

Future Dairy Farm Systems Project – NARF (Dargaville)

This project commenced June 2021. It 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, 2.1 cows/ha

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

Update – 21 st April 2022	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (kg DM/ha)	1883	1687	1873
Pasture Growth (kg DM/ha/d, last 2 weeks)	18	13	21
Rotation Length (days) – avg last 2 wks	29	49	24
Cows in Milk/Peak Cows	84/85	0/85	59/59
SCC	236	-	113
Production/cow/day (kg MS)	0.89 (OAD)	-	0.88 (TAD)
Production/ha/day (kg MS)	2.72	-	1.90
Production/ha - season to date (kg MS)	1,211	1,213	769
Milk FEI	8.5	-	4.8
Supplement Fed Currently (kg DM/cow/day)	2.7 PKE 3.0 Silage	3.3 PKE	3.5 Silage
Purchased Supplement Fed (kg DM/cow/season to date)	520 PKE 138 Purch Silage	475 PKE 276 Purch Silage	67 PKE
Homegrown Silage Fed (kg DM/cow to date)	176	104	317
Home Grown Silage on hand (kg DM/cow)	0	0	306
Average Body Condition Score	4.0	4.0	3.9
Worry Score (1 = Low, 10 = High)	6	3	5
Nitrogen – Season to Date (kg N/ha)	172	172	0
Rainfall (mm last 2 weeks)	40 mm		

CURRENT MANAGEMENT

- Pasture growth has taken off with recent warm rain, particularly kikuyu and chicory. Mulched kikuyu regrowth is good quality green leaf
- Cows on the Current and Low Emissions farms have held condition but we will put all cows on OAD now to try and gain BCS while they are milking. Drying off will likely commence early May with a 10 July planned start of calving.
- The Alternative Pastures herd have been dry for a fortnight and have started gaining BCS nicely. They will continue receiving PKE and good pasture intakes to keep weight going on.
- The Alternative Pastures farm has around 20% of the farm out for regrassing so we had to dry the herd off to achieve intake targets.
- Other farms have one paddock (3%) each going into ryegrass pasture to allow comparison
- The mulching/undersowing programme is about halfway through. We do not think we need N yet but may apply some in May to non-kikuyu pdks depending on conditions.