

Washington State Grape Quarantined Pests - Management Plan Basics

Quarantined Pests Covered: *Daktulosphaera vitifoliae* (phylloxera)

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

WAC Rules:

WAC Chapter 16-483; Grape Pest Quarantine.

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

Management Plan General Approach: Mitigation

Description: Grapevine phylloxera is a root feeding pest of grapes world-wide. In fact, Washington state, historically, has been one of the few wine grape regions that did not have large established populations of this pest. While there is both a root and foliar form, the root form tends to prefer feeding on *Vitis vinifera* grapes, whereas the foliar form tends to prefer North American native grapes. This pest can kill own-rooted *Vitis vinifera* vines, and is the primary reason most wine, table, and raisin grapes of that grape origin are grown on resistant rootstocks. Best management practices for reducing the impact of phylloxera in own-rooted wine grape vineyards can be found in the *Additional Resources* listed below. Given that there are very limited effective post-infestation treatment options for phylloxera in established vineyards, the primary focus is preventing the introduction of phylloxera to commercial vineyards.

Additional Resources:

Phylloxera. Washington State University – Viticulture and Enology webpage:

<https://wine.wsu.edu/extension/pest-management/phylloxera/>

Phylloxera 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>

Management Plan Specific Approaches for Registered Nursery Mother Blocks

Eradication Protocols (registered nursery mother blocks only):

Designating the infested area: If phylloxera is found in a registered nursery mother block, the first step in developing a response plan is to determine the extent of the outbreak. Some best practices for this include are:

- Sample every vine radiating out from the point of first detection, until phylloxera is no longer found. Sampling and identification protocols should follow WSDA recommendations, with assistance using the Washington State University information provided above under *Additional Resources*. Note that phylloxera is predominately found on younger roots, so make sure those are included in the assessment sample.
- The best time for identifying phylloxera is from late April through early June, and again from late August to early September. Mid-summer, phylloxera does move deeper into the soil, so digging for identification will have to reflect that.

Eradication Fumigation: Once an infested zone has been identified, problematic vines, plus additional 5 vines on either side of the last positive detect within a row, and all vines across from that detection zone in adjacent rows, need to be subject to spot / zone fumigation, as allowed on select fumigant labels. This will also likely kill the associated vines, but leave those in place until after fumigation has been complete, so as to not disturb / dislodge phylloxera from the soil. Fumigation should occur to a minimum depth of 24 inches. Please consult your Washington State University Extension or your licensed agronomist for fumigation recommendations. All equipment must be thoroughly cleaned on-site after the plant removal and fumigation process, as described below under *Equipment cleaning requirements*.

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Follow-up Plans (registered nursery mother blocks and commercial vineyards)

1. *Scouting and sampling in existing sites used for the production of grapevine nursery*

stock: After following the Eradication Protocols described above, additional site scouting needs to occur on all vines adjacent to the eradication zone to determine the presence of phylloxera. This should occur in the spring and the fall for 3 years following eradication treatment. Additional information on how to best formulate a scouting plan, including timing and approach, can be found at the Washington State University Phylloxera webpage shown above in *Additional Resources*.

- a. If phylloxera is found at the site during any follow-up sampling, repeat the Eradication Protocols described above.
- b. If phylloxera is not found at the site for 3 consecutive years after the original detection, the site is no longer considered infested.

2. *Pest movement mitigation plans – nurseries and commercial grape production:*

Given that this pest is primarily moved in the soil, vineyard practices that also routinely disturb the soil (e.g., cultivated-based weed management, “hilling” over winter) should not be practiced in nursery settings. In commercial vineyards, these should be avoided to reduce in-site phylloxera spread. Plant material that contains roots cannot be moved off-site from an infested area.

3. *Equipment cleaning requirements – nurseries and commercial grape production:*

All equipment used 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. This must be completed until the site is no longer under quarantine pest management regulation. Additional information on equipment cleaning for reducing the spread of phylloxera can be found at the Washington State University Phylloxera webpage shown above in *Additional Resources*.

4. *Replanting into an infested site – commercial grape production only:* While not required, it is recommended that all sites previously infested with phylloxera undergo fumigation prior to replanting, and be replanted on to vines grafted to phylloxera-resistant rootstock. This process could significantly reduce phylloxera to the levels at the site, where in the future, may be removed from quarantine management regulation.