

Phytosanitary procedures
Méthodes phytosanitaires**PM 3/32 (2) *Tomato ringspot virus* in fruit trees and grapevine: inspection****Specific scope**

This standard describes the inspection for *Tomato ringspot virus* in fruit trees and grapevine.

Specific approval and amendment

First approved in September 1990.
Edited as EPPO Standard in 1998.
Revised in 2013–09.

Introduction

Tomato ringspot virus (ToRSV) is on the EPPO A2 List of pests recommended for regulation and details about its biology, distribution and economic importance can be found in the Datasheet (EPPO/CABI, 1997) and Stace-Smith (1984). It should be noted that in the EPPO region ToRSV has not been found on any fruit crop but only on pelargonium. So for fruits it practically has an A1 status.

Phytosanitary measures at import for ToRSV, plants for planting (except seeds) of apple, cherry, peach and apricot may include provisions that plants should come from a field inspected for ToRSV and found free from the virus. If they come from a country where ToRSV occurs, they have to be derived (not further than the second generation) from mother plants tested for ToRSV, and maintained under conditions designed to prevent re-infection. Methods are thus needed for visual inspection in the field.

Methods

Fruit trees and grapevine infected by ToRSV can show very striking symptoms, so visual inspection is important in practice. However, it is not sufficient as a method for detecting ToRSV in mother plants, which should be tested (for laboratory testing see PM 7/49 Diagnostic Protocol for *Tomato ringspot virus*).

Finally, maintenance under conditions designed to prevent re-infection implies absence of the nematode vector

Xiphinema americanum sensu lato. This requires soil extraction, a simple task requiring little equipment, and nematode identification, a task for the specialist.

Visual inspection

Symptoms of ToRSV infection depend on the fruit-tree host: all *Prunus* spp. show stem pitting, associated with graft-union abnormalities; with the yellow bud mosaic strain, almond and peach show symptoms of yellow bud mosaic (pale green to pale yellow, oblong, feather-edged blotches along the main vein or large lateral veins of the leaves; buds produce rosettes of small and often distorted leaves, with or without mottling, or are pale yellow and later die; fruits may be dwarfed or malformed). Apple shows union necrosis (necrosis of the graft union and symptoms on the tree similar to those following trunk girdling). Grapevine shows general decline, ringspot and mottling on the leaves, dwarfing and rosetting of the leaves, berry abortion, spongy phloem tissue with numerous necrotic pits.

References

- EPPO/CABI (1997) *Tomato ringspot nepovirus*. In *Quarantine Pests for Europe*, 2nd edn (Eds Smith IM, McNamara DG, Scott PR, Holderness M), pp. 1373–1378. CAB International, Wallingford (GB).
- Stace-Smith R (1984) *Tomato ringspot virus*. *CMI/AAB Descriptions of Plant Viruses* no. 290. AAB, Wellesbourne (GB).