North Queensland Dairy Development Project

Key points from Review of Key Performance Analyser results – October 2024 to February 2025

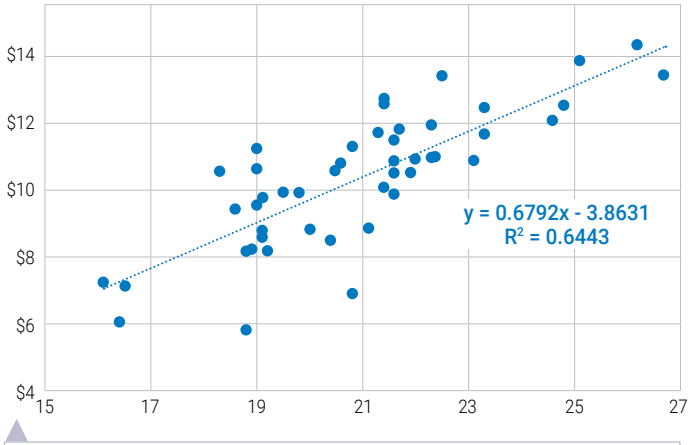
The North Queensland Dairy Development Project (NQDDP) has emerged from a strong collective sense to revitalise the NQ dairy farm sector through collaboration between the Queensland Department of Primary Industries, Bega, Dairy Farmers Milk Cooperative and Subtropical Dairy. The project commenced in July 2024. The project is funded from the Drought and Climate Adaption Program (DCAP) and the Farm Business Resilience Program (FBRP) with significant in-kind support from the project partners and farmers.

One of the projects in the NQDDP has been reviewing short term profit drivers across 11 farms on a monthly basis. This project is using a prototype analysis tool called the Key Performance Analyser (KPA) which was developed by Subtropical Dairy. The KPA was designed to review and benchmark short term cash flow and the key biophysical parameters such as herd nutrition, reproduction, herd health and labour efficiency. It tracks how an individual farm is progressing and also compares farm performance against regional benchmarks, in this case, published QDAS results for Far North Qld. The project farms also meet periodically to review their results collectively.

At a pasture management field day delivered by NQDDP partners on the 10th July at Millaa Millaa, the following results from the KPA were discussed. It is not surprising that given that FNQ farms that were able to convert their cheapest feed resource, tropical grass pasture, into milk through an energy efficient herd, were the most profitable.

The NQQDP project team is continuing to use the KPA with project farms for at least the next 12 months. Prototypes of the KPA have also been written for southern Queensland dairy businesses such as partial mixed ration and total mixed ration farms, thanks to the support of the Queensland Government Farm Business Resilience Programme.

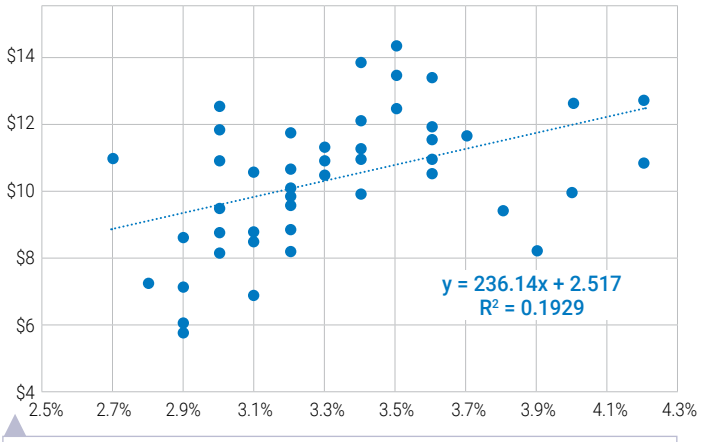
Farms with greater milk production per cow achieved a higher margin per cow (MOFC) (milk revenue – feed costs)



MOFC ($ per cow per day) versus Milk yield (litres of Energy corrected milk per day)

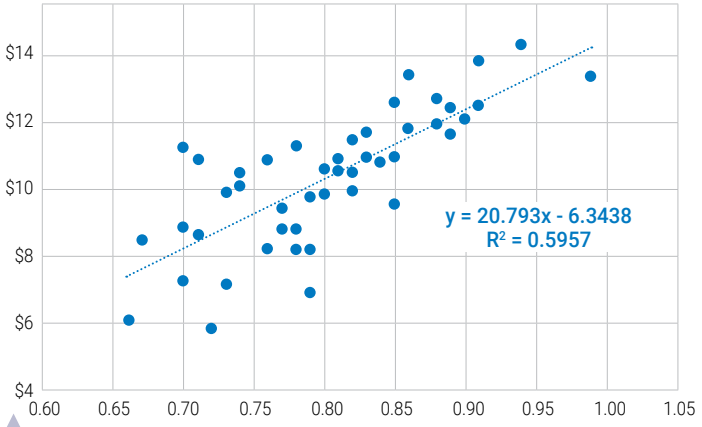
This was due to a number of factors:

1. **Higher milk production due to cows eating more (expressed as a percentage of liveweight)**

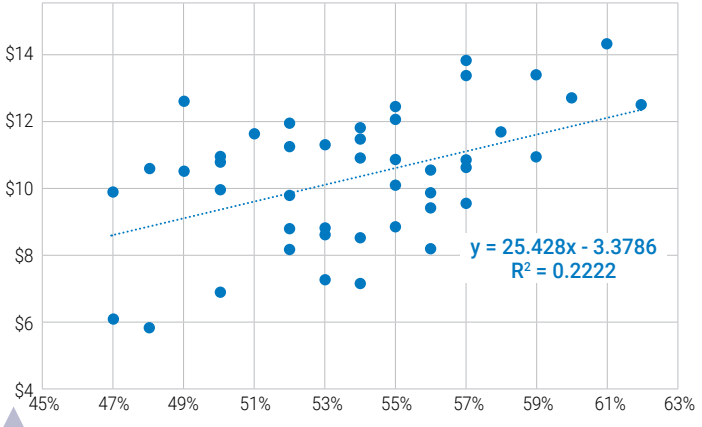


MOFC ($ per cow per day) versus Feed intake per day (% Liveweight)

2. **Cows that ate more (as a proportion of liveweight) were more efficient because they could use more energy for milk production**

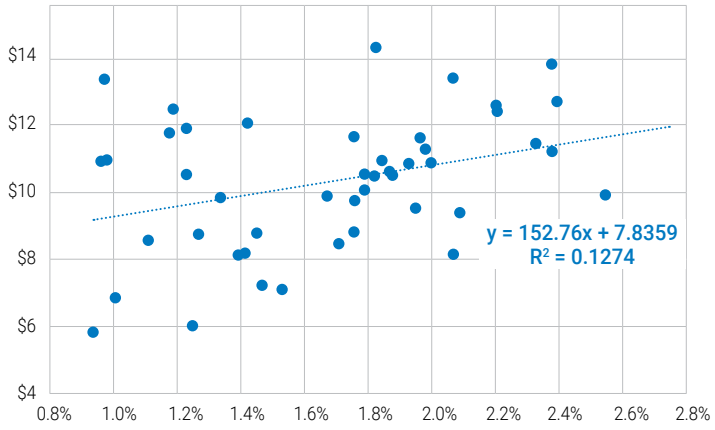


MOFC ($ per cow per day) versus Milk production efficiency (kg Milk Solids per kg LW per lactation)

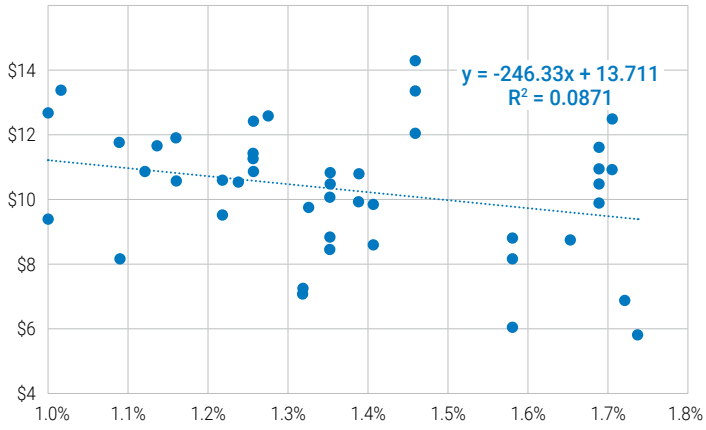


MOFC ($ per cow per day) versus % of energy intake used for milk production

3. Cows that achieved higher milk production and efficiency from eating more pasture, as opposed to additional concentrate, were more profitable



MOFC ($ per cow per day) versus pasture intake per day (% LW)



MOFC ($ per cow per day) versus concentrate intake per day (% LW)

4. If we could feed 1 additional kg dry matter (DM) of pasture per cow per day, what would it mean in terms of profit? What impact does overall milk production per cow (and cow efficiency) have on this? Would this apply to other pastures like annual ryegrass?

Milk production[1]	Low			Average			High		
Litres per day	17			21			25		
Feed	Setaria	Ryegrass	Concentrate	Setaria	Ryegrass	Concentrate	Setaria	Ryegrass	Concentrate
Cost[2] $/kgDM	$0.09	$0.16	$0.73	$0.09	$0.16	$0.73	$0.09	$0.16	$0.73
MCE[3] L/kgDM	1.0	1.2	1.5	1.1	1.3	1.6	1.2	1.4	1.7
Milk revenue[4] $	$0.85	$1.04	$1.23	$0.93	$1.13	$1.34	$0.99	$1.20	$1.42
MOFC[5] ($/kgDM)	$0.76	$0.88	$0.50	$0.84	$0.97	$0.61	$0.90	$1.04	$0.69
Profit[6] ($/kg DM)	$0.41	$0.53	$0.15	$0.49	$0.62	$0.26	$0.55	$0.69	$0.34
Profit per farm[7]	$28,305	$37,025	$9,295	$33,667	$43,579	$17,040	$37,957	$48,822	$23,237

1 *Assumes the same liveweight (550 kg), body condition score (4.5). Taken from KPA farms*
2 *Assumes some balancing for nutrients and residues*
3 *Milk conversion efficiency – based on energy content. Litres 4.0% milkfat and 3.2% protein milk per kg dry matter intake. Considers cow energy efficiencies*
4 *Assumes milk price of $0.85 per litre*
5 *Milk income over feed costs*
6 *Assumes non feed costs of $0.392 per litre*CPI (3%) and non lactating stock feed costs of $0.025 per litre. Also assumes non-milk revenue income of $0.054 per litre (QDAS FNQ 2024)*
7 *Annual profit. Average FNQ farm in QDAS had 243 lactations per year*

5. What are other factors that will affect these scenarios?

Pasture quality and density	Topography
Pasture palatability, antinutritionals, contamination	Days in milk
Balanced diets (sugars, protein, macro/micro minerals)	Cow body condition
Heat stress	Herd profile (how many heifers in the milking herd?)
Distance cows walk	Concentrate quality
Track condition (mud)	Altering grazing intervals