



C A Henschke and Co: Living in our natural landscape

Viticulturists:

Prue Henschke and Craig Markby

By planting the endemic native plants of the area around each of our vineyards, we are bringing more natural biodiversity back into the vineyard and by selecting spring-flowering, nectar-producing species, we hope to entice a greater diversity and number of beneficial insects into the vineyard to provide 'ecosystem services' for greater pest and disease control.



Adelaide Hills Wine Region

Key observations

What worked well?

- The *Bursaria*, *Leptospermum* and *Goodenia* have grown very well, especially on embankments and tight areas that are harder to maintain with mowing.
- A great aid to controlling weeds around the tubestock was squares of old (and inconspicuously coloured carpet) and gro-cones.
- In bunches, the levels of LBAM larvae and *Botrytis* outbreaks were significantly reduced in 2011-12 compared to 2010-11 with the same number of Dipel applications.
- At Lenswood the later outbreak of Vine Moth Caterpillar was parasitised by wasp activity and the vines retained a healthy canopy.
In the Eden Valley vineyards this outbreak was parasitised more by Shield bugs but their presence was not significant enough to stop the leaf skeletonising that occurred.

Case Study

Progress made to date:

We have listed the endemic native plants in the areas around our vineyards and selected the spring-flowering, nectar-producing (insect friendly) species and groundcover species of flowering plants, grasses and lilies.

The insect friendly species are often tubular, white flowering plants such as *Bursaria spinosa* but also *Eucalyptus leucoxylon*, *Leptospermum continentale* and the *Lomandra* species.

We have planted the local Tea-tree (*L. continentale*), *Goodenia* and *Lomandra* in insectaria on the banks of the Chardonnay headlands as tube stock. The mid-row grasses were left to come to head during spring to provide habitat and pollen for the beneficial wasps and then mown down.

A wasp survey was carried out in 2011-12 by the University of Adelaide with some interesting results and showed up the difference between the wasp populations in the native bush nearby compared to the vineyard.

We have 18 ha of native forest stretching along the waterways and on the hilltops across the 37 ha of vineyard which has an influence on the wasp numbers parasitising the insect pests.



Photo above: Prue Henschke planting *Lomandra* next to an intermediate post.

Photo below left: Carpet mulch used around new plantings.



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Key observations

- Pitfalls to avoid**
- The extra mowing after flowering was not completed due to a tractor breakdown, leaving a fully grown sward across the vineyard that led to greater water requirement by the vines, a great habitat for snails and garden weevil access to the vines.
 - Significant yield reduction occurred due to bunch damage by the weevils.
 - Planting of native groundcovers such as Biddy-biddy (*Acaena novae-zelandiae*) did not survive the pressure of competition from the exotic pasture grasses.
 - Conversion to native grass swards may allow this very hardy species to establish better.

Photo below: A ladybird beetle on *Bursaria spinosa* (Photo: Mary Retallack)

Where to from here?

We want to plant the *Bursaria* and *Lomandra* closer into the vineyard on the inside of the end post and the strap-like *Lomandra* up against the posts – they are commonly called Irongrass for a very good reason!

We will spray undervine to reduce the grass growth and spread organic compost on the less fertile areas over a 3 year cycle.

In some areas there are extensive swards of native grasses, which we will allow to go to head to produce seed and spread. In other areas we would like to reseed with a Weeping Rice Grass (*Microlaena stipoides*) and Wallaby Grass (*Austrodanthonia spp*) mix.

The next step will be to introduce more flowering plants into the swards, particularly the Biddy-biddy and Running Postman (*Kennydia prostrata*). We want to put a weed removal plan together to enhance the native forest present on the site and will plant out 300 *Bursaria* this year on the edges closest to the vineyard.

Research projects into the species of parasitising wasps and their preferred habitat will help growers set up better habitats for these wasps and analysis of a wide range of native plants will help identify which species to select for vineyard plantings for pest control.

Photo above: An Assassin Bug on *Bursaria spinosa* (Photo: Mary Retallack)



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