

Harmonizing Quarantine and Certification in the Pacific Northwest (ID, OR, WA)

Quarantine Pest:

A quarantine pest is an insect or pathogen of potential economic importance that is not yet present there, or present but not widely distributed and being officially controlled

Certification Program

A certification program is a comprehensive process established, authorized and performed by a state or other governmental entity to minimize the re-introduction of regulated pests and diseases in planting stock once it has left G1/foundation facilities (FPS and CPCNW). The regulations for each certification program defines: participation, site selection, site preparation, isolation distances, plant production, plant identification and labeling, quality assurance requirements, and inspection schedule and pathogens that need to be tested for (GLRaVs, GRBV, etc.)

Getting to This Point

- Funding for these efforts from APHIS Farm Bill through a proposal spear headed by Vicky Scharlau – Exec. Dir. for Washington Winegrowers Association and WA Wine Industry Foundation
- There have been meetings to discuss, rediscuss, and rerediscuss etc. this topic for the past three years
- Participants included industry representatives of wine, juice and table grape growers, wineries, nurseries, regulators from the Idaho, Oregon and Washington State Departments of Agriculture, and researchers in virology, viticulture, entomology
- The process in Oregon and Washington is at the rule writing stage and should soon be available for comment
- In Oregon and Washington the new rules could be in place by the end of June, in Idaho it is a legislative process so will take longer

Pacific NW Grape Quarantines

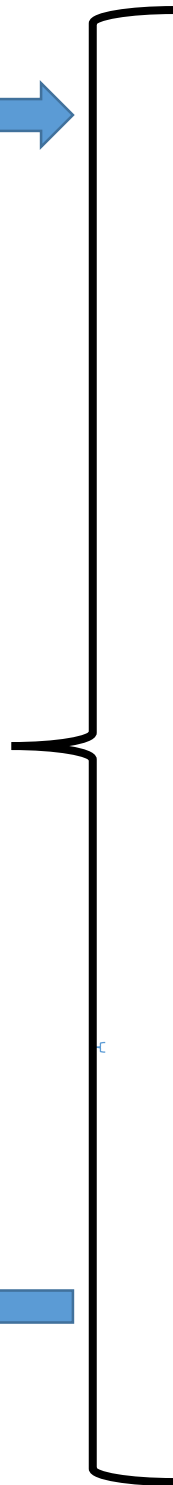
Phytoplasma / Virus / Viruslike	Idaho	Oregon	Washington	Harmonized
Grapevine fanleaf virus (GFLV) (Grapevine degeneration)	X	X	X	X
Grapevine leafroll associated viruses	X	X	X	X
Grapevine virus B (GVB) (Corky Bark)	X	X	X	X
Grapevine virus A (GVA) (Kober Stem Grooving)	X		X	X
Grapevine red blotch virus (GRBV)		X		X
Bacteria				
Xylella fastidiosa (Bacterium causing Pierce's Disease)	X	X	X	X
Insects				
Daktulosphaira vitifoliae (Grape Phylloxera)	X	X	X	X
Planococcus ficus (Vine Mealybug)	X	X	X	X
Glassy Wing Sharpshooter	X	X		X
European Grapevine Moth		X		X
Nematode?				
Xiphinema index (GFLV vector)				X?
Other				
Grapevines from an approved Certification Program	X	X	X	X
Pre-Notification of Shipment	X	X	X	X

Grapevine Certification Program

G1 – Fully tested, ELISA, PCR, BioAssay, HTS, genotyped, maintained in isolation, retested for viruses of greatest concern (FPS and CPCNW)



Certification



Nursery purchases plants from FPS or CPCNW to establish **G2 Blocks (Registered)**, this includes cultivars, clones, rootstocks, etc.



G2 Block is located, isolated, planted, maintained, inspected and **tested** as defined by State Department of Agriculture



G2 plants can be used to increase size of G2 Block or establish **G3 Blocks**, which are managed in the same way as G2 Blocks, but one more propagation cycle (G-level) removed from the G1 block and at a new site



G2 and G3 plants are used to create **G4 Blocks (Certified)** plants, these may be self-rooted or grafted. To be certified, the rootstock and scion must be certified



Certified Plants for planting vineyards

Grapevine Certification Program

- Definitions (Change to meet NAPPO and EPPO language, and harmonize with WA and ID to create regional program)
- General requirements
- Requirements for registered blocks (G2 and G3)
 - Field condition
 - Container grown
 - Tissue culture
- Requirements for registered blocks (G2 and G3)
- Requirements for certified plants (G4)
- Procedures for inspection and testing
- Tagging and identity of certified grapevine stock
- Application for certification and fee

Standards	Current	Proposed
Approved mother sources for registered plants	Yes	Yes G1, G2, G3, and G4
Registration numbers to registered plants (G2 and G3)	No	Yes
Registered block: Field condition (buffer distance)	30 ft	100 ft
Free of non-registered <i>Vitis</i> spp within last 10 years or grapevine fan leaf virus or existing host tested negative for viruses	No	Yes
Containers or pot-in-pot	No	Yes
Tissue culture propagation	No	Yes
Monitoring and inspection	Yes	Yes
Mandatory testing for high-risk viruses	No	Yes
Test based on a lot	No	Yes
Variety classification (Asymptomatic and symptomatic varieties)	No	Yes
Level one (no virus diseases) vs level two (no serious virus diseases)	Yes	No
Certification tags	Yes	Yes
Program funding	License fee	Cost Recovery?

Major Requirements for Inspection and Testing

- Registered plants (G2/G3) per lot - Inspections
 - Two times (spring and fall) and follow up as needed
 - Asymptomatic cultivars and symptomatic cultivars
- Symptomatic cultivars - Testing
 - Symptomatic and adjacent vines shall be tested, and positive vines removed
 - Plus Test: hypergeometric distribution at 95% confidence level at 5% level of detection (ISPM 31) per lot.
- Asymptomatic cultivars - Testing
 - 5 year test cycle
- Certified plants (G4)
 - Visual inspection during growing season and harvest if needed



G1 Foundation



G2 Mother/G3 Increase
Monitored, Tested, Rogued



G4 Nursery Inspected

Transition Period

Beginning **January 1, 2021**, all grape plants or cuttings entering Oregon must be from an approved certification program, **OR** derived from mother vines that have been tested and found free from pathogens that are of regulatory and economic concern within the previous year. Testing must be done by a laboratory and using methods approved by the department.

Beginning **January 1, 2023 only** grape plants or cuttings originating from an approved certification program are eligible for entry into Oregon. The approved certification program must be comparable to the grapevine certification adopted by the Oregon Department of Agriculture. An approved certification program, at a minimum, must include testing for pathogens that are of regulatory and economic concern.

Testing of G2 and G3 Blocks

Symptomless cultivars – All plants must be tested on a five year cycle, with at least 20% of the plants tested annually

Symptomatic cultivars – **This is area of debate**

In Washington vineyards, 96% of symptomatic red-fruited vines tested out of 2,063 were positive for GRBV, or GLRaVs. Plant Dis. 2018: 102:2129-2135.

At FPS, 21 GRBV positives identified in Russell Ranch G1 block in 2018. The entire block (4402 plants) was tested by qPCR for GRBV and GLRaV-3 in 2018. In the red-fruited cultivars, only the symptomatic plants were positive for GRBV, and all qPCR positive plants were symptomatic.

Should program require testing of red-fruited cultivars in same manner as white-fruited cultivars?

Or, should there be testing of symptomatic plants, with additional testing of the adjacent plants, combined with a random sampling of the block?

Hot Water Treatment and Fumigation

- Field-grown rooted plants or cuttings from field-grown plants must be subject to one of the following treatments and stored so as to prevent reinfestation:
 - [a] Washed so as to remove all soil or other growing media and immersed in hot water at 89 to 94 °F for five to seven minutes and followed by 126 to 129 °F for five minutes or
 - [b] fumigated in accordance with the rates and practices recommended by Oregon State University.