

## **Amendment to**

### **CGCN-RCCV's Interim Verification Program Protocols**

The CGCN-RCCV Board of Directors have amended the CGCN-RCCV Interim Verification Protocols (hereinafter “the protocols”) on May 28<sup>th</sup>, 2024.

The amendments to the protocols are as follows:

1. On the cover page, after Effective Date, an End Date was established as March 31<sup>st</sup>, 2028. Please note that testing under the protocols will end on March 31<sup>st</sup>, 2028, however material produced under the protocols may be sold until July 31<sup>st</sup>, 2029.
2. Under the Prescreening section, the following changes were implemented:
  - a. Listing CGCN-RCCV “Certified Plus” G2 or G3 and CGCN-RCCV “Certified” G3 material as equivalent to CGCN-RCCV Verified material was removed.
  - b. The viruses of concern for pre-screening measures now includes Tomato Ringspot Virus (ToRSV), as well as Grapevine Leafroll 1 and 3 (GLRaV 1 and GLRaV 3), and Red Blotch Virus (GRBV). Additional information regarding the Canadian Food Inspection Agency (CFIA) regulated pest status of ToRSV is included.
3. Under the Descriptive Phrasing section, the following changes were implemented:
  - a. Terms were added to the Paperwork section to require that:
    - i. If both the rootstock and scion wood have been verified by CGCN-RCCV, or the plant is own-rooted and propagated from CGCN-RCCV verified material, the invoice must explicitly outline the viruses being tested for.
    - ii. If only the scion part of a grafted plant is from material verified by CGCN-RCCV the invoice must outline the viruses being tested for, and the type and source of rootstock.
  - b. Terms were added to the Rootstock section to require that vine labels/tags and associated paperwork (shipment and invoices) must identify the type and source of rootstock.
4. Under the Verification and Inspections section, the requirement of an in-person or remote inspection is at the discretion of the CGCN-RCCV Board of Directors.
5. Appendix 3: Viruses of Concern was amended to test for four viruses of concern - Tomato Ringspot Virus (ToRSV), Grapevine Leafroll 1 and 3 (GLRaV 1 and GLRaV 3), and Red Blotch Virus (GRBV).
6. Appendix 4: Frequency of Retesting, Table 1 was amended to reflect that if the level of virus infection in year 2, or subsequent years, is between 0.1%-1%, then annual audit testing in year 3 for those specified blocks must be at 30% random sampling.
7. Appendix 6: Cost of Sampling and Testing was amended to reflect the price changes associated with increased testing measures. Dormant cane samples are composites from two vines; every test for the four viruses is \$72.00. Leaf samples collected between August and first fall frost are composite samples of five vines; every test for the four viruses is \$68. Collection and mapping remain at \$8 per sample.

**Canadian Grapevine Certification Network**



**Réseau Canadien de Certification de la Vigne**

**CANADIAN GRAPEVINE CERTIFICATION NETWORK**

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EFFECTIVE DATE: August 1, 2019

END DATE: March 31<sup>st</sup>, 2028

**NOTE: Testing under these standards will end on March 31st, 2028, and participating nurseries may choose to transition to the CGCN-RCCV “Certified” Program. Material resulting from this program may be sold until July 31st, 2029.**

VERSION NUMBER: 2.1 (Amended May 28<sup>th</sup>, 2024)

**TITLE: CGCN-RCCV Code of Practice - Interim Verification Program**

The Canadian Grapevine Certification Network – Réseau Canadien de Certification de la Vigne (CGCN-RCCV) is a national not for profit corporation with the mandate to develop and implement Verification and Certification schemes for the sanitary status of propagating material used in the production of grapevines. This code of practice refers to the verification of the absence of a limited number of viruses of concern in material used for propagating grapevines.

**Updates**

The Program will be amended from time to time as new knowledge emerges, and the most recent version will be published on the CGCN-RCCV website [www.cgcen-rccv.ca](http://www.cgcen-rccv.ca). Users should ensure that they are referring to the most recent version.

**Disclaimers**

While this Program’s objective is to allow verification of plant material that has been produced under a system which aims to minimize the risk of Leafroll 1, Leafroll 3, Red Blotch and Tomato Ringspot infection being present in grapevines, there remains the possibility that a proportion of plants may contain these viruses, or other unlisted viruses. CGCN-RCCV accepts no liability for claims regarding virus being present in any verified plants.

As outlined in Canada’s *Plant Protection Act*, any detection of a known or potential plant pest in an area of Canada where the pest has not previously been known to exist must be reported to the [Canadian Food Inspection Agency \(CFIA\)](https://www.inspection.gc.ca/food-safety/inspection-agency/cfia). In the event that a new or existing pest is detected through this project, the CFIA will be notified and will put appropriate control measures in place. Typically, this involves the restriction of propagation, although vector control or removal of diseased material may also be encouraged. It is important to note that even when removal of diseased material is the most efficient control strategy, removal decisions will rest with the individual in care and control of the infected material and will not be ordered by the CFIA.

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## Definitions

**Agent:** an independent body or individual charged with performing specific tasks for CGCN-RCCV.

**Audit trail:** a set of records pertaining to propagating material collected, processed, sorted, planted, and sold as finished plants. Audit records are to be kept for 10 years.

**Chain of Custody:** the chronological documentation or paper trail from the plants verified by CGCN-RCCV used for propagating material to the nursery or contractor to the end consumer.

**Code of Practice:** a document describing processes and procedures.

**Co-mingling:** integration of plants produced under the CGCN-RCCV Verification Program coming into contact with plants NOT produced under the program. This can include, but is not limited to, being handled in the same facility without cleaning between, and storing vines in the same location.

**Descriptive Phrase:** tag/label, and line on invoice and shipment documentation to customer indicating that plants have been produced from CGCN-RCCV material verified to be free from GLRaV-1 and -3, and GRBV.

**Generation 2 (G2) material:** material that has been propagated from G1 or G1A mother plants in CGCN-RCCV's "Certified Plus" program.

**Generation 3 (G3) material:** material that has been propagated from G1, G1A or G2 plants in CGCN-RCCV's "Certified Plus" program or tested according to the protocols developed in CGCN-RCCV's "Certified" program.

**Grapevine(s):** Vines, cuttings, grafts, scions, buds, rootstock and other plants and plant products of grapevine for vegetative propagation.

**Nursery:** Canadian facility that produces grapevine nursery stock.

**Pest:** Anything that is injurious or potentially injurious, whether directly or indirectly, to plants or to products or by-products of plants, and includes any plant prescribed as a pest.

**Pest control manager (PCM):** A qualified person employed by an approved facility and given overall responsibility and authority for implementing the requirements of a specified program.

**Propagation Block(s):** Discrete/identifiable areas or fields used to produce vines for direct sale to growers. This may include fields, areas defined by physical separations such as a road, lane or creek, areas used potted plants or a greenhouse or a distinct, physically separated area within a greenhouse.

**Tested:** Having been subjected to an official examination, other than visual, by an Approved Lab in Appendix 2, to determine the presence or absence of a pest.

Verified material: grapevine material that has been tested and found free of the viruses of concern in Appendix 3.

Vineyard block: contiguous planting of grapevines that are being tested under the Verification program protocols.

Virus: Virus and virus-like pathogens including phytoplasmas, viroids, and graft-transmissible agents.

## General

Propagation blocks will be sampled and tested by an Approved Lab or Agent in Appendix 2. The protocol for sampling the grapevines in Appendix 5, must be followed to ensure that leaf or cane samples (dependant on time of year) are taken from the best locations on each grapevine. Since labels and tags can be inadvertently lost or removed from plants, nursery samples will be collected and tracked (via GPS) by an Approved Lab or Agent for traceability.

All testing and inspections will be at the expense of the nursery facility (see Appendix 6), unless otherwise agreed upon by CGCN-RCCV and the nursery facility.

## Pre-screening

An initial random sample of ten percent of the grapevines in the prospective propagating block will be collected, mapped and tested using the Sample Collection Protocol in Appendix 5 for Leafroll 1 and 3 (GLRaV 1 and GLRaV 3), Red Blotch Virus (GRBV) and Tomato Ringspot Virus (ToRSV) (see Appendix 3) by an Approved Lab or other CGCN-RCCV approved agent. If the rate of positive tests is below approximately 15%, CGCN-RCCV and the nursery will proceed to full testing of the propagation block(s) as described below. Blocks testing more than 15% positive for virus infection are not deemed economically viable for the purpose of this program.

Please note that ToRSV is a [regulated pest](#) according to the Canadian Food Inspection Agency (CFIA). CGCN-RCCV is obligated to report any positive cases to the CFIA. Please contact CGCN-RCCV staff, or CFIA directly, if you would like to have more information of when the CFIA is notified of a suspected detection of a regulated pest.

## Full Testing

Samples of grapevines (either dormant grapevines or late season leaf material, dependant on time of year) will be collected, mapped and tested in contiguous full or part blocks of grapevines as per the Sample Collection Protocol by an Approved Lab or other CGCN-RCCV approved agent. Grapevines tested in the pre-screening process will not be re-sampled provided the pre-screening was performed in the same growing cycle. Samples will be tested by an Approved Lab (Appendix 2) for the Viruses of Concern (Appendix 3). The grapevines associated with any positive samples (in both pre-screening, and full screening) will have to be either removed from the planting or retested individually to identify the infected plant(s) which will then have to be removed. Grapevines in the composite samples with positive readings will only be re-tested for the virus/viruses identified previously. Please refer to the Confirmation of Vine Removals section below.

Once initial testing is completed and removal of positives is confirmed by the Approved Lab or Agent, the nursery or owner of the block is free to collect wood for the purpose of producing own rooted or grafted grapevines.

### Confirmation of Vine Removal

Vines that have been identified as positive for any of the viruses of concern in Appendix 3 must be removed BEFORE material is collected for propagation. If testing is conducted on leaf samples (typically August through early October), positive pull-outs (if any) must be completed and recorded annually by December 1<sup>st</sup> of that same year. If testing is conducted on cane samples, positive pull-outs (if any) must be completed and recorded within 30 days of receiving your test results. If it is not possible to remove the entire vine within this timeframe due to winter/frozen ground conditions, then all canes must be removed from the vine and the trellis before material is collected for propagation. Once the ground has thawed to begin the growing season (typically April through May), the trunk must be removed with as many roots as possible and disposed of. Confirmation of removal of positive vines will be audited annually.

### Ongoing Maintenance of Virus Free Status

In the second year and subsequent years random consolidated samples from ten percent of the planting will be collected in the late summer or fall, in addition to samples of remaining plants that are adjacent to plants in the same row that were removed in the previous year. Please refer to Appendix 4 for Frequency of Retesting details. All samples will be taken in accordance with the sample collection protocol in Appendix 5, by an approved lab in Appendix 2. Any grapevine(s) testing positive for one or more virus(es) of concern will have to be removed as described above.

If yearly random samples show a consistently higher positive count than the acceptable level of 0.1%, the Propagation block(s) must be sampled and tested at a higher level for the virus(es) exceeding the 0.1% threshold, in accordance with Appendix 4, or the block will have to be abandoned for the purpose of providing verified propagating material.

Frequent vector monitoring and properly timed control in both the propagating blocks and the nursery/greenhouse will be key to maintaining 'clean' status. The nursery will be required to document vineyard maintenance, as well as report immediately to CGCN-RCCV any visual changes indicating possible virus in the vineyard.

### Record Keeping

The chain of custody needs to be documented and maintained in a manner to prevent accidental loss and be legible and retrievable for 10 years. CGCN-RCCV or one of its agents will have to be granted access in order to be able to verify the audit trail from the site of collection of material to the end consumer. Failure to produce records in a timely manner may jeopardize verification status. Records include, but are not limited to:

- Amount and location of wood collected (either: number of buds, meters of wood or number of cuttings) and resulting chain of custody to saleable plants
- Number of marketable plants, and whether green or dormant
- Identification and demonstration that plants under CGCN-RCCV program are properly identified and segregated from non-tested material according to CGCN-RCCV's policies regarding Certification Claims

- Procedures to ensure that co-mingling of verified and non-verified material cannot occur
- Records of vector monitoring and control measures
- Record of location and removal procedure of infected grapevines or samples that test positive and associated vines,
- Records of sale or plant movement, invoices. The records must list all grapevines (grafted or own rooted) planted and sold under the CGCN-RCCV Verification Program.

## Descriptive Phrase

Should an auditor, inspector and/or CGCN-RCCV Board or staff member visit the nursery facility, they should be able to easily identify CGCN-RCCV material based on plant/vine labelling and paperwork as described below. Please refer to CGCN-RCCV's Permitted Certification Claims policy document for further details.

## Plant/Vine Labelling

Plants that are produced according to these Verification Protocols must be tagged/labelled using weather-resistant material.

- If both the rootstock and scion wood have been verified by CGCN-RCCV, or the plant is own-rooted and propagated from CGCN-RCCV verified material, the product must be tagged/labelled as “*CGCN-RCCV verified*” (or the words “*verified by*” followed by the *CGCN-RCCV logo*).
- If only the scion part of a grafted plant is from material verified by CGCN-RCCV the tag/label must be tagged/labelled as “*scion verified by CGCN-RCCV*” (or the words “*scion verified by*” followed by the *CGCN-RCCV logo*).
  - Please refer to the “Rootstock” section below for labelling non-CGCN-RCCV sourced rootstock.

## Paperwork

The descriptive phrase will be used on documentation accompanying shipment of plants and on invoices. The following details must be outlined:

- CGCN-RCCV plants distinguished from non-CGCN-RCCV plants;
- CGCN-RCCV per-plant levy (\$CAD) amount;
- List the variety/clone name;
- Quantity of each variety/clone;
- Descriptive phrasing;
  - If both the rootstock and scion wood have been verified by CGCN-RCCV, or the plant is own-rooted and propagated from CGCN-RCCV verified material, the invoice must outline the viruses being tested for, such as:
    - “*CGCN-RCCV Verified tested for GLRaV-1, -3, GRBV and ToRSV*”
  - If only the scion part of a grafted plant is from material verified by CGCN-RCCV the invoice must outline the viruses being tested for, and the type and source of rootstock. Suggested language may include:
    - “*Scion verified by CGCN-RCCV (or CGCN-RCCV logo) for GLRaV-1, -3, GRBV and ToRSV grafted onto XYZ rootstock from [SOURCE]*”.



## Rootstock

Domestically produced rootstock under this program will be treated the same as scion wood above.

In the case of domestic CGCN-RCCV tested scion wood grafted onto non-CGCN-RCCV rootstock:

1. If the rootstock is from certified sources in California, Oregon, New York or Washington State, the label and associated paperwork must identify that the rootstock is certified by the respective State and the scion wood can claim:

*“Scion verified by CGCN-RCCV (or CGCN-RCCV logo) and XYZ rootstock from [SOURCE].”*

2. If the rootstock is of French or German origin, the label and associated paperwork must be identified as such and the scion wood can claim:

*“Scion verified by CGCN-RCCV (or CGCN-RCCV logo) and XYZ rootstock from [SOURCE].”*

## Promotion of CGCN-RCCV Material

For complete details in using the CGCN-RCCV name and/or logo, please refer to CGCN-RCCV’s Marketing, Communication, and Graphic Standards Policy.

## CGCN-RCCV Marketing Badges



A nursery that has received test results under the Verification protocols is eligible to use the CGCN-RCCV marketing badge. The marketing badge is eligible to be displayed in the nursery’s facility, and within communications and promotions. CGCN-RCCV staff will send a customized marketing badge (as seen in the above template) via email upon receipt of payment for Verification testing.

## Website

A nursery is only eligible to make CGCN-RCCV Verification claims on their website once they have received test results. Only nurseries that have been approved by the Board will be listed on CGCN-RCCV’s website on the [Verification](#) webpages.

A nursery participating in CGCN-RCCV Verification protocols may list the CGCN-RCCV varieties and rootstocks available for order on their website. Material is only to be listed once it is readily available for customers to order or purchase. If a nursery has stock available in more than one CGCN-RCCV program, then the list of plants available for order must be distinguished under each applicable program. If the nursery has non-CGCN-RCCV stock available, then the list of plants must be easily distinguishable from CGCN-RCCV available plants. The nursery has the option to list in both French and English.



The CGCN-RCCV website homepage ([www.cgcnc-rccv.ca/](http://www.cgcnc-rccv.ca/)) and/or relevant protocol webpage must be hyperlinked within the participating nursery's website. It is strongly recommended that the relevant CGCN-RCCV protocols are also available on the nursery's website.

Nurseries are expected to keep their websites up to date on an ongoing basis, including variety availability, marketing badge, and status of Verification. Any nursery that was once a participant in CGCN-RCCV programming and has chosen to withdraw status or has had their status revoked, may still make CGCN-RCCV claims on plants that were previously verified until they are sold or otherwise disposed of. All other CGCN-RCCV claims must be removed from the website and other forms of communication.

### Third party involvement in the production or sale of CGCN-RCCV Verified Material

If a contractor, sub-contractor or any other third party (Contractor) is performing part or all of the wood collection, storage, grafting, callousing, planting, harvesting, grading, selling or any other activity involved in this process, this contractor or sub-contractor is subject to all the rules and conditions in this Code of Practice, including but not limited to record keeping, inspection of facility if requested by CGCN-RCCV and any activity that is part of the chain of custody.

### Application to Participate

Nurseries must submit a completed application to the CGCN-RCCV on an annual basis (Appendix 1) by March 31<sup>st</sup>. Nurseries will be required to sign a contract provided by CGCN-RCCV to participate in this program.

### Verification and Inspections

One annual inspection (either in-person or remote, at the discretion of CGCN-RCCV) will be required by an independent inspector appointed by the CGCN-RCCV. An in-person inspection will be required for nurseries that have sold and/or are selling CGCN-RCCV Verified plants. A remote inspection will be required to validate processes and records for nurseries that are testing material, but not selling CGCN-RCCV Verified plants. In the case that a nursery's test results show positive infections (regardless of whether CGCN-RCCV Verified plants are being sold), an in-person inspection will be required to confirm removal of positive vines. The annual inspection will typically occur between January and February, or after cuttings have been collected for propagation. An additional inspection or verification may be required at any time, based on the program history of the nursery or if the quality of the final plants is directly at risk of being lowered by a non-conformance. CGCN-RCCV reserves the right to hire an independent inspector to conduct the annual inspection. Facility management representation during the inspection is recommended. All costs associated with performing the inspection (including travel) will be the responsibility of the inspected nursery. The Verification test results provided to the nursery will be valid for one year, provided all fees are paid and an audit is conducted. Visit the [Interim Verification Program](#) page of the CGCN-RCCV website to view an example of the nursery inspection checklist. Please note that this checklist serves as an example of what may be expected but will change on a case-by-case basis as deemed necessary to cater to each individual nursery.

Once the inspection is completed and reported on, these records will be provided to the CGCN-RCCV Audit Committee – an arm's-length body comprised of two or more industry experts – to validate the findings. The Audit Committee will submit a report to the CGCN-RCCV Board of

Directors that ultimately recommends granting Verification status or not. The CGCN-RCCV Board of Directors reserves the right to have final say on Verification status.

As part of quality control, CGCN-RCCV will be surveying growers and wineries to identify any grower concerns related to material purchased, identified with the descriptive phrase. Any relevant issues discovered by CGCN-RCCV will be shared with the nursery.

#### Appeal Process - CGCN-RCCV Board decisions/recommendations

If the CGCN-RCCV Board of Directors has granted a certificate of Verification on a conditional basis that the nursery disagrees with, the nursery has 30 days upon notice of conditions to appeal the decision. Throughout the whole appeal process, the nursery is always provided with the option of withdrawing from the CGCN-RCCV Interim Verification program. If the nursery chooses to withdraw from the program, the nursery must provide CGCN-RCCV with a formal letter of notice.

Upon notice of conditions, the nursery can initiate an appeal process by submitting a formal appeal letter to the CGCN-RCCV Project Manager. The letter must provide justification for taking appeal action, explain why the nursery believes the decision of the CGCN-RCCV Board of Directors is wrong or unjust, and present a potential solution. Once the CGCN-RCCV Project Manager receives this letter, they will pass along the request to the CGCN-RCCV Board of Directors.

The appeal will be reviewed and managed by an ad hoc appeal committee agreed upon by the CGCN-RCCV Board of Directors and the nursery. The ad hoc appeal committee may be chaired by the CGCN-RCCV Vice-Chair or other Board representative; however, this Board member will not be given any vote within the appeal committee. The other 2-3 members of the appeal committee may not include members from the CGCN-RCCV Board of Directors. Upon review of the appeal, the appeal committee will work closely with the CGCN-RCCV Audit Committee (and CGCN-RCCV Approved Inspector, if needed) to either 1) agree with the appeal, 2) recommend alternate acceptable solution(s), or 3) reject the appeal all together.

#### Appeal Process Upon Rejection of Verification

If the CGCN-RCCV Board of Directors has voted against providing a nursery with a certificate of verification, the nursery has 30 days upon notice of rejection to appeal that decision. Throughout the whole appeal process, the nursery is always provided with the option of withdrawing from the CGCN-RCCV Interim Verification program. If the nursery chooses to withdraw from the program, the nursery must provide CGCN-RCCV with a formal letter of notice.

Upon notice of rejection, the nursery can initiate an appeal process by submitting a formal appeal letter to the CGCN-RCCV Project Manager. The letter must provide justification for taking appeal action, explain why the nursery believes the decision of the CGCN-RCCV Board of Directors is wrong or unjust, and present a potential solution. Once the CGCN-RCCV Project Manager receives this letter, they will pass along the request to the CGCN-RCCV Board of Directors.

The appeal will be reviewed and managed by an ad hoc appeal committee agreed upon by the CGCN-RCCV Board of Directors and the nursery. The ad hoc appeal committee may be chaired by the CGCN-RCCV Vice-Chair or other Board representative; however, this Board member will not be given any vote within the appeal committee. The other 2-3 members of the appeal committee may not include members from the CGCN-RCCV Board of Directors. Upon review of

the appeal, the appeal committee will work closely with the CGCN-RCCV Audit Committee (and CGCN-RCCV Approved Inspector, if needed) to either 1) agree with the appeal, 2) recommend alternate acceptable solution(s), or 3) reject the appeal all together.

## Appendices

### Appendix 1: Application to CGCN-RCCV Interim Verification Program

Name of facility: \_\_\_\_\_

Location of facility: \_\_\_\_\_

Mailing address of facility (if different from location):  
\_\_\_\_\_  
\_\_\_\_\_

Telephone number: \_\_\_\_\_ Fax number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Name, contact phone and email of owner/person having the possession, care or control of the facility:  
\_\_\_\_\_

Name and contact phone and email of Pest Control Manager:  
\_\_\_\_\_

Intended Canadian provinces for sales of produced grapevines:  
\_\_\_\_\_  
\_\_\_\_\_

I, \_\_\_\_\_ the owner/person in possession, care, or control of the above-named nursery have read and understood all the conditions and obligations stated herein by which I may sell grapevine nursery stock, *Vitis* spp., in accordance with the CGCN-RCCV Interim Verification Program Code of Practice.

I agree to immediately suspend shipment of regulated commodities if notified by the CGCN-RCCV that the designated facility is in non-compliance with the CGCN-RCCV Interim Verification Program Code of Practice. I will immediately notify the CGCN-RCCV if viruses or any other regulated pests are found in the facility. I will allow the name and location of my facility to be included on a publicly accessible website list of nurseries approved under the CGCN-RCCV Interim Verification Program.

Dated \_\_\_\_\_, 20\_\_ at \_\_\_\_\_,

Province of \_\_\_\_\_

Applicant's Signature \_\_\_\_\_

Facility and Preventative Control Plan evaluation completed and facility recommended for participation by:  
\_\_\_\_\_

Authorized CGCN-RCCV Official: \_\_\_\_\_ Date: \_\_\_\_\_

Facility registration number: \_\_\_\_\_

Application approved by: \_\_\_\_\_

Authorized CGCN-RCCV Official Date: \_\_\_\_\_

## Appendix 2: Approved Labs

The CGCN-RCCV has approved the following labs for testing of grapevine material in the CGCN-RCCV Interim Verification Program. Lab choice for testing is based on location, and lab availability. Other labs will be considered as needed.

### **Approved labs:**

CCOVI Virus Diagnostic Lab at Brock University  
1812 Sir Isaac Brock Way  
St. Catharines, Ontario, Canada  
L2S 3A1  
Contact: Sudarsana Poojari

### Appendix 3: Viruses of Concern

The CGCN-RCCV Interim Verification Program has identified the viruses of concern for testing. This is subject to revision as necessary.

**Grapevine Viruses of Concern:**

Grapevine Leafroll Associated Virus 1 (GLRaV-1)

Grapevine Leafroll Associated Virus 3 (GLRaV-3)

Grapevine Red Blotch Virus (GRBV)

\*Tomato Ringspot Virus (ToRSV)

\*Please note that ToRSV is a [regulated pest](#) according to the Canadian Food Inspection Agency (CFIA). CGCN-RCCV is obligated to report any positive cases to the CFIA. Please contact CGCN-RCCV staff, or CFIA directly, if you would like to have more information of when the CFIA is notified of a suspected detection of a regulated pest.

## Appendix 4: Frequency of retesting

In year 2 and all subsequent years of a nursery's involvement in the program, audit sampling will be required at a minimum of 10% of the vineyard block, in addition to vines adjacent to positives that were removed the previous year. If the number of positive samples found exceeds the acceptable threshold level of 0.1%, they must retest the remaining 90% of the block for the virus(es) that are known to be present.

In the case where the percentage of positives continues to equal or exceed the acceptable level of 0.1%, the sample size for 3<sup>rd</sup> and subsequent years (if necessary) shall be calculated based on the Table 1 listed below.

**Table 1**

<b>Virus Infection in Year 2, % of total vines tested</b>	<b>Virus testing for blocks exceeding allowable limit of 0.1% in 3<sup>rd</sup> or Subsequent Years</b>
<b>0.1-1%</b>	30%
<b>1-2 %</b>	40%
<b>2-5 %</b>	60%
<b>&gt;5 %</b>	100%

**\*Virus testing in 3<sup>rd</sup> and subsequent years may be limited to viruses known to be present.**



## Appendix 5: Sample Collection Protocol

Instructions for the collection of grape leaves with petioles for virus testing. Vines will be individually tracked by GPS. All vines will be collected by an Approved Lab from Appendix 2 or Agent.

### Label the sample collection bag

Label each sample collection bag (typically, medium size freezer Ziploc bag or any other bag with a closure) using a permanent marker with the following information:

- Name of the Vineyard
- Name or Number of the Block
- Name of the Variety/Cultivar
- Number of the Row
- Number of the Panel or Post
- Number of the Vine

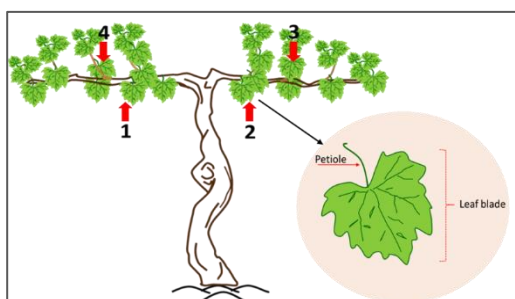
*Example: AA/B10/CH/R1/P2/V3 (Vineyard name short form / Block number / Varietal name / Row number / Panel (post) number / Vine number)*

**Collect the Sample – either leaves with petioles or cane cuttings, dependent on season.**

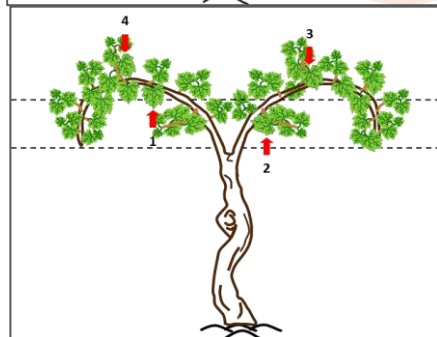
### Leaves with Petioles (Late season sampling)

As shown in the cartoon, collect mature leaves with petioles attached from the bottom portion of the canopy. The petiole is the slender stem that connects the leaf blade to the shoot.

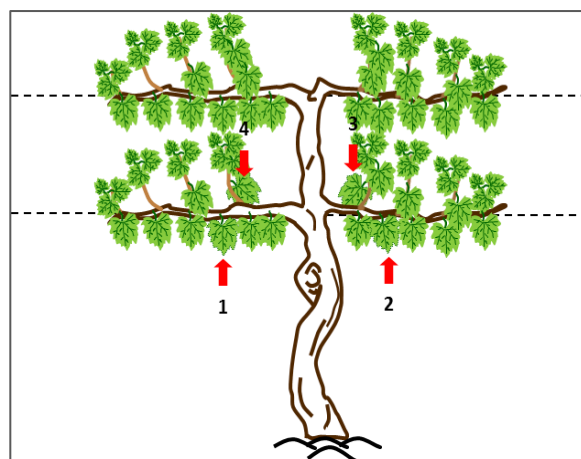
Included are examples of how to sample from common grapevine training systems within Ontario. **Leaf sample collection should always be from the bottom canopy covering both the front and back of the vine.**



Double-cordon sampling



Pendlebogen sampling



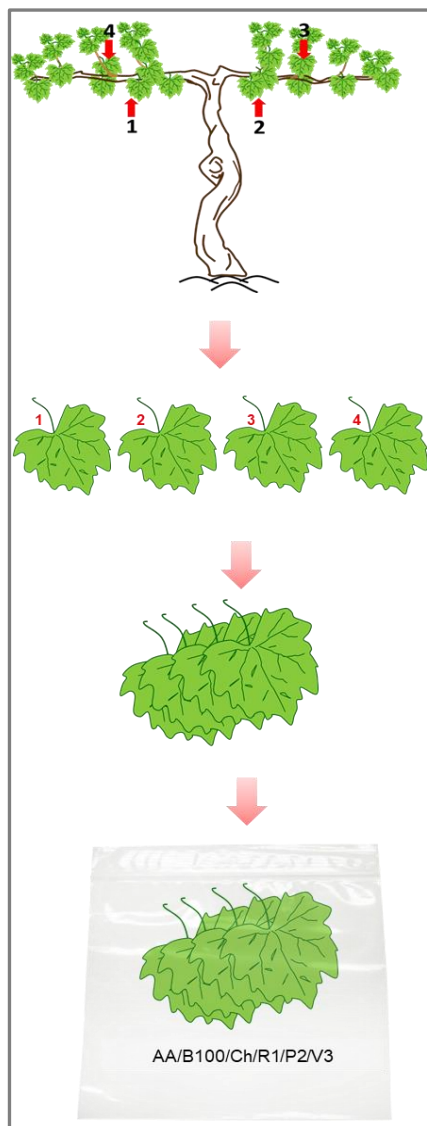
Four-arm Kniffin sampling

### For Testing a Single Vine

1. As shown in the cartoon, please collect **FOUR** mature leaves with petioles covering **FRONT** and **BACK** portion of the vine from all **FOUR** directions (a total of **4 leaves per vine**)
2. Place all **FOUR** mature leaves with petioles on top of each other and place them inside the pre-labeled sample collection bag
3. Seal the bag before sending the sample to the laboratory

### PLEASE AVOID:

- a) Collecting when raining (for virus testing moisture free leaves are expected) and avoid adding additional moisture to samples
- b) Young leaves or leaves from the upper canopy
- c) Dead or senescing leaves
- d) Leaves covered with soil/dirt
- e) Leaves that are heavily damaged by insects feeding or damaged by animals, agriculture equipment, etc.
- f) Touching end of petiole where it is attached to the shoot



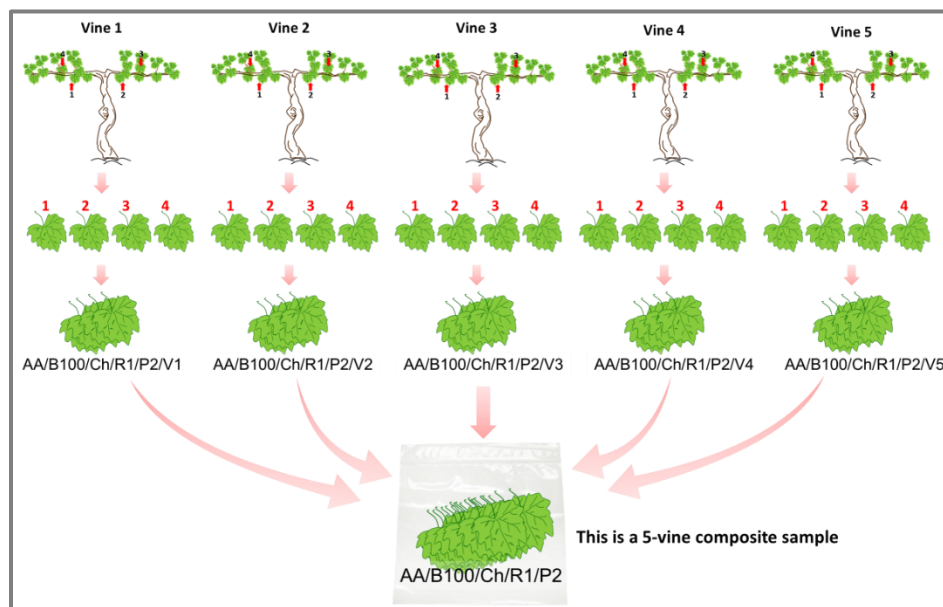
### For Testing Composite of Five Vines

As shown in the cartoon, please collect **FOUR** mature leaves with petioles covering **FRONT** and **BACK** portion of the vine from all **FOUR** directions (a total of **4 leaves** with petioles **per vine**)

Collect accordingly for all 5 vines.

Place the **four leaves** of each vine on top of each other and stack all the **20 leaves** with petioles (four leaves with petioles from each vine) on top of each other and place them into a pre-labeled sample collection bag as shown in the cartoon below.

Seal sample bag before sending to the laboratory.



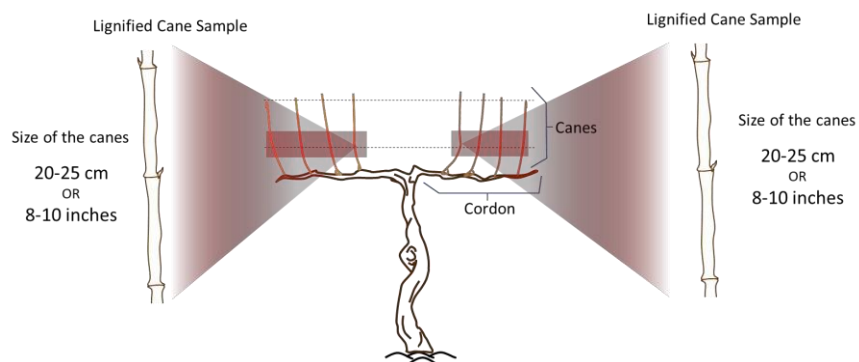
**Note:** In composite samples **all 5 vines are tested** as one combined sample

### When collecting leaf samples, PLEASE AVOID:

- Collecting when raining (for virus testing moisture free leaves are expected) and avoid adding additional moisture to samples
- Young leaves or leaves from the upper canopy
- Dead or senescing leaves
- Leaves covered with soil/dirt
- Leaves that are heavily damaged by insects feeding or damaged by animals, agriculture equipment, etc.
- Touching end of petiole where it is attached to the shoot

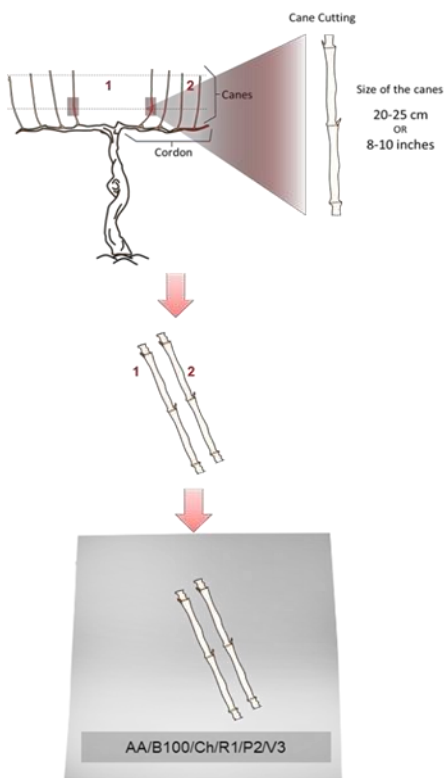
## 2) Collect the Sample Cane Cuttings (dormant season sampling)

As shown in the cartoon, collect mature canes from bottom portion of the canopy. The cane cuttings should be 8-10 inches long.



### Sampling from a single vine

As



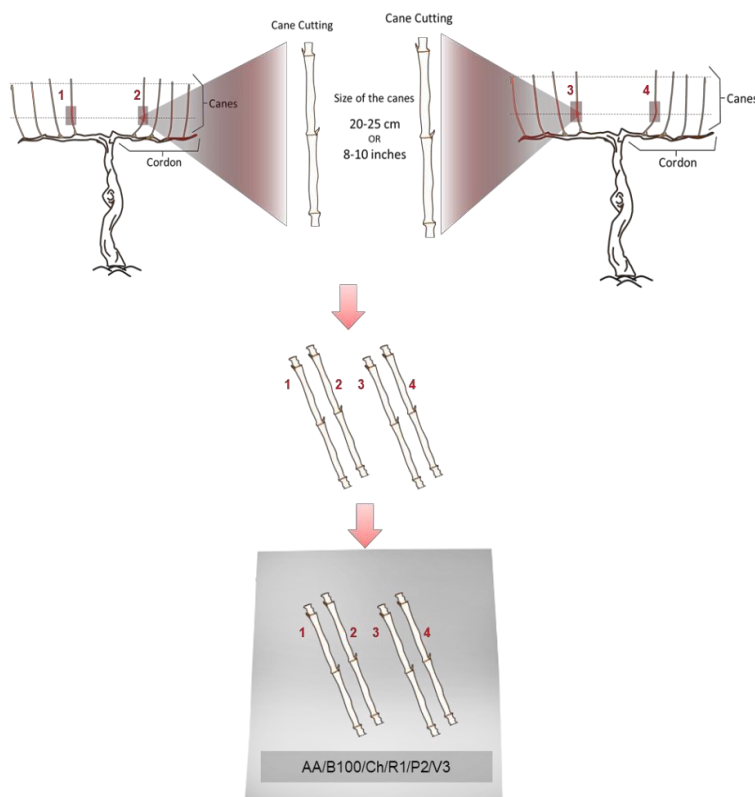
As shown in the cartoon, please collect TWO mature cane cuttings one from each side of the cordon/arm.

Select any cane that is mature from each side of the cordon.

Place both cane cuttings inside the pre- labelled sample collection bag.

Seal the bag before sending the sample to the laboratory.

### Sampling from a composite of two vines



As shown in the cartoon from the first vine, please collect TWO mature cane cuttings one from each side of the cordon/arm.

Collect the cane cuttings from the second vine accordingly.

Place cane cuttings from both vines (total of FOUR cuttings) inside the pre-labelled sample collection bag.

Seal the bag before sending the sample to the laboratory.

### When collecting cane samples, PLEASE AVOID:

- Collecting when raining (for virus testing moisture free canes are expected) and avoid adding additional moisture to samples
- Young cuttings or cuttings from the upper canopy
- Canes from dead vines
- Canes covered with soil/dirt
- Canes that are heavily damaged by insects feeding or by agriculture equipment, etc.
- Canes heavily covered with fungal growth
- Touching the ends of freshly cut canes

## CGCN-RCCV Interim Verification Program

### **Sample Transport**

Please submit the samples to the laboratory on the day of collection. If sending by mail, please store leaf samples in a Styrofoam cooler box with ice packs, seal them before shipping overnight. Transport the samples, in a sampling box (typically, a cooler with ice packs), to the laboratory as soon as possible with sample submittal form and/or store short-term (up to 48 hours) at 4°C. If storing make sure sample bags also contain sampling date.

Samples along with submission form should be addressed to the following address.

### **Shipping Label**

Cool Climate Oenology and Viticulture Institute  
Grapevine Virology Lab IH210  
Brock University  
1812 Sir Isaac Brock Way  
St. Catharines, ON  
L2S 3A1 Canada  
Phone: +1 905-688-5550  
Web: [www.brocku.ca/ccovi/](http://www.brocku.ca/ccovi/)

## Appendix 6: Cost of sampling and testing

Prices quoted are subject to change.

Cost for testing differs between dormant and leaf samples:

- Dormant cane samples are composites from two vines; every test for the four viruses is \$72.00 for the testing and \$8.00 for collecting the sample and mapping it with GPS. In addition, actual travel costs will be added, determined by vineyard location.
- Leaf samples collected between August and first fall frost are composites of five vines; every test for the four viruses is \$60.00 for the testing and \$8.00 for collecting and GPS mapping. In addition, actual travel costs will be added, determined by vineyard location plus travel.
- Sampling and testing costs for the initial pre-screening and the yearly follow up random sampling will be the same per sample as for the full block testing above.
- Sampling and testing individual vines in consolidated samples with positive results will vary, as only the virus(es) found previously will be tested for.
- CGCN-RCCV will collect \$0.25 per plant produced from the verified material for covering the cost of managing and auditing the program. This vine levy amount is subject to change at the discretion of the CGCN-RCCV Board of Directors.
- CGCN-RCCV will collect \$0.10 per plant produced from the verified material under the Interim Verification program Custom Propagation protocols for covering the cost of managing and auditing the program. This vine levy amount is subject to change at the discretion of the CGCN-RCCV Board of Directors.

Cost for Travel to collect samples from vineyard:

The following travel costs are subject to change periodically. Travellers are obliged to keep all invoices and proofs of payment.

- Per diems will contribute to covering the costs for daily accommodation, meals, local or in city transportation (buses, taxis, vehicle rentals, etc.), ground transportation (including parking, to and from the public carrier terminal), entry documents (including passports and visas), insurance (all types), vaccinations and incidentals (personal phone calls, laundry, gratuities, currency exchange fees, etc.) for individual travel.
- Travellers may: a. claim the established per diem; or b. claim an amount less than the established per diem (based on actual costs). Whether using option (a) or option (b), individual invoices and proof of payment for these incurred travel costs will not be required for claims, however, proof of travel is required (for example, boarding pass, hotel invoice, trip report) and travellers are obliged to keep all invoices and proof of payment. If using option (a) per diems are payable for every day on travel status as follows:
  - i. day trip within Canada with no overnight stay: \$70 CAD/day
  - ii. day trip outside Canada with no overnight stay: \$100 CAD/day
  - iii. travel within Canada with an overnight stay: \$300 CAD/day
  - iv. travel outside Canada with an overnight stay: \$425 CAD/day
  - **Travel status:** occurs where a person, conducting CGCN-RCCV Interim Verification Program related activities, is more than 50kms (one way) from their



assigned workplace using the most direct, safe and practical route, usually for more than one day.

- The traveller may claim cost for air, rail and ground transportation (to an out-of-city destination) for individual travel as follows:
  - a. air: economy rate (not Business or First Class) fare
  - b. private vehicle: kilometric rates (at a rate of up to \$0.55 per km) as well as costs for parking at the destination
  - c. rental vehicle: the cost for a mid-size vehicle (or the cost of a larger vehicle, based upon factors such as, but not limited to, safety, the needs of the traveler, and the bulk or weight of goods transported), gas, and parking at the destination.