



Fig. 1. l-r: Fruit size differences between infected (right) and uninfected trees (left), mis-shapen and discoloured fruit symptoms, infected tree with overall poor health, leaf symptoms (all photos: Alison Dann)

Common Name: Little cherry disease

Disease: *Little cherry virus 2* (LChV2)

Classification: ssRNA(+), Order: unassigned, Family: *Closteroviridae*, Genus: *Ampelovirus*

Little cherry disease was found in British Columbia, Canada in 1933 and the first published report appeared in 1936 (Anon., 1936). This disease was subsequently shown to be transmitted by apple mealybugs (Raine et al., 1986). The disease has caused major impacts on commercial cherry growing regions in North America and Europe. Two distinct viruses have been associated with the disease, LChV1 and LChV2 (Eastwell, 1997). However, LChV2 appears to be more prevalent and causes more severe symptoms in commercial varieties of sweet cherry (*Prunus avium*). LChV2 was first detected in Australia in early 2014 although it may have been present unnoticed since the 1970's.

Host Range:

The host range of LChV2 appears to be limited to a few species within the genus *Prunus*. Sweet cherry (*Prunus avium*) (Foster and Lott, 1947) and sour cherry (*P. cerasus*) (Milbrath and Williams, 1956) are economically the most important hosts of little cherry virus. Ornamental flowering cherry could be symptomless carriers of LChV2 and may have carried the virus worldwide. LChV2 has not been found in other economically important *Prunus* spp. such as apricot or almond.

Impact:

The impact of LChV2 varies greatly from one region of the world to another. The sweet cherry industry in western Canada was severely affected (~90% losses) because the industry was reliant on sensitive cultivars (primarily Lambert) and because the apple mealybug had just been introduced and its populations increased dramatically (Eastwell, 1997).

In Australia, since we currently don't appear to have an insect vector for LChV2, the impact is low and only affects a few trees from infected rootstock.

Key Distinguishing Features:

The most distinctive symptoms are small, misshapen fruit that have no taste. However, the degree of varietal symptom severity varies greatly and is influenced by choice of rootstock. The disease possibly causes leaf reddening and discolouration as well as leaf upward curling in some varieties of sweet cherry. Overall poor tree health can occur as well.

Control:

Little cherry disease can only be controlled by using virus free root stock and scions. Infected trees must be destroyed and surrounding trees monitored for symptoms as it may be transmitted by root grafting. Currently an insect vector has not been found in Australia, however, control of possible phloem-feeding insects is important.

Further Reading:

Eastwell KC, 1997. Little cherry disease - in perspective. In: Monette P, ed. Filamentous viruses of woody plants. Trivandrum, India: Research Signpost, 143-151.
<http://www.dpi.nsw.gov.au/biosecurity/plant/little-cherry-disease>

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