

Longford Red Meat Group – Producer Demonstration Site update January 2018.

The Longford Red Meat Group (LRMG) trial at Ratho, Bothwell is comparing the profitability of four different irrigated grazing systems:

- Clover rotational (CR)
- Clover set stocked (CS)
- Ryegrass rotational (GR)
- Ryegrass set stocked (GS)

The question the group wants to answer from this project is how to maximise the gross margin per hectare in irrigated grazing systems, over a 12 month period. The trial is assessing both the breeding and finishing system. The results from the lambing period (1 September) through to weaning (28 November) have been analysed and are summarised here.

Summary of lambing through to weaning

The trial lambs were marked on 4 October, and the results from marking are available at www.macquariefranklin.com.au/current-projects/

The gross margin per hectare of the treatments for the lambing period are as follows

	Stocking rate (ewes/ha)	Kg lamb weaned / ha	Expenses*/ha#	Income/ha	Gross margin/ha
CR	9	698	\$4,769	\$5,134	\$364
CS	9	877	\$4,913	\$5,596	\$683
GR	14	765	\$6,097	\$6,052	-\$45
GS	11	509	\$3,007	\$3,456	\$449

* these expenses do not include capital costs (fencing and trough infrastructure)

expenses include ewe purchases, irrigation, supplementary feed, labour, animal husbandry, animal deaths

Regular feed tests have been taken from the trial treatments so that the influence of feed quality (in particular, metabolisable energy and neutral detergent fibre) on the trial results is known. FEC tests are being taken every 3-4 weeks since weaning (the ewes were not FEC tested, and results for lambs at weaning were low).



Summary of feed test results

Feed tests were done on: 21 August 2017, 9 October 2017, 6 November 2017 and 3 January 2018. The results from 3 January 2018 are typical of other times and are provided below:

	Clover ideal	Ryegrass ideal	CR*	CS	GR – average*	GR – pre [#]	GS
Dry Matter (%)	15	18	13.2	13.4	21.8	18.6	22.7
Crude protein	27	20	27.5	29.3	16.2	16.4	13.7
DMD	75	75	76.7	76.2	75.6	74.5	69.4
NDF	26	45	29	27.6	46.3	44.1	51.5
ME	12	11.5	11.6	11.5	11.4	11.2	10.3
CI	1.00	1.00	1.65	1.59	2.27	2.18	1.56
DCAD ^{##}	-	-	124	-45	17	49	65
Ca	14000	4000	8800	6900	4000	4100	3600
K	26000	24000	27000	18000	33000	33000	24000
Mg	7000	2300	3100	2100	2500	2600	2300
Na	2400	4000	3300	2500	2100	1700	1900
P	4000	3000	3700	2600	3800	3700	3600
S	2000	2000	2800	1900	3400	3400	2800
Al	-	-	360	130	240	78	230
B	16	14	35	26	19	15	12
Cu	9	7	7.9	4.9	6.7	6.5	6.4
Fe	175	280	300	180	300	140	220
Mn	98	75	3100	29	83	56	83
Zn	30	20	26	19	28	25	37

* for CR and GR the feed test sample was taken evenly across all paddocks in the rotation

for GR a sample was also taken from the paddock about to be grazed

Ideal DCAD values range from +10 to +750 and vary considerably due to soil fertility and leaf stage

Key messages

The trial so far is raising as many questions as it is answering. Consistent with the year 1 trial at Chester, both the grass and clover set stocked have higher animal performance than the rotational treatments. The clover set stocked outperformed all other treatments during lambing in terms of animal performance and GM/ha. The feed quality data doesn't provide any obvious answers, with only the grass set stocked treatment being of significantly lower quality than any of the other treatments. However, it is worth highlighting the impact of NDF on DM intake. The grass treatments have an average NDF of 47% therefore a sheep can eat 2.6% of its body weight as grass dry matter. The clover treatments have an average NDF of 27% which means a sheep can eat 4.4% (120 divided by 27 equals 4.4) of body weight as clover dry matter. Further work is being done to better understand any animal health or behavioural issues which may be resulting in the differences observed.

In running the trial, John has observed that "there are times to maximise stocking rate and times to maximise lamb growth rates, and I need to maximise stocking rates in winter to have the animal numbers where I need them for spring. I think it is possible to run a lot more stock using rotational grazing (it definitely grows more grass) so managing a rotation during autumn and winter is critical to setting up spring."