

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 20 th March 2024	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (excl silage pdks, kg DM/ha)	2175	2177	2175
Pasture Growth (kg DM/ha/d, last 2 weeks) *	45	41	42
Rotation Length (days)	32	27	35
Cows in Milk/Peak Cows	68/81	72/82	59/61
Production/cow/day (kg MS)	1.10	1.18	0.97
Production/ha/day (kg MS)	2.73	3.05	2.08
Production/cow season to date (kg MS/cow)	329	352	313
Production/ha season to date (kg MS/ha)	995	1063	697
SCC ('000)	58	73	91
Supplement Offered (kg DM/cow/day)	PKE 2.7	PKE 2.7 Baleage 1.9	PKE 2.7
Purchased Supplement Fed to date (kg DM/cow)	PKE 699	PKE 628	PKE 285 Baleage 70
Homegrown Silage Fed to date (kg DM/cow)	143	180	567
Homegrown Silage on hand (kg DM/cow)	79	100	104
Average Body Condition Score (Milkers)	3.96	3.95	3.88
Manager Worry Score (1 = Low, 10 = High)	5	5	5
Nitrogen to date – 2023/24 Season (kg N/ha)	188	181	0
Rainfall (last two weeks)	17 mm		

*Pasture growth rates are calculated using uncalibrated platemeter readings

CURRENT MANAGEMENT

- Kikuyu is growing well after the small rainfall last week. Fescue and cocksfoot pastures are green but would like more rain. Ryegrass areas are still brown but showing signs of life.
- All herds are receiving PKE to maintain liveweight and milk production.
- Current and Low Emissions herds will also use baleage where needed to lengthen the rotation to 45 days in anticipation of kikuyu mulching beginning next week. All kikuyu paddocks will be mulched behind the cows then drilled with Italian rye. This will occur over the 45 day rotation to finish early May.
- The Alt Pastures herd is on a 40 d rotation on fescue/cocksfoot paddocks and 20 day rotation on kikuyu paddocks. This is being achieved by cows grazing 1/20th of the kikuyu pdks each night, with baleage as needed. The longer round on the alternative pastures is critical to plant survival.
- Light cows in all herds are on OAD, and the last of the culls will now go.