

expert view #1

We asked Dr Ynte Schukken, Director of Quality Milk Promotion Services, Professor of Epidemiology and Herd Health, Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University, Ithaca, New York, USA, for his views on udder health.

Explain the role of Udder Health Management (UHM) on sustainability in the modern dairy farm.

Udder health management is key to sustainability of dairy farmers world wide. Sustainability is defined in this context as 'survive in the long term without interruption'. For a modern dairy farm to be sustainable, several components have to be in place: 1) financially successful; 2) high quality food products; 3) socially and environmentally responsible; 4) consumer acceptability of farming practices; udder health management plays a role in several of these components. First of all, udder health is associated with a better financial outcome through a higher milk price, more milk, less treatments and discarded milk and a lower cull rate. Udder health management

between the parts and the whole. Udder health management has many parts, but none of the parts by themselves will ensure a successful outcome. Only when all parts are combined into a holistic udder health management approach can success be guaranteed. An example of a holistic approach to udder health management is provided by the 10-point plan that is published by the NMC: <http://www.nmconline.org/documents.html>. The NMC recommended mastitis control program emphasises the



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is one of the most important factors in high quality food products coming from the dairy. Low somatic cell count is associated with a better product and longer shelf life. Good udder health management also results in lower risk of food-borne pathogens in milk due to good hygiene and excellent animal health in general. Good udder health management will also improve consumer acceptability of dairy farms and dairy products as cows will suffer less clinical mastitis, one of the most painful diseases for dairy cows.

What are your views on a modern holistic approach to UHM?

A modern approach to udder health management is necessarily holistic. Here holistic is defined as a strong functional relationship



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management cycle for udder health: goal setting, planning, implementation and review; and then it addresses the key parts of the program: the cow environment, milking procedures, milking equipment, clinical and subclinical mastitis management, dry cow management, monitoring, record keeping and biosecurity within and between farms. Several studies have shown that these udder health programs are successful when implemented holistically, where all parts are approached with equal importance.

What is the role of diagnosis in UHM?

The role of diagnosis in udder health management is increasing. Diagnostic strategies can be defined at herd level, group level, cow level, quarter level and at pathogen level. Herd level diagnostics are mostly done in bulk tank milk. Bulk tank milk is an excellent medium for diagnosis and monitoring of contagious organisms such as *Staphylococcus aureus*, *Streptococcus agalactiae* or *mycoplasma* spp. Group level diagnostics can be done using in-line sampling devices. Group level diagnostics provide

an option to identify certain groups in the herd with pathogens of interest. Cow level diagnostics provide a lot of information on the health status of the cow. Somatic cell count information, conductivity or inflammatory enzymes can be measured in cow milk. At quarter level the most precise diagnostics can be made on the infecting organism(s). Diagnostic technologies are improving continuously. Classical bacteriology is becoming faster and more precise and relatively simple systems are being developed for on-farm diagnostics. On the other hand, DNA- based diagnostic systems are becoming available that are fast but also very precise. Not only can the species of the infecting organism be detected, but also the specific strain and even strain characteristics such as antimicrobial resistance or the presence of virulence factors. Fast and accurate diagnostics is valuable for decision-making on treatment, segregation and culling of infected cows. A diagnosis that is faster, more accurate and more precise results in a shorter time to intervention and a better quality of intervention.

