

**Dexcel's OAD team**

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# Doing it Once a day

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Dairy InSight



**WWDF**

## Welcome

to the second issue of our quarterly newsletter 'Doing it Once a day'. We have received positive feedback on the first issue of the newsletter so hope we can continue to meet the needs of the industry. This issue provides an update on the production from the current OAD trials, handy hints for those considering switching to OAD milking in the next month or so, a summary on the impact of short periods of OAD milking on subsequent production and the first of our OAD team member profiles.

## Previous Research Findings

### Impact of short periods of OAD milking on subsequent production

Several experiments have been conducted investigating the impact of short periods of OAD milking on subsequent milk production. At the Whareroa site in 2003/04 a trial run Boviquest challenged 300 2nd lactation cows with a week of OAD milking in mid and late lactation. The impact on milk yield is presented in Figures 1 and 2. When OAD milking commenced, production fell quickly, but after 2-3 days reached a plateau. Within a week of resuming twice a day milking the cows were producing at a similar level to that prior to the OAD milking challenge.

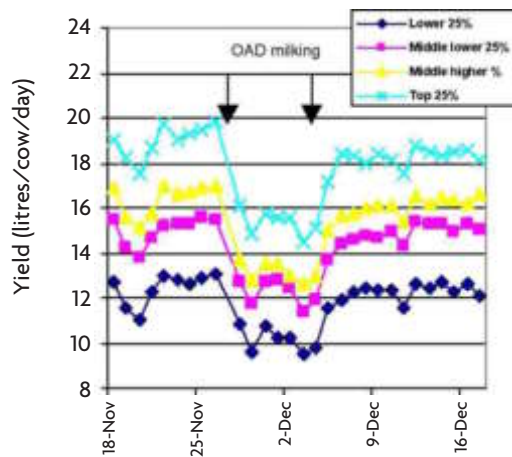


Figure 1

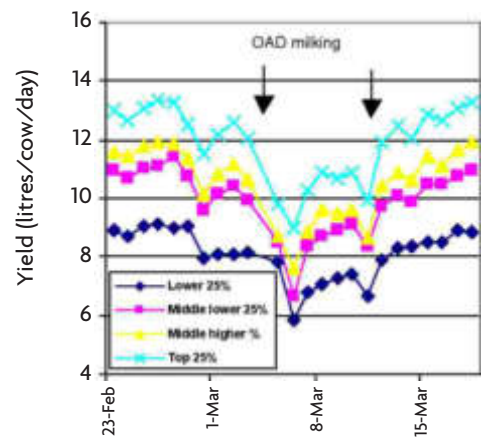


Figure 2

The French (Redmond, B et al. (1999) *Annales Zootechnie* 48:341-352) conducted an experiment with high producing cows milked OAD for the first 3 or 6 weeks of lactation. They investigated this period of OAD milking with both mature cows and heifers. After 18 weeks there was no significant difference in milksolids production for either heifers or older cows that had been milked OAD for the first 3 weeks compared with those milked twice a day (Table 1). We could assume that the difference at 18 weeks represents the total loss you would expect over the whole lactation. Milk solids production for the heifers during the 3 week OAD milking period was 19% less than twice a day milked heifers i.e. 1.32 vs. 1.63 kg MS/cow/day and the older cows were 13% down in production i.e. 1.76 vs. 2.20 kg MS/cow. These were big, well fed cows and at no stage during the 18 weeks did their intakes differ. From this data we could surmise that provided cows on OAD are well fed during their period on OAD that there will be little loss in production over the whole season from OAD milking for the first 3 weeks.

	Heifers TAD	Heifers OAD	Mature cows TAD	Mature cows OAD 3 wks	Mature cows OAD 6 wks
MS/cow – week 18	234.5	218.0	300.5	291.3	245.1
MS loss vs. TAD at 18 weeks (kg)		16.5		9.2	46.2
MS loss vs. TAD - 1st 3 weeks (kg)		6.5		6.6	5.5
MS loss vs. TAD - 1st 6 weeks (kg)		6.8		7.7	23.4

Table 1: Milksolids production per cow for the first 18 weeks of lactation when milked either once a day (OAD) or twice a day (TAD)

## New Research Activities

### OAD milking for Lifestyle and Profit - Friesians

The aim of this trial is to identify Friesian cows that are more suited to OAD milking. We hypothesised that high milksolids Friesians (FOH) would be more suited to OAD milking than low milksolids Friesians (FOL) as they should be able to store more of the higher milksolids milk in the udder during a 24 hour period. For those who missed the first issue of the newsletter the new trial design is outlined in Table 2.

	High Milksolids Friesian OAD	Low Milksolids Friesian OAD	Twice a day → Once a day
Breed	FOH Friesian	FOL Friesian	FTAD Friesian
Number of cows	49	49	46
Stocking rate (cows/ha)	3.5	3.5	3.3
Treatment	OAD all season	OAD all season	OAD post Christmas
BW	116	109	113

Table 2. WTARS once a day milking trial information

Like many areas of the country Taranaki has experienced a wet spring with variable pasture growth rates. The OAD trial has fared relatively well due to an abundant supply of pasture silage and relatively little pasture damage from winter pugging. Neither the OAD or TAD herds peaked as high as last year (Figure 3) but the earlier calving date has resulted in year to date production being ahead of last year. The cows hit a rising plane of nutrition at the right time so submission rates have been high.

One disappointing aspect to the trial to date is the absence of a difference in milksolids production between the high and low milksolids Friesians (FOL) milked OAD (Table 3). Milk production for the FOL cows has been 2-3 litres higher throughout the season but the lower test has resulted in the same milksolids production as the FOH herd. Our first udder capacity measurements were undertaken in November, the results of which will be reported in the next issue of the newsletter.

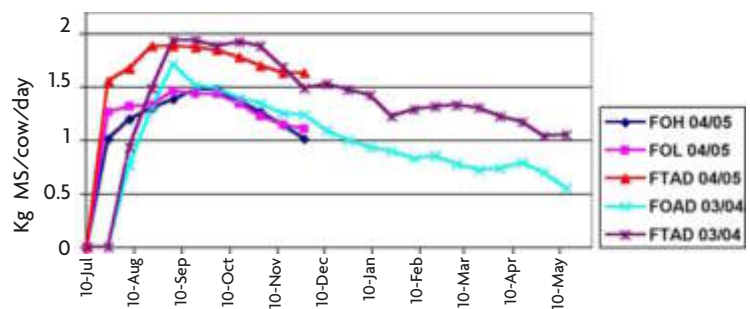


Figure 3. Season to date production for the FOH, FOL and FTAD herds compared with the Friesian OAD and TAD herds in the 2003/04 season.

Treatment	WTARS - Friesians			WWDF - Jerseys	
	FOH	FOL	FTAD	OAD	TAD
<b>Stocking Rate</b>	3.5	3.5	3.3	4.4	4.0
<b>Current Production - 27 Nov</b>					
Milksolids (kg/cow.day)	1.02	1.11	1.63	1.14	1.31
Milksolids (kg/ha.day)	3.57	3.89	5.38	5.02	5.24
Milk (kg/cow.day)	11.9	14.3	19.4	10.0	13.1
Milk fat %	4.73	4.13	4.76	6.60	5.89
Milk protein %	3.89	3.61	3.62	4.63	4.17
Average Individual SCC ('000 cells/ml) - 19 Dec	334	289	212	154	182
<b>Production Season to Date</b>					
Milksolids (kg/cow)	140	141	189	138	158
Milksolids (kg/ha)	490	494	624	607	632
Days in Milk	108	108	107	127	123
<b>Cow Condition</b>					
Liveweight	541	562	526	380	384
Condition Score	5.3	5.2	5.0	4.5	4.3
<b>Pasture - 7 Dec</b>					
Average cover (kg DM/ha)	3060	2714	3015	2748	2833
% farmlot shut for silage	7	14	7	0	0
Rotation length	26	18	21	27	26
Silage conserved (kg DM/cow)	451	408	350	209	254

\*2, 3 and 4 cows per herd respectively exceeding 1 million cells/ml at this herd test.

Table 3. OAD milking Summary

## Once a day milking for lifestyle and profit – Jerseys

The WWDF project includes a two-farmlet system (Table 4). The Livestock Improvement Corporation OAD selection index was used to identify and select cows from each age group in the existing herd best suited to OAD milking. These animals comprise the full season OAD herd. The remainder of the animals make up the part season OAD herd.

	Once a Day	Twice a day→Once a day
Breed	Jersey	Jersey
Number of cows	101	44
Stocking rate (cows/ha)	4.4	4.0
Treatment	OAD all season	OAD when production drops below 1.2 kg MS/cow
BW	135	103
OAD BV	1388	1004

Table 4. WWDF once a day milking trial information

Season to date production for the OAD herd is 20 kg MS or 13% behind the TAD herd on a per cow basis and 25 kg MS or 4% behind on a per ha basis. This year the TAD herd peaked at 1.6 kg MS/cow compared with a peak of 1.75 kg MS/cow for the control herd last year. An increase in stocking rate of 0.2 cows/ha and the wet spring will have contributed to the lower peak production this year. The latest production summary of current trial is presented in Table 3.

There are a couple of learning experiences we have encountered already with this new OAD trial. The first is that if you are considering switching to once a day milking it is essential that your milk plant is operating efficiently. Be sure that your milk pump can cope with the increased flow of milk from once daily milked cows in early lactation. Flooding of the milk plant can result in outbreaks of mastitis that can be difficult to control if the milking plant problems are not corrected immediately. The second is that your farm staff need to be patient and not expect the OAD cows to milk out in the same time as twice a day milked animals. Under milking of cows can also result in increased somatic cell counts and mastitis problems.



## Extension Activities

### Whareroa Research Centre / Waimate West Demonstration Farm Fieldday

The next fieldday for the OAD programme is planned for Wednesday 26th January at the Whareroa Research Centre, Whareroa Rd, Hawera. We hope to have speakers from Dexcel and Fonterra addressing issues around controlling somatic cell counts and mastitis and discussing the impacts of OAD milking on the processing properties of milk. More details will be posted once the agenda for the day is confirmed.

### Helpful Hints for those switching to OAD milking pre or post Christmas

1. Herd test the cows to identify poor producers and those with high cell counts
  - a. Check high cell count animals for clinical mastitis and treat if necessary
  - b. Cull low producers
2. Ensure your milking plant is working efficiently
  - a. Milk pump can cope with increased flow
  - b. Cooling system can drop milk temperature within the required specifications
3. Notify the milk company that you are switching to OAD milking
4. Talk to your vet about the best options for mastitis treatment
5. Brief staff on likely changes following the implementation of OAD milking, especially if this is the first year on the system
  - a. Cows will take longer to milk
  - b. Cow behaviour may change
  - c. Vigilance is required with mastitis detection and treatment
  - d. Determine withhold periods for antibiotics
6. Book your holidays!!

### Case Studies

Ten farmers in the Waikato, Bay of Plenty and Taranaki have been interviewed as part of the case study analysis of farmers who have adopted OAD milking. Farmers in the remaining regions, Northland, Canterbury and Southland will be interviewed in the New Year and a detailed summary will be included in the June issue of the newsletter.

The farms we have looked at range in size from 123 to 1250 cows, include all 3 major breeds and are a mix of owner operators and sharemilkers. While we can't draw any conclusions at this early stage there are a number of trends emerging

1. Somatic cell counts have not been a major problem
2. When mastitis occurs it is generally in older cows and you have to be more vigilant with mastitis detection
3. Milkings are taking 1/2 to 1 hour longer than the morning milking on twice a day
4. On the larger farms lameness has decreased
5. The majority of farms increased their stocking rate when OAD was adopted (range 0 - 17% increase).

## OAD Team member Profile

Stephen Canton – Consulting Officer, South Taranaki

I grew up on a Tobacco farm, up the Motueka valley. After working on a dairy farm in the school holidays I decided that dairying would be a good field to enter into.

I started as a Dexcel Consulting Officer in Taranaki in 1999 after completing a 3 year Bachelor in Agricultural Commerce Degree from Lincoln University. After a stint overseas in 2002/03 I returned to Dexcel and Taranaki. I developed a keen interest in once a day (OAD) milking systems after looking at the results of the OAD research at the Dexcel Whareroa Research farm and observing Louis & Barbara Kuriger change their farming system by adapting the research findings to suit their own goals.

The variations of the Once a Day systems are exciting and are a tool that can be used by farmers to achieve their end goals. OAD milking has opened up a new avenue for farmers and researchers to head down to see how far we can reduce the capital needs of our farms or improve our lifestyles without decreasing profit margins. One of the most interesting comments made by farmers that are using once a day as part of their system is how the cow's behaviour has changed in the paddock.

My role in the OAD project team is co-ordinating OAD extension events in Taranaki, interviewing farmers for the case studies and helping implement Dexcel's OAD strategy.

