
Netherlands Plant Protection Service

Ministry of Agriculture, Nature and Food Quality
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agriculture, nature
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PEST REPORT

Potato spindle tuber viroid (PSTVd) on *Solanum jasminoides*

This report concerns the finding of PSTVd on ornamental *Solanaceae* plants in the Netherlands. PSTVd is regulated as a harmful organism for the European Community (Annex I A section I). The Netherlands Plant Protection Service routinely carries out monitoring surveys in the ornamental plant industry for PSTVd on symptomless *Solanaceae* plants. One lot of ornamental potted plants of *Solanum jasminoides* at a company specialised in rooting plantlets, was confirmed to have tested positive for PSTVd on May 30, 2006. Investigations revealed that the infested lot may have originated in Kenya or in Israel. Phytosanitary legislation of the European Community prohibits the introduction of plants of *Solanaceae* intended for planting from third countries, other than European and Mediterranean countries (Annex III A 13). Measures have been taken to prevent reoccurrence of the import of *S. jasminoides* plants from third countries, other than European and Mediterranean countries.

Officially declared pest status: Absent – intercepted only.

The pest has been detected as an individual occurrence and has not resulted in establishment. Appropriate phytosanitary measures, including further tracing have been conducted to determine if other plants are infested or possible occurrence of the pest at other companies. No further infections of PSTVd on *Solanaceae* plants could be detected.

Means of movement and dispersal

Vegetative propagation of ornamental plants is an important pathway for viroids. Viroids such as PSTVd often do not show any visual symptoms in ornamental plants, in contrast to the severe symptoms that can be observed in tomato and potato. Therefore the Netherlands Plant Protection Service routinely carries out a monitoring survey whereby samples are taken from symptomless ornamental *Solanaceae* plants.

Impact and phytosanitary risk

Impact of PSTVd on *S. jasminoides* is absent. The main phytosanitary risk of PSTVd concerns tomato and potato cultivation. In the past, some infestations of PSTVd on tomato were detected and eradicated in the Netherlands (Verhoeven et al. 2004). Moderate loss of marketable potatoes has been reported (CABI Crop Protection Compendium 2005). Besides dispersal by vegetative propagation the main means of spread of PSTVd is by contact. The risk of spread of PSTVd from ornamental *Solanaceae* to tomato or potato cultivation is considered limited in the Netherlands because this takes place in different areas and in separate cultivation systems. There are reports of (experimental) transmission of PSTVd in potato by aphids. Since this transmission requires co-infection of Potato leaf roll virus and this is not known to occur in practise, the risk of spread by aphids is considered negligible.

Detection and inspection methods

The pest was detected as part of routine monitoring surveillance carried out by the Netherlands Plant Protection Service. The identity of the viroid was initially determined by PCR using universal *Pospiviroid* primers and was later confirmed by PCR using specific PSTVd primers and full sequencing of the genome of the viroid.

Reference:

- NPPO of the Netherlands

- Verhoeven JTJ, Jansen CCC, Willemsen TM, Kox LFF, Owens RA, Roenhorst JW (2004) Natural infections of tomato by *Citrus exocortis viroid*, *Columnnea latent viroid*, *Potato spindle tuber viroid* and *Tomato chlorotic dwarf viroid*. European Journal of Plant Pathology, 110(8), 823-831.