

Strategy to control Little Cherry Disease

Problem

Little cherry virus (LChV) causing small, poorly coloured, tasteless fruits occurs worldwide in all cherry growing areas. It has been detected in several European countries, e.g., Belgium, Italy, Germany, Poland, Romania, Greece, Switzerland, Great Britain, and the Czech Republic.

Solution

Use healthy, virus-free certified planting material, preferably of European origin. Avoid growing *Little cherry virus*-sensitive varieties and monitor pest disease vectors to help regulate disease spreading and decrease damage.

Benefits

Cultivation of varieties that are less sensitive to LChV will give a stable yield of high quality and good flavour sweet and sour cherry fruits.

Applicability box

Theme

Crop production, Stone fruits

Keywords

Virus-free certified planting material, Fruit quality, Flavour

Context

Cherry production areas, Temperate regions

Application time

Orchard establishment, Vegetative period

Practical recommendations and information

- Two causal viruses exist: *Little cherry virus-1* (LChV-1) and *Little cherry virus-2* (LChV-2)
- SYMPTOMS can look like:
 - Fruits are small, triangular, flattened, leathery peel (see Picture 1)
 - Poorly coloured, tasteless fruits
 - Reduced sugar content
 - Premature reddening of leaves (see Picture 2)
 - Lower tree vigour, lower tree volume
 - Plants can be infected without any visible symptoms (often on ornamental species)



Picture 1: Cultivar Burlat – left: no symptoms, fruits from health tree; right: symptoms, small poorly colored fruits. Photo: Lucie Valentová, VSUO, CZ.



Picture 2: Reddening of leaves. Photo: Lucie Valentová, VSUO, CZ.



Picture 3: Uneven ripen fruits on sour cherries at harvest time. Photo: Lucie Valentová, VSUO, CZ.

- HOST PLANTS:
 - Species of *Prunus* genus, mainly sweet and sour cherries, including ornamental species
 - Infections on apricots, peaches, plums and almonds have not been recorded yet

- Virus-infected trees cannot be treated; treatment options against PPV do not exist yet, so only the application of preventive measures is effective
- Vegetative virus transmission is possible, especially with infected planting material and with vegetative propagation (e.g., scions, grafts)
- LChV-2 virus is also transmitted by the maple borer (*Phenacoccus aceris*); the pest vector for LChV-1 is unknown
- Reliable detection of the virus is only possible by molecular methods (RT-PCR)
- PROTECTION:
 - PREVENTIVE MEASURES: Healthy plant material, monitoring of maple borer upon confirmation of LChV-2 infections
 - DIRECT MEASURES: Destroy all infested trees, direct control of the vector (maple borer)
- Avoid growing of LChV sensitive varieties such as Lambert, Lapins, Sam, Van, Celeste, Sweetheart, and Bing (fully resistant varieties are not known)

Further information

Further reading:

- Schlesingerová, G. 2012. Cherry low fertility: little cherry disease. Ministry of Agriculture in cooperation with the State Phytosanitary Administration. (in Czech)
- Final report on the scope and results of a targeted survey of the occurrence of viruses causing low fertility of cherries and sour cherries in 2021.

Weblinks:

- Cherry (*Prunus* spp.)-Little Cherry, host disease. Pest Management Handbook.
- Check the Organic Farm Knowledge platform for more practical recommendations.

About this practice abstract

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