

## PROTOCOL: POTATO VIRUS SAMPLING

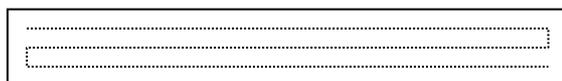
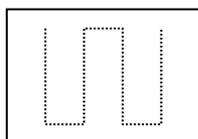
PLRV, TSWV, PVX, PVY or PVS by ELISA

**SAMPLING LEAVES (prefer 300 LEAVES per sample – 15 lots of 20 leaves):**

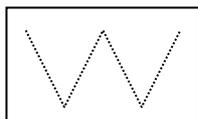
1. Organise the sampling pattern depending on the area to be sampled.

The sampling can be systematic (ie 1 leaf every 100 plants, or 5 leaves per row or similar) only if the disease is randomly distributed. If there is an obvious infected area, or there has been an aphid incursion at the edge of the paddock, this area should be sampled separately, otherwise a random sampling pattern must be used. Late infections may be symptomless, so you will need to be aware of any aphid incursions that may have occurred.

### Systematic sampling:



### Random sampling:



- Collect one youngest fully expanded green leaf with no dead tissue from each plant. Label the bags so **you** know which area the plants come from. Collect in lots of 20 leaves (single leaf, not leaflet) per sample.
- Gloves should be worn for collection and changed between each sample of 20 leaves to prevent cross contamination.
- Leaf sampling should be done within 3-4 weeks of harvest but when green leaves are present. If an aphid flight occurs after sampling, infection may take place, which will negate the results of the test.
- If hot weather, pack sample bags on ice in an esky and forward to laboratory via overnight courier. If cooler weather, overnight by express post is acceptable.

**SAMPLING TUBERS (MINIMUM OF 100 TUBERS per sample):**

Tubers can be sampled from the field pre harvest on a pattern similar to that described above for the leaves. Otherwise, tubers should be collected at random from all the bins of the lot to be tested.

## SAMPLE SIZE:

The sample size will depend on the **minimum level of disease acceptable**.

**4% acceptable level.** Sample size required - **100**

If a 4% level is acceptable, and 100 tubers or leaves are tested, a positive in 0 or 1 leaves indicates that < 4% of the paddock or seed lot is infected (confidence interval 95%, sample error 3%). If 2 or more are positive, > 4% of the paddock or seed lot are infected.

100 leaves and tubers will be bulked into 10 samples of 10.

**1% acceptable level.** Sample size required - **300**.

If the 1% level is required, 300 tubers or leaves must be tested. 0 or 1 positive will indicate <1% of the paddock or seed lot is infected (confidence interval 95%, sample error 1%).

300 leaves or tubers will be bulked into 15 samples of 20.

**The sample size remains constant irrespective of the size of the sample area.**

## TEST RESULTS

Leaf tests require 2 days to complete. Results will be available within 10 days of receipt date.

Tubers cannot be tested directly and must be sprouted to produce the leaves for testing. If tubers are freshly dug, sprouting and formation of leaf tissue may take up to 12 weeks. The leaf tests will be an additional 2 days.

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**FORWARD SAMPLES TO:**

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SARDI - HORTICULTURE PATHOLOGY,  
PLANT RESEARCH CENTRE

By Post: GPO BOX 397, ADELAIDE SA 5001

Or courier/deliver: GATE 2A, HARTLEY GROVE, URRBRAE, SA 5064

For fees and sample submission forms, please visit the SARDI web site:

[http://www.sardi.sa.gov.au/pestsdiseases/horticulture/horticulture\\_pathology/horticulture\\_diagnostic\\_services](http://www.sardi.sa.gov.au/pestsdiseases/horticulture/horticulture_pathology/horticulture_diagnostic_services):