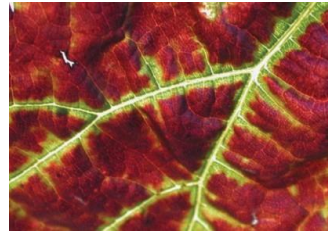




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LEAFROLL CONTROL STRATEGY

4. VECTORS OF THE DISEASE

4.1 Mealybug vectors

The most common and most important vector in South Africa is the vine mealybug, *Planococcus ficus* (Fig. 1).

The latter species typically occurs localised on a few plants within a block.



Figure 1: The vine mealybug, *Planococcus ficus*. Adult female with eggs and nymphs of different instars. (Image: A. Hall, University of Pretoria)

Its association with grapevine may go back to the cultivation of this crop 8 000 years ago. Five mealybug or coccid species that are vectors of grapevine leafroll-associated viruses worldwide have been associated with grapevines in South Africa. Amongst the mealybugs, *P. ficus* and the long-tailed mealybug, *Pseudococcus longispinus* (Fig. 2), have been recorded in South African vineyards in recent years.



Figure 2: Long-tailed mealybug, *Pseudococcus longispinus*. (Image: A. Hall, University of Pretoria)

Mealybugs also affect grape quality through the excretion of honeydew, which leads to the formation of sooty moulds and a subsequent reduction in photosynthesis. In addition, mealybugs infest grape bunches directly.

4.2 Other vectors

In addition to mealybug species, three soft scale insect species, the nigra scale (*Parasaissetia nigra*), the long brown scale (*Coccus longulus*) and a *Saissetia* species, are known vectors of grapevine leafroll virus in South Africa. Of these, the most frequently recorded on grapevine are the long brown scale (Fig. 3) and the nigra scale (Fig. 4). Other soft scale species occurring in South African vineyards have not been tested.



Figure 3: Long brown scale, *Coccus longulus*. (Image: K. Krüger, University of Pretoria)



Figure 4: The nigra scale, *Parasaissetia nigra*. (Image: K. Krüger, University of Pretoria)

In South Africa, soft scale insects occur only in relatively low numbers in vineyards and their distribution is rather patchy. Nymphal survival of the polyphagous (feeding on many different plant species) long brown scale and the nigra scale on grapevine is low. The long brown scale has been reported from about 200 host plant species, and the nigra scale has more than 400 host plant records throughout the world.

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