SEROPREVALENCE OF MYCOPLASMA BOVIS IN DUTCH DAIRY PRE-PARTUM HEIFERS INTENDED FOR EXPORT

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Introduction: Mycoplasma bovis infection in dairy herd has the potential to cause significant disease and therefore has consequences for animal health, welfare and farm economics. M. bovis is thought to be introduced into M. bovis-free herds by clinically healthy cattle that are carrying this microorganism. Pre-partum heifers are often purchased by dairy farms to replace culled dairy cows. M. bovis may cause acute MASTITIS, arthritis and abortion in dairy cows. The major transmission to young calves is thought to be ingestion of colostrum and milk from cows shedding M. bovis. It is now well established that M. bovis plays a causal role in respiratory disease, otitis media and arthritis in young calves.

Objective: The objective of the current research was to determine the seroprevalence of M. bovis among Dutch dairy pre-partum heifers intended for export.

Material and methods: On 20th April 2009, blood samples of 352 healthy Dutch dairy heifers, intended for export to Jordan, were taken. The heifers were originating from 150 different Dutch dairy farms. The animals were born between January and October 2007. Blood samples were analysed for M. bovis Elisa antibodies using a commercial kit (Elisa Kit Bio K 260, Bio-X, Belgium). The result is expressed as negative (S/P value < 9.74), + (9.74 < S/P < 39.88), ++ (39.89 < S/P < 70.03), +++ (70.04 < S/P < 100.18), ++++ (100.19 < S/P < 130.34) and ++++ (S/P > 130.35).

Results and discussion: 179 animals (50.9%) had no antibodies, 153 animals (43.5%) was +, 19 animals (5.4%) was ++ and 1 animal had a +++ score. The result reconfirms the presence of M. bovis on dairy farms in the Netherlands. An antibody response of ++ or +++ was observed in 5.6% of the animals. Antibodies remain elevated for months to years after exposure, so a high titer does not necessarily indicate very recent exposure. Positive animals are thought to be carriers and may introduce the bacteria into new herds. Farmers are recommended to check during quarantine of newly bought animals the animal health status for M. bovis to avoid the introduction of the disease on their farm (biosecurity). The severity of a M. bovis outbreak in a herd may threaten the viability of the farm business. Serology is a more appropriate way than bacteriology to detect M. bovis animals. Veterinarians should consider M. bovis particularly when faced with a large number of non-responsive clinical cases.

Keywords: Mycoplasma bovis, diagnosis, ELISA, prevalence