

Future Dairy Farm Systems Project – NARF (Dargaville)

This project compares 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, 2.3 cows/ha

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

Update – 6 th October 2022	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (kg DM/ha)	2331	2462	2216
Pasture Growth (kg DM/ha/d, last 2 weeks)	84	86	74
Rotation Length (days)	27	27	29
Cows in Milk/Peak Cows	84/84	86/86	63/63
Production/cow/day (kg MS)	1.90	1.81	1.75
Production/ha/day (kg MS)	5.80	5.56	3.95
Production/cow – 2022/23 season (kg MS)	111	113	96
Production/ha – 2022/23 season (kg MS)	341	350	219
Supplement Fed (kg DM/cow/day)	0	0	0
Total Purchased Supplement Fed (kg DM/cow 2022/23 season)	388 PKE 212 Purch Silage	239 PKE 213 Purch Silage	163 PKE 0 Purch Silage
Homegrown Silage Fed (kg DM/cow STD)	0	0	221
Average Body Condition Score - Milkers	4.2	4.2	4.1
Worry Score (1 = Low, 10 = High)	2	2	2
Nitrogen – Season to Date (kg N/ha)	88	89	0
Rainfall (mm last 2 weeks)	58 mm		

CURRENT MANAGEMENT

- Pasture growth and cover has lifted on all farms. We have dropped 11% of the Alternative Pastures farm and 7% of the Low Emissions farm out of the rotation for silage. No surplus yet on the Current farm.
- Tall Fescue on the Alternative Pastures farm is starting to go to seed. Keeping the rotation shorter on the fescue paddocks will help, and some may need a mow to tidy up.
- Clover presence has consistently been twice as high on Low Emissions farm compared to the other two farms even though clover presence has still been relatively good on the Current and Alternative Pastures farms at around 10% of pasture. Pasture quality is similar across all farms at around 11.5 MJ ME/kg DM.
- Nitrogen application will continue on the Current and Alternative Pastures farms at 50 kg/ha of Sustain while soil moisture is high. Our data indicates a 15:1 kg DM/kg N response for the season to date.