



Plant Health Services

Sampling and Testing Overview

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 2-4 samples per vine for analyses. 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. Complete the “Grapevine Disease Testing” order form and send samples directly to our laboratory (Attn: Zaida Morales or Judit Monis) preferably by overnight delivery. Please contact us if you need more information and to reserve a testing slot.

STA Laboratories holds current permits and is able to accept and process samples received from outside of California. Please call the lab for special mailing/shipping instructions.

Please see the other side for specific sampling instructions.

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Specific Sampling Instructions:

Panel A (GVA, GVB, GVD, GFkV, GLRaV 1-7, and -9, GRSPaV)

Samples may be collected from actively growing vines late in the growing season (September-December) or dormant canes. We recommend providing at least two samples consisting of canes, stem, leaf and petioles (1-2 ft length) from each vine (located on the lower part of the plant-older growth). Research in our laboratory has shown that higher concentrations of viruses associated with leafroll, rugose wood complex are found near the bottom of the vine.

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 tissue early in the growing season.

Panel CG (*Agrobacterium vitis*)

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

Panel PD (*Xylella fastidiosa*)

We recommend submitting multiple leaf and stem samples representing different parts of the plant due to the erratic distribution of *X. fastidiosa*. Research has shown that it is best to test for *Xylella fastidiosa* in the summer season through late fall.

Fungal Diseases (*Phaeoacremonium spp.*, *Phaeoconiella spp.*, *Cylindrocarpon spp.*, and others)

Please submit a portion of the trunk or roots from declining and healthy looking vines. This sampling method is destructive but allows us to observe symptoms and collect samples from different parts of the trunk (rootstock/scion union) or root.

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