

A TWO-STAGE APPROACH FOR THE REDUCTION OF THE MAP PREVALENCE IN CATTLE HERDS AS PART OF REGIONAL CONTROL PROGRAMS — EXAMPLES AND EXPERIENCES

*J. Khol*¹, *S. Eisenberg*², *I. Noll*³, *M. Zschöck*⁴, *T. Eisenberg*⁴, *K. Donat*^{5,6}
johannes.khol@vetmeduni.ac.at

¹University of Veterinary Medicine Vienna, Department for Farm Animals and Veterinary Public Health, University Clinic for Ruminants, Vienna, Austria

²Animal Disease Fund Lower Saxony, Hannover, Germany

³District Government of Gießen, Germany

⁴Justus-Liebig-University Gießen, Department of Veterinary Medicine, Hessian State Laboratory (LHL), Gießen, Germany

⁵Thuringian Animal Disease Fund, Institution by Law, Jena, Germany

⁶Justus-Liebig-University Gießen, Clinic for Obstetrics, Gynecology and Andrology with Veterinary Ambulance, Gießen, Germany

Paratuberculosis (Johnes disease) is caused by *Mycobacterium avium* subsp. *paratuberculosis* (MAP) and leads to substantial economic losses in infected herds. Examples of regional control programs, consisting of the identification of MAP-positive herds followed by voluntary control measures, are presented.

In course of the program for the reduction of the MAP prevalence in Lower Saxony, Germany, dairy farms are obliged to test bulk milk samples for MAP antibodies, followed by testing of individual animals in seropositive farms. Subsequently, farmers can decide to join the accompanying MAP control program. Within the first 11 months of the program 6,035 bulk tank samples were tested, 13 % were MAP-positive and 670 farms joined the MAP control program.

Within the voluntary certification program in Hesse, Germany, the MAP herd status is evaluated using boot swab sampling (PCR and culture). In positive farms, animals are tested by milk or blood ELISA-serology. In case of double positive results, a fecal examination can be performed additionally. 100 farms participated in the voluntary program until the end of 2018. Of these farms, 60 were MAP-negative and 33 positive, respectively (no status assigned in 7 farms). In participating farms, the mean intra herd prevalence decreased from 7.56 % to 4.06 %.

The program for the abatement of MAP infections in cattle herds in Thuringia, Germany, is based on a yearly fecal examination of all adult cattle within a herd. In 2017, fecal samples from 28,941 animals were tested of which 1.8 % were MAP-positive. Of the 136 participating farms, 64 are MAP-negative and 72 positive, with 39 of the positive farms in the last step of the program before achieving a MAP-unsuspected status.

The biennial survey of the MAP herd status by boot swabs (PCR and culture) is the base of the MAP program in Tyrol, Austria. Positive farms may have their animals tested by fecal sampling and join the MAP control program. In 2016/17 boot swab samples from 4,206 farms were tested with 0.97 % positive farms. In these farms 2,151 fecal samples were collected of which 2.3 % were MAP-positive. Altogether, 131 farms joined the voluntary MAP control program until summer 2018.

The programs presented show, that a two-stage approach consisting of the evaluation of the MAP herd level, followed by the testing of single animals, is generally well accepted by the stakeholders and therefore seems a promising way for the surveillance and control of MAP infections in cattle herds.

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