



CASE STUDY

BOOSTING VINEYARD BIODIVERSITY FOR BIOCONTROL BENEFITS AT SEE SAW WINES, ORANGE, NSW

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BOOSTING ON-FARM BIODIVERSITY

Project description

Our project focused on enhancing on-farm biodiversity by establishing three key ecological zones:

- a small plant/shrub zone
- a tree plantation area
- selected midrow sowing of beneficial species.

The goal was to create varied habitats to attract and support a diverse range of flora and fauna. We hoped this would lead to a healthier, more resilient farm ecosystem by increasing beneficial insect populations, supporting pollinators, and creating microhabitats that help build long-term ecological stability.

By fostering this diversity, we aim to future-proof our farming system against environmental stressors and create a more balanced natural environment.

What did you do and when?

We began by establishing a tree plantation area where we deep-ripped several rows to help with water infiltration and retention, especially in drier conditions. This was followed by thorough weed and grass tillage to minimise competition for young trees and shrubs.

For the small plant/shrub zone, we repurposed old agricultural shuttles by cutting them in half and converting them into mobile wicking beds. These mobile sanctuaries provide a water-efficient growing environment and can be moved around the farm to reduce pressure from livestock and wildlife, such as sheep and kangaroos.

Additionally, we trialled midrow sowing of selected beneficial plant species intended to support insect biodiversity. Although conditions were dry, this step formed an important part of our learning process.

“Being involved in the EcoVineyards program has significantly increased our understanding of biodiversity and its role in sustainable farming. The national collaboration and shared learning have kept us motivated and inspired to continue improving our own practices while contributing to a larger environmental vision.”

Brendan Jarrett, Sea Saw Wines



Figure 1: Brendan Jarrett and National EcoVineyards program manager Dr Mary Retallack discuss the Sea Saw EcoVineyards project [Photo: Brent Hutton].

If you changed your project, what was the reason for the change?

We made one key change to the original project plan by relocating it to a different farm. This decision was driven by logistics, as the majority of our equipment and labour resources were based at an alternate site. The move allowed us to streamline operations and carry out the project more efficiently, without compromising the intended outcomes.

Another important adjustment was the decision to house the beneficial insect beds in portable wicking beds rather than planting directly into the vineyard. This change was made to accommodate our practice of grazing sheep through the vineyard, which could have damaged in-ground plantings.

The wicking beds offer flexibility, as we can move them in and out of the vineyard as needed, protect them from grazing pressure, and expand the insectary system over time without disturbing vineyard operations.

What worked well?

Each component of the project delivered positive outcomes, but the standout success was the development of our small shuttle-based plant sanctuaries. These mobile units are proving to be highly versatile – we can relocate them based on seasonal conditions, livestock movement, and other environmental pressures.

This flexibility has opened up new ways to adapt to changing on-farm needs, especially during challenging growing seasons.

Pitfalls to avoid?

In future projects, we'll avoid leaving major decisions or changes too late in the process. Time management proved to be a critical factor, and final-stage adjustments put pressure on the overall timeline. Starting with a clearer structure and allowing more time for contingencies would improve efficiency.

Highlights?

All the planted species in our tree and shrub zones established well. However, the midrow sowing had a poor strike rate due to dry conditions. This highlighted the importance of timing and weather in midrow planting success and has given us useful insights into managing sowing windows and improving ground preparation in dry years.



Figure 2: Tree plantation preparation , April 2024 [Photo: Mary Retallack].



Figure 3: Microbat boxes, April 2024 [Photo: Mary Retallack].

What are you more aware of now?

We've developed a much deeper appreciation for the incredible diversity of plant species and their specific roles in supporting various insects, birds, and other wildlife. Understanding which plants attract and sustain beneficial insects has shifted how we plan for biodiversity – it's not just about planting trees, but selecting the right mix for long-term impact.

Where to from here?

Our plan is to continue expanding the tree and shrub zones to create connected biodiversity corridors across the entire farm. These green corridors will allow wildlife and beneficial insects to move freely between areas, increasing ecological resilience. We also intend to scale up the number of mobile plant shuttles to ensure every block has access to these micro-habitats. Long-term, this will support ongoing biodiversity and help balance farming pressures with environmental care.

Are there any outstanding knowledge gaps you would like filled?

As we observe plant performance over multiple seasons, we'll gain a clearer picture of which species are truly resilient in our specific environment. Continued support in identifying long-term survivors versus short-lived species would be valuable, as would guidance on the latest beneficial plant mixes for our climate and region.

Has your level of knowledge increased significantly since becoming an EcoGrower?

Absolutely. We've gained a significant amount of knowledge, not only about plant and insect interactions but also about broader ecological principles and sustainable farming practices. Our thinking has evolved, and we now approach decisions with a much stronger biodiversity lens.

The field days have been incredibly valuable. These events provide a wealth of practical knowledge and allow us to learn directly from experts and peers. Seeing different approaches and innovations in action has been inspiring and has expanded our understanding of what's possible on our own farm.

"It's been an incredibly positive and enriching experience. Being part of a broader community working towards a common goal has been motivating, and we've gained both knowledge and inspiration through the program."

Thank you to the organisers and fellow EcoGrowers. It's been fantastic to be part of a passionate network committed to making a real difference to the land and the future of farming in Australia."



Figure 4: Design for mobile shuttle wicking bed insectaries, April 2024 [Photo: Mary Retallack].



Figure 5: Residual midrow insectary growth [Photo: Mary Retallack]

Plant list

#	Scientific name	Common name	# planted
1	<i>Acacia melanoxylon</i>	blackwood	40
2	<i>Banksia marginata</i>	silver banksia	40
3	<i>Brachychiton populneus</i>	kurrajong	80
4	<i>Bulbine bulbosa</i>	bulbine lily	40
5	<i>Callistemon sieberi</i>	river bottlebrush	40
6	<i>Chrysocephalum apiculatum</i>	yellow buttons	40
7	<i>Chrysocephalum semipapposum</i>	clustered everlasting	40
8	<i>Dichopogon strictus</i>	chocolate lily	40
9	<i>Dodonaea viscosa</i>	hop bush	40
10	<i>Eucalyptus albens</i>	white box	80
11	<i>Eucalyptus macrorhyncha</i>	red stringybark	80
12	<i>Goodenia pinnatifida</i>	cut-leaf goodenia	40
13	<i>Microseris lanceolata</i>	yam daisy	40
14	<i>Xerochrysum viscosum</i>	sticky everlasting	40
Total			680

Expenses

Date	Item	Number of plants	EcoVineyards costs (ex GST)	Co-contribution (landholder contribution)
12/09/2024	Impact Ecology microbat call analysis		\$124	
12/05/2025	Central Tablelands Landcare Inc mixed native tubestock	640	\$2,036	
	Tree guards cartons (QTY: 250) x 2			
	Bamboo tree stakes (QTY:500) x 2			
28/05/2025	Australian Native Landscapes (scoria and seedling mix)		\$382	
	EcoGrower contribution			\$3,000
Total		640	\$2,543	\$3,000





PROGRAM PARTNERS



REGIONAL PARTNERS



MARGARET RIVER WINE



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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.



