

# Danish farm revolutionises production process

Farm success: Batch milking with 14 VMS 300, reports Robotic Milking System's **Gareth Jones**

**W**e were milking 400 cows, three times a day here on the home farm, which was taking 16 hours a day, as well as milking 100 cows on our other farm, with additional labour," Lene explains "We wanted to join the herds for efficiency and we felt that robots could be the way forward."

The Jensens never felt that retro fitting robots into their existing buildings, to work on a voluntary system, was a good solution for them, because it would have been complex, resulting in the replication of the handling equipment and their work routine. However, batch milking seemed a good way forward, where the cows could be brought to the robots at regular intervals, in groups of around 100. This would allow all of the equipment to remain centralised, meaning that the herd could be managed in exactly the same way as a conventional operation, except the milking would be completed by a line of robots.

In addition to the 500 cows that Michael and Lene were milking on the two farms, they also wanted to allow for the expansion in the short term, taking the herd size to 700 with 630 in milk at any one time. So, a new building was constructed to house the additional cows and fourteen robots, with the new operation starting up in August 2024.

## Batch milking

"The key to success with batch milking," explains Lene "is that we bring cows to the robots in groups of up to 110 cows at a time. Each robot can milk our cows, at around 75 per hour and so the fourteen machines can milk them all in around an hour.

Once the cows are in the collecting yard we don't push them in, they are just left to go through the robots in their own time. We also have automatic separation post milking for any cows that fail their milking for any reason, where we can check them and return to be re-milked if necessary.

In addition, the cows are directed back to the groups that they originated from automatically, with the use of further separation gates, which means that the end of one group can mix with the



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beginning of the next, so there is no break between groups being brought to the robots."

There is additional flexibility with the system, compared to voluntary milking where certain groups can be brought to the robots twice a day ie fresh or high attention cows, when more labour is made available. The remainder of the time it can be run with one person, who just fetch cows to the collecting yard, before completing other management tasks, such as checking cows for calving or cleaning the cubicle beds.

The herd takes around six hours to be milked through the fourteen robots, three times a day which leaves two hours between milkings for cleaning and other routine work.

## Herd performance

Although the herd was being milked three times a day before the robots were installed the Jensens have seen an

increase in milk yield from 13,500Kg per cow to just over 15,000 Kg which they put down to increased cow comfort and less stress on the cows. This has equated to around 4Kg per cow per day which has been an additional bonus.

## Nutrition

Initially it was felt that the herd would have to be fed at around 2Kg per milking in order to attract them through the robots, as would be expected on a voluntary milking system. However, over time they realised that they were able to reduce the amount fed down to 0.3Kg per visit with no feed at all for last 120 days of lactation.

"We now feel that we could actually cut the concentrates completely in the robots," explains Lene "because this is not the incentive for the cows to enter the robots, it is actually the desire to return to the feed fence."

The herd is fed a total mixed ration outside which is worth maintenance plus 40Kg, consisting of 60:40 maize to grass silage and a concentrate blend.

## Future plans

We are delighted with how our first two years have gone" continues Lene "and we still have some spare capacity if we want to increase our numbers further, simply by reducing the down time between milkings. We have also left space for two more robots to give us additional flexibility. We have found, there are many benefits for batch milking with larger herds and I am sure it will be adopted more widely in the future."

## Milk quality

The herd comprises of **73%** Friesian Holsteins and **23%** Danish Reds, which combined are producing excellent milk quality with the following twelve-month rolling averages:

- **4.6%** Fat
- **3.88%** Protein
- **15** Bactoscan
- **90** Somatic cell count