

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 – 18 th May 2023	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (kg DM/ha, excl silage pad)	2011	2130	2007
Pasture Growth (kg DM/ha/d, last 2 weeks)	56	59	57
Rotation Length (days)	39	34	44
Cows in Milk/Peak Cows	44/66	31/67	32/50
Production/cow/day (kg MS)	0.85		
Production/ha/day (kg MS)	1.18		
Estimated Production/cow – 2022/23 (kg MS)	393	411	396
Estimated Production/ha – 2022/23 (kg MS)	1204	1269	908
6 week in-calf rate	81%	82%	82%
Empty Rate	10%	11%	12%
Supplement Fed (kg DM/cow/day)	0	0	0
Purchased Supplement Fed (kg DM/cow 2022/23 season)	PKE 400 Pur Silage 212	PKE 268 Pur Silage 213	PKE 163
Homegrown Silage Fed (kg DM/cow)	274	310	293
Homegrown Silage on hand (kg DM/cow)	79	157	646
Average Body Condition Score (Milkers)	4.3	4.4	4.3
Worry Score (1 = Low, 10 = High)	4	2	3
Nitrogen – Season to Date (kg N/ha)	156	167	0
Rainfall (mm last 2 weeks)	153 mm		

CURRENT MANAGEMENT

- Pasture growth rates have been good, however pasture covers have dropped on the Current and Low Emissions Farms due to mulching of the kikuyu paddocks.
- The last of the cows were dried off today. Cows and pasture covers are in a better condition than this time 12 months ago. Once-a-day milking since February has helped.
- Once cows are dried off, we will aim to feed cows 14 kg DM/cow/day to get cow condition up to 5+ before calving. The Current Farm will receive some baleage, while higher pasture covers on the Alternative Pastures Farm and lower stocking rates on the Low Emissions Farm mean they should not need supplement.
- Replacement heifers will join their respective farmlets on 1 June.
- All farms will move to a 60 day rotation to help lift pasture covers.
- We will hold off spreading nitrogen at the moment. With more warm weather predicted we don't want to stimulate the kikuyu and risk shading out the emerging ryegrass.