

Mini data sheet on *Blueberry scorch virus*

Blueberry scorch virus was added to the EPPO A2 List in 2007. A full datasheet will be prepared, in the meantime you can view here the data which was previously available from the EPPO Alert List (added to the EPPO Alert List in 2005-deleted in 2007).

Blueberry scorch virus

Why: *Blueberry scorch virus* (*Carlavirus*, B1ScV) is causing damage to *Vaccinium* crops in North America, and it has recently been found in Europe (in the north of Italy in 2004).

Where:

EPPO region: Italy (Piemonte).

North America: Canada (British Columbia), USA (Connecticut, New Jersey, Massachusetts, Oregon, Washington). In late 1970s, the Sheep Pen Hill disease was observed in New Jersey and later considered as being caused by a particular strain of Blueberry scorch virus. The virus was first characterized in highbush blueberries (*V. corymbosum*) in Washington in 1980. In 2000, an outbreak was reported in British Columbia (Canada), as well as in two new US states in 2001 (Connecticut and Massachusetts).

On which plants: *Vaccinium corymbosum* (highbush blueberry). The virus was detected in samples of *V. macrocarpon* (cranberry) and *V. ashei* (rabbiteye blueberry) but apparently, no symptoms were observed. The potential for infection of other American *Vaccinium* species needs to be investigated (e.g. *V. angustifolium*, *V. membranaceum*, *V. ovatum*, *V. parvifolium* and ornamental *Vaccinium*). Data is also lacking on the susceptibility of species naturally occurring in Europe (e.g. *V. myrtillus*, *V. uliginosum*, *V. vitis-idaea*).

Damage: Symptoms vary largely according to virus strains and cultivars. Some cultivars may show complete necrosis of flowers, partial necrosis of leaves, twig dieback, leading eventually to plant death. Others may show a total absence of symptoms. Marginal chlorosis of leaves is also observed on some cultivars. On cultivars expressing symptoms, there is often a latent period of up to two years between infection and symptom expression. Symptoms may be confused with other causes (bacterial or fungal diseases, frost injury or nutrition deficiency) and therefore testing is required to identify the virus.

Transmission: Blueberry scorch virus is transmitted by aphids in a non-persistent mode and a known vector is *Ericaphis (Fimbriaphis) fimbriata*. Aphid transmission is considered as the most important means of transmission in the field. Within a field, some infected plants may not express symptoms and therefore act as reservoirs for further transmission. Over long distances, the virus is essentially moved by the use of infected plants for planting. So far, mechanical transmission of the virus between *Vaccinium* plants has never been observed.

Pathway: Plants for planting of *Vaccinium*.

Possible risks: *Vaccinium* (including species from North America, such as *V. corymbosum*) are increasingly grown in Europe for fruit production. A negative impact of such a virus on naturally growing *Vaccinium* in Europe, especially in fragile environments, could be envisaged but is very difficult to estimate. The aphid vector, *E. fimbriata*, is known to occur in Europe. Some control methods are recommended in North America (e.g. roguing of infected plants, aphid control, use of virus-free planting material). Heat therapy and meristem tip culture are reported to eliminate the virus, and could be used in certification schemes. As in North America recent outbreaks and crop losses are reported, it seems desirable to limit the spread of this disease in Europe and to consider the pathogen in European certification schemes for the production of healthy planting material of *Vaccinium*.

Sources

- Barbagallo S, Bosio G, Brussino G, Scarpelli F (1998) [Aphids infesting cultivated blueberries and cranberries in Italy]. *Informatore Fitopatologico*, no.10, 65-71.
- Bristow PR, Martin RR, Windom GE (2000) Transmission, field spread, cultivar response, and impact on yield in highbush blueberry infected with blueberry scorch virus. *Phytopathology* 90(5), 474-479.
- DeMarsay A, Hillman BI, Petersen FP, Oudemans PV, Schloemann S (2004) First report of blueberry scorch virus on highbush blueberry in Connecticut and Massachusetts. *Plant Disease* 88(5), p 572
- Martin RR, Bristow PR (1988) A carlavirus associated with blueberry scorch disease. *Phytopathology*; 78(12), 1636-1640.
- Postman JD (1997) Blueberry scorch carlavirus eliminated from infected blueberry (*Vaccinium corymbosum*) by heat therapy and apical meristem culture. *Plant Disease* 81(1), p 111.
- Prior RNB (1971) Some notes on new or uncommon aphids recently found in Britain. *Zoological Journal of the Linnean Society* 50(4), 397-430.
- Wegener LA, Punja ZK, Martin RR (2004) First report of blueberry scorch virus in cranberry in Canada and the United States. *Plant Disease* 88(4), p 427.
- Personal communication with M. B. Nedstam, Swedish board of Agriculture, 2005-11.
- INTERNET
- Canadian Food Inspection Agency. Fact sheet.
<http://www.inspection.gc.ca/english/sci/surv/data/bbscoe.shtml>
- Ciuffo M, Pettiti D, Gallo S, Masenga V, Turina M (2005) First report of Blueberry scorch virus in Europe. *New Disease Report*. <http://www.bspp.org.uk/ndr/jan2005/2005-01.asp>
- Ministry of Agriculture and Lands. British Columbia (Canada). Fact sheet.
<http://www.agf.gov.bc.ca/cropprot/blsv.htm>
- Pest alert and fact sheet: Blueberry scorch virus by R. Martin, G.e Milbrath, J. Hedberg
http://www.geocities.com/martinrr_97330/BISVweb/Pestalert.htm
- University of Massachusetts - Extension. Blueberry scorch virus factsheet by N.J. Catlin and S.G. Schloemann. <http://www.umass.edu/fruitadvisor/factsheets/blueberryscorch.pdf>

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