



Pepino mosaic virus (PepMV)



Pepino mosaic virus (PepMV) causes pepino mosaic disease in tomatoes, particularly greenhouse grown, and to a lesser degree can infect other solanaceous plants including potatoes and eggplants.

Symptoms of infection can vary and there may be no significant yield loss or fruit impacts. More common is damage to leaves and occasionally some mottling or marbling of the tomato fruit skin.

The presence of PepMV has just been confirmed on tomato plants in greenhouses at an Auckland commercial facility.

Biosecurity New Zealand is working with industry partners to investigate the situation, how it may have arisen, how widespread any infection is and how it is affecting crops. This information is to help growers protect their operations and equip them to look out for signs of PepMV on their plants.

About the virus

It's not yet certain how badly PepMV would affect tomato crops in New Zealand. The new instance is the only report of PepMV in New Zealand to date.

PepMV is spread by seed, stalks and leaves and very easily through mechanical contact including contaminated tools, hands, clothing, direct plant-to-plant contact, and propagation. Bumblebees used as pollinators and white fly are also known to spread the disease.

While the virus can be detected in the fruit itself, the risk of transmission of the disease through fruit is considered low.

While pepino mosaic virus can affect tomato production, it does not present any food safety concern or risk to people.

What to look out for

Symptoms appear 2–3 weeks after infection and tend to spread along the row.

Affected plants can show stunting of the growing point of the plant or damage resembling hormonal herbicide damage. Leaves around the 'head' of the plant may show dark spots and significant distortion while lower leaves may have brown, necrotic lesions.



Other leaf symptoms may be yellow spots which later develop into bright yellow patches on the leaf and 'bubbling' on the leaf surface.



If you suspect you've found signs of PepMV 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.

Symptoms observed on infected fruits have been described as 'marbled' and may be more readily seen in red beef varieties. There is no clear information on how PepMV affects fruit quality. Different symptoms are exhibited among different tomato varieties and there has been no correlation found between variety and susceptibility to the virus.



Early symptoms.



More advanced symptoms.



Protecting your business from PepMV

Practice good biosecurity measures at all stages of crop production.

Recommended actions include:

- » 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 using in different 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 blow back inside or be carried on feet or tyres.
- » Attention to post-harvest glasshouse sanitation and disinfecting between crop cycles to minimise plant infection from diseases such as pepino mosaic.
- » Take the opportunity to thoroughly clean glasshouses between crop cycles when they are totally empty.

More information about the virus, symptoms, biosecurity hygiene and managing an outbreak of PepMV is here: <http://www.omafra.gov.on.ca/english/crops/facts/01-017.htm>

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