

Mondstuk van die Suid-Afrikaanse aartappelbedryf • Mouthpiece of the South African potato industry

CHIPS

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Pepper ringspot virus: The latest threat to the potato industry

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Potatoes with strange and faint corky ring symptoms on the skin were first observed in 2015, after which they reared their heads again in 2019, 2020 and once more in 2022. Potato tuber symptoms

Thanks to funding received from Potatoes SA, Prof Gerhard Pietersen of Stellenbosch University used NGS to identify the organism as PepRSV, which had previously been known as a Brazilian strain of TRV. Plantovita as well as the Agricultural Research Council (ARC) are able to conduct tests for PepRSV. South Africa's import conditions have also been amended to include PepRSV.

corresponded with typical symptoms caused by tobacco rattle virus (TRV), or potato mop-top virus (PMTV).

At the insistence of the Independent Certification Council for Seed Potatoes (ICCSF) and in co-operation with Potatoes SA, the Potato Certification Service (PCS) and Plantovita, it was confirmed with next-generation sequencing (NGS) that pepper ringspot virus (PepRSV), formerly known as a Brazilian strain of TRV, is the causative organism.

Foliar symptoms were recently observed for the first time in a commercial planting in Limpopo planted with retained seed potatoes.

What do we know?

- The causative organism is PepRSV.
- The vector for the virus is the stubby root nematode, *Nanidorus*

minor, which occurs in all production areas in South Africa.

- Globally, there isn't much information available about the virus.
- We rely on information on TRV for assistance.
- We suspect it is already present in the Northern Cape, Eastern Free State, Western Free State and Limpopo.
- We can test for it.
- The symptoms can be confused with those of calico virus, PVY^{NTN} (potato virus Y) and internal brown spot.
- The virus has a very wide host range, including peppers, potatoes, tobacco, peas, as well as many flowering crops and weeds.
- The virus is currently considered a regulated quarantine pest until more information is available and the status can be reviewed.

What do we not know?

- Where did the virus come from?
- How did it end up in South Africa?
- How widely spread is it already in South Africa, not only on potatoes, but also on other crops?

What next?

Producers and role-players encountering such symptoms are requested to contact the nearest Department of Agriculture, Land Reform and Rural Development (DALRRD) or PCS office for assistance.

As much information and samples as possible must be collected in order to determine the extent of the spread. Only if we know what we are dealing with, can the right control and management methods be applied.



Foliar symptoms were recently observed for the first time in a commercial planting in Limpopo planted with retained seed potatoes.

Curb the spread of PepRSV

The following measures are recommended to reduce the risk of PepRSV spreading:

- If you suspect the virus is present in your planting, limit movement in that area as much as possible. This is because the vector – the stubby-root nematode – can be spread through soil via implements.
- Where implements are used on a contaminated or possibly contaminated site, they must be washed to get rid of most of the soil and then disinfected before they can be moved elsewhere.

- A minimum of 50 m of isolation from any other operation is recommended.
- Under no circumstances should potatoes be planted directly next to the suspected infected site.
- Soil samples can be taken to test for the presence of the stubby-root nematode, and if found, it can be tested for the presence of the virus.
- The potatoes from possible infected plantings must not be moved.

In accordance with *Control Measures R. 110* of 27 January 1984 as

amended, the processes to follow are:

- Every user of land – individual, institution or organisation – needs to report any suspicious occurrence of PepRSV to the DALRRD.
- The DALRRD will collect the official sample.
- Orders will be issued based on suspicion or preliminary results pending official results from the DALRRD.
- Such areas should be placed under quarantine, by means of an order, pending the official sampling and results from the DALRRD.
- Movement of such produce should be restricted.
- Based on the outcome of the official sample/testing (if negative)
 - The order can be lifted, and
 - The movement of the produce may be allowed.
- Based on the outcome of the official sample/testing (if positive), the DALRRD, Directorate Inspection Services, shall issue an order to place the area under quarantine and such order may include:
 - Restriction of movement of plants and products subject to a removal permit;
 - Destruction of infested material; and
 - Sanitation, cleansing and disinfection of implements such as equipment/tractors, and restricted movement of implements from farm to farm without sanitation.

The co-operation of every producer and role-player is needed to curb the spread of PepRSV. Only through co-operation and sufficient information can the potato industry at large be protected, and the virus' status be confirmed or changed. This will also limit the economic impact. 📍

To report incidences of PepRSV, contact the DALRRD at 012 319 6384 or 012 309 8773. For further enquiries, contact the PCS at 060 716 2607 or visit www.potatocertification.co.za.



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