

What is Blueberry Scorch Virus?

Blueberry scorch virus (BISV) is a plant disease of blueberries (*Vaccinium* spp.) and cranberries (*Vaccinium macrocarpon*) as well as other *Vaccinium*. Damage to blueberry plants includes leaf, shoot and flower necrosis, dieback, reduction in fruit production, and in severe cases, death of plant. Cranberries are symptomless. Symptoms can easily be confused with other pest, disease, cultural or environmental problems. If BISV is suspected, the only reliable method to verify its presence is through laboratory testing. Once infected, plants will permanently carry the virus. BISV is transmitted by aphids, but can also be spread by propagation via an infected mother plant.

BISV infection of plants occurs primarily during May thru July, corresponding to aphids feeding on host plants. Symptoms will appear one to two years (latent period) after infection. The best time to spot symptoms of BISV is during bloom. In severe cases, blossoms and leaves rapidly blight and dry up following early bloom. Blighted blossoms may remain on the bush over the summer and into the following year, depending on the blueberry cultivar. Leaves may become yellow along the margins. Plants with these symptoms tend to decline and die back over a period of years. Other more subtle signs include red line patterns on leaves in fall, leaf mottling, overall pale color, low number of blossoms or a “twiggy” appearance. Often plants infected with BISV will appear normal, with no symptoms. Once infection occurs, normal production of berries will never be regained.

The virus was first observed in the United States in New Jersey in the 1970's and in the Pacific Northwest in 1980 in Puyallup, Washington. The disease is now known to occur in Connecticut, Massachusetts, New Jersey, Oregon, Washington, British Columbia, and Quebec in North America and in Europe, Italy. The primary threat to Oregon growers is through movement of infected plant material into the state, or from site to site. Oregon growers should exercise caution, especially when importing plant material from known infected areas.

Several strains of BISV are known to exist. Some are more virulent than others. In Oregon, 2-3 fields were found with the west coast strain in past years. Appropriate steps were taken and the threat eliminated. BISV has been observed in Washington as well. Some strains found in New Jersey and British Columbia have proven to be of a more virulent than the west coast strain found in Oregon. In British Columbia, widespread infection has been occurring.

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Regulations

The Oregon Department of Agriculture (ODA) established a control area in 2002, authorized under Oregon Administrative Rule 603-052-1245 to protect Oregon's blueberry fruit industry from the introduction of blueberry scorch virus. A strain of BISV does occur in the Pacific Northwest, but is symptomless on most commonly grown varieties. A more virulent strain of BISV, however, occurs in other areas. If this strain were introduced into Oregon, it would have a severe impact on Oregon's blueberry industry. The strains of BISV cannot be readily distinguished by standard laboratory testing methods.

The control area includes the entire state of Oregon. The following definitions apply to ORS 603-052-1245. "Blueberry plant" means plants and plant parts of *Vaccinium corymbosum*. 'Pest Free Area' is defined as an area where BISV does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained. 'Director' means the director of the ODA or the director's authorized representative. 'Micropropagated' means plant propagation using aseptic laboratory techniques and an artificial culture medium.

To prevent the introduction of BISV, plants and plant parts of *Vaccinium corymbosum* and any other *Vaccinium* species shown to be a host of BISV that are imported, planted, sold, or offered for sale within the control area must meet the following conditions. A phytosanitary certificate with an additional declaration corresponding to one of the following options is required: the blueberry plants must originate from a pest free area, the blueberry plants must be certified in accordance with the regulations of an official certification program in the state or province of origin that includes testing and inspection for BISV and is approved by the director, the blueberry plants are free of BISV based on an official laboratory test using a protocol approved by the director, or the blueberry plants are micropropagated and/or grown in an insect-proof greenhouse or screenhouse and originate from mother plants that have been tested and found free of BISV.

Notification and phytosanitary certificates are not required for shipments of blueberry fruit. Blueberry fruit must be free of leaf tissue and other plant debris before being imported into the control area.

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The ODA will operate official testing and certification programs on a cost-recovery basis. Fees charged by the department are payable on or before December 31 of each year, and are for the sole purpose of defraying expenses incurred by the department in conducting official testing procedures provided for in this control area order. Payment thereof shall not be construed as granting any right or privilege to the program participant. Notification of regulated commodity shipment is required. The shipper shall mail, FAX or e-mail documents including the phytosanitary certificate of compliance, listing the type and quantity of plants, address of shipper, address of recipient, test results, contact numbers to: Nursery Program Supervisor, Plant Division, Oregon Department of Agriculture, 635 Capitol Street NE, Salem, Oregon 97301; FAX 503-986-4786; e-mail: quarantine@oda.state.or.us. The department may require that shipments be held until inspected and released.

Violation of the control area may result in a fine, if convicted, of not less than \$500 nor more than \$5,000 as provided by ORS 561.990. Violators may also be subject to civil penalties of up to \$10,000 as provided by 570.410, 570.990, and 570.995: nursery license suspension or revocation. Commodities shipped in violation may be treated, destroyed or returned to their point of origin at shipper's expense. The necessity for this quarantine and its effectiveness will be reviewed by the department and other interested parties annually.

Certification required for BISV host plants exported out of Oregon:

The states of Georgia, Michigan, and Washington have BISV certification regulations for host plants originating from Oregon. Host plants shipped to these states from Oregon must be tested and found free of BISV. In addition, *Vaccinium* plants to Michigan must also test negative for Blueberry Shock Virus (BBSV) Ilarvirus and Sheep Pen Hill Disease (BBScV-NJ) Carlavirus. The ODA provides virus testing and enables blueberry growers/shippers to obtain the necessary certification. BISV certificates should accompany shipments of any *Vaccinium* species to these states. To obtain information on certification testing requirements, please contact Brooke Edmunds, Commodity Division, Oregon Department of Agriculture, 635 Capitol St. NE, Salem, OR, 97301-2532, Ph: (503)-986-4620, e-mail: Brooke Edmunds. Lab fees are charged for this service. Certificates or other documentation should be requested from the Nursery Inspection Program, Plant Division, Oregon Department of Agriculture, 635 Capitol St. NE, Salem, Oregon, 97301-2532. Phone: (503) 986-4620.

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Virus testing:

Blueberry fruit growers and blueberry nursery stock growers are encouraged to submit samples from plants suspected of harboring BISV. Samples should be submitted to the ODA, Plant Division, Plant Pest and Disease Lab. Lab fees are charged to the grower. Please contact Brooke Edmunds for further details on sample collection and fees, Ph: (503)-986-4620, email: Brooke Edmunds, Oregon Department of Agriculture, Commodity Inspection Division, Plant Health Program/Brooke Edmunds, 635 Capitol St. NE, Salem, OR, 97301-2532.

Additional information:

[Oregon Department of Agriculture blueberry scorch virus](#)

[Pest management of blueberry scorch virus in British Columbia](#)

[Michigan Blueberry Scorch Quarantine](#)

[Blueberry scorch virus quarantine in Washington](#)

[Blueberry scorch virus quarantine in Georgia](#)