

## Future Dairy Farm Systems Project – NARF (Dargaville)

This project commenced June 2021. It will compare the productivity, profitability and impact on people and the environment on three farms, being:

1. **Current Farm** – Kikuyu & ryegrass based pastures with up to 190 kg N/ha/annum, 3.1 cows/ha
2. **Alternative Pastures Farm** – Fescue & cocksfoot based pastures, up to 190 kg N/ha, 3.1 cows/ha
3. **Low Emissions Farm** – Kikuyu & ryegrass based pastures, designed to reduce methane emissions by 25% and nitrous oxide by 50%, no nitrogen applied, 2.1 cows/ha

**This project is funded by DairyNZ, MPI (Sustainable Food & Fibre Futures) and Hine Rangī Trust.**

Update – 10 <sup>th</sup> March 2022	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (kg DM/ha)	2111	1754	2244
Pasture Growth (kg DM/ha/d, last 2 weeks)	22	21	22
Rotation Length (days) – avg last 2 wks	26	28	23
Cows in Milk/Peak Cows	85/85	77/85	59/59
6 week in calf rate (2021 mating)	80%	74%	76%
Empty rate (2021 mating)	11%	9%	3%
Production/cow/day (kg MS)	1.26	1.26	1.12
Production/ha/day (kg MS)	3.91	3.68	2.40
Production/ha - season to date (kg MS)	1,072	1,098	689
Milk FEI	8.6	9.2	5.3
Supplement Fed Currently (kg DM/cow/day)	2.1 – 3.2 PKE 0 - 3.5 Silage	2.3 - 3.5 PKE 3.5 – 5.3 Silage	0
Purchased Supplement Fed (kg DM/cow/season to date)	410 PKE 91 Purch Silage	385 PKE 135 Purch Silage	67 PKE
Homegrown Silage Fed (kg DM/cow to date)	154	161	223
Home Grown Silage on hand (kg DM/cow)	76	0	625
Average Body Condition Score	4.0	4.0	3.9
Worry Score (1 = Low, 10 = High)	5	7	4
Nitrogen – Season to Date (kg N/ha)	172	172	0
Rainfall (mm last 2 weeks)	0 mm		

### **CURRENT MANAGEMENT**

- Pasture cover and growth is hanging on despite dry weather, kikuyu is certainly helping
- The Current farm continues to feed PKE to the milk FEI limit and homemade baleage occasionally (when pre-graze pasture covers are low)
- The Alternative Pastures farm has significantly lower pasture covers and therefore is getting PKE to FEI limits and continually feeding purchased baleage. Sale of 10% of the cows last week (empties), has helped alleviate the feed deficit, however more cows may have to be sold if pasture levels continue to drop
- The Low Emissions Farm is leaving high kikuyu residuals and therefore mulching has commenced in an effort to improve pasture quality in following rounds
- Mulching and then drilling with Italian ryegrass will commence on kikuyu areas on all farms from 20<sup>th</sup> March, behind the cows
- Regrassing plans are finalised and the first paddocks are scheduled to be drilled at end March