

Donaghy's LessN trial

Location: Independent Waikato

Day	Date	Event
Sun/Mon	9,10 Sep 07	Trial site grazed by herd of lactating dairy cows.
Tue	11-Sep-07	Set up: 16 plots of 160m ² each, 8.4m x 19m, were set up in a randomised block design (see worksheet called "Plot layout"). 5 reps with a 1m buffer between plots within a rep and 1.5m between reps, keeping at least 4m away from fencelines. Plot width of 8.4m was used as this was the spray width of the tractor-mounted 8m boom, avoiding any overlap from one plot to another.
Wed	12-Sep-07	Treatment application: Weather forecast was for more wind and possible rain, so treatments were applied 2-3 days post-grazing to make the most of good conditions for spray application and avoid any cross-contamination. Treatments were applied in one pass per plot. Water was applied to the control plots first, then 80kg urea/ha and LessN + 40kg urea/ha were applied to appropriate plots. The first plots were sprayed at 1pm; application finished at 2.20pm. <i>Weather conditions:</i> overcast but fine with very light south-west breeze. Ruakura meteorological station maximum air temperature was 15°C. Initial measurement: 70 Pasture probe readings were taken per plot immediately following treatment application. Issues with the pasture probe prior to application prevented measurements being done ahead of treatment application. The control plots were probed first to allow other treatment plots to dry and also to avoid any cross-contamination by walking over other plots; then urea only plots and lastly the LessN+urea plots. 70 Individual sample readings per plot were recorded, after consultation with Donaghy's rather than the plot average that the probe reports. Measurements were also done this way to avoid inaccurate averages, as sometimes the probe will take a reading as it passes through the pasture giving obviously incorrect results eg a reading of 100kg DM/ha in a heavy patch of grass. This enabled repeat readings to be taken to ensure the most accurate results were obtained. Probe Equation used = $(0.48 \times Cr) - 300$. This equation was used for all probe measurements during the trial.
Wed	3-Oct-07	21 day measurement: Probe measurements done on all plots using new probe base (70 readings per plot), started measurements at 1.40pm. <i>Weather conditions:</i> Partly cloudy, strong wind dried grass after morning showers. Rain overnight.
Tue	9-Oct-07	Final Probe measurements: 70 readings taken per plot. Done in the afternoon. Heavy rain was forecast for 10 Oct 07 and rain/showers for next week, so decision made to probe a day early. <i>Weather conditions:</i> Overcast, mild, light drizzle over last 3 plots but grass still dry.

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	Control (water)	LessN 40	Urea 80
Baseline	1120	1184	1213
21 Days	2173	2475	2693
28 Days	2528	2992	3235

Pasture Growth 28 Days

Control (water)	LessN 40	Urea 80
1407 ^a	1807 ^b	2021 ^b

Values with a different letter are statistically significantly different from each other (p<0.05)