

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 – 5 th May 2022	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (kg DM/ha)	1935	1841	1913
Pasture Growth (kg DM/ha/d, last 2 weeks)	38	40	39
Rotation Length (days) – avg last 2 wks	25	48	24
Cows in Milk/Peak Cows	78/85	0/85	57/59
SCC	256	-	233
Production/cow/day (kg MS)	0.86 (OAD)	-	0.63 (OAD)
Production/ha/day (kg MS)	2.45	-	1.31
Production/ha - season to date (kg MS)	1,248	1,213	789
Milk FEI	8.1	-	4.1
Supplement Fed Currently (kg DM/cow/day)	2.9 PKE 1.6 Silage	0 – 2.6 PKE	1.8 Silage
Purchased Supplement Fed (kg DM/cow/season to date)	555 PKE 160 Purch Silage	498 PKE 276 Purch Silage	67 PKE
Homegrown Silage Fed (kg DM/cow to date)	176	104	343
Home Grown Silage on hand (kg DM/cow)	0	0	278
Average Body Condition Score	4.0	4.0	4.0
Worry Score (1 = Low, 10 = High)	4	2	5
Nitrogen – Season to Date (kg N/ha)	172	172	0
Rainfall (mm last 2 weeks)	26 mm		

CURRENT MANAGEMENT

- Pasture growth has lifted, especially the tall fescue/cocksfoot pastures which were previously lagging behind the kikuyu-based pastures
- Mulching and drilling in Italian ryegrass into kikuyu-based pastures has been carrying on behind the cows. This has kept a cap on pasture covers on the Current and Low Emissions farms, however the quality of feed growing behind the mulcher is great and the Italian ryegrass is coming away nicely
- Cows on the Low Emissions farm will be dried off immediately to ensure the condition score target of 5+ and average pasture cover of 2400 kg DM/ha is reached by calving
- Cows on the Current farm will be milked for one more week and then dried off. The Alternative Pastures farm cows were dried off two weeks ago
- Nitrogen will be applied on some of the Fescue/Cocksfoot pastures when we next get rain. No nitrogen will be applied to the kikuyu-based pastures yet, we don't want kikuyu growth to swamp the Italian ryegrass seedlings coming through

- Heifers have come back home and are getting ad-lib PKE while they clean-up areas outside the milking platform

NDDT – NARF Field Day – Wednesday 15th June 2022

531 State Highway 12, Dargaville. SN 18379

- ***Alternative pastures versus kikuyu/ryegrass pastures – how did they compare***
- ***The cost of reducing carbon emissions***
- ***Nitrogen responses and profitability***