sample extract thoroughly by stirring with the tip of the pipette.

NOTE: Pipette with care to avoid contamination and ensure correct volumes are used to prepare the test samples. Do not reuse diluted samples. Use a new disposable transfer pipette, fixed-volume pipette, and reaction vial for each sample.

How to Run the QuickTox Strip Test

***Note:** Allow QuickTox Strips and Dilution Buffer to warm up to room temperature before preparing samples.*

1. Be sure refrigerated canisters are at room temperature before opening. Remove the QuickTox Strips to be used. Avoid bending the strips. Reseal the canister immediately.

2. Place the strip into the reaction vial containing the diluted sample extract. The arrow tape on the end of the strip should point into the reaction vial.

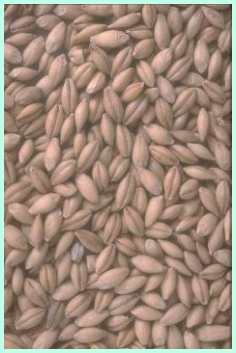
3. The diluted sample extract will travel up the strip. Reaction vials will stand on their own or may be inserted into the cardboard rack provided.

4. Allow the strip to develop for 5 minutes before making final assay interpretations. Strips should be read **promptly at 5 minutes** while wet.

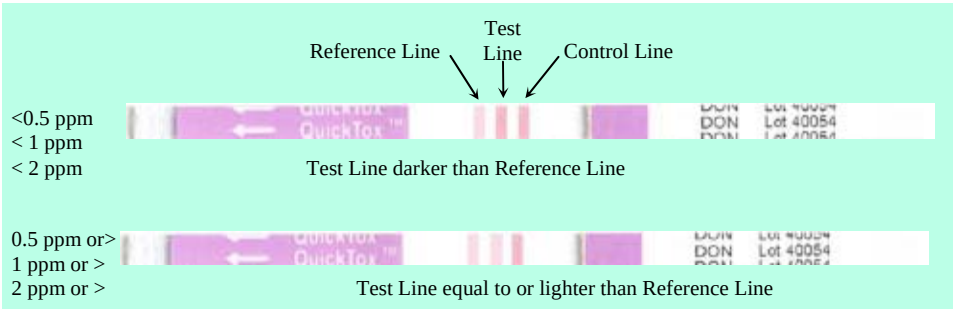
5. To retain the strip, cut off the strip immediately below the bottom line (as indicated below). Discard the bottom section of the strip covered by the arrow tape.

Interpreting the Results

The QuickTox Strip for DON has three lines. The top line is a Control Line that develops a signal indicating the test is functioning properly. The bottom line is a Test Reference Line. The Reference Line intensity will match the intensity of a Test Line meeting the selected screening level. The middle line is the Test Line and is compared to the bottom Reference Line. Results are invalid if either the Reference Line or Control Line fails to develop.



Results Guide:



If the middle Test Line color intensity is:	***Screening at 0.5 ppm***	***Screening at 1.0 ppm***	***Screening at 2.0 ppm***
Darker than the (Bottom) Reference Line	less than 0.5 ppm	less than 1 ppm	less than 2 ppm
Equal to or lighter than the (Bottom) Reference Line	0.5 ppm or greater	1 ppm or greater	2 ppm or greater

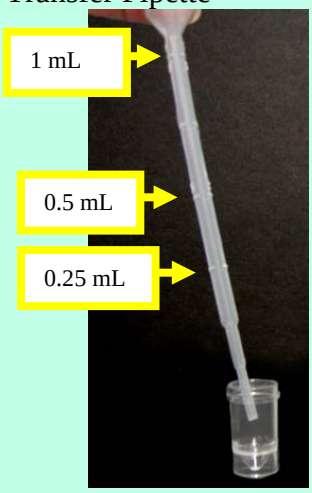
Kit Storage

This QuickTox Kit should be stored refrigerated. Note the shelf life on the kit box. The kit may be used in field applications; however, prolonged exposure to high temperatures may adversely affect the test results. Do not open the desiccated canister until ready to use the strips.

Precautions and Notes

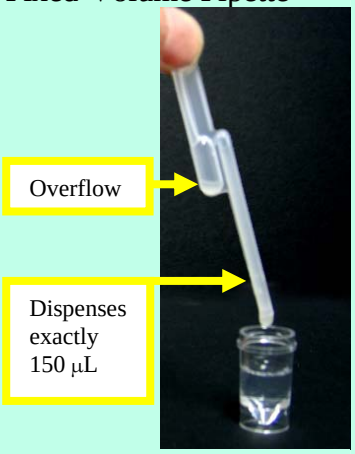
- This kit is designed to screen for presence or absence only (at the selected cutoff levels), and is not designed to be quantitative.
- This product is currently not applicable for use in testing crops other than those listed in the Intended Use section.
- As with all screening tests, it is recommended that results be confirmed by an alternate method when necessary.
- The assay has been optimized for use with the protocol provided in the kit. Deviation from this protocol may invalidate the results of the test.
- The results generated through the proper use of this diagnostic tool reflect the condition of the working sample directly tested. Extrapolation as to the condition of the originating lot, from which the working sample was derived, should be based on sound sampling procedures and statistical calculations which address random sampling effects, non-random lot sampling effects and assay system uncertainty. A negative result obtained when properly testing the working sample does not necessarily mean the originating lot is entirely negative for the analyte in question.
- Results should be read promptly at 5 minutes. Results read beyond this time may be less reliable.
- Protect all components from hot or cold extremes of temperature when not in use. Do not leave in direct sunlight or in vehicle.

Transfer Pipette



- To use large disposable transfer pipettes:
  - Squeeze bulb tightly and insert tip in the Dilution Buffer
  - Release pressure to draw liquid up past the 1 mL mark
  - Squeeze carefully to expel excess Buffer back into the bottle so that the liquid left in the pipette is at the required mark (1.0 mL, 0.5 mL or 0.25 mL)
  - Move the pipette over to the reaction vial and expel the Buffer.

Fixed-Volume Pipette



- To use small fixed-volume pipettes:
  - Holding the top bulb, insert the tip into the liquid, pinch tightly, and release. This will draw up liquid. Be sure it fills the straw end—any excess will be retained in the lower bulb.
  - Squeeze top bulb again to expel the liquid—exactly 150 µL will expelled into the reaction vial. Do not reuse.

- For convenience, some accessories can be ordered through EnviroLogix (see list below).

Optional Items Available:

- Graduated cylinder ACC 023
- Set of 50 sample cups with caps ACC 012

For Technical Support Contact Us At:

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Patent Pending

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