Glyphosate in Eggs, Liquid and Powdered, Sample Preparation for Strip Test

1. Intended Use
For the detection of Glyphosate in Eggs (liquid or powdered).

2. Sensitivity
5 ppb in Matrix

3. Materials and Reagents Required
Analytical Balance
Disposable spatulas
15 mL plastic centrifuge tubes or equivalent
Formic Acid and appropriate sized bottle for dilution
Deionized water
Serological pipette or graduated cylinder
Rotator and/or shaker
Micropipettes with disposable plastic tips
Microcentrifuge tubes, 2 mL
Microcentrifuge capable of 8,000 x g
Timer
ABRAXIS® Glyphosate Strip Kit (PN 500095 [20T]; PN 500098 [5T])
Disposable pipettes (optional)
Vortex mixer (optional)

4. Notes and Precautions
This procedure is intended for use with egg samples. Other matrices should be thoroughly validated before use with this procedure.

- When using micropipettes with disposable plastic tips, before dispensing any volume of liquid, condition each pipette tip by drawing the liquid in and out of the tip 3 times before the final dispense. This will ensure that an accurate volume is transferred.
- Liquid egg samples should be vigorously mixed until visually homogenous before analysis to ensure accurate results.

NOTE: Handle formic acid in a fume hood: DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. INHALATION MAY CAUSE LUNG DAMAGE. VAPOR IS IRRITATING TO EYES AND RESPIRATORY TRACT. COMBUSTIBLE LIQUID AND VAPOR.

- Sample preparation requires centrifugation, however syringe filters can be used in place of centrifugation. Contact Gold Standard Diagnostics to inquire about this sample preparation method.

5. Sample Preparation Procedure
5.1 For this procedure, 0.1% Formic Acid is used for the extraction of Glyphosate from egg samples. To prepare a volume of 0.1% Formic Acid sufficient for 20 samples, add 250 µL of Formic Acid to 250 mL of deionized water. Mix thoroughly. Formic acid should be prepared fresh daily.
5.2 Add 1 mL of sample, for liquid egg sample, or 1 g of powdered egg sample, into appropriately labelled bottles or vials.
5.3 For liquid samples, dispense 9 mL of 0.1% Formic Acid into each vial. For powdered samples, dispense 10 mL of 0.1% Formic Acid into each vial. Shake or vortex powdered samples until no dry areas are visible.
5.4 Place samples on rotator for 10 minutes at 40 rpm.

Note: Ensure that powdered egg samples are thoroughly mixed within the bottle as the rotator turns and

are not congealed at the bottom or sides of the bottle.

5.5 After 10 minutes, remove samples from the rotator and transfer 2.0 mL of extract to an appropriately labelled microcentrifuge vial. Centrifuge for 5 minutes at ≥ 8000 x g.

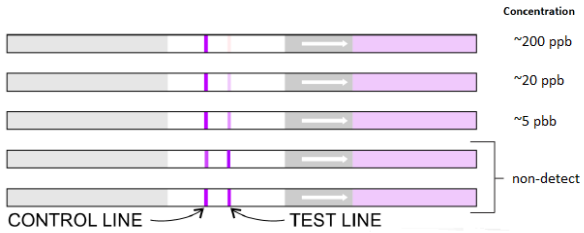
5.6 Make sure the centrifuge is properly balanced. Using the supernatant as the sample, being careful not to disturb the pellet formed at the bottom of the tube, immediately proceed to analyzing with the ABRAXIS® Glyphosate Strip Test, see Sections E (Test Preparation) and F (Testing of Samples) in the ABRAXIS® Glyphosate Strip Test Kit user's guide.

6. Evaluation of Results

Sample concentration is determined by comparison of the intensity of the test line to the intensity of the control line on the same test strip. Although control line intensity may vary, a visible control line must be present for results to be considered valid. Test strips with a test line that is darker than or of equal intensity to the control line indicates a result, which is below the limit of detection of the test. Test strips with a test line that is lighter than the control line indicates a result, which is between 5 ppb and 200 ppb. Test strips with a very faint test line or no test line visible indicates a result, which is > 200 ppb. Results should be determined within 5-10 minutes after completion of the strip test procedure. Determination made using strips that have dried for more or less than the required time may be inaccurate, as line intensities may vary with drying time.

Control Line	***Test Line***	***Interpretation***
No control line present	No test line present	Invalid result
Control line present	Very faint or no test line present	>200 ng/mL (ppb)
Control line present	Moderate intensity test line present	Between 5 and 200 ng/mL (ppb)

The appearance of test strips may also be compared to the illustration below to determine approximate sample concentration ranges. Please note that the illustration is intended for the demonstration of test line to control line intensity only. Results should not be determined by comparing the intensity of test lines from test strips to the test line intensity of the illustration, as the overall intensity of test strips may vary slightly with different lots of reagents. To obtain semi-quantitative results in the range of 5-200 ppb, solutions of known Glyphosate concentration (control solutions) must be tested concurrently with samples. Sample test line intensities can then be compared with control solution test line intensities, yielding approximate sample concentrations. Do not use strips run previously to determine semi-quantitative sample concentrations, as test line intensities may vary once strips are completely dry.



7. Performance Data

The ABRAXIS® Glyphosate Strip Test will detect in the range of 5 ppb or higher in egg samples due to the 10-fold dilution required for sample preparation. At this level, the test line exhibits moderate intensity. At levels greater than 200 ppb, the test line is faint or not visible.

8. For ordering or technical assistance contact

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Date this Technical Bulletin is effective: 13SEP2022 Version: 01