



The surveillance programme for *Mycoplasma bovis* in Norway 2020



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The surveillance programme for *Mycoplasma bovis* in Norway 2020

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Content

| | |
|-----------------------------|---|
| Summary | 3 |
| Introduction | 3 |
| Aim of the programme | 3 |
| Materials and methods | 4 |
| Result | 4 |
| Discussion | 4 |
| References..... | 5 |

Summary

In 2020, samples from 67 calves in 15 herds with clinical respiratory disease were included for sampling and analysis in the programme. Swabs from the respiratory tract of 21 calves from six herds were examined with PCR, and serum from 46 calves from nine herds were analysed for antibodies against *Mycoplasma bovis*. All the samples were negative for *M. bovis*.

Introduction

Mycoplasma bovis is a pathogen of emerging significance in cattle throughout the world. *M. bovis* can cause a range of diseases, including mastitis, arthritis, and pneumonia. The bacteria has never been detected in Norway, however due to the recent introduction of *M. bovis* in Finland (1) and the high occurrence in neighbouring countries, a passive clinical surveillance programme was initiated. The criteria for submission was cattle herds with high occurrence of respiratory diseases in calves. This criterion was based on data collected in Great Britain, which demonstrated a significant proportion of pneumonia (86.4%) in diagnoses due to *M. bovis* infections (2).

Recent investigation of *M. bovis* in Norway includes a surveillance programme performed in 2018 “Smittemessige konsekvenser av grovfôrimport i 2018” (3). The aim of the programme was to monitor introduction of selected pathogens, exotic for Norwegian livestock, after the increased import of roughage due to drought in Norway in 2018 and included investigation of antibodies against *M. bovis* in bulk milk of which all were negative.

The Norwegian Food Safety Authority was responsible for implementing the surveillance programme. The Norwegian Veterinary Institute was in charge of planning the programme, coordinating collection of samples from veterinary practitioners, performing the analyses and reporting the results.

Aim of the programme

The aim of the surveillance programme is to supplement documentation of the freedom of the *M. bovis* furthermore to increase the awareness and the preparedness in case of introduction of *M. bovis*.

Materials and methods

Swabs from the upper airways (n=15) and blood samples (n=46) from calves with clinical respiratory disease were collected by the herd veterinarian. Between four and six swabs or blood samples were collected from each herd.

Swabs from the lower airways (n=6) were taken from calves with clinical respiratory disease that were autopsied at the Norwegian Veterinary Institute. Swabs were analysed using a real-time PCR for detection of the *oppD* of *M. bovis* (4).

Serum samples were analysed in duplicates for specific antibodies against *M. bovis* using the ID Screen® *Mycoplasma bovis* Indirect (IDvet Grabels, France)(5). If the result is doubtful or positive, the sample is re-tested using the same ELISA. If the result then is negative, the sample is concluded to be negative. If the result is inconclusive, new blood sample and swabs from the upper airway from the suspected animal will be requested and tested as described above.

Result

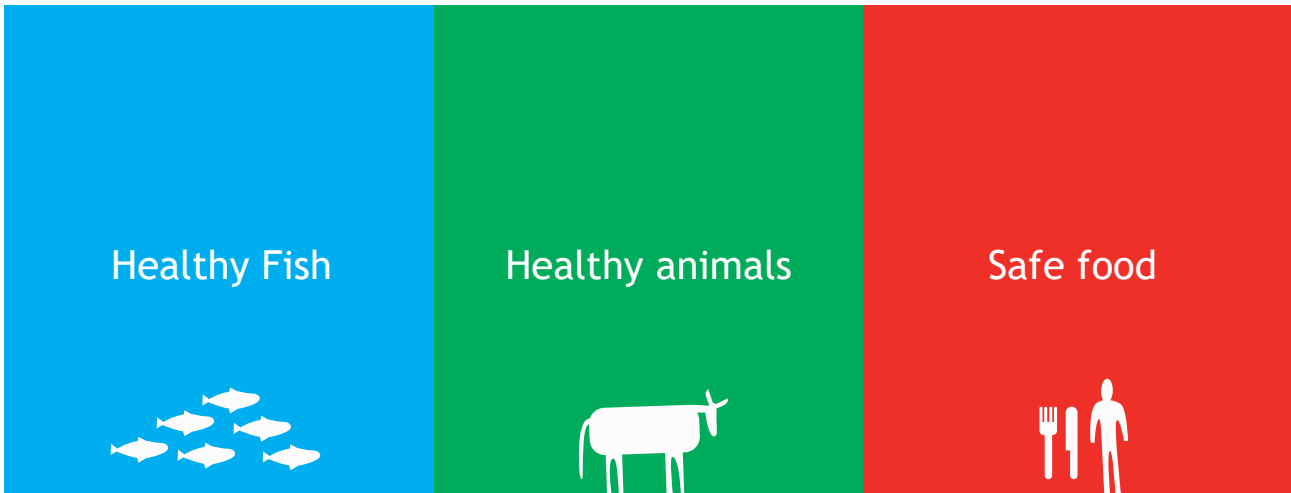
A total of 21 swabs from calves in six different herds were negative by PCR. In addition, 46 serum samples from calves in nine herds were negative for antibodies against *M. bovis*. In conclusion, there was no detection of *M. bovis* in any of the samples.

Discussion

Mycoplasma bovis was not detected in any of the herds sampled in 2020. Although Norwegian livestock is apparently free from the disease, import of infected animals and animal products of bovine origin or feed may pose a threat to the present status. The programme is too limited to document freedom from disease, but adds value by increasing the possibility for rapid detection of a potential introduction and consecutive control of spreading. The surveillance system also contributes to increase the awareness and the preparedness if introduction should occur.

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