



CASE

STUDY

QUICK FACTS



Australian Government

National
Landcare
Program



BACKGROUND

The landholders own a grazing property and mango orchard in the coastal region of Seaforth. In the past five years, they have been noticing the effects of climate change as their mangoes are ripening at different times.

The trial involved planting a summer crop of multi-species to produce feed in the autumn/winter period. The soil at the trial site was a brownish clay loam with a pH of 6.13 and a relatively high soil organic carbon of 2.2%. The aim of the trial was to:

- Increase feed at certain times of the year
- Add diversity to cattle feed
- Improve soil structure
- Increase production

SITE PREPARATION

Two sites were planted during December 2020. Site one measured an area of 1 ha which was seeded with Mix 1. Site two was 0.8 ha in size and was sowed with Mix 2. The seed mixes at both sites were planted at a density of approximately 35 kg/ha using a DIY multi-species planter. Prior to seeding, sites were grazed and slashed.

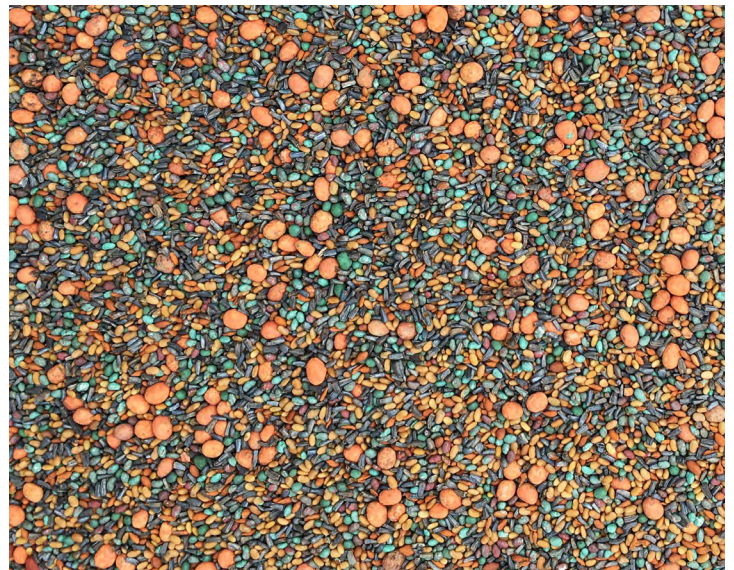
Trial
Multi-species cover crop field trial to maintain production

Location
Seaforth, QLD (45 km from Mackay)

Elevation
10 m

Average rainfall
1500 mm per year

Operation
Grazing and mangoes



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MIX 1 (PLANTED 16 DEC 2020), TOTAL WEIGHT = 35.3 KG, BARENBRUG SEEDS

Species	Astro Forage Sorghum	Substain Lablab	Summer Green Opticote (Corn)	V8 Stylo	Rape	Turnip	Chicory	Panic, setaria, stylo, millet, chicory
Quantity	7.5 kg	14.25 kg	3.25 kg	1 kg	1 kg	0.8 kg	0.4 kg	7.1 kg
Additional inputs	280 L of fertilizer used (25 kg Diamond Blue in 300 L water). 10 psi – ½ strength. Fertilizer composition: 19% Nitrogen, 2.5% Phosphorus, 17.1% Potassium + micronutrients.							

MIX 2 (PLANTED 22 DEC 2020), TOTAL WEIGHT = 28.5 KG, PGG WRIGHTSON SEEDS

Species	Lush Forage Sorghum	Rongai Lablab	Sunflower	V8 Stylo	Kazungula setera	Bambatsii panic	Rape	Turnip	Millet, chicory	Pigeon pea	Puna chicory
Quantity	4.5 kg	8 kg	5 kg	1 kg	3 kg	1.7 kg	0.8 kg	0.5 kg	2.5 kg	0.13 kg	1 kg
Additional inputs	130 L of fertilizer used. 10 psi - ½ strength.										

OBSERVATIONS

- Unfortunately, the area experienced significant rainfall the day following the planting of Mix 2 (23rd December 2020).
- Over the 23 days following the planting, the property received a total of 582 mm of rain. This rainfall level is well above average for the month of December in this region.
- Although seeds germinated, this rainfall event resulted in crop failure for most of the multispecies planted.

LESSONS LEARNT:

Multi-species planted during the wet season (November – April) can be prone to failure due to excessive rainfall events.

Multi-species planted during the dry season (April – November) requires adequate irrigation for germination and growth.



WHAT'S NEXT?

After the poor results received from this trial, the landholder has purchased a portable irrigation system. This will allow the landholder to plant a multi-species crop during the dry season to avoid crop failure from excess rain while providing enough soil moisture for germination and growth.

Support for this project is provided by Reef Catchments through funding from the Australian Government's National Landcare Program for Regional Land Partnerships.