



Fruit Virus Testing Service

Patho Solutions is a Deciduous Plant improvement Association approved testing laboratory and provides certified ELISA tests for the DPA pome- and stone fruit certification scheme. The scheme requires plant improvement organisations and nurseries to conduct yearly testing for Apple Chlorotic Leafspot-Virus (ACLSV) and Apple-Mosaic Virus (ApMV) in both pome- and stone fruit nucleus- and foundation units, as well as yearly testing for Prune Dwarf Virus (PDV) and Prunus Necrotic Ringspot Virus (PNRS) in stone fruit. Pome fruit nucleus units should also be tested for Apple Stem Grooving Virus (ASGV) and Apple Stem Pitting Virus (ASPV) yearly (please refer to the DPA's guidelines regarding exceptions to the prescribed test intervals and test-methods).

Testing is performed for various different reasons, we offer **Grid Testing** with high coverage (25%-100%) or **Spot Testing** with low coverage (10%).

Spot testing may be performed to confirm infections of suspected individual plants, since symptoms may be caused by stress related to other biotic and abiotic factors such as nutrient deficiencies. Sampling can be individual plants if significant infections are expected, or in pools as specified by the DPA. Testing information is used to make decisions for subsequent actions, such as whether a block is adequate for grid testing for propagative material or if disease control will be viable.

Grid testing is typically performed to ensure that healthy propagation material is selected and is free of specific pathogens.

Samples may be submitted for PCR testing where a more sensitive analysis than ELISA-testing is required. Sample Submission forms are available on request and must accompany samples that are submitted for testing against specific pathogens by ELISA or PCR analysis. Test results generally take 10 working days after receiving samples.



Pricing: We have adjusted our pricing model for the testing of fruit viruses via ELISA since 2020. The new model is a more accurate representation of the costs involved in the submission and testing of each sample. The new pricing model is included bellow.

ELISA testing		PCR Testing	
Assay Setup Fee*	R180,00	Assay Setup Fee*	R180,00
For each sample submitted:		For each sample submitted:	
Sample extraction	R30,00	RNA Extraction	R188,00
EILSA Assay Virus Detection (per virus)	R45,00	PCR Analysis (per virus)	R75,00
E.g. Price for the submission of one sample, to be tested for ACLSV, ApMV and PDV: R30+R45+R45+R45 = R165 exc. VAT		Amplicon Sequencing	
		R173,00	
		E.g. Price for the submission of one sample, to be tested for ApMV, ASGV and ASPV: R188+R75+R75+R75 = R413 exc. VAT	

* Since testing is always conducted in batches (which include controls) it is proportionally more expensive to do single or small amounts of samples. To offset this cost an Assay Set-Up fee is included for submissions of fewer than 10 samples

DISCLAIMER:

1. In any diagnostic assay there is a lower limit of detection, below which a pathogen cannot be detected, and ELISA assays will only detect the specified pathogen only above a certain threshold value. Pathogen levels may vary due to climatic conditions, host plant genotype, pathogen strain or plant tissue assayed. It is important to understand that the failure to detect a specific pathogen does not guarantee the complete absence of that pathogen from the sample analysed.
2. The ELISA, PCR, Sequencing, LAMP and Next Generation Sequencing testing methods used by Patho Solutions have been developed and tested against specific local and/or international pathogen isolates. However, the possibility remains that there may be variants of the pathogen which cannot be detected in the assay.
3. Due to points 1 and 2, no absolute guarantee can be provided that a given sample yielding a negative assay result will be completely free of the pathogen tested for.
4. Results refer strictly to the actual samples referred to in the list provided at the time of sampling. It should not be assumed that the same results apply to any other plants/progeny/ predecessors of the sample, or of the same sample at another time. Clients should not represent or imply that the results apply other than to the actual samples listed. The client releases and indemnifies Patho Solutions (Pty) Ltd in respect of any loss or liability incurred as a consequence of such representations, which remain the sole responsibility of the client.
5. All data produced from surveys and testing is the property of Patho Solutions, and may be used along with meta-data for research and development purposes. This data is kept private for clients.
6. Information regarding the disease status of the farm will be kept confidential and shared only between Patho Solutions and selected staff of the client.

It is our aim to provide reliable, open, and efficient services. If you have any questions, recommendations, or grievances, please do not hesitate to communicate these to Patho Solutions.

