DeLaval offer 4 different tools to detect and manage mastitis

1. **For all dairy herds independent of brand**
   The DeLaval cell counter (DCC) is a portable optical cell counter that measures cell counts in milk from individual cows at milk recording or manually collected milk from whole udders, individual quarters or the bulk tank. The DCC uses cassettes to collect milk for sampling. The cassettes contain small amounts of reagents, which when mixed with the milk reacts with the nuclei of the somatic cells in the milk. The milk sample in the cassette is exposed to light in the DCC, which gives rise to fluorescence signals. This is recorded in an image, and that image is used to determine the number of somatic cells in the milk. The method is very accurate and is continuously calibrated and has been used in numerous studies on cow and goat milk. DeLaval cell counter (ICC) uses the same technology with the cassettes as the DCC. However, the ICC uses the camera from an iPod to take an image from the stained nuclei. The ICC app in the iPod calculates the number of cells from that picture. With the ICC you can perform cell count tests "on the go". Besides the cell count it also provides you with an image of the cells in the iPods display.

2. **For Delaval milking systems both conventional and AMS**
   Herd navigator (HN) is an advanced milk analysis tool available for VMS, parallel and herringbone parlours that uses dry stick technology for on line monitoring of fertility, udder health and metabolic disorders in dairy cows. It is a fully automated system that provides valuable information to the farmer about the herd.
   The mastitis detection method offered within HN is based on the dynamics of Lactate Dehydrogenase (LDH) in case of a mastitis in the cow composite milk samples and is thus a tool for the early detection of acute (not necessarily clinical) mastitis cases. The HN technology also delivers progesterone, ß-hydroxybutyrate and urea analyses on milk.

3. **VMS tecnologies**
   a. **For all VMS herds**
      In its basic setup the VMS is equipped with a Mastitis detection index (MDi) based on quarter individual conductivity information among else. The technology has been developed with having identification of clinical cases at the time point of milking in mind and has just recently been evaluated in an exam work carried out in 10 farms at the University of Hohenheim Institute for Agriculture, which showed that the MDi is quite effective in pinpointing clinical mastitis.
   b. **Optional**
      OCC is an on line application of the DCC (above) applied in the VMS station analysing cow composite cell counts at automatic milking.

Responsible use of antibiotics for mastitis treatment
In relation to responsible use of antibiotics the cell count technologies are of course suitable to be used for identifying cows eligible for selective dry cow treatment which has been proven in several scientific studies. Also the technology may well be used to identify chronic mastitis cases in order to avoid unnecessary and expensive use of antibiotics.
But, in fact, the technology with some "proofs" of actually reducing the antibiotic use is Herd Navigator.

In a survey carried out by an independent company, Burson Marsteller, Herd navigator customers in four different countries, Canada, the Netherland, Sweden and Finland were asked what their opinion was on the Herd Navigator.

The results show that 63% of the Herd Navigator users say that they reduced their use of antibiotics. To the question if their milk quality had improved with Herd Navigator over the years 61% responded with a positive answer. Moreover, 70% of the Herd Navigator customers stated that they had lowered their veterinarian cost, indicating that the use of antibiotics on dairy farms with Herd Navigator decreases noticeably compared to before the investment.

We cannot say which are the underlying reasons for their claims but we see a couple of probable explanations. Using tools like, OCC or the LDH model in HN does help the farmers to act faster and more accurately by taking bacteriological samples in an early stage of the mastitis case and hence to select the cases which will benefit from treatment. Online measurements also show the farmers which cows are likely to have chronic mastitis and hence not benefit from treatment.

There could of course be other reasons such as a first early treatment of a previously healthy cow decreasing the number of chronic cases being treated at a later stage.

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