

Fairview Leucaena Demonstration Field Day

20 February 2021

Aim

Compare the performance of cattle on a Redlands leucaena and sown grass pasture with cattle on native grass pastures for 12 months (May 2020 - May 2021).

Trial paddocks

- Two paddocks with Redlands leucaena and signal grass established on black soil flats. Balance of paddocks is ironbark hills and a creek line with thatch grass and black spear grass.
- Leucaena and signal grass is 46 ha in total area of 114 ha.
- Grass paddock of 38 ha on frontage country with access to Hymenachne and Para grass in lagoon.

Cattle

- 40 Calliope Station No 0 steers, used to allocate 20 to the Grass and Leucaena paddocks.
- Groups of 20 No 0 steers from Calliope, Voewood and Wycheproof also run in the Leucaena paddocks.

Data collection

- Steers inducted 29 May 2020, after a week together on grass at Fairview
- Weighed every 8 weeks
- Faecal samples collected at weighing and from paddock between weighings for Faecal NIRS to assess diet quality

Health treatments

29 May 2020	5 in 1, Longrange Botulism & Tick Fever vaccine
31 Jul 2020	5 in 1 & Three day sickness vaccine Leucaena innoculum given to 10 Leucaena steers
25 Sep 2020	Three day sickness vaccine Taktic plunge dip
2 Nov 2020	Taktic plunge dip
20 Nov 2020	Taktic plunge dip
18 Jan 2021	Fly tags Taktic plunge dip

Table 1. Paddock areas and grazing periods

Paddock	Grass	Greenbank	Greenbank & Farmer Creek
Total area (ha)	38	131	160
Leucaena & sown grass (ha)		37	46
Native grass (ha)	38	94	114
Number of steers	20	80	
Grazing periods	29/05/20-15/02/21	29/05/20-15/10/20	16/10/20-15/11/20
		16/11/20-05/12/20	06/12/20-15/02/21
Grazing days	262	159	103

Table 2. Liveweights (kg)

Date	Grass	Leucaena	Voewood - Leucaena	Wycheproof - Leucaena	Calliope - Leucaena
29/05/20	276	279	228	200	260
31/07/20	286	298	238	218	280
25/09/20	290	335	273	249	320
20/11/20	308	379	318	300	365
18/01/21	363	426	372	354	415
15/02/21	391	450	398	383	441

Table 3. Body condition scores (Range: 1 (Low) - 5 (High))

Date	Grass	Leucaena	Voewood - Leucaena	Wycheproof - Leucaena	Calliope - Leucaena
29/05/20	3.5	3.4	3.6	3.2	3.5
31/07/20	2.9	3.2	2.9	2.8	3.1
25/09/20	2.8	3.2	2.8	2.8	3.1
20/11/20	2.8	3.3	2.9	3.0	3.1
18/01/21	3.2	3.6	3.2	3.3	3.4
15/02/21	3.5	3.9	3.8	3.9	3.9

Table 4. Interim liveweight gain (kg/hd)

Period	Days	Grass	Leucaena	Voewood - Leucaena	Wycheproof - Leucaena	Calliope - Leucaena
29/05/20-31/07/20	63	6.4	19.2	10.1	17.9	19.9
1/08/20-25/9/20	56	8.1	37.0	34.3	31.9	38.5
26/9/20-20/11/20	56	18.2	44.5	45.4	49.8	48.0
21/11/20-18/01/21	59	54.5	48.4	54.3	54.0	52.6
19/01/21-15/02/21	28	28.8	23.2	26.1	29.0	26.7

Table 5. Total liveweight gain (kg/hd)

Period	Days	Grass	Leucaena	Voewood - Leucaena	Wycheproof - Leucaena	Calliope - Leucaena
29/05/20-15/02/21	262	115.2	171.1	169.7	182.7	181.6

Table 6. Interim average daily gain (kg/hd/day)

Period	Days	Grass	Leucaena	Voewood - Leucaena	Wycheproof - Leucaena	Calliope - Leucaena
29/05/20-31/07/20	63	0.101	0.304	0.161	0.284	0.316
1/08/20-25/9/20	56	0.144	0.660	0.613	0.570	0.687
26/9/20-20/11/20	56	0.325	0.794	0.811	0.890	0.857
21/11/20-18/01/21	59	0.923	0.820	0.921	0.914	0.891
19/01/21-15/02/21	28	1.027	0.829	0.932	1.036	0.954

Table 7. Overall average daily gain (kg/hd/day)

Period	Days	Grass	Leucaena	Voewood - Leucaena	Wycheproof - Leucaena	Calliope - Leucaena
29/05/20-15/02/21	262	0.440	0.653	0.648	0.697	0.693

Table 8. Paddock liveweight gain 29/05/20 - 15/02/21 (262 days)

Paddock	Grass Paddock	Leucaena & signal grass area only [#]	Total area Leucaena paddocks
Area (ha)	38	41	142
Number of steers	20	80	
Total liveweight gain (kg)	2,304	14,101	14,101
Liveweight gain (kg/ha)	61	348	99

[#] The leucaena area is the mean area of leucaena available to the steers, calculated from the area of the two leucaena grazing areas and grazing periods in Table 1.

Table 9. Adult Equivalents/paddock (1 AE = 455 kg liveweight)

Date	Grass Paddock	Leucaena Paddocks
29/05/20	12.1	42.5
31/07/20	12.6	45.5
25/09/20	12.7	51.7
20/11/20	13.5	59.9
18/01/21	15.9	68.9
15/02/21	17.2	73.5
Mean	14.7	58.0

Table 10. Stocking rate (Adult equivalents/hectare)

Date	Grass Paddock	Leucaena & signal grass area only [#]	Total area Leucaena paddocks
29/05/20	0.32	1.05	0.30
31/07/20	0.33	1.12	0.32
25/09/20	0.34	1.28	0.36
20/11/20	0.36	1.48	0.42
18/01/21	0.42	1.70	0.48
15/02/21	0.45	1.81	0.52
Mean	0.39	1.43	0.41