

# **Pilgrim Dairy's Experiences with Robotic Milking and Other Precision Technologies**

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## History and Overview of the Farm

- Started with Bou-matic Milking Robots in 2001, then switched to DeLaval VMS in 2006.
- By 2007 had phased out parlour and had 4 DeLaval robots between two farms.
- In 2009 officially split the two farms, but still share cropping and feeding.
- Robots are housed in 2 barns, 1983 barn (2008 VMS installed) and a new barn built in 2006 with a robot right away.
- Own 800 acres of land, of which 600 is cultivated. We do much of our own field work.
- Work closely together with brother who manages the other farm.
- My dad splits his time between both farms, and in the summer is busy with cropping
- We have 2 part time employees between the two farms, which includes helping in the dairy as well as the cropping.
- Milk an average of 110 cows. The farm has a 33 kg average with 4.1% butterfat. The pregnancy rate is currently 21%. Have varied experience with cross-breeding over the years.

## Use of Precision Technologies

- Robotic milking (2 DeLaval VMS), with guided traffic and automatic footbaths
- Automatic Calf Feeding, for heifers calves only, fed milk replacer
- Pedometry, used for heat detection for the milking herd as well as replacement heifers
- Have worked with computer software since 1988, to manage animal milking, health, quality recording and grouping

## Learning to Adapt

- Animal management
- Finding a routine: labour and work organization
- Being on call 24/7
- Working together with dealership and company

## Benefits and Challenges

- Robotic milking benefits: flexibility/lifestyle, labour/time savings, animal friendly, milk quality, drying cows off that still milk high
- Robotic milking challenges: preventing cows from drying themselves early, cows with poor temperament
- Automatic calf feeding benefits: labour savings, detailed monitoring
- Automatic calf feeding challenges: calf health/group housing
- Pedometry benefits: picking up heats, sick animals
- Pedometry challenges: silent heats

- Software benefits: Information, animal management and record-keeping made easier.
- Software challenges: sifting for relevant information, not always user-friendly and accessible, staying up to date

### Maximizing Efficiency

- Strategies for milking, training and adjusting new heifers, working with cows with poor teat placement
- Barn design, free vs guided traffic, the bossy cow
- Breeding, select sires for teat placement, teat length, milking speed, character, maybe cross-breeding
- Software: Using what it has to offer. Fitting it to our farm.
- Employers and Employees
- Maintenance and Cost of Parts

### Future of Technology

- For our Farm: Staying current and utilizing technological advances. Fine tuning the operation to maximize efficiencies and profitability. Keeping a flexible and enjoyable life-style. Not too removed from day to day animal interaction. More Robots?
- For the Industry: Developing relevant technologies with superior services. Keeping technologies affordable and durable. User Friendly Software with multi-faceted purposes and abilities to manipulate to fit for each farm.

### Summary

- Precision technologies have been successfully applied to our situation. We have benefitted from them and were able to adapt them to older and newer facilities. We have learned from previous robotic experience.
- Production combined with animal health and reproduction, have improved in conjunction with the application of robotic milking, and pedometers.
- There are various ways of applying the technologies, and they all work as long as they are managed appropriately.
- Managing the animals has taken on a different pattern, as milking never really stops, and therefore treating and breeding are done throughout the day.
- The reality of alarms at any time of the day as generated by the robot, and also other technology breaking has been drawback, since the technology is fundamental to the every day production of milk.
- It is important to have a good service relationship with the dealer.
- Labor costs have been reduced, but this slightly offset by the increased cost of maintaining, updating and repairing the technologies.
- Automated milking provides a pleasant work environment, as you are not in a parlor for hours at a time.
- Proper and careful barn design directly correlates to maximizing the cow flow and therefore daily production.
- There is a definite life-style advantage to robotic milking and automated calf feeding.

- Automated calf feeding requires close monitoring of calf health as disease can spread quickly. When this is kept in check, calves grow very well as they are consistently fed.
- Pedometers have improved our heat detection significantly.
- Integral to the maximizing herd management with robotic milking is an effective use of the information gathered and reported by the software provided.
- Future technologies must remain affordable and be profitable.
- Companies and dealerships could provide seminars and training for farmers to maximize their investment.