

Cover Cropping

Photo: Royal Phacelia flowering in an almond orchard

The leading Australian cover cropping and bee forage company

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S&W
SEED COMPANY

Ross Arnett
Malua Farm, Lindendale NSW

Building a better and more diverse ecology with Interrow

Ross Arnett of Malua Farm produces macadamias from his 2,000 trees at Lindendale NSW.

When driving into Ross's farm, it is clear that he has a strong focus on maintaining the health of his orchard as a whole, including the diverse and thriving interrow.

Ross utilises wider row spacings of 10 x 5 metres and manages his canopy in a manner that allows enough light penetration to maintain 100 percent groundcover.

"The interrow on Malua farm consists of a cocktail mix of seeds with up to 19 different species, thus creating what I call a metre wide 'nature strip'," Ross says.

He explains that the interrow is a critical part to the holistic functioning of the orchard. "It encourages plant species diversity, furthermore, fauna species diversity. This is beneficial as it minimises the need for insecticide spraying."

Ross utilizes compost, cow manure and rock-based fertilisers in his nutrition program, however the interrow also plays an important role due to its ability to cycle minerals from deep within the soil profile.

Ross's custom interrow blends are sown with a double disc opener into the mid-row strip prepared

by either mulching or rotary hoe.

"While I'm still in the early stages experimenting with seed mixes, some species stand out," Ross says.

"Surge Buckwheat is a great allrounder. Grows all year round, self-seeds and can be flowering in less than 4 weeks in ideal conditions. Additionally, it attracts many beneficial insects to the orchard".

"Some of the brassicas such as S&W Smart Radish and Balance Chicory move deep into the soil profile and breakup any soil compaction and add lots of organic matter to the system."

"Legumes such as ML99 MultiLeaf® Lucerne, Renegade Red and Haifa White Clover are a must in the mix for both their nitrogen fixing ability and also their insect attracting ability."

Ross notes that "standard seed blends are a great starting point if you are new to doing an interrow cover crop. However, as you get a better understanding of what works best in your orchard, making your own custom blends is a great way to go."

"I have had great support from Denham Thompson, S&W Seed Company, in my journey to build a better and more diverse ecology in my farming system."



Custom blend down to a fine art

For the last 6-7 years, Century Orchards have been using a custom blend to sow down the mid rows of their almond operation. Century is based in the South Australian Riverland town of Loxton, where the average yearly rainfall is around 200 millimetres.

Together we were able to come up with a custom blend that includes Caliph Barrel Medic and Cobra Balansa Clover. The blend has proven to be very effective.

Scott McKenzie is the Technical Operations Manager and has got the sowing of this blend down to a fine art. Traditionally sown around mid

to late April, using DAP fertilizer, the aim is to have the medic and clover flowering at a similar time to the almond trees and arrival of the beehives.

By sowing the Century Orchards mix, Scott says, "It has not only improved our soil strength and structure, but it has also brought the beneficial insects into the orchard." This has been part of the overall goal for Scott and Century Orchards as part of their IPM (Integrated Pest Management) program. "We will slash every second row to keep the beneficials around," Scott added.

Prior to Scott and his team cleaning up the rows ready for harvest, the Century Orchards mix has usually finished flowering and set seed. Scott now sows the blend at a lower rate each year due to the regeneration he is getting from previous years seed set.



Scott McKenzie & Caleb Rohrlach
Century Orchards, Loxton SA



“The hive became so healthy that more hives were brought in”

Wayne Appelby
Tuckombil NSW

Soaking up the advantages of interrow light

Wayne Appelby manages a macadamia orchard in Tuckombil NSW. With a focus on increasing interrow light penetration and improving orchard floor conditions, selective limb removal has been an integral part of their program. As light penetration has improved, in suitable areas throughout the orchard, Wayne has also planted a diverse cover-crop blend.

The custom S&W Seed Company blend was designed with the aid of Wayne’s agronomist from McGregor Gourlay, Alstonville with a focus on increasing pollinator activity and providing resources for other benefits: soil health; nutrient availability; water infiltration/mitigating run-off.

“Bees were brought into the orchard and the beekeepers were very happy with the flowers. The hive became so healthy that more hives were brought in,” Wayne explains.

“I believe it’s got to help with pollination. The trees have had an excellent nut set. When I came out in the morning or the afternoon the area was abuzz with bees.”

Another benefit that Wayne noted was that the cover crop trapped and stopped soil from washing down the hill.

“Grass areas will stop some soil but with heavier rain, it bends over and soil is still lost, whereas this cover blend has really caught and held a lot of soil,” revealed Wayne.

Pollinator

SOWsmart® BLEND

Min Rainfall (mm) 350
Soil Type Light & Heavy

Seeding Rate 40-60 kg/ha

Market Segment/Target

Cover crop/Interrow

Bee-Ready Brassica	12.5%
Presto Vetch	50%
Smart Radish	12.5%
Samurai White Mustard	12.5%
White Cloud Crimson Clover	12.5%

Comprised meticulously of flowering varieties, the Pollinator Blend is designed to stimulate bee activity. Its combination of flowering species exhibits white, yellow and purple flowers, boasting high nectar and pollen levels. Designed for pollination dependant enterprises. Utilised in midrow or exclusion areas for almonds, avocados, macadamias and more.



Multi Species Soil Builder

SOWsmart® BLEND

Min Rainfall (mm) 450
Soil Type N

Seeding Rate 50-65 kg/ha

Market Segment/Target

Cover crop/Interrow

Compass Chicory	2%
Presto Vetch	20%
Ranger Plantain	2%
Smart Radish	4%
Subzero Hybrid Forage Brassica	4%
Tetrone Tetraploid Annual Ryegrass	10%
White Cloud Crimson Clover	4%
White Quinoa	4%
Wintaroo Oats	50%

A blend that has been designed to repair and build soil organic matter. A great combination of high dry matter varieties and deep rooted species.



Green Manure Row

SOWsmart® BLEND

Min Rainfall (mm) 400
Soil Type N

Seeding Rate 140-160 kg/ha

Market Segment/Target

Cover crop/Interrow

Dunn Forage Peas	20%
Faba Beans	20%
Overland Forage Oats	50%
Timok Vetch	10%

This blend of highly productive annual species results in a green manure crop that produces maximum herbage biomass production. This adaptable blend should be incorporated into the soil prior to budburst in late winter or early spring. Improve soil nutrient status and physical properties, as well as management conditions while reducing your chemical input.



WINS Row

SOWsmart® BLEND

Min Rainfall (mm) 350
Soil Type Light & Heavy

Seeding Rate 80-160 kg/ha

Market Segment/Target

Cover crop/Interrow

Kraken Forage Barley	80%
Smart Radish	3%
Timok Vetch	17%

WINS is an acronym for Weed control, Interrow, Nitrogen and Soil conditioning. Specifically for lower rainfall areas, the SOWsmart® WINS Row Blend provides fast forage production early in the season. The blend produces copious amounts of dry matter and aids in weed suppression. It also provides organic matter back into the soil.



Cover crop success

Miranda Liebmann's farm in Gum Creek, has about 6,500 mature macadamia trees. The majority of them were the A4 variety, many of which were noticeably affected by phytophthora. Miranda has been there for five years and despite a focused fertiliser and orchard improvement program, the A4s have struggled to recover.

They decided replacement was the best option for the trees worst affected. About 3,000 A4 trees were removed in August this year. The soil was deep ripped and profiled. In October, they spread an S&W Seed Company summer cover crop mix to protect the soil through impending summer heatwaves, to build organic matter, to capture rainfall on the area and to build healthy microbial populations. The germination was successful and thanks to some much needed rain, two months on, they are well established and progressing well.

Miranda Liebmann
Gum Creek NSW



Pollinator blend

Bill Moorhouse, an macadamia grower from Alphadale NSW, planted an autumn interrow blend formulated by Denham Thompson, S&W Seed Company Territory Manager and Bill's Agronomist from McGregor Gourlay, Alstonville. Their focus was on using species that provide good floral resources to attract pollinators at the right time and improve pollination, provide resources and refuge for other beneficial insects and increase OM within the orchard.

"The aim of the interrow blend was to foster the right bugs at the right time"

Bill Moorhouse
Alphadale NSW



Royal

PHACELIA

Phacelia tanacetifolia



Seeding Rate	kg/ha
Dryland	5-10
High Rainfall/Irrigation	10-15

Seed Treatment XLR8™ optional

Description

Prolonged floral resource with high levels of quality pollen and nectar for bee forage

Market Segment/Target

Cover crop/Interrow

Features

- Quick to grow and flower following a spring sowing
- Performs well in dry/low rainfall conditions
- Adapted to autumn or spring sowing

Benefits

- Highly attractive to bees and other beneficial insects producing high quality pollen and nectar
- Nitrogen scavenger
- Flowers abundantly for a sustained period of time

Surge

BUCKWHEAT

Fagopyrum esculentum



Seeding Rate	kg/ha
Dryland	40-60
High Rainfall/Irrigation	60-80

Seed Treatment XLR8™ optional

Description

Early vigour cover crop to provide weed suppression and provide quality floral resources

Market Segment/Target

Cover crop/Interrow

Features

- Performs well in low fertility and dryland conditions
- Scavenger of phosphorous and calcium
- Quality weed suppressant

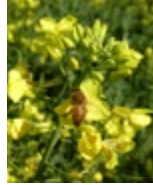
Benefits

- Attractive to bees with prolific flowering capacity and high nectar flow
- Fibrous root system
- Fast establishing

Samurai

WHITE MUSTARD

Sinapis alba



Seeding Rate	kg/ha
Dryland	2-8
High Rainfall/Irrigation	8-20

Seed Treatment XLR8™ optional

Description

Early/mid maturing floral resource for bee forage and insect habitation

Market Segment/Target

Cover crop/Interrow

Features

- Excellent early vigour
- Abundant floral production
- Sustained flowering period

Benefits

- Suited to post wintering bee forage
- High levels of attraction to bees and other beneficial insects
- Additional soil borne disease mitigation

Smart

RADISH

Raphanus sativus L



Seeding Rate	kg/ha
Dryland	5
High Rainfall/Irrigation	8

Seed Treatment Fungicide/XLR8™ optional

Description

Tillage type radish with 'pull-down' bulb

Market Segment/Target

Quick biomass production and soil health

Features

- Improved tillage type radish
- 'Pull-down' bulb grows further into the ground
- Very quick to establish

Benefits

- Increases water infiltration in soils and reduces compaction
- Creates quick ground cover
- Highly digestible forage source

For technical advice contact your local Territory Manager



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