

VIRUSES INFECTING *SOLANUM MURICATUM* (PEPINO) IN NEW ZEALAND: A SURVEY OF A GERMPLASM COLLECTION

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A survey was conducted to investigate the viruses infecting *Solanum muricatum* (Pepino) in New Zealand. Pepino originates from South America and was introduced into New Zealand in 1973 as a fashionable new horticultural crop. *Pepino mosaic virus* (PepMV, *Potexvirus*), first described as a disease of *S. muricatum* from Peru in 1980, has recently emerged overseas as a serious disease of tomato. PepMV has not been reported in New Zealand, but accidental introduction could severely affect the local tomato growing industry. A repository of 89 accessions of *S. muricatum* maintained by HortResearch was investigated during spring and summer 2005. All accessions tested negative for PepMV using Agdia lateral flow Immunostrips®. Ten pepino plants showing virus-like symptoms were further tested by electron microscopy, mechanical inoculation, ELISA and RT-PCR. The ten specimens also tested negative for *Potato spindle tuber viroid* (PSTVd). However, five viruses were detected: *Alfalfa mosaic virus* (AMV), *Potato virus M* (PVM), *Potato virus S* (PVS), *Potato virus X* (PVX) and *Strawberry latent ringspot virus* (SLRSV). All these viruses are present in New Zealand but the findings constitute new host records for the country. SLRSV and PVX are reported for the first time in *S. muricatum*.

DETECTION OF FOUR VIRUSES IN *TROPAEOLUM MAJUS* IN NEW ZEALAND

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A *Tropaeolum majus* plant with severe leaf mosaic symptoms was collected from a park in Auckland in September 2004. Electron microscopy of crude sap preparations revealed the presence of flexuous filamentous virus particles. Necrotic local lesions followed by systemic leaf necrosis, chlorosis, mosaic or distortion developed on 12 species of herbaceous indicator plants. The original sample and indicator plants tested positive for *Broad bean wilt virus 1* (BBWV-1) and *Turnip mosaic virus* (TuMV) by ELISA. The ca 200 bp and 560 bp PCR products obtained using generic *Fabavirus* and specific *Verbena latent carlavirus* (VeLV) primers showed 96% and 97% nucleotide identity with the published BBWV1 RNA1 sequence and VeLV Israel isolate, respectively. A cloned amplicon sequence obtained using commercially available broad-spectrum *Carmovirus* primers was not closely homologous to published *Carmovirus* sequences, which suggests it may represent a new member of this genus. This is the first report of BBWV-1, VeLV and the unidentified *Carmovirus* in New Zealand. Moreover, *T. majus* has been shown to be a new host for VeLV and the unidentified *Carmovirus*. *Tropaeolum majus* has become a common weed in New Zealand and may represent a significant reservoir for these viruses. The status of the viruses is under investigation.