



Method for the Detection of *Pea seed-borne mosaic virus (PSbMV)* and *Pea early-browning virus (PEBV)* on Pea Seed

Crop: Pea (*Pisum sativum*)
Pathogens: *Pea seed-borne mosaic virus (PSbMV)* and *Pea early-browning virus (PEBV)*
Date: July 2017

Sample and sub sample size

The recommended minimum sample size is 2,000 seeds, with maximum sub-sample size of 100 seeds.

Principle

This test uses an Enzyme Linked Immuno-Sorbent Assay (ELISA) to detect the virus in ground seed. It can detect external and internal virions as well as infectious and non-infectious virions.

Restrictions on Use

- This test method is suitable for untreated seed.
- Although ELISA is compatible with some seed treatment chemicals (Pataky et al., 2004), seed treatments may affect the performance of this test. It is the responsibility of the user to check for such antagonism by analysis, sample spiking or experimental comparisons.

Validation

Results of a comparative test were validated by ISTA, see www.seedtest.org >>Technical Committees >>Seed Health Committee >>Testing Methods >>Method Validation. The method was adopted as an ISTA Rule (7-024) in Jan 2008.

The method has also been approved by the US National Seed Health System (NSHS) as a Standard A (see <http://seedhealth.org/seed-health-testing-methods/>).

Method Execution

To ensure process standardization and valid results, it is strongly recommended to follow the best practices developed by ISHI-Veg for *ELISA Assays in Seed Health Tests* (see <http://www.worldseed.org/our-work/phytosanitary-matters/seed-health/ishi-veg/>).

Method Description

See www.seedtest.org (>>Technical Committees >>Seed Health Committee >>Testing Methods)

References

Pataky, J.K., Block, C.C., Michener, P.M., Shepherd, L.M., McGee, D.C., and White, D.G. (2004). Ability of an ELISA-based seed health test to detect *Erwinia stewartii* in maize seed treated with fungicides and insecticides. *Plant Disease* **88**, 633–640

Note: The method was reviewed recently and found to be fit for purpose. The section **Validation** has been updated. A section on **Method Execution** has been added.