

## 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 – 10 <sup>th</sup> August 2023	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (kg DM/ha)	2050	2021	1947
Pasture Growth (kg DM/ha/d, last 2 weeks)	20	23	15
Rotation Length (days)	46	39	64
Cows in Milk/Peak Cows	52/83	63/84	39/62
Production/cow/day (kg MS)	1.82	1.44	1.62
Production/ha/day (kg MS)	2.72	2.85	2.01
Supplement Fed (kg DM/cow/day)	5.8 PKE dries 2.8 PKE milkers	4.5 PKE dries 2.9 PKE milkers	6.1 Sil Dries 7.2 Sil Milkers
Purchased Supplement Fed (kg DM/cow 2023-24 season)	280 PKE	222 PKE	
Homegrown Silage Fed (kg DM/cow 2023-24 season)	0	56 Baleage	344 Baleage
Homegrown Silage on hand (kg DM/cow)	0	0	126
Average Body Condition Score (Milkers)	4.7	4.6	4.2
Worry Score (1 = Low, 10 = High)	6	6	7
Nitrogen to date – 2023/24 Season (kg N/ha)	55	47	0

### **CURRENT MANAGEMENT**

- Pasture covers have dropped in the last 2 weeks on all farms in response to slower pasture growth rates. This time last year the farms were growing approximately double this season, with Current and Alt Pastures at 40kgDM/ha/d, and the Low Emissions at 27kgDM/ha/d. This season remains extremely challenging on wet cold soils.
- Rotation length is currently at 52 days on the Current and Alternative Pasture Farms and 63 days rotation on the Low Emissions Farm. These will slowly speed up in line with our rotation planner.
- On paper the Low Emissions Farm milkers have been receiving adequate feed with high levels of silage supplementation, however condition score has dropped indicating they have been underfed, likely due to poor silage utilisation. Additional silage will be allocated to compensate for this low utilisation.
- PKE feeding levels will be increased to 4 kg DM/cow on the Current and Alternative Pasture Farms. Milk FEI remains relatively low.
- Sustain has been applied at 80 kg/ha following cows. This will be switched over to Ammo 36 at 100 kg/ha for the next round. With no nitrogen application the Low Emissions Farm pastures are looking yellow, and clover levels have not recovered since being wiped out by flooding in February. We expect clover levels to recover when temperatures warm up.