

Milking robots can help farmers in their fight against mastitis

by **Thierry Perrotin, Business manager, DeLaval.**

Mastitis costs dairy farming billions of dollars every year through lost milk production, discarded milk, treatment costs, reduced fertility and culled cows. Spotting and treating mastitis at an early stage is an important part of the battle against mastitis and the resulting losses in revenue.

According to the British Agriculture and Horticulture Development Board (AHDB) there is an average of 30+ cases of mastitis per 100 cows, while figures released by the Food and Drug Administration (FDA) highlight that cases of clinical mastitis in dairy cows has been steadily increasing over the years from 13.4% in 1996, to 14.7% in 2002, to 16.5% in 2007.

In other words, mastitis is a constant problem for dairy farmers, regardless of location or herd size.

A good cow comfort programme combined with effective milking routines can help reduce the number of cases, but mastitis is a fact of dairy farming that cannot be eradicated.

DeLaval have always believed in the importance of combining mastitis limitation and mastitis detection, which is why the DeLaval VMS comes with a built-in mastitis detection tool. It was obvious to them that when you have true quarter milking you should provide a simple yet effective analysis tool as well.

And that is why they developed the mastitis detection index – a system that warns farmers if a cow is in danger of infection.

The DeLaval Mastitis Detection Index MDi, has a scale of 1 to 6, which indicates the health of an udder or quarter. It does not calculate the exact somatic cell count, there are dedicated analysis solutions for that such as the Online Cell Counter, but it does determine if a cow is at risk of getting mastitis.

MDi measures conductivity, blood, milk flow and milking interval per quarter and generates an index score. Armed with this information a farmer can decide which steps to take – monitor a cow or treat a cow.

Effective for farmers

Recent research carried out at the Faculty of Agricultural Sciences at the University of Hohenheim showed how effective the MDi is for dairy farmers.

In the study 'Use of the measuring sensors in automatic milking for the detection of mastitis in agricultural practice' Katharina Henning found that small differences (in the index) among quarters were a real indicator that a cow is in the danger zone. The MDi calculates this and creates an alarm if it registers an index score difference of 0.5 or more between quarters.



Individual milk meters provide true quarter milking in the VMS.

It is not just differences in quarter scores that are important. If a quarter has an index score above 1.4 a farmer should take action, even it means just checking the animal for mastitis symptoms, such as udder swelling, redness or hardness, a rise in body temperature, lack of appetite, or sunken eyes. If a quarter has an index score of 2.0 or above, the risk of getting mastitis is even greater and further checks should be made, including a somatic cell count.

The research, which was carried out on 10 farms across Germany that milk cows with DeLaval VMS milking robots, also confirmed the effect warm temperatures have on cow health.

Cases of mastitis almost double during the summer months, so an early warning system such as MDi, is particularly useful. It can help farmers take the appropriate action to protect a cow and stop mastitis from spreading.

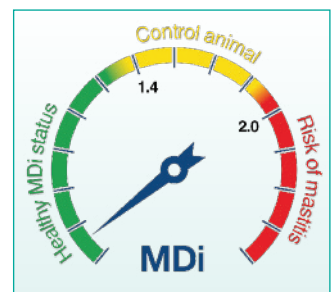
Financial benefits

Over the years there has been conflicting research regarding how much a farmer can save per cow by reducing the number of cases of mastitis, but one thing that there is consensus on is that farmers will benefit financially by reducing the number of and severity of mastitis cases on a farm.

This can be through savings on medicine and labour, minimising milk losses due to drops in production or discarded milk, or reducing the number of culled cows.

There are also ongoing discussions about the use of antibiotics on dairy farms. Research has shown the positive impact that early, antibiotic-free treatment has on cows with mastitis.

There is clearly a need for tools, such as the MDi, which help farmers lower the use of drugs to combat mastitis.

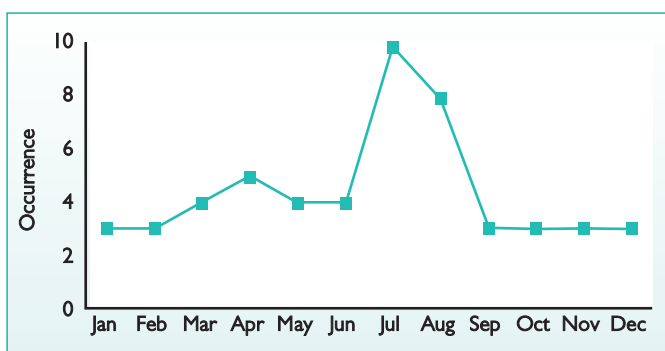


The DeLaval MDi is a proven tool for combating mastitis. It informs a farmer if a cow is in danger of getting mastitis.

The MDi, which comes as standard with every VMS, is an invaluable tool: one that customers really appreciate. It is effective, reliable and easy-to-use. Getting indications at an early stage helps farmers stay one step ahead in the fight against mastitis. Combining this information with good cow comfort and clear standard operating procedures, can help cut costs and improve profitability. ■

References are available on request

Fig. 1. The occurrence of clinical mastitis during the year. It becomes more prevalent in the summer months as air temperatures rise and feed intake decreases (Master thesis, Katharina Henning).



Research carried out in Ireland in 2013 calculated that if the average somatic cell count was lowered by just 10%, it would be worth €37.6 million to the Irish dairy industry.