



Perennia Plant Health Lab Sampling Guidelines and Submission Form

Perennia's Plant Health Lab is here to help protect Nova Scotia's vineyards. The following guidelines will help you take the best possible samples for accurate test results.

Virus testing sampling tips

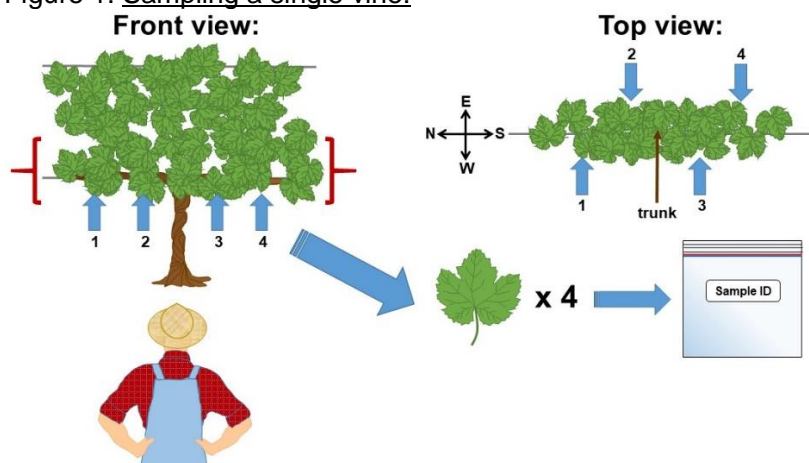
1. Collect only mature leaves from the grapevine's bottom portion (see Figures 1 & 2) in mid-August to mid-October.
2. Leaves should be free of disease, insects, and mechanical damage and shouldn't be senescing or dropping.
3. Always collect 4 leaves from each grapevine. When facing the vine, collect 2 leaves from the front (or west side of the vine if rows are planted north-south), and 2 from the back (or east side).
4. Take the leaf by the petiole (leaf stem) and bend it back to gently remove it from the vine. Avoid touching the petiole ends to eliminate cross-contamination.
5. Place your samples in labelled resealable plastic bags and keep them cool until shipped or dropped off at the Plant Health Lab. Samples shouldn't be refrigerated for more than one night before shipment or delivery.
6. Label your bags with a unique sample ID written in permanent marker that you can trace back to the tested vines. For example, the ID can contain your farm name, the block identifier, the variety, the row, the panel (the space between 2 trellis posts) and the vine sampled (*e.g.*, Sunshine Vineyards, block 3, L'Acadie Blanc, row 12, panel 10, vine 4 would be "SV-B3-LB-R12-P10-V4").
7. Mark the vine(s) sampled in the field with flagging tape.
8. Send samples in a Styrofoam cooler with ice packs.
9. If delivering samples in person, let the Plant Health Lab know in advance when they'll be dropped off.
10. Always include a sample submission form (at end of document), and sign to indicate that you've read and understand the Plant Health Lab disclaimer statement.
11. We accept samples Monday through Wednesday. Note: the Perennia Truro offices do not accept Plant Health Lab samples.
12. Perennia staff can visit your vineyard and collect samples on your behalf for an additional fee. This should be arranged at least one week in advance.

Sampling an individual vine (Figure 1)

If you want a particular grapevine tested, we accept individual grapevine samples. This tells you whether a specific vine is positive or negative for a virus, or group of viruses. Note: results are specific to the single plant.

- Collect 4 leaves with petioles intact from the bottom portion of the vine, following the steps in Figure 1.
- Place the 4 leaves in a labelled resealable plastic bag with a unique sample ID.
- Don't mix varieties or multiple vines in a sample bag.
- Keep your samples cool, and transport them to the Plant Health Lab as soon as possible.

Figure 1: Sampling a single vine:



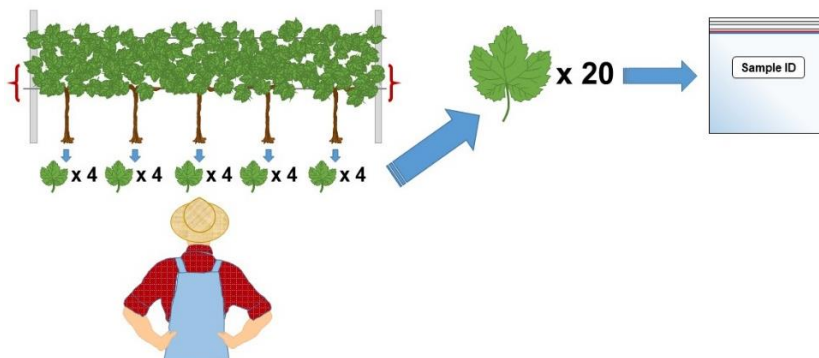
Instructions: Collect 4 leaves with petioles (where leaf attaches to vine) intact from bottom portion of vine (red brackets). If row is planted in a north-south orientation, pick 2 leaves from west side of vine and then reach around and pick 2 leaves from east side of vine (see top view). Place 4 leaves in a labelled resealable plastic bag with unique sample ID so it is traceable back to vine when you receive results. Keep samples cool and ship to Plant Health Lab in a cooler on ice packs as soon as possible.

Taking a composite sample (Figure 2)

Perennia also accepts composite samples for grapevine testing. This is where a grouping of grapevines is tested together in a pooled sample to determine the extent of infection in a varietal block.

- Generally, 1 composite sample consists of 5 vines planted next to each other in a panel (see Figure 2).
- Multiple composite samples should be evenly spaced across and down rows at regular intervals.
- It's up to you to decide how many composite samples to submit. For a 1-acre block planted at a density of 1,000 vines/per acre, we suggest you take 20 composite samples, representing 100 vines (5 vines x 20 samples = 100 vines), or 10% of all vines in that block.
- From each of the 5 vines, collect 4 mature leaves (following the steps in Figures 1 & 2).
- Place the 20 leaves (5 vines x 4 leaves) in a labelled resealable plastic bag with a unique sample ID.
- If submitting 20 composite samples, you should have 20 separate bags containing 20 leaves per bag.
- Keep your samples cool and transport them to the Plant Health Lab as soon as possible.

Figure 2: Taking a composite sample:



Instructions: For a composite sample of 5 adjacent vines, sample each vine as you would an individual vine (4 leaves with petioles intact, 2 from west side of vine, 2 from east side of vine). Choose leaves from bottom portion of vine (red brackets). If sampling 5 vines, you should have 20 leaves total. Place 20 leaves in labelled resealable plastic bag with unique sample ID so it is traceable back to the 5 vines when you receive results. Keep samples cool and ship to Plant Health Lab in a cooler on ice packs as soon as possible.

Example sample submission form (1 varietal block of L'Acadie Blanc and 5 Pinot Noir vines that grower suspects have Red Blotch virus)

Grower/company name: Sunshine Vineyards
 Contact name: John Smith Phone number: 902-123-4567
 E-mail address: johnsmith@sunshinevineyards.ca
 Submission date: Sept. 1 2019 Number of samples: 25

No.	Sample ID	Vine/composite	Virus testing for (denote with checkmark):		
			Leafroll-Associated Virus 1	Leafroll-Associated Virus 3	Red Blotch Virus
1	SV-B3-LB-R1-P1-V1-V5	composite	✓	✓	✓
2	SV-B3-LB-R1-P8-V1-V5	composite	✓	✓	✓
3	SV-B3-LB-R1-P15-V1-V5	composite	✓	✓	✓
4	SV-B3-LB-R1-P22-V1-V5	composite	✓	✓	✓
5	SV-B3-LB-R5-P1-V1-V5	composite	✓	✓	✓
6	SV-B3-LB-R5-P8-V1-V5	composite	✓	✓	✓
7	SV-B3-LB-R5-P15-V1-V5	composite	✓	✓	✓
8	SV-B3-LB-R5-P22-V1-V5	composite	✓	✓	✓
9	SV-B3-LB-R9-P1-V1-V5	composite	✓	✓	✓
10	SV-B3-LB-R9-P8-V1-V5	composite	✓	✓	✓
11	SV-B3-LB-R9-P15-V1-V5	composite	✓	✓	✓
12	SV-B3-LB-R9-P22-V1-V5	composite	✓	✓	✓
13	SV-B3-LB-R13-P1-V1-V5	composite	✓	✓	✓
14	SV-B3-LB-R13-P8-V1-V5	composite	✓	✓	✓
15	SV-B3-LB-R13-P15-V1-V5	composite	✓	✓	✓
16	SV-B3-LB-R13-P22-V1-V5	composite	✓	✓	✓
17	SV-B3-LB-R17-P1-V1-V5	composite	✓	✓	✓
18	SV-B3-LB-R17-P8-V1-V5	composite	✓	✓	✓
19	SV-B3-LB-R17-P15-V1-V5	composite	✓	✓	✓
20	SV-B3-LB-R17-P22-V1-V5	composite	✓	✓	✓
21	SV-B1-PN-R5-P6-V2	vine			✓
22	SV-B1-PN-R8-P11-V5	vine			✓
23	SV-B1-PN-R10-P2-V1	vine			✓
24	SV-B1-PN-R14-P20-V3	vine			✓
25	SV-B1-PN-R16-P6-V4	vine			✓

I have read and understand the Perennia Plant Health Lab disclaimer statement.

John Smith Sept. 1 2019
 Signature Date

Disclaimer

A sample testing negative for a virus cannot prove unequivocally the absence of virus due to seasonal and temporal fluctuation in pathogen levels, the inherent limitations of sampling and testing protocols, and the possibility of pathogen strain variability. Therefore, Perennia Food & Agriculture Inc. makes no warranties or guarantees based on negative test results that a sample is unequivocally free of infection, and subsequently is not liable for any resulting management decisions made by the client. By submitting samples to the Plant Health Lab, the client agrees to the inclusion of their anonymous aggregate testing results for research purposes only. All information collected by the Plant Health Lab is confidential, barring situations where reporting to the Canadian Food Inspection Agency (CFIA) is required.

For more information contact:

Xiaotang Yang
Plant Health Lab
Perennia Food & Agriculture Inc.
902-300-3825
xyang@perennia.ca

Samples can be shipped to or dropped off at:

Plant Health Lab ATTN: Xiaotang Yang
Perennia Food & Agriculture Inc.
32 Main Street
Kentville, NS B4N 1J5

Plant Health Lab Sampling Submission Form

- Please read and follow the sampling and submission guidelines. Contact Perennia if you have any questions. Attach additional pages if submitting more than 25 samples. Please sign bottom of form to indicate you have read and understand the disclaimer statement.

Grower/company name: _____

Contact name: _____

Phone number: _____

E-mail address: _____

Submission date: _____

Number of samples: _____

No.	Sample ID	Vine/composite	Virus testing for (denote with checkmark):				
			<i>Leafroll-Associated Virus 1</i>	<i>Leafroll-Associated Virus 2</i>	<i>Leafroll-Associated Virus 3</i>	<i>Red Blotch Virus</i>	<i>Pinot Gris Virus</i>
1							
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I have read and understand the Perennia Plant Health Lab disclaimer statement.

Signature

Date