

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

CHIPS

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**MARKMONITOR: DIE EERSTE
/ DRIE MAANDE VAN 2021
OP VARSPRODUKTEMARKTE**

**POTATO TUBER MOTH
INSECTICIDES, MODES OF ACTION,
AND SENSIBLE USE**

**Mechanisation training for
Limpopo producers**

**PSA's roll-out of its
mass media campaign**

**Limpopo-kultivarproef
onder besproeiing: Dendron**

WHAT ON EARTH?

Part 2: Cauliflower-like symptoms of powdery scab

By Dr Fienie Niederwieser, Potatoes South Africa

Most potato producers are familiar with the common powdery scab symptoms on tubers, as shown in photograph 1, whereas the symptoms that can be seen in photographs 2 and 3 are not commonly observed.

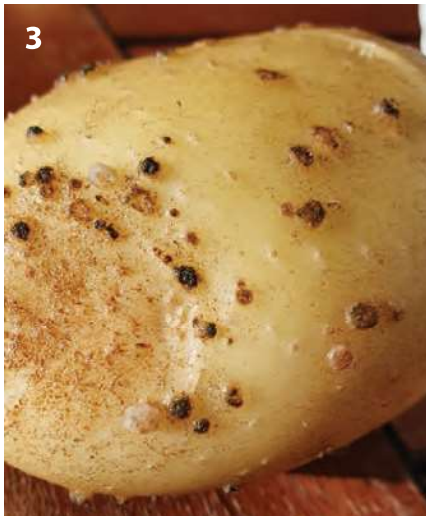
When asked for an expert opinion, Dr Richard Falloon, a pathologist in New Zealand, gave the following explanation: "Light-coloured gall-like symptoms progressing to dark brown powdery scab – these symptoms

have been previously referred to as cauliflower-like symptoms, which describes how the individual galls appear when magnified using a low-power microscope.

"These galls result from the proliferation of host cells, which is induced by *Spongospora*. This occurs on stolons and tubers, but also on roots. The creamy-white galls later develop into brown masses of *Spongospora sporosori*, with each of the proliferated host cells being filled with a single *sporosorus*, which in itself contains many resting spores (50 to 1 500+).



The common powdery scab symptoms.



Light-coloured gall-like symptoms progressing to dark brown powdery scab (cauliflower-like symptoms). (Photographs: J van Zyl)

"It has been suggested that the cauliflower-like symptoms develop on stolons and tubers when soil conditions are wet. The symptoms have also been noted on tubers developing when infected plants are growing hydroponically (in a nutrient solution), a system that has been used experimentally. This, however, is not always the case." ©

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