

SAC Consulting Potato Virus Testing Service

Potato viruses can significantly reduce crop yield, tuber quality, and the health status often without obvious symptoms in the field. Reliable and early testing is essential for understanding crop health, supporting certification requirements and making informed management and marketing decisions.

Potatoes Team

potato@sruc.ac.uk

SAC Consulting is now offering comprehensive potato virus testing providing growers, seed producers, exporters and agronomists with access to reliable diagnostics and expert support.

Viruses we test for

It can be difficult to distinguish potato virus infection from other growing crop stress; laboratory testing provides the most reliable means of confirming infection and assessing crop health.

Potato virus Y (PVY)

PVY, transmitted by aphids and through infected seed, can cause cracking and external necrosis and result in significant yield losses. Severity of infection and symptoms depend on the potato variety as well as on the PVY strain (O, N, etc). PCR and ELISA testing are available for all PVY strains.

Potato leafroll virus (PLRV)

Transmitted by aphids and infected seed, typical symptoms include leaf curling and necrosis, which dramatically impacts yield and seed quality for some varieties. PCR and ELISA testing are available for PLRV.

Potato mop-top virus (PMTV)

This soil-borne virus is transmitted by the microorganism *Spongospora*

subterranea, which also causes powdery scab. While less common than PVY and PLRV, once established, PMTV can persist in fields for many years due to its association with the soil-borne vector. It is one of the primary causes of spraing, resulting in characteristic brown arcs or rings within the tuber flesh, with mild or absent obvious foliar symptoms. Testing is available as PCR test.

Tobacco rattle virus (TRV)

The second major cause of spraing in potatoes is transmitted by free-living nematodes, which acquire and spread the virus while feeding on infected plant roots. Infection causes brown arcs and rings, or necrotic flecks within tubers, with absent or unreliable above-ground symptoms. Testing is available as PCR test. A spraing test (PMTV + TRV) is available as PCR testing. Additional viruses (PVA, PVV, PVX) are available on request for PCR testing.

Sampling guidance

Samples should be representative of the crop and collected from throughout the field. Clearly label each sample with variety, field identification and sampling date.

Leaf samples

- Collect young, fully expanded leaves
- Avoid damaged or heavily senescing tissue
- Keep samples cool after collection and submit within 24 hours

Tuber samples

- Whenever possible, tubers should be clean and dry
- Remove excessive soil

Testing methods

Our laboratories offer both ELISA and RT-qPCR testing for detecting the principal potato viruses affecting Scottish potato production (PVY all, PLRV, PMTV, TRV).

While both techniques are highly reliable when used appropriately, **advances in molecular diagnostics increasingly make PCR the preferred method for routine virus testing** because of its speed, sensitivity, and ability to detect a broad range of virus variants.



Price list

Test	Sample size	Price
Post-harvest growing-on test (ELISA) (PVY all strains, PLRV)	120 tubers (105 tested)	£320 – Single virus £45 for additional virus
Rapid tuber test (PCR) (PVY all strains, PLRV, PMTV, TRV)	120 tubers (100 tested)	£350 – Single virus £55 for each additional virus
Spraying test (Real-time PCR) (PMTV,TRV)	Minimum 6 tubers (fixed price)	£265 up to 6 tubers £45 for each additional tuber
ELISA for individual leaf samples (PVY all strains, PLRV)	Up to 45 samples (fixed price)	£190 – Single virus £45 for additional virus
	More than 45 samples (fixed price)	£5 per sample – Single virus £1 for each additional virus

Pre-booking required

We will begin accepting samples from **September 2026**.

To discuss your requirements, reserve testing capacity or obtain sampling advice, please contact:

Testing services (pre-booking, test options, results)

Verena Schmidt:
Verena.Schmidt@sac.co.uk

Test interpretation and general advisory

Gavin Prentice:
Gavin.Prentice@sac.co.uk

Kyran Maloney:
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