



Key factors to ensure a calm, consistent milking routine

1. Introduction

The purpose of this Quick Note is to highlight the benefits of ensuring milkers provide a calm, consistent milking routine and to offer guidance on how this could be achieved in all milking facilities.

2. Interpretation and relevance to Australian conditions

The aim of a calm, consistent milking routine is to maximise the voluntary let-down (ejection) of milk from all cows. If milk letdown does not occur, less than one third of the milk secreted can be milked out. Up to two thirds of a cow's milk may be left behind. Research shows that cows milked with a calm, consistent routine produced higher milk flow rates and less residual milk. This of course translates to faster milking rates and more milk harvested per cow.

3. Relationship to CowTime goals

Calm consistent routines are of benefit to the cow as well as the milker and can often be achieved without great expense. Calm and consistent routines do not appear on the surface to save time. However milking productivity as measured as litres/operator/hour can be improved with a calm, consistent routine through better let-down and milking characteristics, better cow flow and less dunging in the dairy. Possibly the greatest productivity gains will come from cows moving voluntarily and quickly through the dairy without the need for the operator. Time spent properly dealing with cows at milking can save time correcting problems later on such as missing cows required for drafting, detecting sick cows and preventing injury or disease. Producing quality milk day after day requires a sustainable system that looks after the cows and workers.

Having a calm, consistent routine will definitely make milking easier. Milking staff can be well prepared for milking tasks and will have to make relatively few subjective decisions under stress. There is also a high likelihood that the tasks will be performed to the satisfaction of management and everyone will be happy.

4. Features of implementing a calm, consistent milking

To maintain consistency, management must be able to provide the work routine guidelines and supervise their implementation. Management must ensure that:

- work routines are achievable; and
- cows should enter the milking shed in a relaxed and voluntary manner.

If these criteria are not met, the work routines of staff in the dairy will be less effective because of the need to deal with uncertain, agitated or fearful cows. Even though experts and farmers may not agree on what is the ideal milking routine, they all agree on the need to have a standard operating procedure. The golden rule is that all staff involved in milking should follow the same procedure, day-in-day out, so the cows know exactly what to expect and what is expected of them.

Work routine guidelines

The development of work routine guidelines is the first step. These may have been developed over time or adopted from an existing program. The larger the numbers of staff, the more important to have these guidelines. In ideal situations they are clearly displayed in the relevant work area as a constant reminder for everyone. An excellent, practical approach has been developed by a Canadian adviser (Levesque, 2000). It consists of a plastic-coated poster with images that can be customised by the herd manager in collaboration with the milking team. The customised poster, which may contain 40 to 60 pictures, is hung in a prominent place in the dairy or farm office. Each picture helps to explain what should be done and what should be avoided.

All staff should have adequate training in their implementation and the consequences for failure to follow guidelines. Common guidelines cover:

- How to behave towards cows;
- Procedures to clean dirty teats;
- Applying clusters to cows;
- When to remove clusters;

- Teat spraying.

A factor that is often overlooked is that the work guidelines must be achievable for the staff concerned. Too often, the work rate expected is too fast to be achieved by all of the staff or the tasks are too complex to be achieved in a calm manner. In both instances, staff will show stress or simply skip procedures to meet the work rate expected of them.

If the guidelines cannot be achieved then management will have to either place more labour into the work routine or look at automating some tasks. Increasingly, automation is seen as the preferred option, particularly in areas where good labour is difficult to find.

The foundation for a calm, consistent routine is to have all the necessary equipment near at hand to the operator. A check list would cover:

- Teat cleaning - Are all of the items to clean and dry teats in easy reach?
- Cow flow - Can the operator assist cow flow without leaving his/her work-station?
- Teat disinfection - Can it be achieved quickly and easily with the equipment supplied and are ingredients close to hand?
- Machine monitoring - Are all switching devices at the work-station (or automated)? Can the operator monitor vacuum levels, milk and water temperatures from their work-station?
- Reliability of the process - Unreliable equipment will make for a chaotic and stressful work routine.

5. Potential challenges with implementation

There are no long-term downsides to calm and consistent routines. The startling fact is that this practice is not more widespread throughout the industry, possibly due to the lack of promotion and research focus/funds. Hopefully the industry can see its way clear to devote more time to this area in light of bigger herds, less labour/cow on farms and more use of automation. Widespread training of labour has been in decline in the dairy industry in recent years. The development of good work routines will enable dairy businesses to quickly train labour to work in milk harvesting.

Farms that currently rush through their milking routine may lose time initially implementing a cow friendly program but will quickly reap the benefits.

The cash cost of implementing the above programs is quite low and mainly involves management's time to develop, implement and monitor. If management time is already stretched to the limit, it is possible in some cases to have these programs provided by outside consultants or contractors.

6. Robustness of this information

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

7. References and further reading

Hamann, J. & Dodd, F.H. (1992) Milking Routines. Chapter 3 in "Machine Milking and Lactation" edited by AJ Bramley, FH Dodd, GA Mein and JA Bramley, Insight Books, Burlington, VT, USA pp. 69-96.

Hemsworth, P.H. (1997) Human-animal interactions in agriculture and their impact on animal welfare and performance. In "Animal Choices", British Society of Animal Science, Occasional Publication: 20. London, pp. 27-34.

Levesque, P. (2000) A milking poster you can customise: a tool to establish an individual Standard Operating Procedure and to train new milkers. In: Proceedings, Pacific Congress on Milk Quality and Mastitis Control, Nagano, Japan, pp. 137-142.

Velitok, I.G. (1977) Physiology of Milk Secretion in "Machine Milking and its effects on cows", Amerind, New Delhi.

CowTime Guidelines for milk harvesting - Chapters 2, 4 & 5, edited by Klindworth, D. et al (2003). Available on the CowTime website www.cowtime.com.au

Quick Note 1.1: Cow behaviour and milk let-down

Quick Note 1.2: Cow handling – interactions between people and cows

Quick Note 3.1: Designing for better cow flow

Disclaimer: The options, advice and information contained in this publication have not been provided at the request of any person but are offered by the Dairy Research and Development Corporation solely to provide information. While the information contained in this publication has been formulated with all due care and in good faith, the contents do not take into account all the factors which need to be considered before putting that information into practice. Accordingly, no person should rely on anything contained herein as a substitute for specific advice.