

Kikuyu pastures: do they pay?

Background

There has been strong interest by Kangaroo Island producers in establishing kikuyu pastures, with almost 500 ha sown last year. The results are promising in that we know that it will grow and persist but what is not known is the actual economic benefits (and costs) of a kikuyu paddock compared to annual pasture on Kangaroo Island.

What was done

A trial was set up on John and Jo Symons property on Turkey Lane as part of the KI Flock Production Group focus farm. Two adjacent 6 ha paddocks were selected. One (the control) consisted of annual grasses plus sub clover, the other (kikuyu paddock) was sown to kikuyu in 2008 at the rate of 2 kg/ha and had 40% kikuyu cover.

Both paddocks were grazed with the same mob of adult sheep until 10 September 2010. 50 kg/ha urea was applied to both paddocks on 12 September and both paddocks were then shut up for trial.

On the 23 October a mob of 120 merino weaner wethers were weight matched into two mobs and placed in each paddock (10 weaners per hectare). The weaners were weighed prior to entry to the paddock and drenched with Cydectin LA, bulletted with

selenium and cobalt before being placed in to their respective paddocks. They were to be set stocked in each paddock until shearing. Stock will be monitored for weight gain/loss, wool cut, worm counts and general health. They will be hand fed as required to maintain growth and the costs and final returns for each mob calculated.

Results

Initially both mobs gained weight at about the same rate, the weight being driven by residual annual feed value. There was no visible kikuyu in the kikuyu paddock when stock were first introduced.

In December the weight gain in kikuyu, was driven by residual dry clover value plus the emerging green kikuyu. The control mob neither gained nor lost weight but received extra protein from the introduction of lupins.

In January the controls lost weight even though they had 3 tonnes dry annual pasture plus 100 g lupins per day. In contrast, the kikuyu weaners maintained weight on a lower feed on offer (FOO) level thanks to the 100 g/day lupins plus the green kikuyu pick.

TABLE 1:
Pasture composition 20 October 2010

	Control	Kikuyu
Feed on offer (FOO) t/ha	5.972	5.209
Pasture composition		
% kikuyu	0	0
% sub clover	30	85.00
% capeweed	40	10
% annual grasses	30	5
Crude protein (CP)	14.3	20.5
Metabolisable energy (ME)	9.36	10.35
Dry matter %	16.6	14.7

Overall the kikuyu mob gained weight after October whilst the control mob lost weight (refer to Table 2 below). Supplementary feeding was introduced for the control mob on the 4 December whilst the kikuyu mob was not fed any additional grains until 8 January. By the middle of February the kikuyu mob were gaining on average 5 grams/hd/day and the control mob was losing 21 grams/hd/day. Ideally both mobs should have been gaining at least 50 g/hd/day so the feed rations had to be increased. Whilst weight gains on kikuyu alone were not significant, they were greater than the control paddock and resulted in an initial saving in supplementary feed costs.

IMAGE 1
Control paddock 4 December 2010



TABLE 2
Weight monitoring

Paddock	Weights (kg)	23/10/10	4/12/10	8/01/11	11/02/11
Control	Average weight	28.6	39.4	39.4	38.7
	Average daily weight gain		0.259	0.0	-21
	Supplementary feeding	nil	Lupins 50 g/hd/day	Lupins 100 g/hd/day	Lupins 150 g/hd/day Barley 150 g/hd/day
Kikuyu	Average weight	28.7	39.7	40.7	40.9
	Average daily weight gain		0.262	0.030	0.05
	Supplementary feeding	nil	nil	Lupins 100g/hd/day (from the 14/1)	Lupins 150 g/hd/day Barley 100 g/hd/day

In early February 2011 random blood sampling was done on 5 sheep from each group. CK results (which indicate muscle damage due to Vitamin E deficiency) averaged 351 in the kikuyu mob and 1747 in the control (normal is less than 100). Thus both mobs were suffering Vit E deficiency but the control mob was much more severely affected. A visual estimate of only 50 kgs per ha green pick in the kikuyu paddock was not enough to provide adequate Vit E intake. A greater coverage of kikuyu would probably overcome this issue, as would substantial

rain summer rainfall. Both groups were given an oral Vit E drench to overcome the deficiency. Both mobs were being monitored monthly for worm egg counts at each weighing and both mobs remained at zero.

The average wool length appears longer in the kikuyu group and visually they appeared to have more condition in the tip. At shearing (mid-April 2011) all fleeces will be weighed (GFW) and a mid side sample tested for FD, CV, yield length and strength. This will then allow for financial comparison of the wool grown between the two paddocks.

IMAGE 2
Kikuyu Paddock 4 December 2010



For further information contact
Greg Johnsson on 8553 2485 or email
greg@johnssonfamily.com

Take home messages

Whilst full results are not yet in it appears at this stage that the kikuyu paddocks are resulting in:

- more weight gain by the weaners
- increased wool growth
- reduced hand feeding costs
- reduced vitamin E deficiency

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