

Mini data sheet on *Tomato apical stunt viroid*

Added in 2003 - Deleted in 2017

Reasons for deletion:

Tomato apical stunt viroid has been included in EPPO Alert List for more than 3 years and during this period no particular international action was requested by the EPPO member countries. In 2017, the Working Party on Phytosanitary Regulations agreed that it could be deleted, considering that sufficient alert has been given and that this viroid could be studied within the framework of the regulated non-quarantine pest (RNQP) project.

Tomato apical stunt viroid (a new disease of tomato)

Why: *Tomato apical stunt viroid* (*Pospiviroid*, TASVd) came to our attention because it is reported as a new and serious disease of tomatoes in Israel.

Where: TASVd was first described in Côte d'Ivoire and another strain was reported from Indonesia. The viroid was then reported in other parts of the world. However, data is lacking on the extent, severity and economic impact of the diseases it may cause.

EPPO region: Austria (found on symptomless *Solanum jasminoides*, under eradication), Croatia (in 1 symptomless *S. jasminoides*), France (on symptomless *Brugmansia*, *S. jasminoides*, *S. lycopersicum*, eradicated), Germany (on symptomless *S. jasminoides* and *S. rantonnetii*, under eradication), Italy (on symptomless *S. jasminoides* and found once in glasshouse tomatoes, under eradication), Finland (on symptomless *S. jasminoides*, under eradication), Netherlands (found only once on tomato, but regularly detected on several ornamentals), Israel (found on tomatoes grown under plastic houses in the coastal region), Poland (in 1 sample of *S. rantonnetii*), Slovenia (on symptomless *S. jasminoides*), Tunisia.

Africa: Côte d'Ivoire, Senegal, Tunisia.

Asia: Indonesia.

On which plants: Tomato (*Lycopersicon esculentum*). Detected in symptomless solanaceous ornamentals (e.g. *Brugmansia*, *Cestrum*, *Solanum jasminoides*, *S. rantonnetii*, *Streptosolen jamesonii*). Data is generally lacking on its host range.

Damage: Affected tomato plants in Israel showed shortened internodes (bushy appearance), leaf deformation and yellowing, reduced fruit size, pale red discoloration of fruit. Up to 100% disease incidence could be observed with heavy yield losses.

Transmission: TASVd can be transmitted from infected to healthy tomato plants by grafting or mechanical inoculation (in experimental conditions). The viroid is not transmitted by *Myzus persicae* or *Bemisia tabaci*, but by bumble bees. Seed-transmission has recently been demonstrated for TASVd. It is suggested that seeds play a major role in the viroid transmission within tomato crops, followed by mechanical contact (which is enhanced by workers and pollination activities of bumble bees).

Pathway: Plants for planting of tomatoes, fruits? from countries where TASVd occurs.

Possible risks: Tomato is an important crop in the EPPO region, both indoors and outdoors. Data is lacking on geographical distribution, host range, epidemiology of TASVd. As control of viroids is difficult in practice, it would be desirable to avoid any further spread of a potentially serious disease of tomatoes.

Sources

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EPPO RS 2003/109, 2007/058, 2007/115, 2008/077, 2008/145, 2010/217, 2011/116, 2011/157, 2011/158, 2011-148, 2013/127, 2013/236, 2014/048, 2014/168, 2014/169

Panel review date 2017-03

Entry date 2003-07