Washington State
Grape Quarantined Pests - Management Plan Basics

Operations Covered: All grape producers, including grape stock producers.

Quarantined Pests Covered: Grapevine viruses A and B (GVA, GVB)

WAC Rules:

WAC Chapter 16-483; Grape Pest Quarantine.

https://apps.leg.wa.gov/wac/default.aspx?cite=16-483

Management Plan General Approach: Eradication

Description: Grapevine viruses A (GVA) and B (GVB) are commonly associated with rugose wood complex, causing Kober stem grooving (GVA) and Corky bark symptoms (GVB) in grapevines. Many scion and rootstock cultivars are symptomless carriers of these two viruses and can induce synergistic effects when present as co-infections with leafroll viruses, leading to increased severity of leafroll disease symptoms. A combination of GVA / GVB with a leafroll virus (e.g., *Grapevine leafroll-associated virus* can result in graft union failure and sudden vine collapse in vineyards. GVA and GVB are reported to be spread by several species of mealybugs.

Additional Resources:

Viruses in Field Guide for Integrated Pest Management in Pacific Northwest Vineyards (2nd edition). PNW Extension Publication #644.

https://pubs.extension.wsu.edu/field-guide-for-integrated-pest-management-in-pacific-northwest-vineyards-2

Viruses of Grapevines in Pest Management Guide for Grapes in Washington.

Washington State University Extension Publication #EB0762.

https://pubs.extension.wsu.edu/2019-pest-management-guide-for-grapes-in-washington

Viruses. Washington State University – Viticulture and Enology webpage:

https://wine.wsu.edu/extension/pest-management/

Know your viruses. Good Fruit Grower. https://www.goodfruit.com/rayapati-know-your-viruses

Management Plan Specific Approaches

Eradication Protocols:

1. *Roguing of nursery mother vines positive for Grapevine viruses A* and *B:* Vines in nursery mother blocks testing positive for GVA and / or GVB should be immediately rogued from the vineyard site. Remove as much plant material as possible, including root debris. All removed materials burned in an isolated area.

2. *Testing / sampling in nursery mother blocks following roguing:* After roguing is complete, test the surrounding vines for the presence of GVA and/or GVB. This should include the 2 vines adjacent to the rogued vine in the vineyard row. Since viruses are present systemically in the vine, petiole samples can be collected throughout the season, independent of symptoms, for virus testing. Collect petioles from 2 to 4 mature leaves randomly from different parts of individual vines and pool them for virus testing. During the dormant season, collect 2 to 4 mature canes of approximately 2 to 3 internodal length randomly from each vine and pool them for testing. Random collection of samples is important to account for the possible distribution of the virus within a vine. Depending on the number of vines to be tested, samples from 2 to 5 vines can be pooled as a composite sample for virus testing. Samples should be sent to a WSDA-approved testing facility.

a. If the adjacent vines are positive for GVA and/or GVB, rogue them as described above. Any material that would have been propagated within the last 3 years from vines that tested positive for GRBV or GFLV will need to be traced and tested

b. If adjacent vines test negative for GVA and/or GVB for 3 consecutive seasons, the nursery mother block can be removed from WSDA Quarantine pest management regulation.

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Follow-up Plans:

1. *Equipment cleaning requirements:* All equipment used for cultivation or harvesting of grapes and vines in the infested site must be thoroughly washed or steam cleaned to remove all soil and plant material prior to movement out of an infested site. While spread of GVA and/or GVB on farming tools or equipment is negligible, it is recommended to clean pruning tools between blocks if pruning is occurring during active sap flow in the spring. Equipment cleaning must be completed until the site is no longer under quarantine pest management regulation.

2. *Scouting and sampling post-eradication*: Scouting of the *entire* nursery mother block vineyards should occur for 3 consecutive years after the first initial detection of GVA and/or GVB. Since both viruses cause asymptomatic infections, scouting for symptomatic vines in vineyards is not possible. However, samples showing leafroll symptoms can be tested for these two viruses concurrently with leafroll viruses.

3. *Vector mitigation plans:* If a vine tests positive for GVA and/or GVB, mealybug vectore control should be implemented in addition to vine roguing. Vector control should occur over the entire nursery mother block. Please consult Washington State University or your agronomist for chemical control options.

4. *Use of regulated nursery mother block as a propagation source:* While a nursery mother block is under WSDA quarantine pest management regulation, only mother vines testing negative for GVA and GVB in that block can be used for propagation.

5. *Individual vine replacement in nursery mother blocks.* Individual vines may be replanted into rogued vine locations in a nursery mother block only after the mother block is no longer under WSDA quarantined pest management regulation. Use of planting stock that has been tested and found to be free of known viruses is

recommended (i.e., either certified nursery stock recognized by the WSDA, or stock from a Foundation source).