

Sharing knowledge leads to productivity improvements

Pam Beerens and Leigh Edwards are fairly new to farming Angus cattle having commenced the venture after retiring only four years ago. Pam grew up around dairy cattle so cows are very familiar to her. Their 150 acre property is situated in Hilldene and has been relatively untouched for agricultural land use. They have divided their property into several paddocks and also lease some neighbouring land and run 82-head of cattle that includes pure black Angus, made up of 31 weaner heifers, one weaner steer Fresian, 27 cows and 25 calves.

“We find autumn calving really suits this area, and we prefer to practice rotational grazing. On average we are able to put on 1.8kg per calf per day,” Pam said.

Due to the property size, Mitchell Shire Council required a whole farm plan, which introduced the couple to several workshops conducted by various local groups. This included Phosphorous Tool Workshop, Soil Tests and Evaluation, Understanding Your Soil Test Step by Step (with Cath Botta), Life in the Soil, Using Chicken Litter as Fertiliser and Rapid Assessment of Soil Health (RASH) Workshop. More recently the couple referred to at a new manual, *Herbicides vs Insecticides* and have hosted a cattle grazing Beyond SoilCare gathering at their farm.

“Members looked at what we have, shared knowledge, conducted a site assessment, gained knowledge in cattle grazing and got to see where we are heading,” Pam said. “It’s great that each member takes it in turns to host the SoilCare group at their property.”

Pam said the workshops were all of great value. “We learnt so much through these workshops and now feel we have a much better understanding of what’s happening on our farm and how to manage it. We’ve learnt how to interpret soil test results, and are much more confident with evaluation and management of soil. We were shown how to take soil samples and send them for testing and the results explained. We also got an introduction to the phosphorus tool and how to use it. We’ve certainly gained a better knowledge of the importance of soil and using the right grass species. Some workshops have made us better aware of what we need to consider when managing our land and helped us gain an understanding of the make up of our soil. They’ve also taught us about the grass species that are appropriate to this area and shown us what will grow best on our land.”

Leigh agreed. “Karen Brisbane in particular has been very helpful in providing advice about soil, and has also referred us to other people knowledgeable in certain fields. (Agriculture Victoria’s) Brad Costin helped by visiting the farm and identifying grasses and native species on our property which improved our knowledge in this area. We really wanted to improve productivity of our farm and to provide a financial return. We also wanted to reduce the amount of hay needed to feed out each year.”

In the first year of the trial (2015) 10kg of lime (Calciprill® a proprietary lime additive) was used on a 10m x 10m plot. The application rate was 1 tonne to the hectare. In March 2015, 600 kg/Ha of Calciprill® was applied across the trial paddocks.

In 2016 some paddocks received additional lime with varying concentrations of superphosphate added to different paddocks based on the P Olsen and P Colwell soil tests results. Applications of single superphosphate at 480kg/ha, double superphosphate 240 kg/ha and triple superphosphate at 240 kg/ha were used. Pam and Leigh determined the application rates and spread the fertiliser themselves, meaning they were not reliant on a contractor. Superphosphate is currently being added in various paddocks, based on soil test results.

An impressive 0.6 increase in soil pH was measured between 2015 and 2016, and the cattle have increased in weight and are tracking well to provide higher condition scores than the average in the region. Pam and Leigh now have plans to apply what they have previously done to the remaining part of the farm.

“We now intend to begin lime and superphosphate applications on the untouched back half of our property and will continue with soil improvements. We are expecting to be able to increase stocking rates whilst reducing external inputs,” Leigh said.

Please see over-page for details of soil test results.

This project is funded though the Australian Government’s National Landcare Programme

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Soil test results - Pam Beerens and Leigh Edwards

Paddock	Soil Test Date	Fertilizer Application Date	Fertilizer Applied	See Drop down Box	See Note Green = from soil test	15	50	160-250	8-11	6.5	6.5	<120 mg/kg	< 0.5		2.9-5.8	2.9-5.8	> 10		5-8	1-3	0.3-0.7	3-7	< 1		> 2.1 - 6.1	< 6%	< 5%	65-80	10-20
				Soil texture	PBI Range	P Olsen mg/kg	P Colwell mg/kg	K Colwell mg/kg	S KCL-40 mg/kg	PH 1:5 Water	PH CACL2	Salinity (EC)	Elect. Conductivity 1:5 ratio dS/m	Elect. Conductivity Saturated extract dS/m	Organic Carbon %	Total Carbon %	Nitrate Nitrogen mg/kg	Ammonium Nitrogen mg/kg	Calcium exch meq/100g cmol/kg	Magnesium Exch meq/100g cmol/kg	Sodium Exch meq/100g cmol/kg	Potassium Exch meq/100g cmol/kg	Aluminium Exch Method 15B2 cmol/kg	Sum of Cations CEC meq/100g cmol/kg	Calium Magnesium Ratio	Sodium % of Cations ESP	Aluminium % of Cations	Calcium % of Cations	Magnesium % of Cations
D1 4.36 Ha	Mar-15	25/07/2015 Lime	Calcipril 600 kg/Ha	Clay Loam	210.0	5.4	14.0	308.0	8.2	5.1	4.2	0.05	N/A	N/A	4.10	4.97	4.0	5.0	2.02	1.4	0.27	0.66	1.23	5.55	1.5	4.9	22.2		
	May-16	27/05/2016 Lime 13/07/2016 Super	Calcipril 600kg/Ha Single Super 480 kg/Ha	Clay Loam	210.0	7.0	15.0	300.0	8.0	5.2	4.3		0.08	N/A	4.10	4.97	4.0	5.0	1.40	0.9	0.17	0.47	1.40		1.6	3.9	31.0	33	21
D2 2.96 Ha	Mar-15	25/07/2015 Lime	Calcipril 600 kg/Ha	Clay Loam	150.0	5.4	14.0	308.0	8.2	5.1	4.2	0.05	N/A	N/A	4.10	4.97	4.0	5.0	2.02	1.4	0.27	0.66	1.23	5.55	1.5	4.9	22.2		
	May-16	13/07/2016 Super	Triple Super 240 kg/Ha	Clay Loam	150.0	7.0	18.0	210.0	14.0	5.2	4.5	0.05	0.15	0.60	4.00	0.00	15.0	5.0	2.02	1.1	0.25	0.40	0.90		1.7	5.5	20.0	42	24
		10/04/2017 Super	Double Super 240 kg/Ha																										
D3 2.74 Ha	Mar-15	27/05/2016 Lime	Calcipril 600 kg/Ha	Clay Loam	210.0	5.4	14.0	308.0	8.2	5.1	4.2	0.05	N/A	N/A	4.10	4.97	4.0	5.0	2.02	1.4	0.27	0.66	1.23	5.55	1.5	4.9	22.2		
	May-16	123/07/2016 Super	Single Super 480 kg/Ha	Clay Loam	210.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.55	N/A	N/A	N/A		
		10/04/2017 Super	Double Super 240kg/Ha																										
L1 6.75 Ha	Mar-15	27/07/2015 Lime	Calcipril 600 kg/Ha Half Paddock	Clay Loam	210.0	5.4	14.0	308.0	8.2	5.1	4.2	0.05	N/A	N/A	4.10	4.97	4.0	5.0	2.02	1.4	0.27	0.66	1.23	5.55	1.5	4.9	22.2		
	May-16	13/07/2016 Super	Triple Super 240kg/Ha half paddock	Clay Loam	210.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
	Apr-17	10/04/2017 Lime 10/04/2017 Super	Calcipril 600kg/Ha Double Super 240 kg/Ha		210.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
L2 10.95 Ha	Mar-15	27/07/2015 Lime	Calcipril 600 kg/Ha	Clay Loam	150.0	7.2	19.0	308.0	8.1	5.1	4.2	0.06	N/A	N/A	4.46	5.12	14.0	6.0	1.80	0.8	0.27	0.80	1.06	4.64	2.3	3.9	22.8		
	May-16	27/05/2016 Lime 27/07/2016 Super	Calcipril 600kg/Ha Triple Super 240kg/Ha	Clay Loam	150.0	5.0	12.0	230.0	11.0	5.7	5.0	0.06	0.10	0.80	3.30	0.00	14.0	4.0	2.70	0.9	0.17	0.49	0.30		3.0	3.8	6.1	56	20
	Apr-17	10/04/2017 Super	Double Super 260 kg/Ha	Clay Loam	150.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

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