



# Maximum Milk Out Times (MMOT) for Double up Dairies

## 1. Introduction

The purpose of this Quick Note is to describe a method of implementing Maximum Milk Out Times (MMOT) in double up 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 Double up

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

Applying MMOT in double-up dairies is simple. A separate timer is used for each side of the dairy so they need to be readily accessible and can be activated and read when necessary.

Clustering up the cows in order along each side is a common practice in doubled-up dairies. The milker then moves down the side clustering up as normal. Place the timer in the middle of the row and either start it when you reach it or start it after clustering up the last slow cow in the row. Finish clustering up that side. The milker then moves to the other side to take off clusters, teat spray, empty the side, refill the side and attach clusters as normal working they way down the side. Set the timer for that side going as the first cow is as it is reached or when the last slow cow on the side is clustered up. Then continue down that side until all clusters are attached. Then it is time to return to the original side. Cows that have already finished milking can have their cups removed and hung up. If there are still cows milking, check the Timer to see if the MMOT has been reached. Once MMOT has elapsed cups are removed from the remaining cows.

'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

Clarke T., Cole D, & Greenall R. (2006) Shorter Milking Times - Technical Information Package for Advisers, October 2006. National Milk Harvesting Centre, DPI Ellinbank.

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

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