ECO VINEYARDS
GROWING RESILIENCE NATURALLY

CASE STUDY

SEEDING PERENNIAL NATIVE INSECTARY GROUND COVERS IN THE MID-ROW AT LONGVIEW VINEYARD, ADELAIDE HILLS, SA

By Chris Mein, Longview Vineyard; Janet Klein and Dr Mary Retallack, Retallack Viticulture Pty Ltd

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LONGVIEW

INCORPORATING NATIVE INSECTARY GROUND COVERS

Background

The property is located at 154 Pound Rd, Macclesfield and consists of a total of 105 Ha with 60 Ha planted to Pinot Grigio, Chardonnay, Riesling, Sauvignon Blanc, Gruner Veltliner, Pinot Noir, Barbera, Shiraz, Cabernet Sauvignon and Nebbiolo.

Local plant communities comprise *Eucalyptus obliqua*, stringybark open forest along elevated areas and *Eucalyptus camaldulensis* var. camaldulensis, red gum woodland adjacent to waterways.

"Being a part of the EcoVineyards program has been a great experience. It has helped deepen our understanding of how important biodiversity is in the vineyard and provided the tools we need to develop it into the future."

Chris Mein, Vineyard Manager, Longview Vineyard

Project description

Our project was to seed the mid row with several different native plant mixes. Three mixes were seeded:

- grass mix
- chenopod mix (low growing salt bush)
- flowering forb mix.

The aim was to assess the suitability of the different treatments as a permanent mid row sward.

We were looking for an option that provides both functional biodiversity and requires low to no maintenance when compared to traditional midrow swards.

Figure 1: Longview Vineyard, 2024 [Photo: Mary Retallack].

What did you do and when?

The midrow were prepared during the summer and autumn preceding seeding:

- We slashed the midrow low and herbicided the existing permanent sward of perennial ryegrass and various weed species
- Once the midrows began to re grow they were herbicided again before being rotary hoed to encourage more weed growth and also create a suitable planting bed
- After the next emergence of weeds a final herbicide was applied
- Seeding Natives seeded the midrows in August 2024.

Good seed germination was seen in all three rows and weeds were controlled using a weed wiper early in summer.

Prevailing drought conditions slowed the growth in the native grass mix and forb mix, however low growing Chenopods (saltbush) thrived under these conditions and out competed many weed species.

Figure 2: Longview EcoVineyards' midrow native species sward trial site, Nov 2023 [Photo: Chris Mein].

Figure 3: Seeding Natives 'Blue Devil' seeding native seed into prepared midrows [Photo: Chris Mein].

Figure 4: A mix of wood shavings and native seed sown into prepared midrows [Photo: Chris Mein].

What worked well?

We had good germination rates in the native grasses and forb mix however lack of summer rain slowed their growth significantly. I am hopeful that over winter and into spring and summer 2025 these will begin to spread and grow more strongly.

The low growing chenopod seed established and grew the best under the climatic conditions in 2024/25.

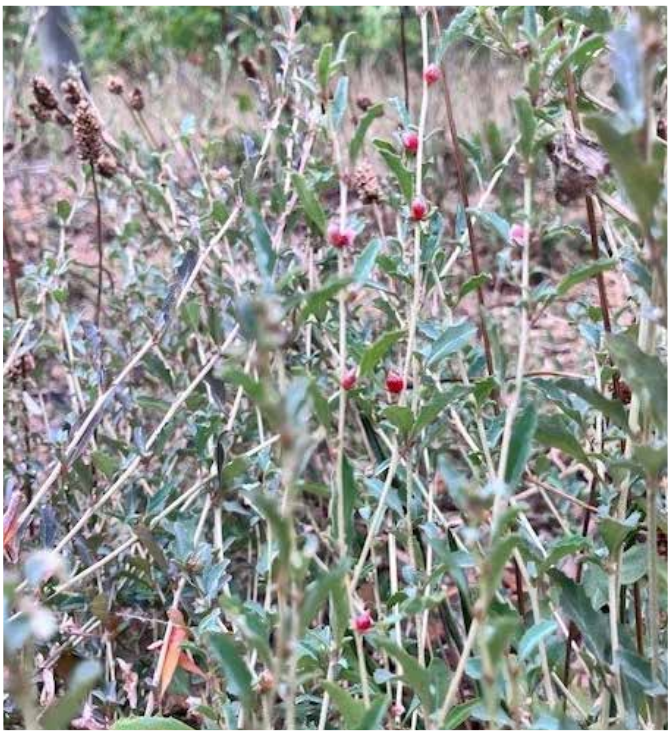

Figure 5: Chenopod growth [Photo: Chris Mein].

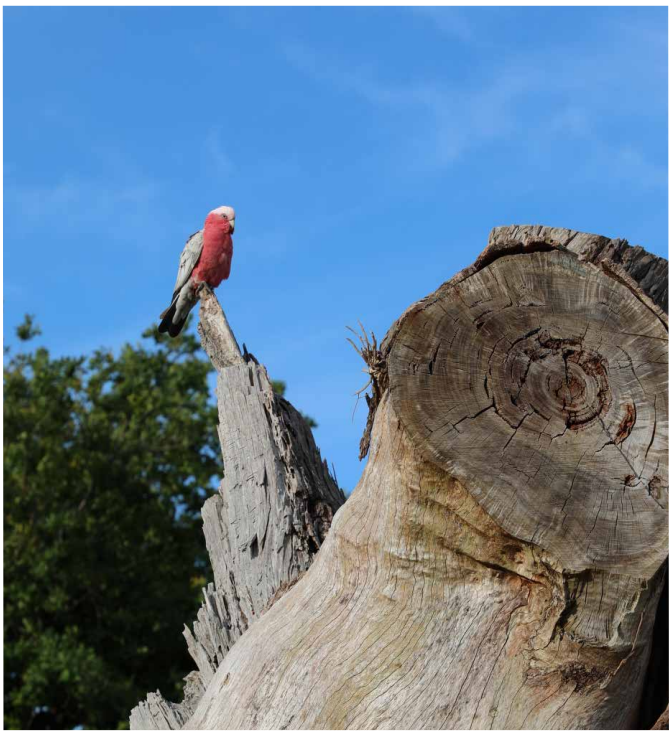

Figure 6: Galah on a tree stump [Photo: Janet Klein].

Figure 7: Hand-held Silv herbicide wick-wiper used to apply targeted weed control amongst the native plants given the trial scale of our planting [Photo: Chris Mein].

Figure 8: Forb growth [Photo: Chris Mein].

Any pitfalls to avoid?

We knew we had a shorter lead in time than desired. This put added pressure on weed control during the season which was difficult and time consuming to manage, using our hand held wick-wiper for herbicide weed control around the native plants.

Longer ground preparation prior to seeding is key.

Highlights

The low growing chenopods worked best this year in our vineyard. The stand that has established is strong and produced a lot of seed.

It provided a ground cover, protecting the midrow from the summer heat and conserving what little moisture was available. It also required no mid row slashing because of its low growing habit.

Where to from here?

We will continue to improve our management techniques in the native grass and forbs rows to better establish these species and will look to seed more mid rows with native species mixes in the future - after longer ground preparation time.

Has your level of knowledge increased significantly since you became an EcoGrower?

I have increased my knowledge of native species identification as well as gained broader knowledge of various other topics covered in EcoVineyard workshops and seminars – soil health, leaf brix, the benefits of native insectaria to vineyard health.

Plant list

#	Scientific name	Common name
Grass mix		
1	*Rytidosperma geniculatum*	kneed wallaby grass
2	*Anthosachne scabra*	wheat grass
3	*Microlaena stipoides*	weeping grass
Chenopod mix		
4	*Chenopod* ssp.	various salt bush (low growing)
Forb mix		
5	*Vittadinia* spp.	New Holland daisy
6	*Helichrysum* spp.	straw flower
7	*Calocephalus* spp.	beauty heads
8	*Chrysocephalum* spp.	common everlasting daisy

Figure 9: Dr Mry Retallack demonstrating leaf blade sap testing to assess brix [Photo: Janet Klein].

Figure 10: Assessing leaf brix using a refractometer [Photo: Janet Klein].

Figure 11: Dr Mary Retallack demonstrating the use of the vaccum sampler to collect arthropods[Photo: Janet Klein].

Figure 12: Looking at the arthropods found using tge vaccum sampler [Photo: Janet Klein].

Figure 13: Dr Mary Retallack demonstrating the use of the Retallack beat net to collect arthropods [Photo: Janet Klein].

Figure 14: Usingthe Echo Meter Touch 2 to pick up microbat echolocation signals [Photo: Janet Klein].

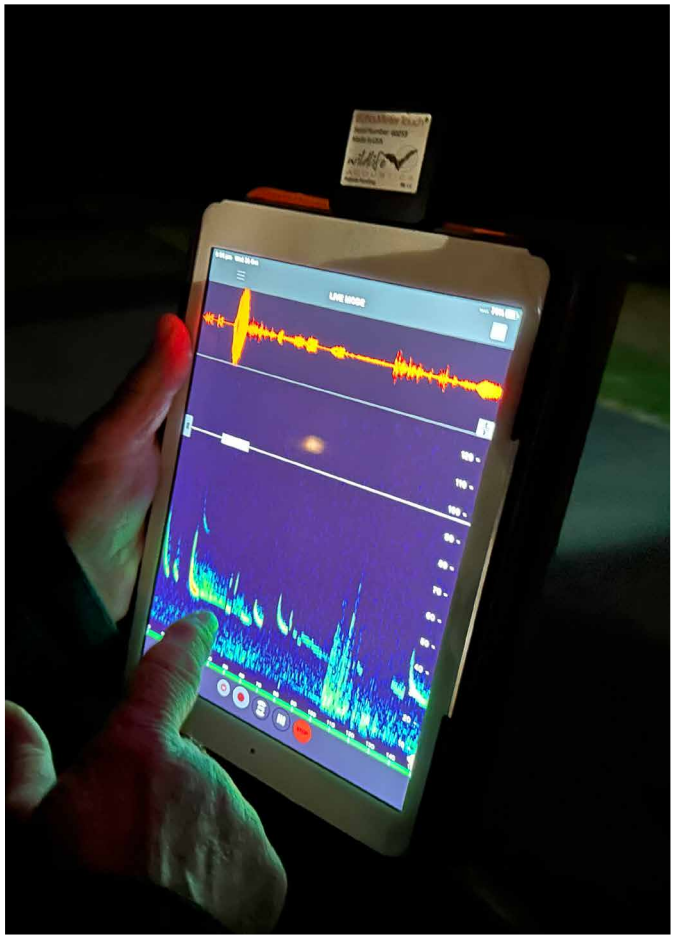

Figure 15: Usingthe Echo Meter Touch 2 to pick up microbat echolocation signals [Photo: Janet Klein].

Figure 16: Searching for microbats at Longview Vineyard [Photo: Janet Klein].

Expenses

Date	Item	EcoVineyards costs (ex GST)	Co-contribution (landholder contribution)	In-kind (time)
12/9/2024	Impact Ecology: microbat can analysis	$ 124		
2/10/2024	Seeding Natives	$1,693		
5/11/2024	Wick Stick	$286		
10/11/2025	Hand herbicide application			4
	EcoGrower contribution		$3,000	
	Total	**$1,979**	**$3,000**	**4 hours**

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ACKNOWLEDGEMENT OF COUNTRY

EcoVineyards proudly acknowledges the Aboriginal and Torres Strait Islander Peoples, and their ongoing cultural and spiritual connection to this ancient land on which we work and live.

As the Traditional Custodians of this land, we recognise their wealth of ecological knowledge and the importance of caring for Country.

We pay our respects to elders past and present and extend this respect to all Aboriginal and Torres Strait Islander Peoples.


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