

Managing little cherry virus

August 2014

The exotic plant virus *Little cherry virus 2* (LChV2) was detected in Tasmania in January 2014 and has since been found in Victoria.

It is now believed that the virus may have been in Australia for more than 35 years and may be widespread across the country. As a result, and based on scientific evidence, it is considered that LChV2 cannot be eradicated from Australia.

LChV2 affects the overall health of a cherry tree and results in fruit that is small, poorly coloured and lacking flavour.

To minimise the chances of LChV2 spreading and reducing saleable crop yields, there are several biosecurity actions growers can take to manage the virus. If these are used widely enough across the industry, LChV2 could be eliminated as a significant disease threat.

Farm hygiene

LChV2 can be spread by the movement of infected young trees, rootstocks, scions and budwood. It does not spread by moving cherries from infected trees.

Grafting from any part of an infected tree can transmit the virus.

Actions:

- Use only propagation material of a known high health status from reputable suppliers
- Test new stock coming onto the property for LChV2 (and other viruses) or specify that new stock must be tested and found negative before entering the property.
- Test stock already on the property for LChV2 and remove any found to be infected. Infected trees may not recover their health or productivity and could act as a reservoir for the virus.
- If trees need to be removed, they should be cut at the stump and a herbicide applied to kill the root system that remains. The best time to do this is when there is active growth e.g. during spring-treatment is less effective around plant dormancy.
- Also consider what other viruses your stock may need to be tested for, and when and how to do so.
- Don't swap cuttings with other growers or gardeners.
- Don't graft existing material onto certified new stock.
- Keep mother stock separate from other host plant material.

- Ensure all staff and visitors are instructed in and comply with your business hygiene requirements.
- Eliminate volunteer cherry seedlings in and near the orchard, as they can be symptomless carriers of LChV2.

Monitoring

LChV2 symptoms (see images below and overleaf) generally become visible as the fruit matures (Fig. 1). Symptoms may not be uniform across all fruit on a particular tree and may only be seen on some of the fruit.

Leaf symptoms are not always apparent, but reddening (Fig. 2) may be observed on leaves of some cultivars, such as Sam, Bing, Van and Lapin and Mazzard F12/1 rootstock.

Overseas, LChV2 is spread within an orchard by the insect vectors apple mealybug and grape mealybug. These insects are not known to occur in Australia, but evidence of any potential vector species, including other mealybugs and scale insects, is important information.

Actions:

- Regularly check orchards and propagation stock for signs of LChV2. Take samples of any suspect material and submit them for identification.
- Keep good records of cultivars (rootstock and scion material) and their sources.
- Look out for potential virus vectors (i.e. other organisms that might spread the virus). Record details of the vector (what, where, when), take samples and submit them for identification.



Fig. 1. Cherries affected by LChV2 (left) and normal cherries (right) (image courtesy of L.Kunze, Biologische Bundesanstalt für Land- und Forstwirtschaft, Bugwood).

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Fig. 2. Leaf symptoms of LChV2.

Image right courtesy of L. Kunze, Biologische Bundesanstalt für Land- und Forstwirtschaft, Bugwood



Cherry species and cultivars

Little cherry virus 2 affects sweet cherry (*Prunus avium*) and sour cherry (*Prunus cerasus*).

Actions:

- Do not grow or import ornamental cherry species, especially cultivars of the oriental flowering cherry (*Prunus serrulata*), since these may carry LChV2 without showing symptoms.
- If possible, choose tolerant cultivars.

Research and development

Managing LChV2 effectively in Australia first requires a better understanding of how the virus spreads, what conditions favour it and the susceptibility of various cultivars. Practical tools to assist industry in managing LChV2 can then be developed.

Action:

- Support research and development which will lead to improved control strategies, tolerant or resistant cultivars and faster and cheaper testing.

Testing and diagnosis

If you suspect you have found LChV2 or potential vectors of the virus, it is most important that the organism(s) be correctly identified. The Department of Environment and Primary Industries' Crop Health Services (CHS) group can provide diagnoses on a fee-for-service basis.

How to take samples for diagnosis

- The best time to test for LChV2 is between late summer and leaf fall.
- Collect samples early in the week, keep them cool and send them as soon as possible after collection.
- Tag sampled trees so they can be re-sampled if required.
- Select older cherry varieties rather than those that might have come through improvement programs.
- Select diseased trees and shoots rather than healthy material.
- If possible, randomly sample 4-5 shoots (one year old wood) from all around the tree. If present, leaves should be left attached to the shoot sample.
- Shoots from up to five trees can be pooled to make one sample. If you do this, 3-4 shoots per tree should be collected.
- Place all shoots from one tree into one ziplock bag. If samples are to be pooled, place the bagged samples from each tree together in another ziplock bag.
- Fill in a specimen submission form, place it in the bag with the sample and seal. Submission forms can be obtained from CHS via the below contact options.
- Send the samples in a plastic express post bag or courier to: **Crop Health Services Agribio Specimen Reception, Main Loading Dock, 5 Ring Road, Bundoora, VIC, 3083.** Please inform CHS when they are on the way:
 - telephone: (03) 9032 7515
 - fax: (03) 9032 7604
 - email: chs.reception@depi.vic.gov.au

CHS can also provide routine testing of cherry plant stock.

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