

# Washington State Grape Quarantined Pests - Management Plan Basics

Quarantined Pests Covered: *Grapevine fanleaf virus* (GFV), Grapevine red blotch virus (GRBV)

Operations Covered: Grape stock producers (Nurseries)

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:* Red blotch is caused by Grapevine red blotch virus (GRBV). Field spread of GRBV was reported in California and Southern Oregon likely by treehopper vectors. *Grapevine fanleaf virus* (GFLV) causing fanleaf disease is spread by the dagger nematode, *Xiphinema index*. The field spread of GRBV and GFLV are not observed in Washington vineyards due to the absence of vectors specific to GRBV and GFLV.

*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>. 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. *Rouging of nursery mother vines positive for GRBV and / or GFLV:* Vines in nursery mother blocks testing positive for GRBV and/or GFLV should be immediately rouged from the vineyard site. Remove as much plant material as possible, including root debris. All removed materials should be disposed of by burning in an isolated area.
2. *Testing / sampling in nursery mother blocks following rouging:* After rouging is complete, test the surrounding vines for the presence of GRBV and/ or GFLV. This should include the 2 vines adjacent to the rouged 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 either GRBV and / or GFLV rogue them as described above, and retest additional surrounding vines. 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 GRBV and/or GFLV for three consecutive years, the nursery mother block can be removed from WSDA Quarantine pest management regulation.

# Washington State Grape Quarantined Pests - Management Plan Basics

## **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 GFLV and/or GRBV 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 *entire* nursery mother block vineyards should occur for 3 consecutive years after the first initial detection of red blotch and/or fanleaf viruses. Scouting for these two viruses is based on visual symptoms and should occur in spring for fanleaf virus and from version through October for red blotch virus. Red-fruited varieties show a variety of visual symptoms which can be cultivar dependent. White-fruited varieties show mild or transient symptoms. See *Additional Resources* above for symptom descriptions. The entire nursery mother block should be scouted for symptoms of red blotch and/or fanleaf diseases. If potentially suspect symptoms are seen, those vines should be tested as described above. Follow the testing responses as described above.
3. *Vector mitigation plans:* Since no known vectors for GRBV or GFLV are present in Washington, vector mitigation is not required.
4. *Use of regulated nursery mother block as a propagation source:* While a nursery mother block is under WSDA quarantine pest management regulation for GRBV and/or GFLV, only mother vines testing negative for these viruses 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).