

Post control tests

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In the potato industry the two questions regarding post control tests that are regularly asked by both seed potato growers and table potato producers are:

- What is the purpose of post control tests?
- Why are post control tests conducted by Plantovita?

The purpose of this article is to answer the above questions in short.

Background

The South African Seed Potato Certification Scheme (Scheme) was the first official plant improvement scheme in the country. The Scheme is based on the guidelines for seed schemes of the Organisation for Economic Cooperation and Development (OECD) that was established in 1961. The purpose of the OECD schemes is to promote the use and production

“Post control tests are conducted to ascertain if the Schemes are operating satisfactorily” – the purpose of post control tests according to the OECD schemes.

The post control test is thus not to confirm the correctness of the test results of field samples through regional laboratory tests, but to confirm the virus status of the seed.

The results of the field sample tests conducted by regional laboratories are used to determine the virus status of a seed lot that was submitted for certification.

of seed of constant high quality in participating countries in international interest. The OECD schemes determine what the minimum requirements for schemes are. Individual countries can decide to make the requirements and disease tolerances stricter so that plant material comply with the requirements and condition of the relevant country.

Although the South African Plant Improvement Act (Act No 53 of 1976) has adopted the principles of the OECD seed schemes, the said Act determines what the rules of the South African Seed Potato Certification Scheme are.

Purpose of post control tests

According to the OECD schemes the purpose of post control tests is to monitor the success of the certification process: *did the seed lot retain its disease status since the announcement of the field sample test results? Is the cultivar that is certified, the one that was offered for post control tests and is it still true-to-type?*

Post control tests are therefore a manner for the local authority, i.e. the Independent Certification Council for Seed Potatoes (ICCSP), to conduct quality control. Post control tests are conducted on both virus status and variety purity of seed potatoes. Although differences can occur between field and post control virus results, it seldom happens and the correlation between field sample and post control virus results is indicative that the Scheme is succeeding in its goal to ensure good quality planting material through certification.

Samples for post control testing

The method for taking and testing samples for post control is prescribed by the principles of the OECD Schemes. In local context it means that the tests are executed by ICCSP approved and independent laboratories. Post control samples are drawn, sealed and accompanied by the required documentation, sent to the controlling laboratory, i.e. Plantovita, by assigned certification officers of Potato Certification Service for the execution of the tests.

Execution of post control tests

Post control virus results of samples that were tested by an independent laboratory, and confirmed the certification status of the seed potatoes, support the integrity of the certification process for seed potatoes that are multiplied under the South African Seed Potato Certification Scheme. Therefore, where post controls are involved it is required that the authority conduct the necessary tests or have it conducted.

Plantovita (previously Coen Bezuidenhout Seed Test Centre) was appointed as controlling laboratory for the potato industry in the 1990s. Plantovita is not attached to any production region and are also not administratively, financially or managerially involved at any of the seed potato production regions.

Authorised certification officers only may draw post control samples. If the same testing laboratory conducts a second test on the same lot it cannot be regarded as a post control test because such post control test must be conducted by a facility other than the original facility. Such subsequent test at the same facility can at most regarded as internal quality control. However, the testing of non-official samples is prohibited by the ICCSP approved Potato Laboratory Services code of conduct. ©

Are the results of post control tests available to buyers of seed potatoes? Seed potato growers are informed about the results of post control tests of their seed potatoes. The release of these results can be requested from the seed potato grower. It is thus between the buyer and the seller.

The roles that Plantovita and regional laboratories play in the certification of seed potatoes in South Africa

Plantovita	Regional laboratories
- Serves all seed potato growers in the country. - Each region appoints a member that serves on the Plantovita board of directors.	- Serve seed potato growers of a specific region where the laboratory is situated. For practical and financial reasons field samples tests are normally conducted by the local laboratory. - However, seed potato growers may have tests conducted at any ICCSP approved regional laboratory.
Plantovita is authorised and equipped to: - Conduct post control tests for virus. - Standardise tests to ensure that all tests comply with specific requirements. - Ensure that tests are conducted with the latest technology. - Ensure that proven test kits are used. - Render technical support to regional laboratories in respect of the execution of tests. - Provide obligatory training to technologists of regional laboratories. - Inspect new laboratories and to make recommendations regarding ICCSP approval of new laboratories.	Regional laboratories are authorised by ICCSP and equipped to: - Conduct field sample tests for virus. - Conduct ELISA tests for the presence of bacterial wilt. - Conduct virus tests on leaf samples.
Plantovita is empowered and equipped to: - Confirm suspect bacterial wilt results that are obtained by regional laboratories through conventional and PCR tests. - Test in vitro plants and mini tubers for bacteria causing soft rot and for specific viruses through Elisa, conventional and PCR tests.	Regional laboratories are authorised to conduct official tests on the leaves of greenhouse plants for virus through the Elisa test.

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