

# Can You Make Money Milking Once a Day (OAD)?

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## Executive Summary

1. The financial accounts from 22 farmers throughout New Zealand that had switched from twice-a-day (TAD) to once-a-day (OAD) milking were collected and analysed.
2. On average, Farm Working Expenses (FWE) decreased by 25.5% (\$520 per ha and \$72,800 per farm) upon switching to OAD milking.
3. On average, milksolids (MS) yield decreased by 5.6% (54 kg MS/ha and 7535 kg MS per farm) upon switching to OAD milking.
4. A case-study farm showed that expenditure on wages, supplements and animal health decreased by 30, 22 and 13% respectively when cows were milked OAD.
5. Farmers switching to OAD milking for lifestyle reasons tended to make lower financial gains than those seeking further farm development.

## Introduction

While OAD milking has demonstrated clear advantages over TAD milking with regards to reproductive performance, cow condition, animal health and welfare, and offers social benefits to staff on these farms, the burning question is “But can we still make money when milking OAD?” Before the study reported here, the only economic analysis was the generation of economic farm surplus (EFS) information using the production data from the Waimate West Demonstration farm (WWDF) where cows were milked OAD all season or for part of the season. The limitation of that analysis was that assumptions had to be made on the changes in FWE when the farm system changed as actual financial accounts for the farm could not be used.

In November 2006, LIC and Dexcel started collecting OAD milking information and financial accounts from commercial farms throughout New Zealand who had adopted OAD milking. In each instance the last set of accounts for TAD milking and all subsequent years on OAD milking were collected. Using the DairyBase format and categories, summary financial information has been generated. Because of changes in cow numbers, and the obvious constraints the fluctuating herd sizes would place on the results, the comparisons have been made on a per hectare and per kg MS basis. The farm sizes have generally remained constant through the TAD/OAD milking transition and, therefore, become the most accurate measure of financial performance. Using a per kg MS measurement is an effective farm efficiency/performance indicator which most farmers are able to relate to and benchmark against.

The farms surveyed were all milking OAD for the full season; however, they fell into several of the market segments that had been identified in an earlier Dexcel/AgResearch study. Some had adopted OAD milking for labour management, whereas for others it enabled them to expand their herd or avoid investing in a new dairy. In analysing the data it appears that the motivating reason for adopting OAD

milking does have an impact on the financial success of the change. For those farmers who adopted OAD milking to free up their time, they tended to have minimal changes to stocking rate or other farm practices and consequently, the financial gains were not as great as those seeking further farm development. More often than not this group were owner/operators on smaller farms who had been milking cows for a long time. Those who made the change as a result of trying to step forward and push the boundaries have seen a dramatically different outcome.

## Financial survey of OAD milking farms

In total, financial accounts were collected from 22 farms. The breakdown and summary information for these operations are presented in Table 1.

**Table 1.** Regional distribution, farm and herd sizes and number of years on once-a-day (OAD) milking of survey farms.

	No. of Farms	Farm size (ha)	No. of cows	Years on OAD
Canterbury	4	239	875	4
West Coast	2	85	183	2
Waikato	5	94	265	3
Bay of Plenty	4	125	295	4
Taranaki	3	130	416	3
Northland	4	144	353	3

On average, FWE on the survey farms decreased from \$262 200 on TAD milking to \$212 433 on OAD milking, an approximate drop of 19%. This comparison was made between OAD milking systems in the 2005-06 season, and TAD milking systems from, on average, three years ago. Were all expenses to have remained the same, it would be an accurate representation. However, this is obviously not the case, and "The Economic Survey Of New Zealand Dairy Farmers 2004 – 2005" shows that the FWE (including vehicle expenses) have increased in the past few years (Table 2), compared with the average FWE figures for the 22 OAD milking survey farms (Table 3).

**Table 2.** National average Farm Working Expenses (FWE; \$/ha).

	2003 - 2004	2004 – 2005	2005 - 2006
FWE (\$/ha)	1835	1959	2037*

\*2005-06 season figures were unavailable, so were estimated by adjusting for 4% inflation.

Note that the 2005-06 season figure in Table 2 is an amount based on the 2004-05 season figure inflated at 4% which was New Zealand inflation rate for that year (the actual figure for the 2005-06 year was unavailable at the time of the study).

**Table 3.** Average Farm Working Expenses (FWE; \$/ha) for the 22 once-a-day (OAD) milking survey farms.

	2005 – 2006
FWE (\$/ha)	1517

Taking into account the average farm size of the survey participants the OAD milking farmers previously had a TAD milking FWE of \$1872/ha (\$262 200/140 ha) for the 2003-04 season. This is broadly consistent with the findings of “The Economic Survey Of New Zealand Dairy Farmers 2004 – 2005” (Table 2). The savings that the OAD milking farmers have made, when benchmarked against the inflated 2004-05 figures (i.e., 2005-06), is \$520/ha or a total reduction of about 25.5% on their FWE. The FWE for TAD and OAD milking systems are broken down as shown in Table 4.

**Table 4.** Itemised Farm Working Expenses (FWE) per ha and per kg milksolids (MS) for average of once-a-day (OAD) milking survey farms and national average twice-a-day (TAD) milking farms.

Farm Working Expenses	Ave. OAD (\$/ha)	Ave. National (\$/ha)	Ave. OAD (\$/kg MS)	Ave. National (\$/kg MS)
Animal Health	150.85	162.24	0.17	0.18
Herd Improvement	62.82	83.20	0.07	0.09
Dairy Shed	20.38	63.44	0.02	0.07
Light, power & heating	53.57	86.32	0.06	0.09
Sundry & Freight	19.31	24.96	0.02	0.03
Weed & Pest control	16.84	22.88	0.02	0.02
Wages & Salaries	328.16	433.68	0.36	0.49
Pasture & Supplements*	512.31	613.60	0.57	0.69
Fertiliser & Lime	266.27	390	0.29	0.44
Farm Vehicle	86.87	140.4	0.10	0.16

\*Includes hay, silage, meal, cropping pasture renovation, grazing and contractor costs.

At the other end of the scale, the farm income, which is driven by milk production, is affected as shown in Table 5. On average, a production decrease of around 5.6% or 7535 kg MS over the season occurred (this being the difference between the average TAD milking production and the average OAD milking production of the study participants). At a \$4.15 payout this equates to \$31 270 less income. The average production of the study participants, while on a TAD milking system, was 959 kg MS/ha. This compares to the average production for 2005-06, while operating under an OAD milking system, of 906 kg MS/ha.

Another benefit was significant increases in cattle sales revenue, in some instances as much as a 100% increase.

**Table 5.** Change in farm milksolids production when switching from twice-a-day (TAD) to once-a-day (OAD) milking (based on the average survey farm of 140 ha).

	TAD	OAD
Farm milksolids (kg)	134320	126785

## Farmer Case Study – John Saywell and family

John and his family have been farming at Geraldine for 10 years. The district has higher average rainfall than most of the Canterbury plains, but summer and autumn can be significantly affected by low rainfall and poor growth conditions. The farm system has gone through a number changes in recent years from a total milked area of 330 ha milking 1,030 cows TAD to the current 730 cows being milked OAD on 230 ha. OAD milking commenced during the early spring of 2004. In the previous season 50:50 sharemilking was used, and 620 cows were milked OAD from October. The switch to OAD milking also coincided with the relinquishing of a 100 ha adjoining lease block. Of the current 230 ha, half is owned and the other half leased, and only 20 ha can be irrigated. However, it is not a very efficient irrigation system.

Target production of 1000 kg MS/ha for the 2006-07 season is a very good level of production for any semi-irrigated, mostly pasture-based, system in this region. Indeed, many of the Border Strip irrigated farms in mid-Canterbury do not easily get above this mark. John falls into the avoiding capital expenditure segment of the OAD milking case study analysis. The 30 aside herringbone dairy is a limiting factor for a TAD milking system. Since a large proportion of the milking land is leased it was unwise to invest in a new or significantly altered dairy and the housing that would be needed to run an efficient TAD milking system. To manage the potential feed shortages in the summer with limited irrigation, 12 ha of summer turnips are grown. In addition, approximately 200 kg/cow/season, or less than 5% of the total diet, is supplied as Prolig. John believes this is an important contributor to daily ME intake, thus maintaining intake and contributing to a very smooth, flat, milk production curve.

**Table 6.** Summary financial data for the Saywell property for the 2003, 2005 and 2006 financial years. EFS = economic farm surplus.

	2003	2005	2006	Change (%)
Average cows milked (ACM)	1030	710	720	
Milking frequency	TAD	OAD all season	OAD all season	
MS per ACM (kg/cow)	329	290	299	-9.0
Stocking rate (cows/ha)	3.12	3.38	3.13	
Farm Working Expenses (FWE) \$/ha	3246	2492	2610	-20
Farm Working Expenses \$/kg MS	3.16	2.55	2.79	-11.7
<b>Expenses (\$/kg MS)</b>				
Wages	0.81	0.58	0.57	-30
Fertiliser	0.27	0.33	0.28	+3
Stockfeed	1.39	0.96	1.08	-22
Animal Health	0.15	0.08	0.13	-13
Livestock Improvement	0.08	0.14	0.13	+63
Repairs and Maintenance	0.09	0.29	0.22	+140
Vehicles	0.10	0.07	0.08	-20
EFS \$/ha (Gross Farm income – FWE)	1307	2122	2049	
Farm profit (\$/ha after interest & depreciation)	76	1161	1133	

John has seen a marked change in his financial position since adopting OAD milking, as depicted by the increase in his EFS (Table 6). Data for 2003-04 has been omitted, as a 50:50 sharemilker was operating the farm during this season.

FWE have declined from \$3.16/kg MS on TAD milking to \$2.79/kg MS for the most recent season on OAD milking. The average MS payment in the 2005-06 season was \$4.39/kg MS, which included milk supplied under a previous winter quota. An additional 6c/kg MS equivalent was received from colostrum supply. FWE as a percentage of gross farm income in the 2005-06 season were 56%, which according to the accountant (Alexander and Associates) is 'quite acceptable' as at the present MS payout many of their clients are around 60-65%. Interest and/or rent payments represented 18% of gross farm income or 90c/kg MS production. The overall cost of production per kg MS produced and sold, i.e., FWE plus interest, rent and depreciation, is \$3.77 which is 15-20c less than Alexander and Associates practice average. While the costs of livestock improvement, and repairs and maintenance, have increased significantly per kg MS under OAD milking, their contribution to total FWE is significantly less than wages, animal health and stockfeed where large cost savings have been made.

While annual milk production figures (299 kg MS/cow and 936 kg MS/ha) are relatively low for Canterbury, other advantages of OAD milking certainly offset these. The areas where large gains have been made are:

- Net profit
- Interest return on total farm capital employed
- MS margin
- Overall cost of production
- EFS per ha

In his report for the 2005-06 set of accounts the accountant made the following statement, which I think sums up the success of the Saywell change to OAD milking

"The improvement in profitability in the 2005 and 2006 years, compared with the profitability in the three years prior to that is enormous, that is, there is an improvement in profitability of about \$200,000 or more in the last two years."

## **Conclusions**

OAD milking has been around for a while, and will continue to have a strong following for years to come. Like so many dairying systems, there will always be farms, and farmers, that are more suited to an OAD milking system and those that better fit other operations. One thing is certain, however, those who make the move to OAD milking for the right reasons, and with a proactive approach, should see significant benefits. It's here to stay, and, financially, it's working!