BRITISH DAIRYING - NOV 2007

Johne's—Crohn's link could cost dairy industry dear

There were plenty of topics covered at the British Cattle Veterinary Association's annual congress held in Glasgow this year with the importance of tackling Johne's disease attracting plenty of interest and comment.

The dairy industry needs to take the problem of Johne's disease more seriously because there was a threat that the condition could be linked to Crohn's disease in humans—creating a potential food scare for milk.

Johne's disease is caused by *Mycobacterium avium* subspecies *paratuberculosis* (Map) which reduced milk yields and quality, and increased culling. But the organism can also be found in pasteurised milk and dairy products.

"We have been concerned about this in the UK for quite a number of years," said George Caldow of SAC Veterinary Services. "The similarities between paratuberculosis (Johne's disease) in ruminants and Crohn's disease in humans has led to speculation that there may be a casual link between the disease in humans and the presence of Map in dairy products or the environment."

In the UK, Map had been found in 2% of pasteurised milk samples and in the US in 3% of milk found on supermarket shelves. Map has also been identified in 50% of cases of Crohn's disease.

While this causes concern, the consensus among the health profession was that Crohn's was a collection of chronic conditions affecting the human bowel with multiple environmental and genetic factors playing a role. "They firmly believe it is unlikely one bacterial species will have a causative role so the people involved let us off the hook in this respect," said Mr Caldow.

"However, the Food Standards Agency has adopted the position that clarity on a link between the two diseases is unlikely to emerge for many years and that in the meantime the precautionary principal should be observed. Therefore the dairy industry should take measures to minimise the amount of Map that can enter the food chain."

Mr Caldow outlined the details of a study currently underway to estimate the prevalence of Johne's disease in UK dairy herds. Blood and faecal samples have been collected from cows over three years old along with bulk milk samples. Sampling is due to finish in January and the results reported in March 2008. This can then be used to estimate the prevalence of the disease and the starting point for control measures.

Similar studies abroad have found a herd level prevalence of 22% in the US, 55% in the Netherlands and 70% in Denmark. Mr Caldow estimated that the prevalence in the UK was higher than in the United States.

Scottish beef farmer and chairman of the Johne's Disease Initiative, Keith Redpath, said that beef and dairy farmers must take the disease more seriously. If a link was made to Crohn's disease it was the dairy industry that had the most to lose although he thought it less likely that a link would be proven now than three years ago.

"The more established the disease gets the more difficult it will be to eradicate it," he said. "And the only way to tackle the disease is by testing and culling positive animals."

Mr Redpath said he started testing four years ago in his pedigree Limousin herd. In the first year seven were positive and he culled them all. "There were some quite good animals there but we had to cull them quickly," he said.

In the second year five proved positive and were culled, in the third year three were positive and last year one animal was culled.

"The same strategy would work in the dairy industry where there is more reason to test and control the disease," he said. "I would recommend this to anyone and you vets should be encouraging your customers to go down this route."

Planned approach to Johne's control

Doing nothing to control the introduction or spread of Johne's disease within a herd will result in the progressive spread of the disease to a level where substantial economic losses are being suffered, warned Paul Burr of Biobest Laboratories.

"Each cattle herd in the UK should have a disease control strategy for infectious disease in consultation with their vet and Johne's disease should be included," he said.

"A key problem is the fact that the effects of chronic infection from Johne's and other diseases is not sufficiently obvious. Infertility, poor milk yields and high cull rates are too often accepted as part of farming rather than issues critical to the success of the farm that must be dealt with.

"In contrast, the cost of veterinary time to visit, discuss problems and collect and send samples to a laboratory results in a highly visible invoice that needs to be paid by the painful process of writing a cheque."

Another problem was the time it took to clear the disease. From deciding to tackle BVD in a herd it could be eradicated within 18 months. For Johne's, farmers were looking at over 10 years.

Bulk milk tank tests were the first step in establishing a Johne's problem. This can be followed up with targeted serological tests of cows in poor condition or being culled for some other reason.

After this, PCR screening could be adopted by most herds, and in some cases whole herd testing.