



Implementation of control measures for bovine paratuberculosis in Swiss dairy and beef herds

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Key words

Johne's disease, cattle, epidemiology, control measures, compliance, efficiency

Aim of the study

The aims of the study were i) in a first step to assess the prevalence of animals shedding *Mycobacterium avium* subsp. paratuberculosis (MAP) in infected herds and to determine risk factors for infected status in Swiss dairy and beef herds; ii) in a second step to monitor the farmers' compliance with the implementation of control measures over several years; and iii) finally to evaluate the effectiveness of the control measures implemented by the farmers.

Material and methods

Seventeen farms (10 dairy and 7 beef) with animals infected with MAP were included in the study. In the frame of the first herd visit in 2011/2012, the prevalence of animals shedding MAP and management practices potentially associated with Johne's disease were assessed for each farm. Risk factors associated with high prevalence of animals shedding MAP were determined as well as risk factors for infected herd status (in comparison with non-infected herds). The economic impact of infected status was also evaluated. At that time, beside general recommendations to reduce the transmission of MAP on the farm, each herd manager received specific recommendations for individually targeted control measures on his farm. During the following 3 years, the herds were visited twice a year to document the (non-mandatory) implementation of the recommended measures. After 3 years of observation, a detailed final evaluation was performed. The efficiency of the recommended control measures was evaluated by comparing the herd prevalence of animals shedding MAP before and after the implementation of these control measures

Results and significance

At the start of the project, the mean prevalence of animals shedding MAP was 5.8% for animals >2 years (5.5% in dairy herds, 6.4% in beef herds). Three years after the control measures had been recommended to the farmers, the prevalence averaged 4.6% for animals >2 years (3.6% in dairy herds, 6.1% in beef herds).

Nine out of the 17 farmers (53%) consequently slaughtered animals that tested positive throughout the project; the remaining 8 farmers sent the majority, but not all positive animals to slaughter. Slaughtering offspring from positive animals was consistently implemented by the managers of 5 farms only (29%). The implementation of specific control measures was generally poor, a mean of 38% of the recommended measures were realized over all farms (0-63%). The most common reasons for not implementing control measures were lack of time and difficulties to get husbandry processes reorganized. Furthermore, several farmers did not observe an impact of the disease in their herds as there were no clinical signs. Therefore, they were not motivated to put efforts in the implementation of control measures. A relevant economic impact of the positive MAP status was not observed in the study herds.

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