

# Waste the same with robotic milking

## ROBOTIC MILK WASTE MANAGEMENT

### KEY POINTS

- ✓ Same amount of waste produced as conventional dairy
- ✓ Flexibility with clean-up times
- ✓ Pressure cleaner useful

**M**ANAGING effluent for an automatic milking system (AMS) has proven to use equivalent volumes of water and produce similar quantities of solid effluent as a conventional dairy, but has allowed greater flexibility in cleaning times and reduced labour at milking for Grant and Leesa Williams.

The move to an automatic milking system has allowed the Williams family to expand their dairy operation to a neighbouring farm at Hallora in West Gippsland.

"We milk 280 cows in a 40-unit rotary and 180 cows in a three-unit AMS dairy," Mr Williams said.

"We purchased the neighbouring farm in 2008 and decided to operate the farm with three automatic milkers, each with a capacity to milk 70 cows. We didn't want to be milking 500 cows through the rotary and wanted to keep our outside labour requirements to a minimum so installing three AMS units on the second farm in 2009 gave us that flexibility."

The farm had been set up with a 20-aside herringbone, which the Williams decided to decommission. The pit was filled in and the shed floor and concrete yard were used to house the AMS units.

The farm's effluent system was also revamped. An existing effluent dam was pumped out and modified using advice from dairy effluent management extension officer Barry Bradshaw from the Department of Primary Industries, Victoria.

Mr Bradshaw's advice was that a well-designed and well-managed effluent storage and application system would work equally well for either an AMS or conventional dairy. "We made some compromises by using the existing dairy structure," Mr Williams said.

"If we had started from scratch I would certainly put more slope on the concrete in the shed to improve the effluent clean up around the AMS units."

Mr Williams said the volumes of water used and effluent produced in the system



seemed comparable with a conventional dairy, but the AMS allowed flexibility with cleaning times. "With a conventional dairy you clean up immediately after milking," he said.

With an AMS, milking occurs almost 24 hours a day so the timing of shed cleaning is flexible. "We clean up around the AMS two to three times a day, depending on the time of year," he said. "We have a seasonal calving herd so there is more effluent at the start of lactation when the cows are coming in to be milked regularly and are on lush pasture.

"We also have some cows being milked three times a day through the AMS, but the cows come in when they want to be milked so there isn't the issue of cows being held in the yards before milking like there is with a conventional dairy.

"If it's wet and cold, then the cows using the AMS tend to stay in the shed for longer so there is extra cleaning required."

FutureDairy project leader, Dr Kendra Kerrisk, said the only difference in effluent management between AMS and conventional dairies was the timing of yard cleaning.

**The main difference in effluent management with an automatic milking system is that the timing of yard cleaning is flexible because cows are being milked most of the day and night.**

"With an AMS there are almost always cows coming in to be milked so as soon as you finish cleaning the yards they are going to soil again," Dr Kerrisk said.

"Many farmers with AMS dairies used a gerni or pressure cleaner to clean down their AMS units and yards."

The Williams clean up with a number of six-metre (check) hoses that can be moved around to a number of hydrants in the shed for cleaning.

In the three years since installing the AMS, the Williams have seen milk production improve as the herd has become accustomed to the system and more cows are milked three times a day.

"There was no production gain in the first year, but now our AMS dairy has a 10% production advantage over our conventional rotary," he said.

Production last season was 7300 litres/cow or 1310 kilograms milk solids/hectare.

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