Robotic milking supports people and animal health and wellbeing

Environmental management case study

Summary

- With a strong focus on the people and the animals in their business, the Clarks wanted to change their milking system so that they could improve the sustainability of their people while ensuring the ongoing growth of their business.
- They invested in a robotic dairy system that has allowed them to increase their herd size, spend more time on other aspects and their families.
- The upgraded system has allowed them to increase their cow data, which has resulted in the Clarks making further improvements to their business

"There are different ways of doing things. We wanted a way to milk the cows where we didn't have to both be there at the same time. And we have achieved this."

Sam Clark, Fiander-Moor

FARM SNAPSHOT – 'FIANDER-MOOR'

Natalie, Sam and Josh Clark – Mil-Lel, Mount Gambier region, South Australia.

Natalie Clark and her two sons, Sam and Josh, operate a third-generation, 364-hectare (ha) dairy farm 'Fiander-moor' in South Australia's Mount Gambier region.

After finishing school, Josh and Sam started careers away from the farm. Sam became an agronomist and Josh began his working life as a baker. They returned to work on the family property in the early 2000s following the death of their father.

Today, Josh and Sam work full-time on the farm with their mum Natalie, who also has a major role in the management and day-to-day running of the farm.

Farm system

- A pasture-based operation, with 135 ha of the property under irrigation.
- Concentrate is brought in to feed the milkers and the Clarks are self-sufficient with all other fodder requirements produced on the property.
- They milk almost 500 Friesian cows that calve in autumn and spring (50/50 split).
- The farm has sandy loam soils with an undulating topography. The soils are free draining and there are no waterways on the property.

The Clarks have been part of the Dairy Farm Monitor Project in South Australia since it started 10 years ago. Being part of this project has helped them to maintain their business records to a high standard. They have also found the information provided useful for analysis of their performance and key to making decisions.

Business purpose

The Clarks have grown the herd to its current size and believe this is a good number to maintain into the future. Their philosophy is to make more from what they have, by increasing production efficiencies and managing costs as best they can.

They have a strong focus on maintaining and improving the lifestyle they currently have. They make all major decisions based on what is sustainable for the family and the people in their business.

Continual improvements in animal health is a key focus of their business. It is also important to Josh and Sam to maintain the farm's sustainability, so there is an opportunity for their children to take over the family business in the future – should they want to.

Practice change

Issues identified

- When Josh and Sam came back to work full-time on the farm, they were milking 370 cows in a 20-unit swing over herringbone dairy. They were spending 11 hours a day milking cows. This was not sustainable for the cows or the people.
- Increasing the herd size wasn't possible with the milking system.
- Extra labour was required to support the whole farm system with so much time being spent milking. Finding workers that were happy to milk cows was difficult, which meant that Josh and Sam did most of the milking.
- The extra time spent milking was putting a strain on their physical health and it was stressful trying to run everything else efficiently.
- Whilst herd testing was done every five weeks, and the information was useful, Sam and Josh found it to be a stressful activity.
- In 2016, the family started looking to upgrade the dairy. They were considering a modern rotary dairy, but this still would require them to have two people for milking morning and night. With a strong focus on people, they were concerned that a rotary dairy wouldn't sustain the people in their business.

Changes made

- In 2018, six Lely A5 robotic milking units were installed. Each unit is designed to milk 75 cows.
- The decision to invest in robots was based on the long-term sustainability of the key people in the business – Josh and Sam. The robots offered a way to milk the cows effectively while removing much of the physical stress associated with the previous milking system.
- Cleaning of the machines and yards is carried out twice a day. General maintenance and repairs are also carried out regularly by Josh and Sam. Although these are daily activities, there is flexibility around the time of the day they are done.
- Large amounts of useful data are collected from the robots and this information is used to make key decisions about herd health, breeding and feeding.
- The pasture system was changed to a three-way grazing system to allow for the inclusion of the robotic milking system. The cows are milked on a 'voluntary' basis, which means they choose when they are milked.

"We have extended the time we can physically do this, as we are not physically putting cups on cows."

Sam Clark

Benefits of the change

- Great benefit to the physical health of Sam, Josh and their employees. They are able to stay farming for much longer.
- Sam and Josh are not required to both be at the dairy at the same time anymore. While they both still work long hours, they have removed the need to be there all the time.
- Ability to increase the herd to the current capacity of 500. The previous dairy didn't allow for more cows to be milked and it was impacting the growth of their business.
- Herd management is more effective – daily data collection allows for improved analysis of individual cow information. Herd health and breeding has improved. Although this wasn't a deciding factor for the transition to robots, it has been an added benefit.
- Condition of the herd's feet and legs has improved due to less time standing on concrete and not being moved to the dairy as part a large mob.
- Pasture movement has improved as the team has more time available to manage other key aspects of the farm.
- Although the robots require more maintenance, Josh and Sam do all this work to ensure things are well kept and breakdowns are kept to a minimum. They have flexibility around when they can do this.
- Their workforce is more flexible – they can employ people who are interested in doing a variety of farm jobs, whereas previously it was difficult to employ people who were happy 'just to milk'.
- When the Clarks installed the robots, they were under no illusion that their workload would be reduced. They knew that they would still need to work hard to ensure they had a well-run farm that could achieve its potential. However, they knew the change in the milking system would change the way they worked, give them more flexibility and change the way they spent their days on the farm.

One of the five robotic milking units on the Clark's farm

The future

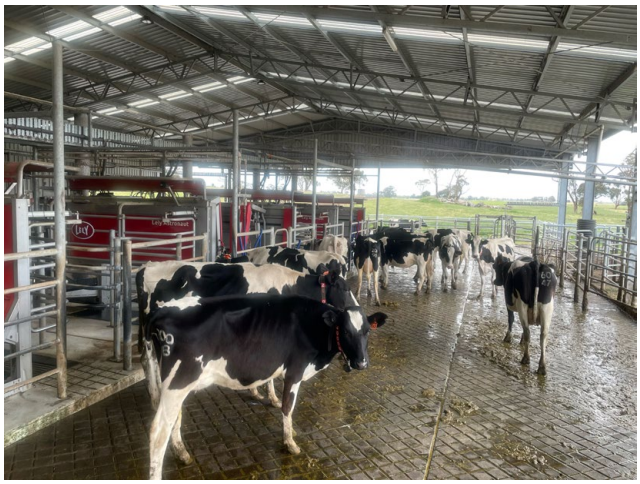
- The Clarks are looking to install two more robots. This will ensure robots are run more effectively for the herd size. It will also help with the heifers that come into the herd and generally increase milk production efficiency.
- Renewable energy options will be considered as a power source for the dairy. Given milking and cooling are done all through the day and night, current off-peak rates do carry much benefit.
- Further improvement of the milking herd will be achieved through better breeding – including genomic testing and selective breeding.
- Increasing non-milking stock sales using beef semen and sale of calf bulls to private sellers will allow for an increase in revenue without increasing the herd size.
- The management of the calf shed will be improved, enabling Natalie to reduce her role in calf rearing.

Learnings

- Realistic expectations mean the change is more likely to be successful. The Clarks were realistic about their future labour needs with robots. They knew they wouldn't be 'set and forget.'
- When making a big decision, try to look 10-20 years ahead.
- There are different ways of doing things.

"We wanted a way to milk the cows where we didn't have to both be there at the same time – and we have achieved this,"

Sam Clark says.



FOR FURTHER INFORMATION

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