

Trialing Cover Crops for Drought Resilience

Fruit Growers Victoria Infosheet #1

Fruit Growers Victoria (FGV) have established a trial to investigate the impact of cover crops between rows for **drought resilience** in orchards. The trial is at a commercial farm in Toolamba (Goulburn Valley) and will run for two years. This is supported by the Australian government's Future Drought Fund: Drought Resilient Soils and Landscapes Grants Program.

At FGV, we understand that growers may have the following **questions** regarding cover crops-

- Is it **practical and feasible** for growers to plant and maintain cover crops in the inter-row?
- Which cover crop gives a better **return on investment**?

We hope this trial will help growers access the latest research and available information on **cover crops in orchard settings** so they can make an **informed decision based on factors surrounding their specific system**. For example, factors may include: soil type, crop type, land management practices, micro-climate, and machinery available. Research in other states has contributed to the development of easy-to-use 'Decision Tools' to assist growers when selecting cover crops for their orchard.

Further, we hope this trial can highlight areas for **future applied research** needed in cover crops within commercial horticulture settings.

Trial Plan & Layout

The trial consists of four different cover crop treatments across three different watering regimes (refer to Table below). The species included in the Native Mix selection was advised by the Euroa Seedbank.

The crops were sown in November 2022 and will be maintained by a Field technician with assistance from the grower. FGV will also be working closely with local researcher Ian Goodwin, Melbourne University PhD students and soil researcher scientists for advice with measurements and analysis.

Cover Crop Treatments	Irrigation Treatments
Native Seed Mix	Full Irrigation
Canola	Regular Deficit Irrigation
Lucerne	Drought Conditions
Control	

Minor Trials will be set up as a demonstration site with cover crops in the following areas:

- **Cobram**
- **Yarra Valley**
- **Goulburn Valley**

Questions we want to investigate regarding cover crops to communicate to growers:

- Do cover crops help attract beneficial insects?
- Do cover crops improve drought resilience of tree?
- Do cover crops improve quality of fruit at harvest?
- Do cover crops impact soil health?

Further Reading

- Research in Vineyards - <https://ecovineyards.com.au/articles/>
- Research in Apple Orchard in Australia - Bone, N., Thomson, L., Ridland, P., Cole, P., Hoffmann, A (2009). Cover crops in Victorian apple orchards: Effects on production, natural enemies and pests across a season. Crop Protection, **28**. 675-683
- Irrigation Research - <https://apal.org.au/water-saving-options-for-pears/>