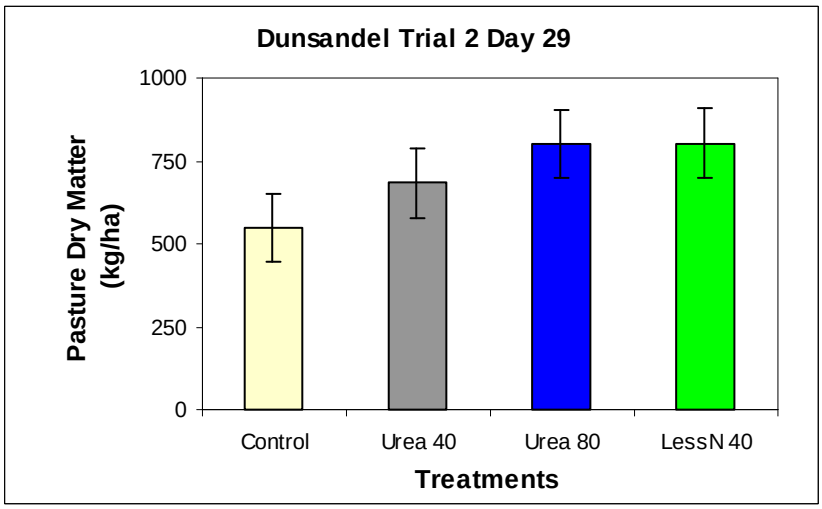
Dunsandel 2

The trial was on a Dunsandel dairy farm in Canterbury. It was started on 18 March 2009 and finished on 16 April 2009. The trial area was irrigated ryegrass-white clover based pasture under normal dairying conditions. Treatments were applied to the selected paddock after one week of grazing by dairy cows. The soil temperature was 21^{0}C at baseline record day (Day 0) and 13.5^{o}C on post treatment pasture assessment day (Day 29).

LessN 40 and Urea 80 preformed similarly at Day 29 but did not cause statistically significantly greater pasture growth than Urea 40 treatment. Urea 40 in turn was not statistically significantly better than Control. Pasture growth rates were reasonably slow. Nitrogen response rates (kg DM grown per kg N applied) were also relatively low at 7.3 for Urea 40, 6.8 for Urea 80 and 13.8 for LessN 40. These low responses could be related to low soil sulphur availability as seen in the pre-treatment soil test or some other factors including drop in soil temperature.

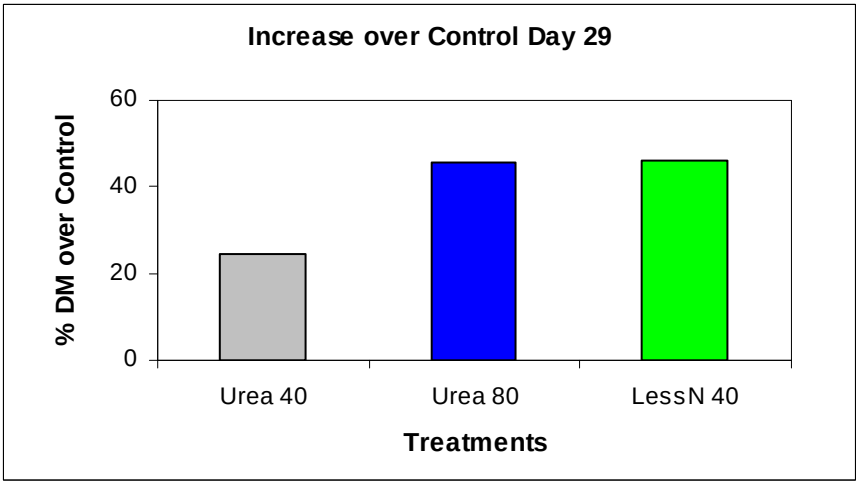
Table and Graph of Pasture Dry Matter Production (kg/ha) Day 29

Treatment	DM Rotation
Control	549[a]
Urea 40	684[ab]
Urea 80	800[b]
LessN 40	803[b]



* Treatments that share the same letter are not statistically significantly different from each other (95% confidence level).

Graph of the Increase over Control (%) Day 29



Soil test report (pre treatment application)
According to the soil test, most mineral elements were in sufficient levels for pasture response but low sulphur availability may have been limiting.

Analysis		Level Found	Medium Range	Low / Medium / High
pH		6.0	5.8 - 6.3	
Olsen P	(mg/L)	55	20 - 30	
Potassium	(me/100g)	1.13	0.50 - 0.80	
Calcium	(me/100g)	8.7	6.0 - 12.0	
Magnesium	(me/100g)	2.32	1.00 - 3.00	
Sodium	(me/100g)	0.28	0.20 - 0.50	
CEC	(me/100g)	20	12 - 25	
Base Saturation	(%)	62	50 - 85	
Volume Weight	(g/mL)	0.85	0.60 - 1.00	
Sulphate-S	(mg/kg)	5	7 - 15	
Available N (15cm Depth)	(kg/ha)	248	150 - 250	
Base Saturation		K 5.6	Ca 43	Mg 11.5	Na 1.4
MAF Units		K 20	Ca 9	Mg 44	Na 11
Anaerobically Mineralisable N		195 ug/g			