

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 – 21 st August 2023	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (kg DM/ha)	2076	2023	1965
Pasture Growth (kg DM/ha/d, last 2 weeks)	29	30	16
Rotation Length (days)	44	44	44
Cows in Milk/Peak Cows	61/83	69/84	44/62
Production/cow/day (kg MS)	1.90	1.84	1.69
Production/ha/day (kg MS)	3.76	4.31	2.46
SCC	101,000	81,000	122,000
Supplement Offered (kg DM/cow/day)	3.7 PKE Dries 4.3 PKE Milkrs	4.5 PKE Dries 4.3 PKE Milkrs	4.1 Sil Dries 10.0 Sil Milkrs
Purchased Supplement Fed (kg DM/c)	333 PKE	285 PKE	5 PKE
Homegrown Silage Fed (kg DM/cow)	0	46 Baleage	457 Baleage
Homegrown Silage on hand (kg DM/cow)	0	0	0
Average Body Condition Score (Milkers)	4.4	4.2	3.9
Manager Worry Score (1 = Low, 10 = High)	4	4	6
Nitrogen to date – 2023/24 Season (kg N/ha)	64	55	0
Rainfall	61mm		

CURRENT MANAGEMENT

- Pasture covers have roughly held over the last 2 weeks, but soils are still waterlogged and pasture utilisation remains very challenging. Estimating pasture intakes is almost impossible, and some pugging is unavoidable.
- Rotation length is still following the spring rotation planner and is currently at 44 days on all farms.
- Low Emissions Farm milkers have lost more condition indicating they are underfed, likely due to low utilisation on both silage and pasture. The farm has run out of homemade silage so they are purchasing the next cheapest feed (PKE) to FEI limits, and additional bales to top up.
- PKE feeding levels will be increased to 5-6 kg DM/cow on all farms, subject to FEI.
- 100kg/ha Ammo 36 is being applied when conditions are suitable behind cows on the Current and Alternative Pastures farms. With no nitrogen application the Low Emissions Farm pastures are looking yellow, and clover levels have not recovered since the flooding in February. We hope clover presence will recover when temperatures warm up.