

AgraStrip[®] RUR TM Strip Test

Part Number 7120050



Intended Use

The intended use of the kit is the qualitative (yes/no) determination of denatured CP4 EPSPS protein in toasted soymeal samples. The AgraStrip[®] RUR TM Strip Test - Trait✓ has a detection limit of 0.9% RUR toasted soymeal in 10 minutes.

Product Description

The AgraStrip[®] RUR TM Strip Test - Trait✓ Lateral Flow Test Kits detect the CP4 EPSPS protein produced by a gene derived from *Agrobacterium* sp. strain CP4 which has been denatured in the processing of toasted soymeal. This gene has been incorporated into herbicide-resistant crops including Roundup Ready[®] brands (RUR) from Monsanto and other companies. The lateral flow strips and other kit components are sufficient to detect the presence or absence of the denatured CP4 EPSPS protein in both field and laboratory environments. This product application can screen for RUR toasted soymeal at specified levels.

Principle of the Assay

The assay uses a double antibody sandwich format. Antibodies specific to the denatured CP4 EPSPS protein are coupled to a color reagent and incorporated into the lateral flow strip. When the lateral flow strip is placed in a small amount of an extract from plant tissue that contains denatured CP4 EPSPS protein, binding occurs between the coupled antibody and the protein. A sandwich is formed with some, but not all the antibody that is coupled to the color reagent. The membrane contains two capture zones, one captures the bound denatured CP4 EPSPS protein and the other captures color reagent. These capture zones display a reddish color when the sandwich and/or unreacted colored reagents are captured in the specific zones on the membrane. The presence of only one line (control line) on the membrane indicates a negative sample and the presence of two lines indicates a positive sample.

Contents of Kit

	<u>Quantity</u>
AgraStrip [®] RUR TM Strip Test- Trait✓	100
Conical microtubes, 1.5mL (COOLS2005)	100
Transfer pipettes (COOLS2010)	100
RUR TM Extraction Buffer 10X Concentrate (7000029)	400mL

Materials Required but not Supplied:

Conical microtube rack (EQOLE1215)
Timer (EQOLE1301)
Graduated Cylinder, 50mL (EQOLE1051)
Balance, 400g (EQOLE1010)
Blender (110V: EQOLE1020; 220V: EQOLE1027)
Blender blade with gasket set (EQUOLE1026)

Storage and Preparation of Reagents

The AgraStrip® RUR TM Strip Test - Trait✓ can be stored at room temperature or refrigerated (2 - 25°C). Do not freeze. Once opened, the AgraStrip® RUR TM Strip Test - Trait✓ lateral flow test strips must be stored in the closed canister with the moisture-indicating card. The moisture-indicating card must be blue in color. If the moisture-indicating card is pink, contact Romer® Labs, Inc. Technical Service. Storage conditions higher than room temperature may adversely affect performance.

The Trait✓ RUR TM Extraction Buffer is shipped as a 10X Concentrate. Follow the procedure below to prepare the extraction buffer.

1. Shake the Trait✓ RUR TM Extraction Buffer Concentrate well before use.
2. Pour contents of a bottle of Trait✓ RUR TM Extraction Buffer into a cubitainer or other suitable container.
3. Add 3.6 liters of water to the Trait✓ RUR TM Extraction Buffer concentrate.
4. Mix well and label as Trait✓ RUR TM Extraction Buffer. Label buffer expiration as thirty (30) days from date of preparation. The Trait✓ RUR TM Extraction Buffer may be stored at room temperature.

Purpose

The AgraStrip® RUR TM Strip Test - Trait✓ Test Kit has been designed to screen bulk grain samples for the presence of the denature CP4 EPSPS protein. Sample preparation procedures are outlined below. Please refer to the instructions to be sure that all of the necessary materials are available prior to testing.

Sampling

The samples used for the AgraStrip® RUR TM Strip Test - Trait✓ Test Kit can be sub-samples of “representative samples” collected following GIPSA sampling procedures from trucks, railcars, barges, etc. for other tests.

Note: It is assumed that the samples collected are representative of the contents of the truck or container and are sufficiently mixed to contain a random distribution of the sample contents.

Sample Preparation: Processing the Sample

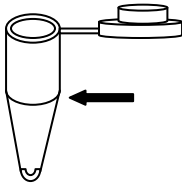
1. Weigh 50g sub-samples from each truck or container.
2. Place each sub-sample in a clean, **dry** 16 oz. polypropylene “Mason” jar.
3. Attach the jar adapter and clean, **dry** cutting blades.
4. Place the jar onto the food processor and grind the sample for 30 sec.
5. Remove the jar and adapter from the processor and shake to loosen ground meal.
6. Weigh 10g samples of each sample into a 50mL centrifuge tube.
7. Add 35mL of buffer to the ground meal in the tube.
8. Place a lid on the tube and shake the tube until all the ground meal is well wetted. Continue shaking an additional 30 sec.
9. Let the sample settle for about 5 minutes.
10. Use this sample extract for the Test Procedure.

Note: It is important to clean and dry the jars and cutting blades between samples.



Test Procedure

1. Transfer some liquid from the prepared sample to a conical microtube by squeezing the bulb of the transfer pipette and inserting it in the free liquid in the top of the sample jar.
2. Release the bulb to pull up the sample. Add the sample from the pipette to the sample tube by squeezing the bulb. This should be approximately 0.5 mL.



The sample tube has a 0.5-mL indicator at the top of the tapered section.

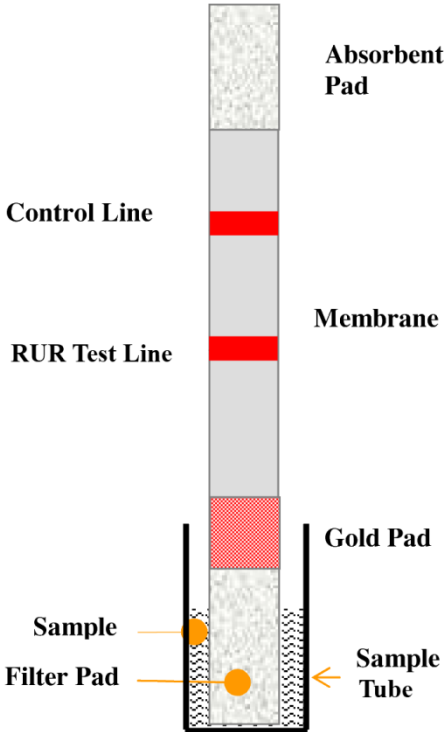
3. Place one AgraStrip® RUR TM Strip Test - Trait✓ Test Strip into the sample tube. Let sit for 10 minutes.
4. The appearance of **one line** (control) on the strip indicates a **negative** result.
5. The appearance of **two lines** on the strip indicates a **positive** result.

Interpreting the Lateral Flow Strip Test

Check the test strips 10 minutes after inserting the strip. At least one line, the Control Line, should always develop approximately one (1) cm up from the bottom sample pad. A red line in this position indicates that the strip is functioning properly. A red line appearing below the Control Line is the RUR Test Line and indicates a positive result for denatured CP4 EPSPS protein. If the test strip displays two (2) red lines, the test is complete and the sample is positive for the RUR trait. If at 10 minutes the test strip only shows a clearly visible Control Line, then the sample is negative for the RUR transgenic trait. If no control line develops, the result is inconclusive and needs to be repeated.

Note: Test strip results should be interpreted after 10 minutes. Test strips interpreted after 60 minutes are invalid. This protocol screens for the presence of RUR soybeans in toasted soymeal at the 0.9% threshold level. For testing at other thresholds greater than 0.9%, please contact Romer Labs, Inc. technical service.

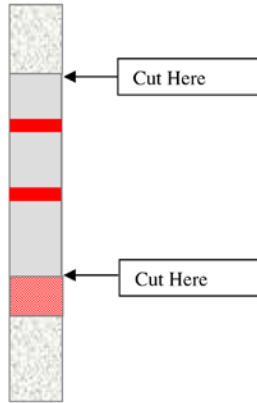
Illustration of Lateral Flow Strips



Example of an unreacted, negative (1-line) and positive (2-lines) test strip

Archiving Test Strips

If it is desired to archive test strip results, cut off the bottom and top strip pads as illustrated to the left within ten (10) minutes of test completion.



Equipment Cleaning and Drying

Caution: It is important to clean and dry the jars and cutting blades between samples.

1. The "Mason" jar should be emptied, rinsed thoroughly with water and completely dried with a paper towel between uses.
2. The cutting blades for the blender should be rinsed with water until **all ground corn** is removed, washed using standard household liquid soap, rinsed well and carefully dried. If available, spraying or rinsing with methanol or isopropyl (rubbing) alcohol will assist drying.



Exclusion of Warranty Statement

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