TOMATO RESISTANCE TO
Tomato spotted wilt virus (TSWV)

Preliminary remark on Tomato spotted wilt virus (TSWV)

Evaluation of resistance to TSWV is tested with the strain lye51 0. Tomato spotted wilt virus is the causal agent of tomato spotted wilt disease.

The resistance test should be performed in quarantine facility with the agreement of Plant Protection Services.

Maintenance of strains

The strain LYE 51 of Tomato spotted wilt virus is maintained at -80°C or in liquid nitrogen. This strain is available in MATREF network: MAT/REF/06-05-02-03 (contact valerie.grimault@geves.fr).

Execution of test

Duration of test

At least 28 to 35 days from sowing to notation

Controls

The following varieties are used as controls. These varieties are available in MATREF network (contact: MATREF@geves.fr).

<table>
<thead>
<tr>
<th>Varieties</th>
<th>Phenotype of resistance</th>
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</thead>
<tbody>
<tr>
<td>Momor</td>
<td>S</td>
</tr>
<tr>
<td>Mospomor</td>
<td>R</td>
</tr>
<tr>
<td>R</td>
<td>= resistant</td>
</tr>
<tr>
<td>S</td>
<td>= susceptible</td>
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Number of plants tested

30 plants per variety.

Growth stage of plants

Plants are grown on compost in growth chamber until cotyledon to first leaf stages (generally 14 days after sowing) at 22°C with 80% hygrometry, 12h light.
**Inoculum**

Inoculum suspension consists of symptomatic leaves of susceptible variety Momor grinded in a buffer with carborundum and charcoal vegetable activated added.

**Method of inoculation**

Mechanical inoculation by rubbing cotyledons (first leaves emerging) with an inoculum solution (temperature < 10°C). Leaves are rinsed 10 min after inoculation.

**Temperature**

Test performed in growth chamber at 20°C (temperature from 20°C to 25°C is possible), 80% hygrometry, and 12h light.

**Notation**

14-21 days after inoculation when symptoms are well developed on susceptible controls. A quantitative notation scale is used from 0 to 2.

0 : no symptoms.
1 : plants with necrotic pinpoints on cotyledons
2 : plants with growth stopped, bronzed color with necrosis on leaves.

**Analysis of results**

Generally 0 and 1 are considered resistant; 2 is susceptible but analysis of results should be calibrated with results of R and S controls.
### Annexe : Media used

#### TSWV Buffer

<table>
<thead>
<tr>
<th>PRODUCTS</th>
<th>10 ml</th>
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<tbody>
<tr>
<td>Na$_2$HPO$_4$ ; 12H$_2$O</td>
<td>107mg</td>
</tr>
<tr>
<td>DIECA</td>
<td>20mg</td>
</tr>
<tr>
<td>Water</td>
<td>10mL</td>
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