

3 Milkings in 2 Days

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Introduction and History

The main aim of this paper is to give a practical overview of milking 3 times in 2 days (3 in 2). I will also endeavour to discuss the pros and cons of using this regime.

The first significant origins of 3 in 2 started in the 1970's and 80's. The two most common 3 in 2 milking regimes were 16-hour and 18-hour milking, respectively. The main reasons for reducing milking frequency from four times in 48 hours to three times were similar to today's reasons: cow condition, feed and feet problems, climatic challenges, farm logistics, high somatic cell counts (SCC), staff problems, and unable to use once-a-day (OAD) milking as an emergency measure.

Very few farmers went to these 16- or 18-hour milking regimes from first choice – often they were forced into it due to the challenges experienced. After the challenge was mastered, the farmers usually went back to the traditional twice-a-day (TAD) milking regime.

So why didn't these farmers continue milking on these regimes? The main reason I have found is that the hours were just non-compatible with the people. So basically, these regimes were relegated to an emergency option, only used when OAD milking wasn't practical.

The Evolution of 3 in 2

The resurgence to the current 3 in 2 milking regime started in Nelson and Marlborough in January 2001. Peter and Niki Brooks of Murchison started the 2000 season as per normal on TAD milking, but then switched to the 16-hour regime in November 2000. Farms in the district were experiencing severe feet problems with their dairy cows, as a consequence of continual heavy rainfall events. The Brooks' had used 16-hour milking as an emergency option in the past, and were quite familiar with it. They were practising the traditional 16-hour times of 5.30am and 9.30pm on day one, and 1.30pm the following day. Like everyone else who had spent considerable time milking at these hours they were finding it quite inconvenient.

At this stage, we investigated the possibility of altering the milking time splits. On TAD milking, the Brooks' had milked at 5.30am and 3.30pm – a typical 14/10 hour split. So we thought – hey if we can have such big variances on TAD milking, what can we do with a reduced milking frequency regime? So we changed the times - keeping the morning milking at 5.30am, and brought the night in to 7.30pm, and the day milking to 11.30am.

These split of hours became the new name for this milking regime, as it quickly became known locally as 14/16/18. Of course 14/16/18 milking quickly drove Fonterra and Westland, and the LIC Herd Testers absolutely nuts. Trying to schedule tanker pickups and herd testing accurately around 14/16/18 was a very hot topic for the first two seasons.

The popularity of the system and the hours have grown, and up to 30% of the districts suppliers can now be found milking on 3 in 2 from Christmas onwards. Furthermore, it has now slowly spread throughout the country. Of course, once the first farmers found that the hours could be manipulated further, we had to change the name from 14/16/18 to what it is today – known simply as 3 in 2.

Full Season Use of 3 in 2

It is important to note here, that during the last 10 seasons, I have only known two properties in my region that have milked on a 16-hour milking regime for the whole season. Neither farmer was originally my client. As such, I was only able to help them from halfway through the season (*immediately* altering the milking times to the less rigid 3 in 2 regime).

Production wise, these properties peaked lower, e.g., 1.7 kg milksolids (MS)/cow/day vs. 2.0 kg MS/cow/day on TAD milking. They also had a flatter lactation curve, typically around 7% rate of decline from peak; compared with the 9-10% they experienced on TAD milking. Total production was down 5-10% on their previous TAD milking seasons. These results, however, need to be considered in light of the fact that these two farms went onto 16-hour milking for the whole season because they had to. What they would have produced on TAD milking can only be guessed.

Four seasons ago, a client of mine went onto 3 in 2 at the start of artificial insemination (AI) - they had their own AI technician. I felt it would be too early (in terms of the udder holding capacity of cows at peak lactation) and so it proved, as the cows peaked at only 1.7 kg MS/cow/day compared with 1.9 kg MS/cow/day on TAD milking during the previous year. That experience gave us an indication of when it is too early to change over from TAD milking to 3 in 2 milking. Since then, the end of AI (late November - early December) is considered the earliest time, when the change over will have a minimal effect on milk production.

Would I recommend milking on 3 in 2 for a whole season? Yes, if I had the opportunity to set things up properly. It would depend totally on farm logistics and the exploration of all options. I believe that 3 in 2 is one way of tackling pressure situations, and it can be successfully used as part of the solution package. I am completely comfortable recommending 3 in 2 as a normal part of the milking season, particularly from the end of AI onwards.

How to Use 3 in 2

The vast majority of my local 3 in 2 farmers start their 3 in 2 milking programme any time from the end of AI, to mid-January. Lets make an example:

- A 100 ha property milking 300 cows. It has 50 two-ha paddocks, and you typically graze two paddocks (4 ha) per day. During peak growth you manage to get down to an 18 or 20 day round by dropping out 10 to 14 paddocks for silage.
- It's now coming up to Christmas, and you are back on a 25 day round with the silage paddocks well and truly back in. So what about going to a 30+ day round for summer? On a standard TAD milking farm – you would simply feed

half a paddock of grass for the day feed, and one whole paddock of grass for the night feed – giving a 33 day round.

- If you are going to change to 3 in 2, simply go to *one paddock per milking*. It is as simple as that. You can go straight onto a 33 day round. Note that there are now no tapes to shift right through summer and early autumn. The simplest point about feeding like this is that the size of feeds stays the same at 2 ha per milking – dead easy for adding in supplements if required.
- So what about if you grow summer turnips and you want to go to 3 in 2 and a 30+ day round? Simply feed the turnips after the morning milking on day one, and before the noon milking on day two. This makes the turnips available at a similar time each day.

When to milk? I usually suggest that you milk at whatever time you would normally milk in the morning. Say any time between 4.30am and 6 am. During the heat of the summer, milk between 7 and 7.30pm at night, and between 11.30am and 1pm for the noon milking the next day. Be flexible. If you are going out on Friday night, milk the cows at 6.00pm if you need to – then say at 11am the next day, just to crib a bit of time from the earlier milking the night before. The important thing is to be flexible – the cows can cope if you can.

A very important note - when the nights start drawing in through March, ease the night milking back by half an hour every 2-3 weeks. By the end of April, my clients are usually milking at 6pm at night, and by the end of May at about 5pm at night.

For those people that are doing the evening milking, ideally they should be finished their day's work on farm by 1.00pm. They should then have the afternoon off till the start of the evening milking. Those staff members that aren't doing the evening milking can work to say, 5pm. These hours are very, very, important for staff and management morale and sustainability. Everyone gets to sleep in the next day. I would suggest that you work an 8 to 5 day on the second day. All my farmers say that they are able to complete a lot more work under the 3 in 2 regime than what they normally can with TAD milking.

Note that some people cannot handle 3 in 2. If it isn't going to work, don't force it.

Pros and Cons of 3 in 2

The biggest *disadvantage* of 3 in 2 for *people* is the milking times. Inversely – the biggest *advantage* of 3 in 2 for the *cows* are the milking times. But for people, the evening milkings are still a pain, as they can cut into social time. It does require more organisation - that is the main downside. During the heat of the summer though, a 7pm milking can be very enjoyable. And remember – the evening milking is only every second evening. This is the price for everyone enjoying the sleep-in on the second day. The best thing with 3 in 2 is that you can work office hours every second day right to the end of the season.

The big points that are improved by using 3 in 2 from Christmas onwards are heat, meat, feet and teat. By milking early in the morning and in the cool of the evening, and having the cows back in the paddock before it gets too hot in the second afternoon; you reduce the heat stress on the cows during summer (heat). They also spend more time resting and eating – giving more opportunity to maintain condition

(meat), and hold milk production (teat). And of course they have reduced their walking by 25% (feet).

Expenses wise, two of my regular 3 in 2 clients are in a benchmarking group with 9 other farmers under similar farming conditions. They are placed 1st and 2nd for profitability in this group. Their milksolids production per cow and per ha is at the upper end of this group as well. From their results, and from my other clients on 3 in 2, I have reached some informal conclusions on what is happening.

- The cows have always ended the season in good order when on 3 in 2 – better than they have traditionally achieved on TAD milking for the whole season. Farmers have nearly always done the same or more production for the whole season when they have gone to 3 in 2 post-Christmas (seasonal fluctuations notwithstanding). All farmers on 3 in 2 have found that they can milk nearly every single cow right to the last day. It is likely that the increased days in milk for more of the cows have been one of the main drivers for improved production.
- A number of farmers have commented that their calving spreads have tightened and that their in-calf rates have improved compared to when they were on TAD milking. Whether this is a result of the 3 in 2 milking regime is an unknown, but the farmers concerned are convinced of it. From a long-term point of view, the farmer's opinion that their cows' reproductive performance has improved will also have an impact on profitability.
- Farmers have also found that they have not had to buy in or feed out as much extra dry matter in the autumn period in order to put weight back on cows going into the winter. In general, we have also figured a shed cost saving on power etc. of \$1/cow/month, e.g., 300 cows on 3 in 2 for five months can save \$1,500.

Going to 3 in 2 around Christmas usually means that there is no negative effect on SCC. Cows can usually hold the same amount of milk after 5 months of lactation (when they are changed to 3 in 2), that they were holding for a typical 15/9 hour split when they were on TAD milking. I actually get quite frustrated at a typical afternoon milking in the middle of summer when the cows walk all that way in the heat to give 5 or 6 litres – by waiting till when the udder is full a few hours later you can certainly beat the attack of the slack sack!

To help answer a lot of our questions on 3 in 2 milking, we need to look forward to the full utilisation of DairyBase by farmers. The different farming and milking regimes can then objectively be dissected, measured and compared on all aspects of production and performance.

3 in 2 in the Future

Farmers will continue to evolve their systems to better suit staff, the environment, and the logistics they work under. OAD, TAD, and 3 in 2 milking systems will all have their roles to play – every farm and farmer is different, and it is our role to help them optimise the system they wish to utilise in their business.

A simple system that a couple of my clients have been using for the last two seasons may well be a pointer to the future. They are using a combination of all three systems:

- They spend the first round (40 to 50 days) on OAD milking. This makes for an easy start to calving – people and cows thrive not just survive.
- At the end of the first round, they go onto 3 in 2 in their 50 paddocks, and feed one paddock per milking – making for an approx. 30 day round until feed supply comes away. At this stage, the break fences are put away for the season.
- As soon as supply equals demand, the herd then goes on to TAD milking, utilising an 18-25 day round (depending on growth, silage and turnips etc.). They stay on TAD milking until the end of AI, or till Christmas.
- At this stage they go onto 3 in 2 with an approx. 30 day round. They continue on 3 in 2 until the last round in mid-April.
- Then they go onto OAD milking until the very last pick up, utilising a 50 day round.
- They will milk 432 times for the season, not the 602 times on TAD milking, with production the same or better than what they achieved on TAD milking.

Note that these farmers have kept at *a paddock per milking* since September. They have specifically adjusted round length to match milk harvest timings and lactation production. Simple, productive, and profitable dairy farming.

So this year, give the cows, yourself and your staff a break. Ask them if they are keen (you usually find they all want the sleep in – but don't want to do the Friday or Saturday night milkings!). Ease things off slowly, and match round length to milking frequency.