The importance of milking time tests. By Ian Ohnstad, The Dairy Group, New Agriculture House, Blackbrook Park Avenue, Taunton, TA1 2PX, UK.

The aim of this paper was to highlight some key points that will allow anyone with a working knowledge of cow behaviour and a basic understanding of the mechanics of machine milking, to assess the suitable of the milking system. It was not intended to describe a prescriptive set of texts that must be carried out to fully evaluate a milking system.

It was pointed out that International standards exist which set out the procedures that should be used to test a milking machine (ISO 5590:2007). However, the tests described are usually carried out with the milking system operating, but not actually milking any cows. The speaker emphasised that whilst of value, it was far more important to evaluate the milking system including the interaction of the operator and the cows.

The paper goes on to describe the value of three types of observations as part of evaluating a milking time operation, namely mechanical observations, operator observations, and cow observations. It offers a series of relatively simple tests the operator can perform on a regular basis and stresses the importance of the operator’s skills in relation to attaching and removing units when excessive air can be allowed into the system.

In summary, the paper explains that, in addition to routine testing to ISO standards, routine assessment of milking does not need complicated expensive monitoring equipment, but regular detailed observations by the operator prior to and during the milking operation. Importantly, the efficiency of a milking system cannot be based on physical tests without the interaction of the operator and the cows.
**Mycoplasma bovis: is it an important mastitis vector?** By Colin Mason, SRUC Veterinary Services, St Mary’s Industrial Estate, Dumfries, DG1 1 DX, UK.

*Mycoplasma bovis* has been recognised as a bovine pathogen in the UK since the 1970s, and is the most important among a number of *Mycoplasma* infections in cattle populations. It is known to cause a complex of disease syndromes including mastitis, pneumonia, and arthritis amongst others. The paper discusses therapeutics and treatment options, diagnostics, transmission and clinical mastitis presentations.

The challenge for veterinary surgeons of treating *M. bovis* associated disease with antibiotics is discussed. Readily available and cheap antibiotic sensitivity testing techniques are often not appropriate for *Mycoplasma* species. As a result, accurate diagnosis is considered important and a number of approaches are described including serological testing, which has been shown to confirm exposure and can help with future health planning decisions.

The paper considers that transmission of *M bovis* between milking cows might occur either via direct udder and teat contact through the milking machine. Fomite spread is considered a significant means of transmission.

**Dairying and mastitis control in arduous conditions** by Sofie Pieper, M-Team and Milk Quality Research Unit, Faculty of Veterinary Medicine, Ghent University, Salisburylaan 133, 9820 Merelbeke.

This paper explores the various factors and combinations of factors in the development and outcome of mastitis. It considers the challenge of managing mastitis risk in those countries such as in the Middle East and Israel, which struggle with extremely hot weather conditions and where cows in the summer are constantly exposed to heat stress.

Heat stress is defined as when an individual animal is exposed to environmental conditions above their thermo-neutral zone. It was reported that higher-yielding cows are more susceptible to heat stress, which does have a detrimental effect on milk production, and that heat stress makes cows more susceptible to infectious diseases such as mastitis. The effect of high temperature with high humidity on the growth of mastitis pathogens and on udder is explained.

The paper describes methods of dealing with heat stress such as cooling systems, and also on adapting the feed energy levels and ensuring an adequate supply of clean, cool drinking water. The need for an optimal mastitis control programme to maintain good udder health throughout the year in such arduous environmental conditions is considered essential.

**Environmental management of dairy cows** by Jamie F Robertson, Livestock Management Systems Ltd., Pioneer House, 79 Waterloo Quay, Aberdeen, AB11 5DE, UK
The paper opens with criticism of the lack of UK progress in the design of cattle buildings over the last 30 years, which has resulted in some building designs having been adopted from overseas and which have no basis in objective design. The building requirements for modern dairy cows are well documented, but the emphasis of this paper is to question, assess and revitalise the built component of the dairy farm environment.

The link with environment and cattle health is explored stressing that the pathogens that cost the industrial production, health, and welfare on a day to day basis, are already on the farm. Successful management of those pathogens is the target. The paper analyses environmental management in relation to moisture control, a key requirement, and also energy management. When energy requirements for cow diets are calculated, the paper argues that the energetics of the whole local ‘system’, that is the building, its contents and location, should be included.

The author argues that whilst the thermal dynamics of buildings are well understood, they are not currently applied to modern housing of cattle. Failing to recognise the longer-term impact of a building’s features on cattle health, creates problems on a daily basis. The paper contains considerable practical advice on building design, environmental management and mechanical assistance.

The paper concludes that there is much information on competent design readily available, but the design industry is ignoring good design guidance available from independent sources.

**Implementation of the AHDB dairy mastitis control plan to reduce dry period infection rate and improve somatic cell count** by James E Breen et al, School of Veterinary Medicine and Science, University of Nottingham, Sutton Bonington, LE12 5RD, UK.

The paper reported on the implementation of the AHDB mastitis control plan on an all-year-round calving herd in Gloucestershire, England. The study involved a number of universities and vet practices starting in the autumn of 2017. The plan had previously been introduced on over 1,000 herds between 2009 and 2012. This paper presents an ongoing herd example where the implementation of the plan has seen benefits in mastitis control and had begun to make improvements in herd antimicrobial use.

The techniques used for data analysis, i.e. somatic cell counts, clinical mastitis incidences, and herd mastitis patterns used in the study are described. Importantly, a herd diagnosis of ‘environmental’ infection patterns of predominately ‘dry period origin’ was produced. The herd mastitis pattern subsequently produced showed that environmental infections of the dry period were a major concern. Areas of management requiring improvement were identified, prioritised, implemented and monitored.

The outcome was that the implementation of a structured approach to mastitis control reduces the new infection rate and leads to a reduction in antibiotic use. The paper includes detailed information on the various tools and techniques used, tabulated data on key
performance indicators, mastitis pattern analysis, dry period new infection rates, and improvements made following implementation of the structured approach.

Note: The Agriculture and Horticulture Development Board is a statutory levy board funded by the GB industry to help make it more competitive/sustainable.

**Conclusion**

The British Mastitis Conference, now in its 31st year, continues to attract a large audience, evidence that mastitis and its control remains high on the list of dairy farming’s animal health priorities. In addition to the oral presentations, there was an extensive display of poster research updates.

Copies of the proceedings can be obtained from Karen Hobbs of The Dairy Group at bmc@thedairygroup.co.uk, + 44 (0) 1823 444488, and the proceedings of previous mastitis conferences are available to download at www.britishmastitisconference.org.uk. The proceedings will be of interest to farmers, veterinarians, farm advisors, animal health bodies, farm liaison personnel, government agency representatives, dairy companies and industry consultants.

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