

## 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 – 3 <sup>rd</sup> November 2022	Current Farm	Alternative Pastures Farm	Low Emissions Farm
Avg Pasture Cover (kg DM/ha, excl silage pad)	2275	2245	2109
Pasture Growth (kg DM/ha/d, last 2 weeks)	89	87	65
Rotation Length (days)	27	26	27
Cows in Milk/Peak Cows	84/84	86/86	63/63
Area out for silage (% of farm)	0%	0%	0%
Production/cow/day (kg MS)	1.64	1.66	1.97
Production/ha/day (kg MS)	4.94	5.14	4.46
Production/cow – 2022/23 season (kg MS)	161	162	152
Production/ha – 2022/23 season (kg MS)	492	502	349
Supplement Fed (kg DM/cow/day)	0	0	0
Total Purchased Supplement Fed (kg DM/cow 2022/23 season)	388 PKE 212 Purch Silage	239 PKE 213 Purch Silage	163 PKE 0 Purch Silage
Homegrown Silage Fed (kg DM/cow STD)	0	0	221
Average Body Condition Score - Milkers	4.2	4.3	4.2
Worry Score (1 = Low, 10 = High)	3	2	3
Nitrogen – Season to Date (kg N/ha)	114	112	0
Rainfall (mm last 2 weeks)	43 mm		

### CURRENT MANAGEMENT

- Last week, more than twice as much was silage cut on the Alternative Pastures farm compared to the other two farms. Pasture growth has picked up again after recent rain and warmer weather. This should bring these silage paddocks back into the round quickly. We expect to close more silage up next week.
- Pastures on the Low Emissions farm, where no nitrogen has been applied, continue to have around twice the clover content compared with the other two farms.
- Per cow production on the Low Emissions farm has been higher than cows on the other farms over recent weeks. This is contrary to production levels earlier in the season.
- Pasture quality has been similar on all farms in recent months. Tests last week showed around 12 MJ ME/kg DM.
- Continuing to apply 50 kg/ha sustain behind the cows on the Current and Alternative Pasture farms, around rain events. Our data indicates that we have had good nitrogen responses on the Current and Alternative Pastures farms, averaging 17 kg DM/kg N applied.