

AMS success relies on pasture allocation

TASMANIAN dairyfarmers John and Caroline van Adrichem are delighted with the results from installing an automatic milking system (AMS) in 2009.

With four years' experience and their system running smoothly, Mr van Adrichem has no trouble identifying the most critical management area for AMS success: pasture allocation.

"People think AMS is all about robots, but it's not," Mr van Adrichem said. "It's all about getting the pasture management right to feed the cows properly to achieve high milking frequency."

The van Adrichems dairy with their son, Arjan, at Eindeloos, their property at Togari in north-west Tasmania. They milk 205 cows, predominantly spring-calving, with three automatic milking units. Having recently bought additional land, the family plans to install another milking unit later in the year that will allow them to expand the herd to 260-280 cows.

They are happy with the AMS performance. In October-November, when the cows were fresh, they averaged 2.8-2.9 milkings a day and average milk production was 33 litres/cow/day.

A successful AMS relies on achieving milkings that are relatively evenly distributed across the 24 hours in a day, with cows moving by themselves to the dairy and around the farm (voluntary cow movement).

This is quite a different concept to conventional milking, in which the whole herd is milked in two concentrated periods of the day.

Feed is the primary motivator encouraging voluntary cow movement in an AMS, and this is where pasture allocation becomes critical.

"We have a three-way grazing system: the cows' daily pasture allocation is split into three fresh breaks a day so each allocation is smaller than on a conventional farm where they typically offer a fresh break in the morning and evening," Mr van Adrichem said.

While the grazing management principles for an AMS are essentially the same as for a conventional dairy, the everyday reality is quite different.

"At any point in time there are cows all over the farm – we can have cows in three different paddocks, some in laneways and others at the dairy," he said. "When we

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KEY POINTS

- ✓ Pasture allocation must be closely managed
- ✓ Drives traffic flow through system
- ✓ Information from system guides decisions



John van Adrichem says installing an automatic milking system is the best thing he ever did.

first started the AMS, it took me a while to get my head around that. To be honest, the cows adapted to the new system quicker than we did."

Mr van Adrichem sets the gates to allow cows to access a fresh break from 2.30am, 9.30am and 5.30pm. Cows that don't leave the paddock within a certain time will be collected to ensure the interval between their milkings does not extend beyond about 12 hours. These are usually cows in late lactation which are less hun-

gry and less motivated to move around the farm on their own.

Most days the van Adrichems fetch fewer than five cows; sometimes none.

FutureDairy project leader, Dr Kendra Kerrisk said that the low numbers of cows needing to be fetched, combined with the high level of system performance and milk production were clear indicators that the

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◀ van Adrichem's AMS is running smoothly and that pasture allocation is accurate.

The herd gets 40% of its pasture allocation at each of 2:30am and 9:30am and 20% at the 5:30pm break. The smaller evening allocation encourages the cows to leave the paddock in the early hours of the morning, a time when grazing cows are typically inactive and less likely to go to the dairy to be milked.

The herd's diet also includes pellets fed at milking and silage at certain times of the year.

"We are feeding the same total amount of pellets as we did with our conventional dairy but we get more milk production from each kilogram now because it is fed individually according to production, whereas in the old system every cow got the same amount," he said.

Mr van Adrichem has reduced the original paddock size to better match the smaller allocations associated with three-way grazing. "Each paddock now holds a maximum of three allocations," he said. "If they are bigger than that, backgrazing becomes an issue. You can't use a backing fence if you want voluntary cow movement."

At times of the year when silage is fed, Mr van Adrichem generally keeps the pasture allocation similar each day and adjusts the quantity of silage to maintain voluntary cow movement.

"Pasture allocation is so much more critical with an AMS," he said. "We see very quickly if we made a mistake because it has such a direct effect on voluntary cow movement and the number of cows we need to fetch from a paddock. If we allocate too little, they let me know loud and clear that they didn't get enough. We'll have cows loitering at the gates waiting to get access to the next fresh break. If we allocate too much feed, we'll have a lot more cows than usual to fetch. This will result in a reduced milking frequency and a fall in milk production."

Mr van Adrichem said one of the biggest challenges learning to trust the system.

"It's very tempting to offer the cows a slightly bigger allocation than they really need," he said. "If you do that, they don't want to leave the paddock and that's where the problems start.

"We had to learn to trust the system: the cows still get fully fed, they just have their daily allowance in three smaller portions throughout a 24-hour period. This is the key to motivating the cows to leave the paddock and go to the dairy and on to the next feed. And if they are milked more than twice a day, production improves."

Mr van Adrichem describes the first year of AMS as quite frustrating, the second as magic, and four years down the track he says it's the best thing they ever did.

"The first year we tried to change too many things at once and we couldn't work out which changes helped," he said. "Once we started changing one thing at a time we began to understand cow behaviour and why they reacted to things we did.

"The second season was quite amazing. When the cows calved they understood the system and it ran smoothly right from the start. It also helped that we had a much better idea of what we were doing."

Fast forward to 2013 and life is unbelievably good.

"We don't have to worry about employing staff; I really like the management routine; the cows are producing well; our lifestyle is much better and financially it has worked out to be competitive to installing a highly automated rotary or herringbone," he said.

"The only downside is that we have no excuse if something goes wrong. The system gives us so much information that we can manage almost any aspect of the operation."

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Contact: FutureDairy, Dr Kendra Kerrisk, phone 0428 101 372 or email <kendra.kerrisk@sydney.edu.au>.

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