

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 – 22 nd September 2022	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (kg DM/ha)	2117	2133	1847
Pasture Growth (kg DM/ha/d, last 2 weeks)	64	54	35
Rotation Length (days)	27	27	26
Cows in Milk/Peak Cows	85/85	85/86	62/63
Production/cow/day (kg MS)	1.97	2.01	1.87
Production/ha/day (kg MS)	5.90	6.02	4.13
Production/cow – 2022/23 season (kg MS)	85	88	71
Production/ha – 2022/23 season (kg MS)	262	273	163
Supplement Fed (kg DM/cow/day)	0	0	0
Total Purchased Supplement Fed (kg DM/cow 2022/23 STD)	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	4.1	4.1	4.2
Worry Score (1 = Low, 10 = High)	3	3	5
Nitrogen – Season to Date (kg N/ha)	76	76	0
Rainfall (mm last 2 weeks)	34 mm		

CURRENT MANAGEMENT

- Pasture cover has dropped on the Low Emissions farm which has no nitrogen applied, the other farms held their pasture cover. Our data would indicate that we have had good nitrogen responses this season, so far averaging around 17:1 kg DM/kg N applied.
- We expect the current warmer weather will see pasture covers rise on all farms so will hold the grazing rotation at around 28 days, however we will be watching for the opportunity to drop paddocks out for silage which will effectively speed up the rotation.
- Cows are adequately fed on pasture on all three farms, no supplementary feed at present.
- We will continue to apply Sustain at 70 kg/ha behind the cows on the Current and Alternative Pasture farms. This will help create a surplus for silage.