



Vegetable *-Matters-of-* Facts

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Potato Tuber Necrotic Ringspot Disease Potato Virus Y^{NTN}

Control the virus source

- Use disease free certified seed tubers
- Rogue out virus infected plants early
- Remove aphid hosts such as wild mustard, wild radish, nightshade & volunteer potatoes

Control the virus vector

- Scout crops for aphids
- Topkill seed fields early to avoid late infection
- Consider resistant varieties

Dwarfing and patches on leaves



Tuber ringspot



Leaf mottling and wrinkling



About Potato Virus Y

Potato Virus Y (PVY) is an important plant virus worldwide that is spread by aphids or through infected tubers. PVY is not harmful to humans but may reduce crop yields.

PVY has been seen in Australian solanaceous crops: tobacco, capsicum & tomato for many years. It is rarely seen in Australian potato crops largely because of our stringent seed certification schemes.

Symptoms:

All strains of PVY can cause mottling of leaves with symptoms varying with cultivar and weather conditions. Symptoms are more severe in the presence of viruses PVS or PVX

Leaf Symptoms:

Variable from symptomless to severe yellow mottling. Dead areas usually start as patches or rings and gradually expand to affect the whole leaflet. Leaflets may collapse or remain on the plant. In addition, severe wrinkling of leaves or brown streaks on leaf veins, petioles or down the stem may be seen.

Tuber symptoms:

The NTN strain of PVY can cause irregular, pinkish rings on the skin will turn necrotic and eat into the tuber or crack the skin.

There is some concern overseas about increasing plantings of Shepody and Atlantic cultivars as these can be symptomless carriers providing a hidden source of virus for sensitive cultivars.

POTATO

Disease Spread

PVY is transmitted by aphids in the field and in storage if the tubers have produced shoots.

Many species of aphid can transmit PVY and the most efficient is the Green Peach Aphid (*Myzus persicae*). Aphids feeding on infected plants can acquire PVY within seconds and can immediately transmit it to healthy plants. Therefore, chemical control with insecticides is too slow to prevent the spread of this virus.

It can take up to 14 days for the virus to reach the tubers so haulm topping immediately following an aphid infestation, could limit the impact on tubers.

Infected tubers also can harbour the disease. Fortunately, PVY virus is not thought to be transmitted through cutting or on machinery.

For more information please contact:

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For more information please contact your local VegCheque officer.

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Several strains of PVY occur in Australia

- **PVY^O**, is the most common but does not appear to produce symptoms in potato under Australian conditions. In other parts of the world, more severe symptoms are seen due to different cultivars and climate.
- **PVY^C**, also occurs in Australia.
- **PVY^N**, has been the subject of recent eradication campaigns in NZ and Canadian potatoes. This strain has been found in Australian tobacco crops but not yet in potatoes.
- **PVY^{NTN}**, a subtype of PVY^N first reported in Eastern Europe in 1980 and in Australia in 2003. More severe leaf symptoms are associated with this strain during hot weather. Tuber necrosis is first seen at harvest and can develop further during storage.

Potato varieties showing resistance to PVY

Agira, Amorosa, Carlingford, Charlotte, Foxtan, Hertha, Inova, Kennebec 2, Maris Piper, Merrimack, Mondial, Monona, Osprey, Pentland Crown, Ranger Russet (Amisk), Saginaw Gold, Symphonia and Trent

For a full list of suitable varieties contact:
Sherilyn Lauder, DPI Toolangi 0359 571 200

Useful Websites for more information:

<http://www.dpi.vic.gov.au> >Notes Information Series> horticulture> vegetables>Potato Y Virus

<http://www.affa.gov.au> > search? > Potato Virus Y

<http://collections.ic.gc.ca/potato/scitech/mosaic.asp>

<http://www.gov.pe.ca/af/agweb/index.php3?number=71685>

<http://www.ipm.ucdavis.edu/PMG/r607101411.html>

<http://molcho.org.il/pvy.html>

<http://www.plantdepommedeterre.org/eng/disease/virusy2.htm>

<http://www.plantdepommedeterre.org/eng/disease/virusy.htm>

<http://www.aces.edu/pubs/docs/A/ANR-0879/ANR-0879.pdf>

Check us out and view other fact sheets at:

<http://www.dpi.vic.gov.au/agvic/ihd/projects/vchq.htm>

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