

## **Objectives and Rationale**

Specific apple replant disease (SARD) is a worldwide problem that has a negative effect on the performance of apple trees. Sustainable and environmentally acceptable management strategies are still elusive. This project aims to evaluate a variety of new apple rootstocks to compare and identify more tolerant rootstocks against SARD under orchard conditions in South Africa.

## **Methods**

Six orchards' soils from potential trial sites were tested for SARD severity under glasshouse conditions by comparing seedling growth in pasteurized versus untreated control soil. The presence of *Phytophthora* spp. and *Pratylenchus* spp. were investigated in the soils.

## **Key Results**

Based on the glasshouse tests, only three soils potentially contained SARD, two in the Koue Bokkeveld and one in the Grabouw region. The soil from the orchard in the Koue Bokkeveld with the highest relative % increase in control seedling length and weight was selected for establishing the one orchard trial. The untreated soil contained *Pratylenchus* spp. and *Phytophthora* spp. Unfortunately, the trial site in Grabouw could not be utilised as it was not a large enough area to establish the trial. Winterset Farm and Hutton-Squire Farms in Grabouw were also identified as the latest potential new sites, though not finalised.

## **Conclusion and Discussion**

Suitable trial sites were identified in the Ceres and Grabouw region based on the results of an apple seedling glasshouse trial. However, the area of the Grabouw trial site that was tested as ARD positive, is not big enough to accommodate this trial. The search for a suitable trial site in the Grabouw region is still an ongoing process. All trees were ordered and will be managed under nursery protocol for 2021 planting.