Ranfurly Trial

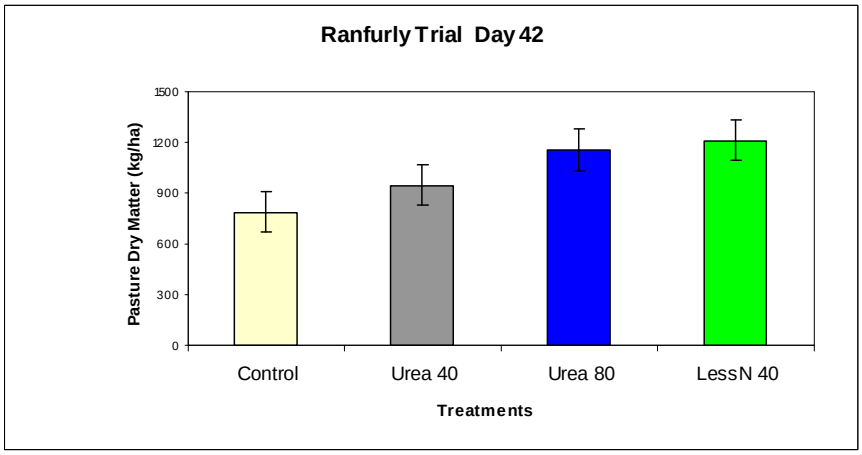
The trial was conducted on a North Otago dairy farm during autumn. The trial objective was to measure the effect of LessN system on pasture production. It was started on 16th March 2010 and finished on 27th April 2010. The trial area was irrigated ryegrass-white clover based pasture under normal dairying conditions. Residual pasture dry matter base line was recorded on 16th March (soil temperature 12.0^{0}C) and treatments were applied on same day. Pasture growth was assessed on Day 42 (soil temperature 11.5^{0}C) after treatment application. Three to six mm of rain fell within 5-6 hrs post treatment application which may have posed some risk of treatments being partially washed off.

Results

LessN 40 caused statistically significantly greater pasture growth compared to the Urea 40 treatment on day 42. However, Urea 40 treatment did not cause statistically significant increase in pasture growth compared to the control treatment. Urea 80 treatment produced DM similar to LessN 40 treatment but not significantly higher than Urea 40 treatment.

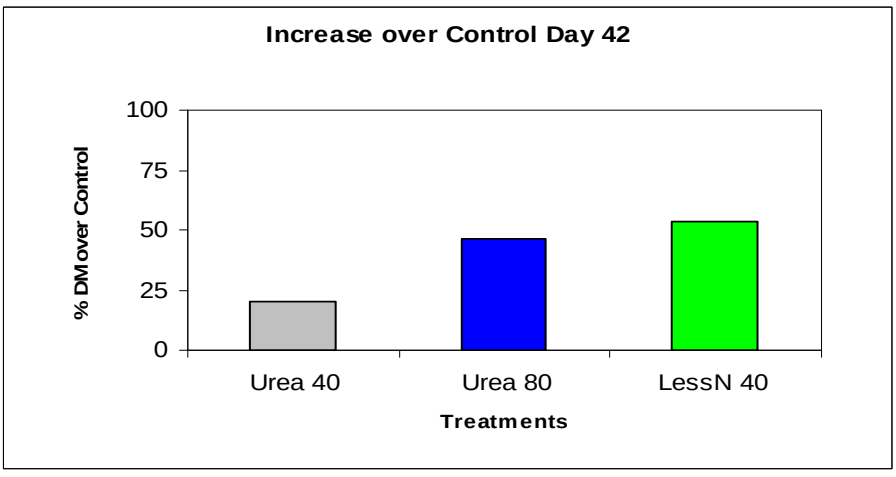
Table and Graph of Pasture Dry Matter Production (kg/ha) Day 42

Treatment	DM *
Control	789^{c}
Urea 40	948^{bc}
Urea 80	1157^{ab}
LessN 40	1212^{a}



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

Graph of the Increase over Control (%) Day 42



DONAGHYS
PERFORMANCE FIRST

Soil test report (pre treatment application)

The soil was an improved Becks fine sandy loam. All soil test parameters were at good levels for pasture growth. The cool temperatures are the most likely cause of a relatively low growth rate in control and the high initial soil available nitrogen may have limited nitrogen response rates somewhat.

Sample Type: SOIL General, Outdoor (S10)

Analysis		Level Found	Medium Range	Low / Medium / High
pH	pH Units	6.0	5.8 - 6.3	
Olsen Phosphorus	mg/L	24	20 - 30	
Potassium	me/100g	0.89	0.50 - 0.80	
Calcium	me/100g	6.0	6.0 - 12.0	
Magnesium	me/100g	1.81	1.00 - 3.00	
Sodium	me/100g	0.31	0.20 - 0.50	
CEC	me/100g	13	12 - 25	
Total Base Saturation	%	69	50 - 85	
Volume Weight	g/mL	0.84	0.60 - 1.00	
Sulphate Sulphur	mg/kg	10	7 - 15	
Available Nitrogen (15cm Depth)*	kg/ha	364	100 - 150	
Anaerobically Mineralisable N*	µg/g	288		
Base Saturation %		K 6.7	Ca 46	Mg 13.7 Na 2.4
MAF Units		K 15	Ca 6	Mg 34 Na 12