



Maximum Milk Out Times (MMOT) for Swingover Dairies

1. Introduction

The purpose of this Quick Note is to describe a method of implementing Maximum Milk Out Times (MMOT) in swingover dairies.

2. Interpretation and relevance to Australian conditions

Most dairy farms are keen to find ways of reducing the time it takes to milk. MMOT is a low cost way for many farms to reduce their milking times. The basics of MMOT are explained in Quick Note 1.5.

3. Relationship to CowTime goals

MMOT provides one way to help make milking times shorter. The MMOT requires clusters to be taken off cows when they have finished milking **OR** according to a maximum time related to the milk yield. Research has shown that the implementation of MMOT can increase the number of cows milked in an hour in the vast majority of Australian dairies. A part from the time savings the research has demonstrated no increase in mastitis and SSC plus no loss of milk yield. This means that the slow milking cow does not need to hold up milking nor does it mean that she should be culled.

4. Implementing MMOT in an Swingover

Farmers will find many ways to implement MMOT to suit their milk harvesting systems. The following is only one example to consider.

Regardless of the order in which cows are 'clustered-up', we suggest that you find out the typical maximum milking duration that you are currently allowing for cows to milk-out. This can be done by using a timer and starting it when you cluster up the slowest milking cow or the last slow cow if there is more than one in each batch of cows. If these slow cows are still milking when your calculated MMOT is reached, it is time to take the clusters off these cows. It is a useful practice to mark cows that are slow milkers if a number of different staff work in the dairy.

The process is even easier if clustering up is done sequentially as is sometimes seen in large swingover dairies with ACRs. Position the timer in the middle of the row and cluster up as normal. Start the timer when the last slow cow is clustered up. Continue milking as normal. Cluster up the other side, as you would normally do. If clusters are still on a slow milking cow on the first side remove it when the MMOT has been reached. Start a timer on the second side when the last slow milking cow has been clustered up.

Starting the timer on a side when the last slow milker is clustered up helps to identify the maximum time required for that side.

'Elite' cows need to be identified so that they are given an adequate milking duration according to their yields. If these 'elite' cows are exempted from the MMOT they can be either:

- ◆ allocated their appropriate MMOT
- ◆ 'clustered-up' first, or
- ◆ have their clusters left on whilst all the other cows on that side have their clusters removed / are teat sprayed. They then have their clusters removed just prior to the side being let out, or
- ◆ a combination of both.

Either way it is worth using a timer on these 'elite' cows to get an idea of how long it takes them to milk out in relation to the MMOT. Many high yielding cows have high flow rates and will be able to fully milk out quicker than some lower yielding cows.

5. Potential challenges with implementation

Situations that require caution:

Although the research has been quite comprehensive there are still situations in which it would be prudent to show caution before applying MMOT.

These are:

- ◆ herds with a high BMCC of over 400,000 cells/ml.
- ◆ high production herds (average group milk yields of over 20 litres per milking).
- ◆ applying MMOT based on average group yield prior to peak lactation. We recommend setting the MMOT based on the expected average milk yield that the group will achieve at peak.

How do you know that a MMOT regime is working?

There are three characteristics of herds where MMOT regimes are working well:

- ◆ Daily milk yield should be maintained.
- ◆ Not more than 20% of cows in the MMOT group should be truncated at a milking.
- ◆ Milking times (from first cups on to last cups off) should be reduced.

There are some simple checks that can be done to assess each of these characteristics which should give you some confidence that MMOT is working in your herd.

Daily milk yields should be maintained following introduction, although you may see a slight shift of milk from the AM to the PM milking in herds with an uneven inter-milking interval. To check that MMOT regime is providing a benefit you should note the time you start and finish four of the milkings prior to changing to MMOT, and record the litres in the vat for these two days. This will give you figures for:

- ◆ the average time for AM and PM milkings and,
- ◆ the average production per day (litres).

Change to MMOT and again monitor milk production and the time taken for four MMOT milkings.

Compare the average AM and PM milking times and the litres produced against your earlier figures. Yield should not have changed by more than what you would normally expect between days and you should notice some saving of time in the milkings where MMOT was being implemented. Time savings may not be noticed in the later stages of lactation.

6. Robustness of this information

The information presented in this Quick Note is supported by research and industry experience.

7. References and further reading

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Clough, P.A., Westgarth, D.R. & Williams, D.F. (1973) In Proceedings of British Society of Animal Production 2: 73.

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