

## 8. Summary

### **Epidemiology and eradication of the BHV1-infection by the example of selected farms in Lower Saxony**

A case-control study was conducted over two years (February 2004 - February 2006) in five selected administrative districts (Landkreise) in Lower Saxony to determine potential risk factors for the eradication of BHV1. Forty-two control farms (cattle negative for BHV1) and 43 farms with an ongoing BHV1-eradication program (positive for BHV1; case farms) were chosen and studied on the basis of defined criteria. Information and data were collected regarding farm management, the BHV1 control and, if applicable, the BHV1 immunisation strategy. Moreover, data on milk production and fertility were analysed for individual animals as well as herds. For this purpose, the BHV1 test protocols and vaccination lists that had been collected from various farms by the local veterinary authorities were compared. Finally, the farms were visited and the farmers interviewed using a standard questionnaire.

The statistical analysis revealed significant differences between the farm categories for 19 of the operational and management variables. In the evaluation of the data collected on individual infected animals, the distribution of age classes at the time of the first positive test result and the duration the infected animals remained on the farms until slaughter proved to be significantly different between case and control farms. In particular, the analysis of the vaccination strategy showed that the following factors differed between BHV1-negative and positive farms: the number of animals with proper basic immunisation, the distribution of the number of vaccinations administered in given intervals, the proportion of infected but unvaccinated animals, and the time lapse between the date of the first BHV1-positive test results and the measures taken. The differences in milk production and fertility between case and control farms, however, were not significantly different. Also, no significant difference was found in the performance of BHV1-positive and BHV1-negative cattle.

In summary, the results of this study lead to recommendations on vaccination, care and feeding, transportation, trade and documentation in cattle farms to improve BHV1 control.