
# Kaitaia

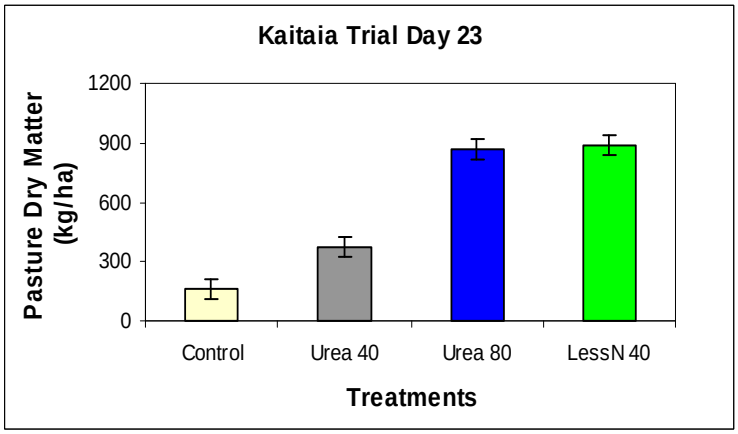
The trial was on a Kaitaia dairy farm. The trial area was ryegrass-white clover based pasture under normal dairying conditions. It was started on 14 October 2008 and finished on 6 November 2008. The pasture growth was assessed on Day 23 after treatment application with pasture probe and a lawn mower cut.

### *Probe dry matter yield*

LessN 40 and Urea 80 treatments caused statistically significant pasture growth compared to Urea 40 treatment at Day 23. Urea 40 in turn was statistically significantly better than Control.

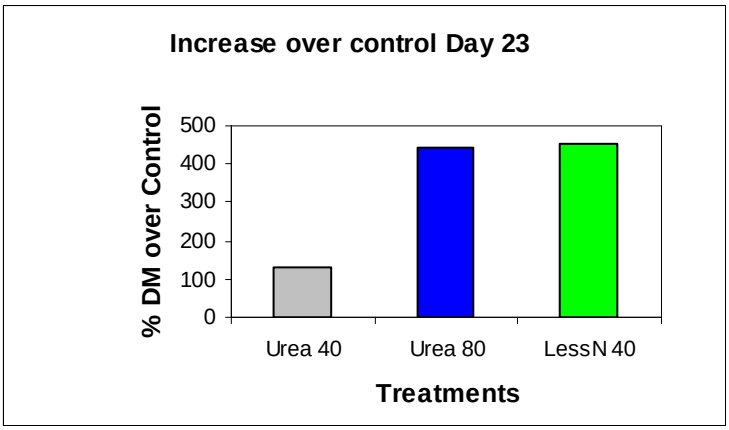
**Table and Graph of Probe Pasture Dry Matter Production (kg/ha) Day 23**

| Treatment | DM |
|---|---|
| Control | 160[a] |
| Urea 40 | 372[b] |
| Urea 80 | 870[c] |
| LessN 40 | 885[c] |




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

**Graph of the Increase over Control (%) Day 23**



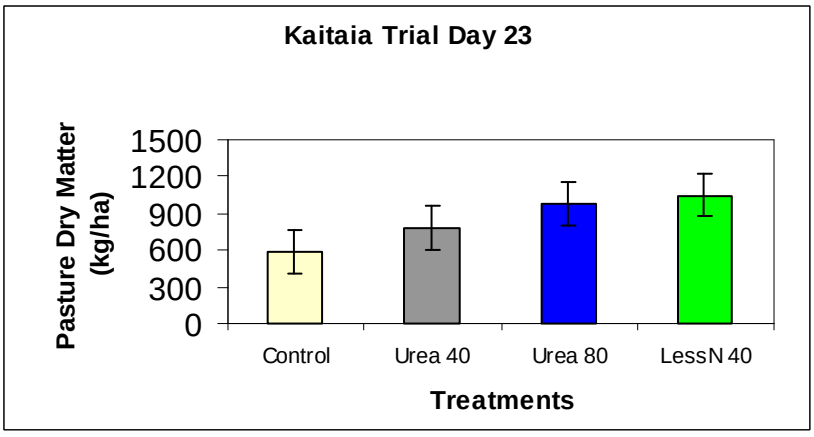
***Mower dry matter yield***

Two strips per plot were 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 4.5 square meter.

The table gives the values of mower harvested total dry matter on Day 23. LessN 40 and Urea 80 caused similar mower dry matter yield which was statistically significantly higher compared to control. Mower dry matter yield of Urea 40 treatment was similar to the control, LessN 40 and Urea 80 treatments.

**Table and Graph of Mower Pasture Dry Matter Production (kg/ha) Day 23**

| Treatment | DM |
|---|---|
| Control | 588[a] |
| Urea 40 | 782[ab] |
| Urea 80 | 979[b] |
| LessN 40 | 1047[b] |

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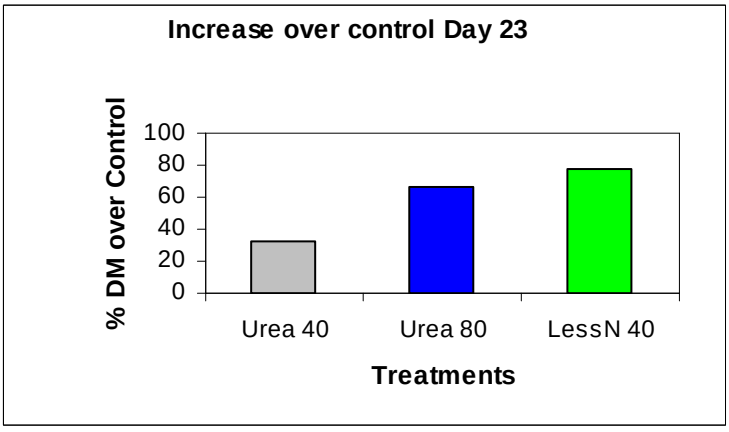
**Graph of the Increase over Control (%) Day 23**



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**Soil test report (pre treatment application)**

This is a peat soil with a characteristically low volume weight and very high CEC (cation exchange capacity) related to the high organic matter content from the peat. The area has been obviously improved in soil fertility in its development and there is a good level of calcium and magnesium. Though the calcium, magnesium and sodium show up very high on the graph, in terms of the high CEC level (on which these elements are stored), the levels are not excessive.

The available phosphorus level is high and phosphorus is unlikely to be limiting pasture production during the course of the experiment. Low potassium availability is likely to be limiting pasture production here and should be addressed as required through potassic fertiliser addition.

| Analysis | | Level Found | Medium Range | Low / Medium / High |
|---|---|---|---|---|
| pH | | 5.7 | 5.8 - 6.3 | |
| Olsen P | (mg/L) | 54 | 20 - 30 | |
| Potassium | (me/100g) | 0.41 | 0.50 - 0.80 | |
| Calcium | (me/100g) | 52.5 | 6.0 - 12.0 | |
| Magnesium | (me/100g) | 4.60 | 1.00 - 3.00 | |
| Sodium | (me/100g) | 0.94 | 0.20 - 0.50 | |
| CEC | (me/100g) | 83 | 12 - 25 | |
| Base Saturation | (%) | 71 | 50 - 85 | |
| Volume Weight | (g/mL) | 0.45 | 0.60 - 1.00 | |
| Available N (15cm Depth) | (kg/ha) | 202 | 150 - 250 | |

| | | | | |
|---|---|---|---|---|
| Base Saturation | K 0.5 | Ca 64 | Mg 5.6 | Na 1.1 |
| MAF Units | K 4 | Ca 30 | Mg 47 | Na 20 |
| Anaerobically Mineralisable N | 297 ug/g | | | |