

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 September 2023	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (kg DM/ha)	2342	2263	2216
Pasture Growth (kg DM/ha/d, last 2 weeks)	63	59	42
Rotation Length (days)	27	28	31
Cows in Milk/Peak Cows	80/83	83/85	60/62
Production/cow/day (kg MS)	1.93	1.97	1.48
Production/ha/day (kg MS)	5.48	5.76	3.07
SCC	77	85	70
Supplement Offered (kg DM/cow/day)	3.7 PKE Milkrs	3.5 PKE Milkrs	1.9 Sil Milkrs 5.3 PKE Milkrs
Purchased Supplement Fed (kg DM/cow)	441 PKE	412 PKE	104 PKE 63 Baleage
Homegrown Silage Fed (kg DM/cow)	0	46 Baleage	598 Baleage
Homegrown Silage on hand (kg DM/cow)	0	0	0
Average Body Condition Score (Milkers)	4.15 7% below 4.0	4.26 10% below 4.0	4.05 3% below 4.0
Manager Worry Score (1 = Low, 10 = High)	3	3	3
Nitrogen to date – 2023/24 Season (kg N/ha)	93	85	0
Rainfall (last two weeks)	21 mm		

CURRENT MANAGEMENT

- Spring is here and the ground is slowly firming up, although pugging is still occurring in many areas.
- Pasture growth rates are significantly higher on the N farms, indicating good responses are continuing. Seedhead emergence has begun on fescue pastures and we expect to top all these paddocks in the next month.
- Current and Alternative Pastures farms have just stopped PKE and are pasture only from now on.
- The Low Emissions herd are grazing to low residuals, and lower production per cow is also indicating that these cows need still need some supplement at present. Lack of clover and lower crude protein levels in pasture will also be limiting production on this farm.
- We are holding rotation length at 1ha (28days) on all farms, but will be watching residuals closely and expect to drop silage paddocks out of the round in the next fortnight. This will speed up the rotation and help maintain pasture quality.
- 100 kg/ha Ammo 36 continues behind the cows on the Current and Alternative Pastures farms. We will switch back to Sustain within the next week.