

Dairy UK Position Paper

Mycobacterium avium subspecies *paratuberculosis* and calf milk replacers

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Background

Mycobacterium avium subspecies *paratuberculosis* (often abbreviated to MAP), is a bacterium which causes Johne's disease, a contagious and chronic infection that affects primarily the small intestine of cattle, sheep and goats. The main symptoms are diarrhoea and wasting. There is no definitive evidence for a causative link between MAP and human disease, although a link to Crohn's disease has been proposed by some researchers.

The *Journal of Dairy Science* will be publishing a study in December in which viable MAP was found in Calf Milk Replacer (CMR) sourced from the USA, with the authors questioning whether feeding CMR to calves can be recommended as part of a Johne's control strategy. The study concludes that: "The broader food safety implications of detecting viable MAP in this type of dried dairy product are not insignificant given that powdered infant formulae is consumed by young babies with immature immune systems."

Dairy UK Position – for industry use

- No research at present has confirmed that MAP causes disease in humans, including Crohn's disease. The NHS advises that there is no conclusive evidence to suggest a particular diet can cause Crohn's disease. The current thinking is that Crohn's disease is the result of complex interactions of genetic, environmental and immunological factors that respond to the presence of intestinal microorganisms. Scientific evidence certainly does not warrant a reduced consumption of milk, which is a rich package of nutrients and contributes to the intake of a wide range of vitamins and minerals in the UK population.
- Results from this study should be treated with caution, as the testing technology used is vulnerable to false positive reactions and has not been adequately validated. The study design presents a number of other limitations, such as samples being collected from farm, which could have resulted in post-contamination.
- In their conclusion the authors state that it is unknown whether the quantity of MAP detected in CMR would be sufficient to cause infection of a calf. The level of viable MAP found in CMR (if accurate) would not bear comparison to the exposure a calf would experience by being fed waste milk or through contact with an infectious cow.
- MAP infection has been controlled in many herds and countries using strategies which include administration of CMR to calves. There are many farms which have remained free from Johne's in spite of their use of CMR.
- Johne's is a complex disease requiring sustained discipline to tackle. Farmers should stick to the six control strategies recommended by the Action on Johne's group.

- The results from this paper do not provide a sufficient basis to change UK industry recommendations for on farm strategies to control Johne's.

Media Statement – for external use

- Results from the study should be treated with caution, as the testing technology used has not been adequately validated. The study also presents a number of other limitations.
- No research at present has confirmed that MAP causes disease in humans, including Crohn's disease. Scientific evidence certainly does not warrant a reduced consumption of milk, which is a rich package of nutrients and contributes to the intake of a wide range of vitamins and minerals in the UK population. NHS advice reflects this, stating there is no conclusive evidence to suggest a particular diet can cause Crohn's disease.
- Nevertheless, the British dairy industry has adopted a cautionary approach and steps have been taken to ensure that MAP does not enter the food supply chain, such as extended pasteurisation times. The International Dairy Federation has concluded that properly validated and operated pasteurisers, along with careful hygiene and packing, will ensure the absence of MAP from dairy products.
- MAP and Johne's is a complex disease requiring sustained discipline to tackle. Farmers should stick to the six control strategies recommended by the Action Johne's group.
- Cow welfare is of paramount importance to British dairy farmers, who seek to maintain high welfare standards. Johne's disease has a significant impact on the productivity and fertility of the cow. The cross-industry Johne's Management Action Plan is raising awareness of the disease amongst farmers and initiating management plans to control its incidence.