Dunsandel 3

The trial was on a Dunsandel dairy farm in Canterbury. It was started on 18 March 2009 and finished on 9 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 and 16^{o}C on post treatment pasture assessment day (Day 22). The pasture growth was assessed on Day 22 after treatment application with pasture probe and a lawn mower cut.

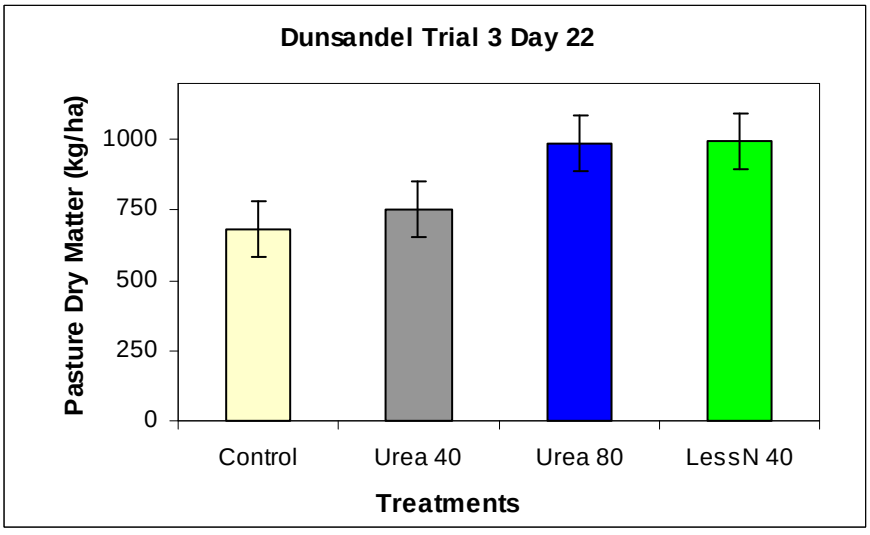
Probe dry matter yield

LessN 40 and Urea 80 treatments caused statistically significant pasture growth compared to Urea 40 treatment at Day 18. Urea 40 was not statistically significantly better than Control.

The growth response to nitrogen applied was reasonably limited but there was a clear advantage in the use of LessN. The limited growth response may have been due to low sunshine hours during the course of the trial and possibly also due to the good level of available soil nitrogen at the start of the trial (see soil test result).

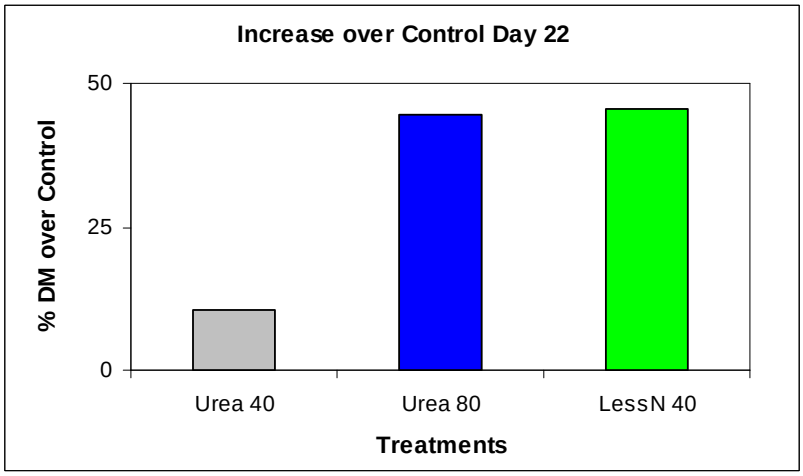
Table and Graph of Probe Pasture Dry Matter Production (kg/ha) Day 22

Treatment	DM
Control	682[a]
Urea 40	753[a]
Urea 80	985[b]
LessN 40	992[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 22



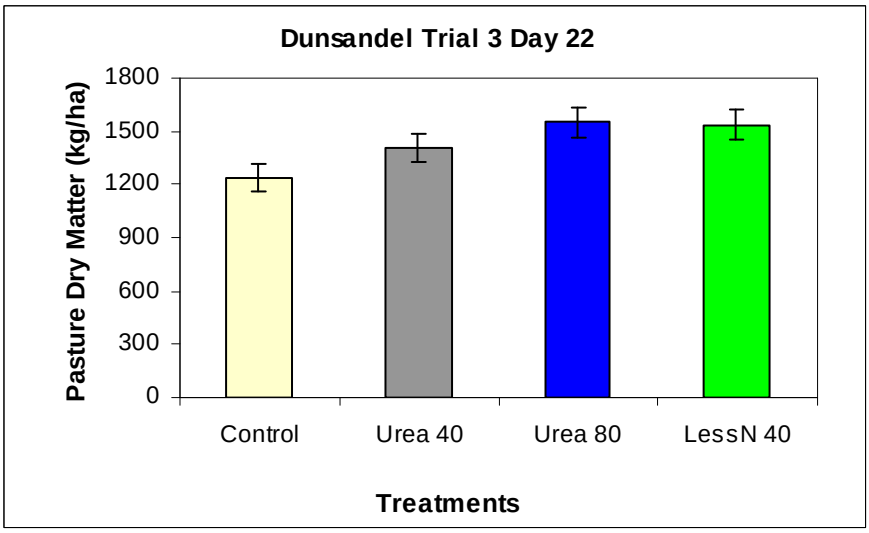
Mower dry matter yield

One strip per plot was cut using a rotary mower in the middle of each plot. The cut material was weighed green and a sub-sample was removed to calculate dry matter percent. This sub-sample was weighed green, dried and weighed again. The total area per plot mowed was 2.25 square metres.

The table below gives the values of mower harvested total dry matter on Day 22. LessN 40 and Urea 80 caused similar mower dry matter yield which was not statistically significantly higher compared to Urea 40 treatment. Mower dry matter yield of Urea 40 treatment was statistically significantly different from control.

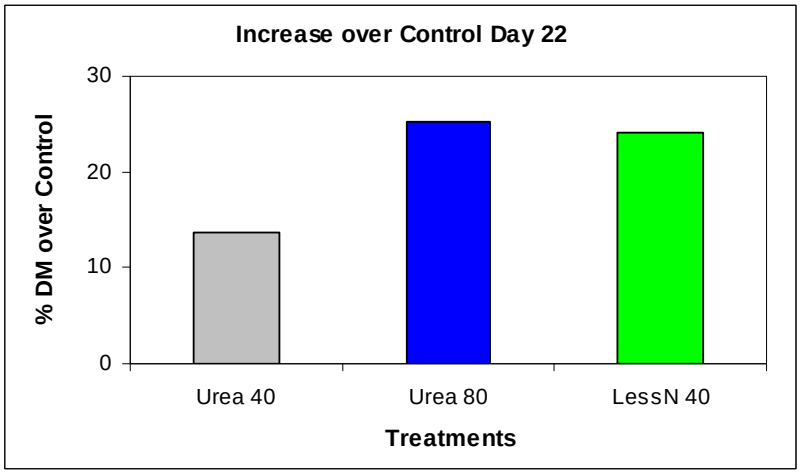
Table and Graph of Mower Pasture Dry Matter Production (kg/ha) Day 22

Treatment	DM
Control	1237[a]
Urea 40	1404[b]
Urea 80	1550[b]
LessN 40	1535[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 22



Soil test report (pre treatment application)

The soil test showed good levels of mineral nutrients and nitrogen availability for this Lismore soil. Growth responses were unlikely to be significantly limited by major mineral element availability. There was still room for growth response to nitrogen application but this may have been limited by the good level of nitrogen availability present in the soil.

Analysis		Level Found	Medium Range	Low / Medium / High
pH		6.0	5.8 - 6.3	
Olsen P	(mg/L)	47	20 - 30	
Potassium	(me/100g)	1.02	0.50 - 0.80	
Calcium	(me/100g)	8.5	6.0 - 12.0	
Magnesium	(me/100g)	2.24	1.00 - 3.00	
Sodium	(me/100g)	0.22	0.20 - 0.50	
CEC	(me/100g)	17	12 - 25	
Base Saturation	(%)	69	50 - 85	
Volume Weight	(g/mL)	0.85	0.60 - 1.00	
Sulphate-S	(mg/kg)	9	7 - 15	
Available N (15cm Depth)	(kg/ha)	234	150 - 250	
Base Saturation		K 5.9	Ca 49	Mg 13.0 Na 1.3
MAF Units		K 18	Ca 9	Mg 43 Na 9
Anaerobically Mineralisable N		183 ug/g		