

# Potato spindle tuber viroid (PSTVd)



Biosecurity New Zealand  
Ministry for Primary Industries  
Manatū Ahu Matua



**Potato spindle tuber viroid (PSTVd) is a pathogen that causes disease in plants from the Solanaceae family (including tomato, capsicum and potato).**

The viroid can also affect several ornamental “plants” including dahlias, chrysanthemums and petunias.

## Current situation

This plant pest has been on our radar for some time. PSTVd has been detected in many different parts of the world, including Europe, Central and South America, and Africa, but to date, we have successfully managed to stop it becoming established in New Zealand.

The viroid only affects plants and does not present any food safety concern or risk to people. Fruit or vegetables with PSTVd are safe to eat.

## How does it spread?

PSTVd can be spread:

- Directly through plant-to-plant contact with infected plant material
- Indirectly through transmission on contaminated people, material and tools
- From infected seeds or pollen
- By the aphid *Myzus persicae* from plants already also infected with potato leafroll virus (PLRV).

**If you suspect you’ve found signs of PSTVd in your crop, immediately contact Biosecurity New Zealand on 0800 80 99 66. You’ll be given advice and if needed, instructions on taking samples for testing.**



*Potato spindle tuber viroid in infected tomato plant.*

## What to look out for

PSTVd symptoms can be confused with nutrient deficiency or toxicity, spray damage, insect damage or plant viruses. Symptoms of infection can vary and some infected plants may show no signs of disease but have a lower than normal yield.

## What does it look like?

Visible signs in heavily affected plants include:

- Shortening of internodes and stunted growth
- Fruit not ripening
- Spots or streaks of dead tissue on fruit
- Yellow, purple or grey leaves which can roll or die.

In tomatoes, fruit maybe small, have dead spots and streaks, and not ripen normally.

In potatoes, symptoms get worse with each generation and the potatoes are spindly with pointed ends with growth cracks.



*Comparison of infected smaller potatoes with larger healthy potatoes. Source: EPPO Global Database.*

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## How can I protect my industry?

Check your production sites frequently for signs of new pests and unusual symptoms that might indicate new diseases.

Practice good biosecurity measures at all stages of crop production. This includes:

- Restrict access to glasshouses – if possible, keeping out visitors and contractors.
- Keep good records of who has been in glasshouses and when.
- If possible, assign workers their own PPE, tools, carts etc and restrict these to single glasshouses or glasshouse sections.
- Clean and disinfect tools regularly – particularly between glasshouses.
- Ensure secure disposal of glasshouse waste to landfill. Do not allow plant debris to pile up in or near the glasshouse where it could be carried on feet or tyres.
- Carry out post-harvest glasshouse sanitation and disinfecting between crop cycles to minimise plant infection.
- Thoroughly clean glasshouses between crop cycles when they are empty.
- Only use plant material from reliable sources and ensure there is traceability on all seed supplies purchased.

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Healthy potato next to two spindly diseased potatoes.  
Source: EPPO Global Database.



Potato spindle tuber viroid in infected greenhouse tomato plant.