

Objectives and Rationale

Mites are an increasing problem in certain pome fruit growing regions in the Western Cape Province, South Africa due to a combination of factors such as drought/climatic conditions, acaricide resistance, incorrect application of monitoring protocols and management practices, or a breakdown in biological control. The aim of this project is to investigate potential contributing factors in the Ceres, Villiersdorp and Elgin areas to determine the reasons for these mite outbreaks over two seasons. The project will allow for the current integrated management recommendations to be objectively reviewed and amended where needed.

Methods

- A questionnaire will be distributed to farmers to assess awareness of, and adherence to, correct mite monitoring and control protocols in orchards.
- Monitoring and spray application data will be obtained, where available, to assess relevant drivers of spatio-temporal mite distributions.
- Mite populations will be monitored both on trees and in surrounding cover crops, to determine correlation between percentage cover and type of cover crops to mite infestations.
- Bioassays will be performed to determine the susceptibility of both phytophagous and predatory mites to registered acaricides.
- Data will be analysed via machine learning to determine interactions between the different patterns and draw overall conclusions.

Key Results

A questionnaire was compiled and analysis will be conducted once all responses have been received. Monitoring and spray application data was obtained from one farm in the Warmbokkeveld (Ceres) area and are being processed. During a search for suitable farms for monitoring mites to correlate with cover crops, no suitable farms were found during the past season. This will be addressed this coming season, with the aid of the questionnaire, and further searching. Bioassays of a perceived susceptible population of red spider mites were initiated, but only one replicate of two chemicals was able to be completed before lockdown started.

Conclusion and Discussion

No conclusions can be made at this stage.