

Research network aims to find practical solutions to Sclerotinia

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Sclerotinia diseases of soya bean and sunflower have steadily been increasing in severity and distribution, with severe yield losses reported for 2016 to 2018. Since managing *Sclerotinia* is challenging, researchers at the University of the Free State (UFS) are set on finding solutions by conducting producer-focused research.

The South African Sclerotinia Research Network (SASRN) is a virtual community of practice for *Sclerotinia* researchers in South Africa. Lisa Rothmann initiated the SASRN after attending the National Sclerotinia Initiative (NSI) in Minnesota (US) in January 2017.

Exchange knowledge

The initial intention was to create a platform for young researchers to assist one another and share their experiences with *Sclerotinia* research in South Africa. However, there was significant interest from beyond academic institutions, and so the SASRN was born.

The SASRN is a platform where collaborations can be established, and parallel and comprehensive research goals can be met that benefit multiple investigators and the public. It aims to generate social and academic capital where experienced investigators can exchange knowledge gained with their peers.

The network had its inaugural meeting in September 2017. Grain SA works in collaboration with and endorses the SASRN. It is currently working towards applying for research funding to investigate solutions for *Sclerotinia* diseases of soya bean and sunflower. Future projects will include canola.

Disease forecasting

Research will start soon on a key aspect of *Sclerotinia* control – disease forecasting. Disease forecast models serve as an early warning system that assists producers

in optimising the timing of fungicide applications, which ensure optimal efficiency and healthy economic decisions.

In Europe, canola field experiments conducted between 1981 and 2004 indicated that fungicide sprays were only 27-33% cost-effective against *Sclerotinia* stem rot (Koch *et al.*, 2007).



Photograph: <https://plantix.net>

Researchers at UFS are currently developing a prediction model to assist producers in identifying their risk for *Sclerotinia* disease development at critical growth stages during the cropping season. In South Africa, chemical agents represent a significant portion of a producer's production costs and forecast models can assist producers in either minimising fungicide applications or increasing the efficacy of the application, without compromising the degree of control.

The objective is thus to accurately predict when the host, environment and pathogen interact in such a manner that disease can occur and cause economic

loss. The effects of other driving variables, such as resistance, planting dates and cropping practices, are also considered.

Three key issues

There are three key issues that SASRN would like to focus on:

- Generate a local centre of excellence and expertise.
- Be the 'face' of *Sclerotinia* researchers internationally and inform the international community on the role South Africa can play in *Sclerotinia* research.
- Finding practical solutions for South African producers against diseases caused by *Sclerotinia* spp.

While producer-focused research to develop practical management strategies for *Sclerotinia* diseases is the main focus of the network, the collaborations established by the network is also a crucial aspect. These collaborations promote communication between the parties involved, which prevents duplication and allows researchers to inform the industry directly of findings, and *vice versa*.

In addition, the network is a platform where the industry and academia can listen to the needs of producers to actively resolve issues through applied and directed research questions. The community of practice established will drive the communication between producers and network members. 📍

If you are a researcher or producer and interested in connecting with us and growing our network, contact Lisa at coetzeeLA@ufs.ac.za. Support our Facebook page, South African Sclerotinia Research Network, tag us @sclerotiniaza, or use the #sclerotiniaZA. Alternatively, email sclerotinianetwork@gmail.com.