Questions and answers on lameness

THE 17th International Symposium and the 9th International Conference on Lameness in Ruminants was a friendly gathering. It was also hard work. The dean of the Faculty of Veterinary and Medical Sciences at Bristol and Becky Whay (organiser) welcomed the delegates.

When Professor David Barrett took the chair for the first session he indicated that there would not be time within the programme to offer full CVs of each of the speakers. This should have given the delegates some warning of the concentration required to assimilate seven keynote papers, two sponsored evening lectures, 66 short presentations and over 80 posters. It was a very full and intensive meeting, thoroughly enjoyed by the 300 delegates from 33 countries.

The scene was set by Roger Blowey, who offered his impressions of the past ruminant lameness gatherings in many parts of the world since 1976. Many of the people involved with the International Society for the Study of Lameness were present and Roger drew attention to their involvement, asked each to stand and receive applause and produced photographs of each in various poses and situations. Mud bathing was one particularly memorable image.

Roger pointed out that one of the strengths of the symposia is the involvement of a wide mix of scientists, veterinary surgeons in general practice and hoof trimmers, leading to an excellent mix of practice and theory.

In advance of the presentations some unanswered problems were identified. These included the role of nutrition, an understanding of what is normal, an understanding of weight bearing and weight distribution and the best protocol for functional hoof trimming.

Referring to the efficacy of different treatments, Roger states in the proceedings, “It continues to amaze me that we have little objective data as to which are the best treatments for hoof lesions. For example, for a white line infection should we remove all of the under run wall horn from sole to coronary band, or simply open the lesion and allow drainage? For a sole ulcer, should we remove protruding granulation tissue?” Later presentations sought to provide answers to these and other issues.

Early work praised

Credit was specifically given to the early work of David Weaver and Paul Greenough. Professor Weaver was present for the three days and contributed to the various discussions.

There was a proposal to establish an archive of the presentations from past gatherings of both technical papers and social photographs. This was discussed at the AGM and it was agreed to go ahead.

Information from the past is being collected and anyone who has records that they wish to contribute is invited to make contact with Bristol University initially.

To conclude the opening keynote address, Roger Blowey produced preserved hooves and bones from beneath the lectern. Holding these above his head, he invited the delegates to examine and discuss the development of internal horny
protruberances associated with external signs of disease. Several speakers subsequently showed pictures of bones and hooves and researchers are investigating detailed changes with disease, utilising a variety of cameras, matrices and sophisticated devices. The key question raised was: are the external signs leading to bone changes or are the bone changes leading to the external signs?

Jon Reader of Synergy Farm Health opened the short papers with an appraisal of data collected by a veterinary-led team of foot trimmers and paraprofessionals. Mobility scoring and lesions found are recorded on “ruggedized” hand-held computers and the data presented as a comparison of findings from 2006-08 with 2012. The computer-based programme has resulted in better recording but detailed interpretation is required with emphasis on separating primary and secondary lesions. More work is needed to develop standardised lesion recording and recognition.

Different categorisation

At the workshop the previous day, a survey of participants gave different categorisation to various lesions. This was a recurring topic during the symposium with researchers and practitioners allocating different labels to what appeared to be similar lesions.

The data from Somerset showed that a higher incidence of bruising was recorded in 2012 and this may be because of an increasing recognition that bruising is an important observation and may indicate early ulcers. More non-healing lesions were also recorded.

It was noted that during the collection of the data, from over 21,000 cows, higher yielders were being kept longer on concrete. The incidence of digital dermatitis has doubled. The majority of all lesions (86%) were on the hind limbs and on the lateral claw. Forelimb lesions were more often recorded (69%) on the medial claw. Credit was given to the team for accepting the introduction of the new recording and assessment technology.

The results of a postal survey of Contagious Ovine Digital Dermatitis, by sheep farmers in Wales, was presented by Joseph Angell from the University of Liverpool. He estimated that 35% of sheep farms and 2% of animals have CODD. The farmers indicated that the winter season is when the highest incidence is seen with the most cases in breeding ewes.

A veterinary surgeon is rarely involved in the diagnosis, treatment or management of ovine foot disease. The association of CODD with the presence of digital dermatitis in cattle on the farm confirms earlier work.

The potential role of footrot gene marker test screening, to establish a high footrot tolerant sheep flock, was presented by Tumen Wuliji from Lincoln University. A gene marker testing procedure has been developed in New Zealand and trialled in North Central US where footrot is endemic in sheep and goats.

Blood samples were collected in Missouri and the gene marker tests and DNA extraction carried out in New Zealand. Five footrot score groups were comprised from the 583 sheep and the higher risk groups were indicated for culling. It is estimated that it would take three to four breeding seasons to establish a footrot tolerant flock with lower rates of infection.

Two keynote papers, chaired by Dick Sibley, reviewed the different situations with lameness where the cows are on concrete and grass. Karin Orsel (University of Calgary) assessed cows housed 24/7 in Canada and Richard Laven (Massey University) looked at the reality of lameness with cows on grass the whole year in New Zealand. Karin emphasised that in considering lameness one cannot just look at the cow as she interacts with her environment, which affects cow tracking. Observations show a relationship between lameness and tracking (back foot where the front foot was), under-tracking and over-tracking. Gait scoring on 240 farms indicated average lameness of 20% (0-66%).

Digital dermatitis is the most common cause of lameness recorded in March 2013. There was no consistency in the frequency or use of footbaths and 22 different product combinations were recorded.

The Canadian Cow Longevity and Lameness Project has the support of the industry and a series of farm visits are carried out with the involvement of hoof trimmers, veterinary surgeons and researchers.

Different frequency

Differences with the frequency of visible foot lesions have been noted between Alberta (51%), Ontario (38%) and British Columbia (60%). Lameness is associated with an increase in lying time of over one hour per cow per day. The project is ongoing.

The extrapolation of housed cow lameness data does not assist the management of lameness for New Zealand cows. Cows walk from the milking parlour to the grazing and this is seen as adequate hoof management, so there are few hoof trimmers in that country.

When walking on a track, the lame cows hold their position within the herd so they are not easily noticed as lame. Any recording of mobility needs to be done when the cows exit the parlour.

Studies involving the farmers’ estimates of lameness range from zero to 90% and indicate that there is a considerable need to increase the recognition and recording on many farms. With seasonal calving and a short breeding season (about 12 weeks), the financial impact of lameness differs according to whether the lameness reduces fertility.

It has also been recorded that the detection of lameness does not necessarily lead to early treatment with a delay of more than six weeks noted after a high locomotion score.

The recognition of lameness under NZ conditions is seen as an area requiring considerable improvement that would benefit the farmers economically.

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