

## GETTING A PSHB RESEARCH PROJECT DONE BEFORE THE LOCKDOWN

The pecan industry, through the South African Pecan Producers Association (SAPPA), was the first industry to fund a research project on the Polyphagous Shot Hole Borer (PSHB) outbreak in South Africa. The aim of the project is to monitor the current outbreak of PSHB in the Jankempdorp area in the Northern Cape. In addition, FABI is also assisting SAPPA in the diagnosis of potential PSHB infested pecan material from other parts of the country.



The most important question of the pecan industry is of course, what damage the fungal symbiont of PSHB, *Fusarium euwallaceae*, is causing on pecan trees? To answer this, a large inoculation trial was started in early April 2019 on seven-year old pecan trees on the experimental farm of the University of Pretoria. Branches were inoculated with the fungus and inspected for disease symptoms and cut open to see the extent of fungal stain after 3, 6, and 9 months. The final reading of the trial at 12 months was due in the first week of April 2020.

When news of the COVID-19 lockdown broke, it was decided to read the trial on the last week of March. MSc student Shawn Fell and Prof. Wilhelm de Beer, who leads the project, therefore cut the branches in the orchard. Over the next three days, with the help of another MSc student, Phillip Greeff, the branches were carefully cut open, photographed, and isolations done to establish whether the fungus is still alive inside the wood after one year.

Although the results are still being analyzed, no wilting symptoms were visible on the branches. Lesions developed under the bark around the inoculation points, and the fungus caused visible streaks in the sapwood. The preliminary results suggest that although the fungus causes lesions and swollen cankers around the inoculation points, no damage is done that slows growth or reduces yield.

The team was relieved that they could complete the cutting, isolation and photographing only 6 hours before lockdown started at midnight on 26 March! This after the bandsaw broke twice in three days and had to be fixed. In the meantime, a year-long monitoring trial using quercivorus traps are ongoing in the Jankempdorpe orchards. The annual report of the PSHB project was published recently in the Autumn 2020 issue of SA Pecan.