

MILKING ROBOTS: MAKING THE MOST OF MONEY INVESTED

Every new dairy involves a major financial investment and automatic or ‘robotic’ milking systems (AMS) are no exception. FutureDairy’s Dr Kendra Kerrisk takes a look at unit utilisation, a measure of how ‘busy’ each automatic milking unit is on a given day.

“We want to optimise unit utilisation, to make the most of the capital outlay involved in installing an AMS,” said Dr Kerrisk.

To operate at optimum utilisation, the automatic milking unit needs to be used fairly continuously throughout the night and day, with minimal idle time.

It is influenced by the number of cows milked by a milking unit, number of litres harvested per unit and the number of times cows are milked each day.

“Achieving optimal unit utilisation is more challenging under Australian grazing conditions than in Europe where cows are housed in doors most of the time, or in a feedlot situation,” she said.

This is because a grazing system involves cows voluntarily moving around the system – from paddock to milking unit and back to the paddock again. Grazing cows are also more likely to have a defined sleep period during which very few cows visit the milking units.

Unit utilisation is most affected by the number of cows in milk and the number of times they are milked each day (milking frequency). The table outlines the potential utilisation levels in well-managed systems in Europe and Australia.

Research carried out in New Zealand suggests that unit utilisation in a grazing system can be improved by providing the cows with three fresh breaks of pasture a day, instead of two.

FutureDairy is investigating refinements to its system to improve unit utilisation. Some options include encouraging cows in early lactation to visit the milking units more often. At Camden, cows in early lactation usually represent about half the herd.

A year-round calving system may achieve more even unit utilisation throughout the year if there are similar numbers of cows in early, mid and late lactation most of the time.

In a seasonal calving system, unit utilisation will vary throughout the year.

For more information, contact Dr Kendra Kerrisk, FutureDairy, ph (02) 9351-1631, email kendrad@usyd.edu.au or visit www.futuredairy.com.au

ENDS

Potential achievable machine utilisation levels from well managed systems during periods of high utilisation.

	Typical European System	Australian Pasture Based System: peak of season, Camden	Australian Pasture Based System: annual average, Camden
Average machine utilisation	90%	80%	67%
Number of milkings/machine/day	170	150	118
Milk harvested/machine/day (litres)	2,300	2,000	1384



Photos: Click on the link below to receive a high re image by automatic email: fd_amsrobot@futuredairy.com.au

Caption: To operate at optimum utilisation, an automatic milking unit needs to be used fairly continuously throughout the night and day, with minimal idle time.

Information for media

FutureDairy is a national research project for the Australian dairy industry, aimed at addressing the challenges likely to occur in the next 20 years. FutureDairy's major sponsors are Dairy Australia, DeLaval and the Department of Primary Industries (NSW) and the University of Sydney. Project leader: Dr Yani Garcia ph (02) 9351-1631; email: sgarcia@usyd.edu.au

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