

Plant Health Services

Sampling and Testing Overview

Eurofins STA Plant Health Services provides state-of-the-art testing for the diagnostics and detection of major grapevine pathogens. Different methods including microbiological culture, ELISA, PCR and RT-PCR are used depending on the pathogen. We have grouped the pathogens into different panels (A, B, CG, PD, Fungal) based on sampling/testing requirements. Research has shown that there is seasonal variation in the concentration of grapevine pathogens. Furthermore the distribution of pathogens follows a pattern and certain pathogens can be found in higher concentrations in different parts of the plant. Our laboratory has developed sampling methods that takes into consideration the seasonal variation and pathogen location to optimize the detection of harmful pathogens. To assure accuracy of results, when multiple diagnostic methods are available, submitted samples will be tested by at least two independent methods. STA Labs offers custom disease diagnostics, please contact us for specific sampling instructions.

Sampling Submission Instructions:

We recommend submitting 2 samples per vine for analyses. However, most vineyard managers prefer to sample more vines in a block than testing one vine thoroughly. Samples should be clearly labeled and placed in plastic bags. It is important to place some paper towels in between the plant material and avoid excessive moisture. Please fill the “Grapevine Disease Testing” order form and send samples directly to our laboratory (Attn: Zaida Morales or Judit Monis) preferable by overnight delivery. Please contact us if you need more information and to reserve a testing slot.

Special Sampling Instructions: Out of State Samples:

USDA APHIS regulations require that samples be placed in double leak-proof bags within a sturdy leak proof container. To fulfill this requirement, please place individual samples in a zip lock bag. Thereafter all samples could be placed in a larger zip-lock bag. Alternatively, each sample can be placed in one bag and placed within a second bag of the same size. All samples must be shipped in a sturdy (leak proof box). CDFA requires that the box should be clearly marked with the following information: The name and address of the shipper or owner, the name and address of the person to whom the shipment is sent, the name of the country, state, county, or territory where the plants were grown, and a statement of the contents. If providing samples with roots, please shake off dirt and place roots separately from other plant material. Please do not allow soil to contaminate the box or leak outside of the box.

Please note that a special shipping label to direct samples to a USDA APHIS inspection facility is required for samples submitted from out of the country. Please contact us at juditmonis@eurofins.com for more information. Please see the other side for specific sampling instructions

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Eurofins STA Laboratories, Inc.

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Specific Sampling Instructions:

HealthCheck™ Panel A (GVA, GVB, GVD, GFkV, GLRaV 1-7, and -9, GRSPaV, **NEW** GSyV-1)

Samples may be collected from actively growing vines late in the growing season (September-December) or dormant vines. We recommend providing one sample consisting of canes, cordon, or trunk (1 ft length) from each vine. The cane material should be collected from the basal portion of the vine (i.e., older growth). If leaves are present, please provide a representative sample for symptom tracking. Research in our laboratory has shown that higher concentrations of viruses associated with leafroll and rugose wood complex diseases are found in the most mature portions of the vine.

HealthCheck™ Panel B (ArMV, GFLV, TRSV, and ToRSV)

Please provide young tips from the new growth (top of the plant) of the vine in the spring season (specific month will depend on geographic area). It is also possible to test dormant canes but the detection is less sensitive. Research has shown that higher concentrations of the viruses included in Panel B are found in young shoots early in the growing season.

HealthCheck™ Panel CG (*Agrobacterium spp.*)

Please provide root, stem samples including the crown area and graft union. The detection of *Agrobacterium* can be performed in all seasons.

HealthCheck™ Panel PD (*Xylella fastidiosa*)

Research has shown that it is best to test for *Xylella fastidiosa* in the summer season through dormancy. We recommend submitting multiple cane and leaf (including petioles) samples representing different parts of the vine due to the erratic distribution of *X. fastidiosa*.

HealthCheck™ Fungal Panel (*Phaeoacremonium spp.*, *Phaeomoniella spp.*

Cylindrocarpon spp., *Botryosphaeria*-like, and others)

Please submit a portion of the trunk including roots (please shake off soil and place roots in a separate bag to avoid contamination of other vine parts with any residual soil) and graft union from declining vines. If possible, please submit a sample of and healthy looking vines for comparison. This sampling method is destructive but allows us to observe symptoms and collect samples from different parts of the trunk (rootstock/scion) and roots.

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