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## Tomato spotted wilt virus (TSWV) Rapid Test

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*Cat.No: DTSPV10*

*Lot. No. (See product label)*

### Size

50 Tests

### Intended Use

The test can be simply used to on-site and rapid detect TSWV in infected host plant foliage, without requiring any special equipment or expertise to run.

### General Description

Tomato spotted wilt virus (TSWV) causes significant economic damage on over 1000 species in over 85 families, including many vegetables, field crops, peanut and tobacco. The virus is also found in some ornamental crops such as chrysanthemums, dahlias and other greenhouse crops. TSWV infection causes a variety of symptoms, such as chlorosis, mottling, stunting and wilting, and other various symptoms depending upon the crop infected. Hence, tomato spotted wilt may affect both the quantity and quality of plant products. TSWV is readily transmitted by various thrips among plants in a persistent manner, especial in greenhouse crops.

### Principle of The Test

The development of rapid test strips is based on Lateral Flow Device (LFD) technology using specific antibodies. A LFD format consists of antibody-coated latex beads latex (or colloidal gold) which will bind the specific pathogen antigen absorbed from the plant extract. The agglutination is accumulated at a specific location by the presence of a line of target specific antibody, which immobilises the agglutinated latex whilst allowing the background reagents to be washed away by continued flow along the membrane. The membrane contains a strip of target-specific antibody, test strip and a strip of another antibody that binds to the specific antibody, control strip. Latex beads containing bound antigen are trapped on the test strip leaving a visible line. Surplus latex beads that do not contain antigen are trapped on the control strip showing that the assay has worked. This provides a non-subjective and clear read out of a positive result against a low background.

### Reagents and Materials Provided

1. 50 single-use test cassettes
2. 50 pre-filled extraction tubes with sample buffer
3. 50 disposable pipettes for sample application

### Storage

1) Store the strips and the extraction buffer at 4°C. However, exposure to ambient temperature (10 - 30°C), such as during transport and use in the field, does not affect the quality. Keep the packaging (containing desiccant bags) always hermetically

closed. Absorbed moisture by the strips can lead to poor results or even complete failure of the test.  
2) Strips must be used before the expiration date indicated on the label of the packaging.

## Assay Procedure

- 1) Remove a sample from infected root /leaf, add to the extraction bag.
- 2) Add contents of bottle to the extraction bag. Use the extraction tool to macerate the sample.
- 3) Draw some of the liquid from the extraction bag.
- 4) Add 2 drops to the sample well on the lateral flow device.
- 5) Wait until the colored control line appears and read the test (5 minutes).

## Interpretation of Results

Observed the result within 5min, if it presents two red zones and determined as positive, if it only presents one red control plot zone and determined as negative. If the reaction line and the control line all present evenly unknown, or only the reaction line presents red zone and the control line presents nothing ,then determined the reagent strip invalid.

## Performance Characteristics

Please Note:

Test kits and cassettes are not reusable.

## Sensitivity

The Rapid Test Strip provides high sensitivity comparable with ELISA

## Precautions

Please Note:

Test kits and cassettes are not reusable.