

INCREASED MORTALITY AMONG CALVES IN DANISH CATTLE HERDS DURING BOVINE VIRUS DIARRHOEA INFECTION

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In a recent Danish study concerning calf mortality and health¹ an overall calf mortality of 7.2% was found. The mortality was higher among Jersey than among Danish Holsteins. The mortality was highest in the age interval 1-14 days compared to 15-180 days, higher in the winter than in the summer and higher on larger farms compared to smaller farms.

In 1994, Bovine Virus Diarrhoea (BVD) was endemic in Denmark with Persistently Infected (PI)-animals present in around 40% of the herds^{2,3}. In 1994, a voluntary control and eradication programme was initiated by the farmers' organisations². The programme was supported by national legislation from April 1996⁴. The aim of this study was to compare the calf mortality in herds affected with BVD to the calf mortality in cattle herds free from BVD. Furthermore, the associations between various risk factors and increased mortality in the BVD infected herds compared to non-BVD herds were estimated.

A database covering the period January 1995 to November 1999 was created, based on an extraction from the Danish Cattle database. Definition of PI-animals and herds has been described by Alban et al.⁵. In the present study a BVD herd was defined as a herd with occurrence of a PI-animal after study onset (i.e. after 1.1.1995). The study population included only herds participating in the Milk Recording Scheme, animals which were not moved during the study period and the following breeds: Only Red Danish Dairy breed, Danish Holsteins, Jersey, Red and White Danish Dairy breed and crosses of milk breed. Calves were defined as animals with an age below 365 days. Logistic regression analysis was used to estimate and evaluate the effect of the risk factors: Herd size, year and BVD-status. The analysis was performed on herd level, analysing the proportion of calves died to the total number of calves in each herd.

A total of 211.386 calves from BVD herds and 2.174.440 calves from BVD free herds were included in the study. The calf mortality was 14.6% and 7.3% in BVD and BVD free herds, respectively. Being a BVD herd increased significantly the risk of increased calf mortality ($p < 0.001$). Year was significantly associated with calf mortality. Increasing herd size significantly increased the calf mortality.

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