User Guide AgriStrip

Tomato spotted wilt virus (TSWV)

Intended use

This test is intended to detect Tomato spotted wilt virus (TSWV) in suspicious plant samples. The TSWV AgriStrip specifically reacts with TSWV (serogroup I within the genus Tospovirus). It further reacts weakly with GRSV and TCSV (serogroup II within the genus Tospovirus), but does not cross-react with INSV (serogroup III within the genus Tospovirus).

AgriStrip is based on lateral-flow immunochromatography and intended to screen suspicious plant samples for a specific pathogen on-site. Lines start developing after 1-2 minutes and reach maximum intensity after 10-15 minutes. Dried strips can be kept as a permanent record.

Kit Storage

Store kit components at 2-8°C. Exposure to ambient temperature (10-30°C) during transport and use in the field, does not affect the quality. Keep the container with the Agristrips always hermetically closed. Absorbed moisture by the strips can lead to poor results or even complete failure of the test.

Before use, allow all kit components to warm to room temperature (18-30 °C).

Test Procedure

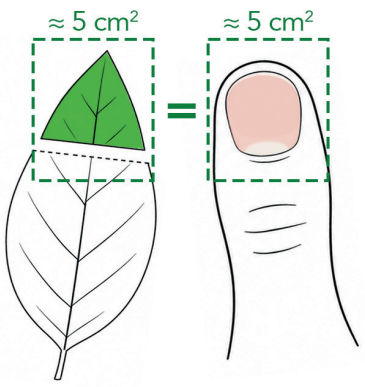


Figure 1: Sample size

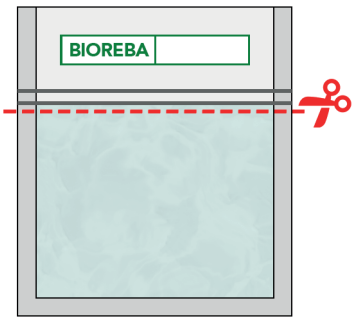


Figure 2: Cut below the seal

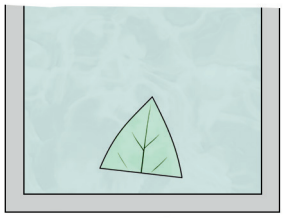


Figure 3: Place sample into back pocket (near the bottom)

1. Prepare the Sample

- Take a BIOREBA extraction bag that already contains **4 mL of Extraction buffer A**. Make sure to use the provided buffer for the extraction.
- Take a small sample of **symptomatic plant tissue**.
  - For the **optimal dilution of 1:40**, use **0.1 g** of leaf tissue - this is about **5 cm²** which is about the size of an adult's thumbnail (Figure 1).
    Note: very thick or dense tissue can weigh more.
- Cut the bag open **below the seal** (Figure 2). Be careful not to spill any liquid.
- Put the plant sample into the **back pocket** of the extraction bag, near the bottom. (Figure 3)
- Homogenize (crush) the tissue using a handheld homogenizer on a flat surface until you get a liquid sample extract. (Figure 4)

www.bioreba.com

BIOREBA AG
Christoph Merian-Ring 7
CH-4153 Reinach
Switzerland

Your Partner in Agro-Diagnostics

phone +41 61 712 11 25
fax +41 61 712 11 17

admin@bioreba.ch
www.bioreba.com

2. Perform the Test

- Take one AgriStrip out of its container by holding the end with the **BIOREBA logo**. (**Note:** Please do **not** remove the protective cover.)
- Put the **sample end** of the Agristrip into the **front pocket** of the bag that contains the sample extract
  - **Important:** Only dip the strip **up to the lower end of the label.** (Figure 5)
  - Make sure the sides of the strip do **not** touch the sample liquid or foam.
- Place the bag upright (e.g., in a BIOREBA BIOrack).
- Let the strip stay in the sample for **10–15 minutes**. (Figure 6)
  - Positive results may appear as early as **5 minutes**.
  - Samples with low pathogen levels may need up to **20 minutes**.

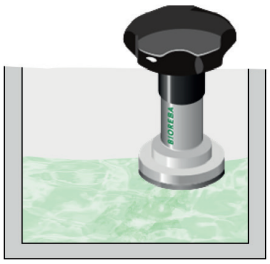


Figure 4: Homogenize sample using hand homogenizer

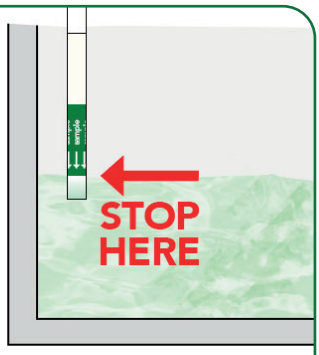


Figure 5: Dip AgriStrip only to the lower end of label

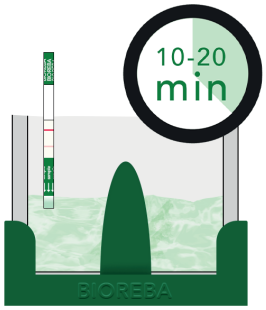
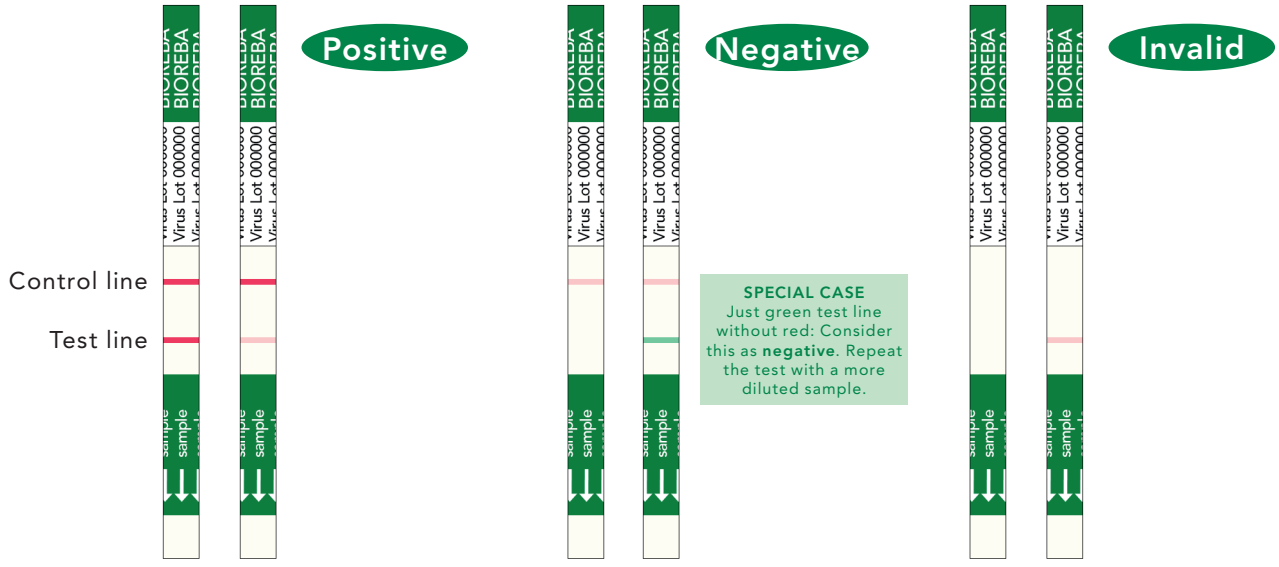


Figure 6: Incubate the AgriStrip for 10-15 min

3. Read the Results

- Take the AgriStrip out of the extraction bag and read it immediately.



Positive result
Control line + test line
(Pathogen present - A weak test line is common when pathogen levels are low)

Negative result
Only control line visible
(Test worked correctly; negative result)

Invalid result
No control line
(Test is invalid, even if the test line is visible. Repeat the test with a new AgriStrip.)

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Version: 4 - 31.05.2026
Adaptions from last version: New AgriStrip format, complete revision

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BIOREBA AG *Your Partner in Agro-Diagnostics*
Christoph Merian-Ring 7
CH-4153 Reinach
Switzerland
phone +41 61 712 11 25
fax +41 61 712 11 17
admin@bioreba.ch
www.bioreba.com