



CASE STUDY

ESTABLISHING INSECTARY IN AND AROUND THE VINEYARD AT WAYFINDER, MARGARET RIVER, WA

By Yann Vaucher, Wayfinder; Rebecca Archer, Lower Blackwood LCDC and Dr Mary Retallack, Retallack Viticulture Pty Ltd



DIFFERENT WAYS OF ESTABLISHING INSECTARY

Background

Wayfinder is located at 168 Clews Road, Cowaramup and consists of a total of 99 hectares with 42 planted to Chardonnay, Cabernet Sauvignon, Sauvignon Blanc, Semillon, Syrah, Merlot, Cabernet Franc and Malbec.

The vineyard was established in 1994 and was run conventionally until it came into our care in 2018. The property became Australian Certified Organic (ACO 13155) in 2022. We continue to employ organic and sustainable principles in our role as stewards of the land with the aim to consistently regenerate the property to leave it in a better state than we found it.

"EcoVineyards connects people, places, and ideas. It has inspired us to rethink our approach and work more harmoniously with nature."

Yann Vaucher, Vineyard Manager, Wayfinder

Project description

- In Autumn 2023, we launched a vineyard trial involving 10 different mid-row seed mixes. Each block received two to three alternating treatments tailored to its specific conditions. We aimed to enhance biodiversity, reduce pest and disease pressure, regenerate soil health, and foster a thriving ecosystem.
- The project was inspired by a polyculture experiment at a future market garden site, where a dense multi-species cover crop significantly reduced pest damage. We aimed to replicate this success in the vineyard while accommodating operational needs, such as the requirement to drive every second row for spraying and the budget allocated.



Figure 1: EcoGrowers Yann Vaucher and Lottie West, Wayfinder 2023 [Photo: Mary Retallack].

Context

Our Shiraz blocks were experiencing persistent mealybug infestations, which affected fruit quality and increased the risk of GVLRAV virus. In response, we released beneficial insects *Mallada signatus*, green lacewings and *Cryptolaemus montrouzieri*, mealybug destroyers. While lacewing larvae were effective, they dispersed rapidly upon maturing.

To support their retention, we are establishing 'lacewing havens' on either side of the hotspot, using dense hedges and native flowering plants that bloom year-round. Success will be tracked through seasonal releases and monitoring of lacewing and pest populations.

Additionally, we created two native insectary (under 500 m² each) on block borders with severe pest issues (mealybug, weevils, and apple looper) during 2023–24. Area A was planted where a blue gum windbreak was removed on tough and poor ground not suitable for any culture (Figures 2 to 5).

Wine growers can also learn about ways they can grow the nutrient integrity of grapevines so they become less susceptible to insect attack via the fact sheet [Nutrient-dense plants are more resistant to pests and diseases](#).



Figure 2: Installation of photo monitoring point at Action Area A prior to planting in June 2023 [Photo: Mary Retallack].



Figure 3: Action Area A Insectary in December 2024 after a very dry winter [Photo: Mary Retallack].



Figure 4: Action Area A Insectary in May 2025 [Photo: Rebecca Archer].



Figure 5: Action Area A Insectary showing hoverfly on *Dianella revoluta*, black anther flax lily in December 2024 [Photo: Mary Retallack].

Area B was planted adjacent to a soak (Figures 6 to 8). Our long-term goal is to create a 700-meter green corridor where the blue gums used to be over 10 years to serve as wildlife habitat and sanctuary for beneficial insects.

Complementary practices:

- **High-density chicken grazing:** Trialed in young vine rows for organic weed control. Setup was time-consuming but yielded positive results (Figure 9)
- **High-density sheep grazing:** Successfully used in winter for controlling Kikuyu and couch. Sheep were rotated every 2 to 3 days using electric fencing based on food availability.
- **Woodchip mulching:** Applied for weed control in two-year-old vines. We saw very good results, and it helped control weeds while saving on irrigation.
- **Non-mowing zones:** In and around the vineyard to provide shelter and breeding areas for beneficial insects.
- **Hand seeding under vines:** Using different clovers species to outcompete kikuyu after weeding and provide habitat for insects. It wasn't successful the 1st year but we had a good surprise the 2nd year.



Figure 6: *Logania vaginalis* in Area B insectary, October 2024 [Photo: Rebecca Archer].



Figure 7: *Logania vaginalis* in Area B insectary, October 2024 [Photo: Rebecca Archer].



Figure 8: *Acacia* sp. growing on dam wall in Action Area B insectary in October 2024 [Photo: Rebecca Archer].



Figure 9: High-Density chicken grazing trial in young vine rows for organic weed control (June 2023) [Photo: Mary Retallack].

What did you do and when?

We began by assessing each block and identifying key challenges such as soil constraints, nitrogen deficiencies, waterlogging, sheep-grazing limitations, and weed competition. Based on these factors, we designed 10 different cover crop mixes, each containing one to five species, and used three distinct seed mixes per block to increase diversity across the vineyard.

Seeding was done every two rows to allow tractor operations. The cover crops were sown in autumn and grown through to December, when they were terminated for fire safety.



Figure 10: A mixture of clover planted in the midrow [Photo: Yann Vaucher].



Figure 11: A mixture of oats planted in the midrow [Yann Vaucher].



Figure 12: Blue lupin as a part of a multispecies mix planted in the midrow [Yann Vaucher].

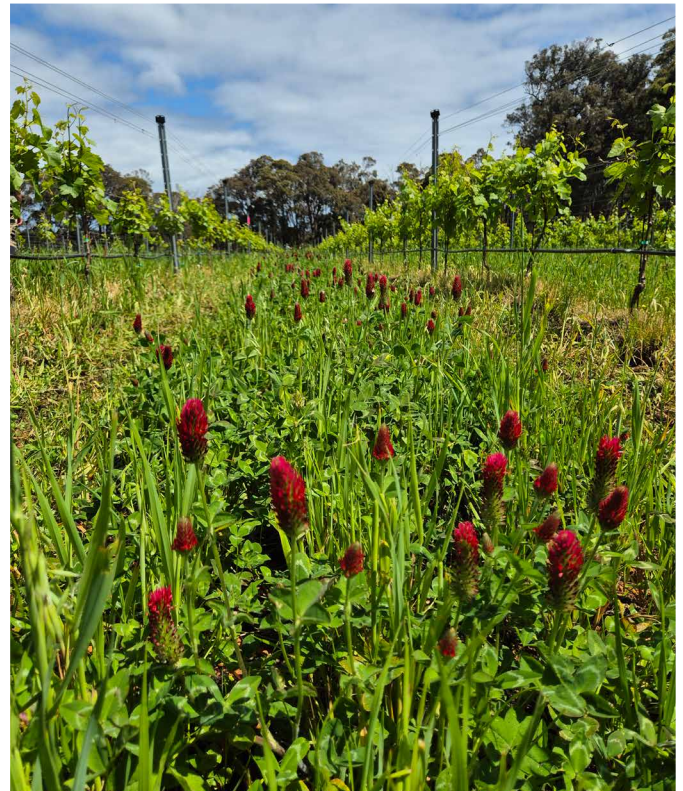


Figure 13: Crimson clover planted in the midrow [Photo: Yann Vaucher].

In October 2024, we planted buckwheat as a cover crop in our new Merlot block. The buckwheat provided wind protection, attracted bees and beneficial insects, suppressed weed growth, and was then left to reseed naturally. It successfully self-germinated again in autumn 2025 after the first rainfall. Figures 14 and 15 show a single-species cover crop of buckwheat sown in spring in a new plantation, which later self-germinated in May after being rolled.

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

As the project evolved, we expanded our focus to include broader biodiversity initiatives, such as paddock regeneration, fencing off native bushland, and creating permanent or semi-permanent ungrazed zones.

Although we initially planned to plant additional trees for the EcoVineyards insectary, resources were redirected to support the larger revegetation project. Since then, the insectary has evolved into a living, ongoing initiative, supported by annual growth, dedicated time, and targeted funding. Given its location on poor-quality soil, it requires extra attention and care to ensure its success.



Figure 14: Interrow planting of buckwheat in spring 2024 [Photo: Rebecca Archer].



Figure 15: Interrow planting of buckwheat in May 2025 [Rebecca Archer].



Figure 16: Large scale revegetation project after planting in September 2023 [Photo: Rebecca Archer].



Figure 17: Large scale revegetation project in May 2025, 18 months after planting [Photo: Rebecca Archer].

What worked well?

Even on a small scale, the insectary proved highly effective. The team was enthusiastic about observing native insect colonisation, a clear sign of success.

Diverse cover crop mixes also delivered strong results, boosting vine health, reducing pest pressure (such as fewer weevils and mealybugs), and improving soil structure. After two excellent seasons, we're encouraged by the outcomes and will continue to monitor progress.

Any pitfalls to avoid?

The EcoVineyards insectary site that we selected was difficult to access for monitoring and manual watering, resulting in a 75% loss of native seedlings planted in 2023 and 2024. We also failed to use mulch for weed control.

Future sites should be easily visible during a working day, and visited and monitored at least weekly.

We were fortunate that rabbits and kangaroos showed no interest in the seedlings, despite not installing tree guards. We would have liked to plant a great diversity of species in our Ecovineyards insectary, but missed the autumn window to order for the following years planting.

Additionally, our time and resources were focused on a large-scale on-site revegetation project initiated in 2022, where we planted over 8,000 native plants (Figures 16 and 17).



Figure 18: Yann installing the photo-point to capture progress of plant growth [Photo: Mary Retallack].

Highlights

We found that a mix of 3 to 4 species in a cover crop performed better than a mix of 10 when direct-seeding. Selecting complementary species with similar seeding depths resulted in good germination success. It was hard to monitor which cover crop performed the best as the variation likely came from different soil types.

In Southwest WA, timing is critical as red-legged earth mites damaged some clovers. We were aware that our choice of cover crop seed might attract some pests and be counterproductive. However, we observed minimal attacks compared to the previous year, especially on the young vines. We didn't have previous data (traps or count) available, and we relied on visual assessment of damages to the vines.

We now have a better understanding of the value of increasing biodiversity in monoculture systems. Fostering ecological balance enables natural predators, fungi, and wildlife to thrive, which in turn helps manage invasive species. We're also more conscious of the opportunities to plant native species into mid-rows or under-drip zones to further support biodiversity and pest management.

Where to from here?

We have dedicated one week each year to regeneration and revegetation projects around the vineyard. We plan to continue expanding the insectary in order to increase plant diversity and coverage.

The program fostered valuable connections with like-minded growers who are passionate about sustainable viticulture. It encouraged idea-sharing and collective learning, creating a sense of shared purpose and energy.



Figure 19: Tubestock ready to be planted [Photo: Yann Vaucher].



Figure 20: New plants with wood chips to reduce weed pressure [Photo: Yann Vaucher].

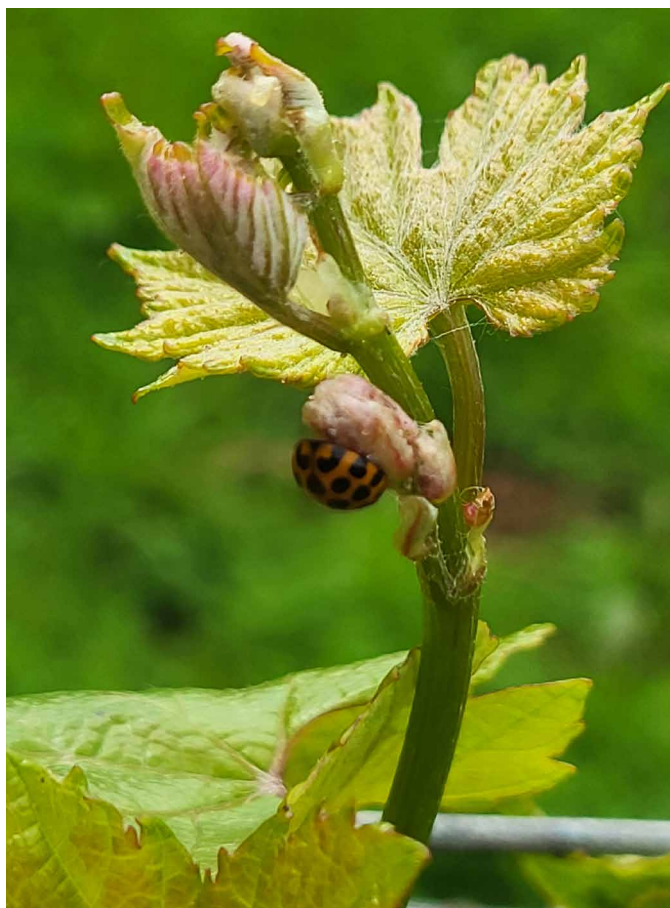


Figure 21: Predatory and native common spotted ladybird beetle on a grapevine shoot [Photo: Yann Vaucher].



Figure 22: Wallaby grass in flower with distinctive fluffy seed heads on show [Photo: Mary Retallack].



Figure 23: Native blue banded bee on *Dianella revoluta*, black anther flax lily [Photo: Mary Retallack].



Figure 24: Kangaroo paw in flower [Photo: Mary Retallack.



Figure 25: Bee hives [Photo: Mary Retallack].

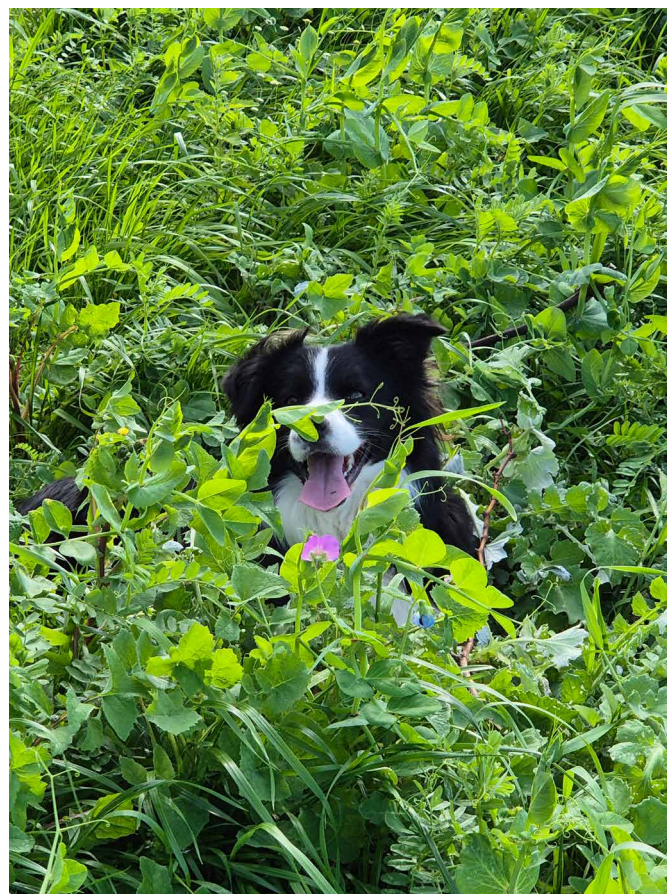


Figure 26: Peas and triticale cover crop [Photo: Yann Vaucher].

Are there any outstanding knowledge gaps you would like filled?

We're interested in learning more about:

- Maintaining and enhancing bushland near vineyards (appropriate timing for controlled burns)
- Comparing soil biodiversity in bush vs. vineyard areas
- Producing and using biochar

The program broadened our perspective on vineyard management and sparked new ideas for creating a more sustainable future. EcoVineyards was the catalyst for reimagining our practices in harmony with nature. I encourage all growers to take some time to participate at these events.



Plant lists (revegetation zone)

#	Scientific name	Common name	# planted
Tree species			
1	<i>Agonis flexuosa</i>	willow peppermint	315
2	<i>Banksia grandis</i>	bull banksia	126
3	<i>Corymbia calophylla</i>	marri	441
4	<i>Eucalyptus marginata</i>	jarrah	189
5	<i>Eucalyptus patens</i>	blackbutt	189
6	<i>Paraserianthes lophantha</i>	Cape Leeuwin wattle	315
Shrub species			
7	<i>Acacia myrtifolia</i>	myrtle wattle	126
8	<i>Acacia pulchella</i>	prickly moses	315
9	<i>Acacia saligna</i>	coojong	315
10	<i>Beaufortia sparsa</i>	swamp bottlebrush	252
11	<i>Billardiera heterophylla</i>	common name bluebell creepe	252
12	<i>Calothamnus quadrifidus</i>	one-sided bottlebrush	252
13	<i>Chorizema llicifolium</i>	holly flame pea	126
14	<i>Darwinia citrodora</i>	lemon-scented darwinia	189
15	<i>Hakea amplexicaulis</i>	prickly hakea	189
16	<i>Hakea lissocarpha</i>	honey bush	189
17	<i>Hakea oleifolia</i>	dungyn	177
18	<i>Hovea ellipicta</i>	karri blue bush	126
19	<i>Hypocalymma angustifolium</i>	white myrtle	126
20	<i>Kunzea glabrescens</i>	spearwood	252
21	<i>Kunzea recurva</i>	purple kunzea	126
22	<i>Melaleuca incana</i>	grey honey-myrtle	252
23	<i>Melaleuca thymoides</i>	sand wattle-myrtle	126
24	<i>Mirbelia dilatata</i>	holly-leaved mirbelia	252
25	<i>Taxandria linearifolia</i>	swamp peppermint	126
26	<i>Taxandria parviceps</i>	tea tree	126
27	<i>Xanthorrhoea preissii</i>	balga	126
Herb / sedge / groundcover species			
28	<i>Anigozanthos flavidus</i>	tall kangaroo paw	504
29	<i>Anigozanthos manglesii</i>	red-and-green kangaroo paw	504
30	<i>Ficinia nodosa</i>	knotted club-rush	441
31	<i>Hardenbergia comptoniana</i>	native wisteria	315
32	<i>Juncus subsecundus</i>	finger rush	441
Total			7,800

Expenses

Date	Item	Number of plants	EcoVineyards costs (ex GST)	Co-contribution (landholder contribution)	In-kind time
5/05/2023	Covercrop seeds Cowaramup Agencies		\$1,384	\$3,589	
17/05/2023	Covercrop seeds - Autumn Mix		\$1,812		
31/08/2023	Power harrow site and plant native grass seeds in designated areas (A and B)				2.0 hrs
21/09/2023	Purchase and collect seedlings from GCLN Busselton	72	\$205		1.5 hrs
25/09/2023	Spread mulch and top soil on area A				3.0 hrs
26/09/2023	Yeomans plow to deep rip before planting area A				1.0 hrs
26/09/2023	Soil samples taken of GR1 (action area D), to compare with site after compost tea application - Sent to Agpath				1.0 hrs
28/09/2023	Species planted in both area A and B - labelled and watered				7.5 hrs
2/10/2023	Mulch area B and fill in missing labels - check plants post-storm				1.0 hrs
6/10/2023	Watering Areas A and B during summer - 1.5 hour per week over 7 weeks				10.5 hrs
6/05/2024	Everlasting seeds, 1 kg		\$384		
12/09/2024	Impact Ecology - Microbat call analysis		\$124		
14/11/2024	Purchase and collect seedlings from GCLN Busselton	32	\$91		1.0 hrs
16/11/2024	Species planted in both area A and B - labelled and watered				3.5 hrs
17/11/2024	Watering Areas A and B during summer - 1.5 hour per week over 5 weeks				7.5 hrs
6/05/2025	Prepare soil and spread everlastings				4.0 hrs
	EcoGrower contribution			\$3,000	
	Total	104	\$4,000	\$6,592	43.5 hrs

Disclaimer

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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.



