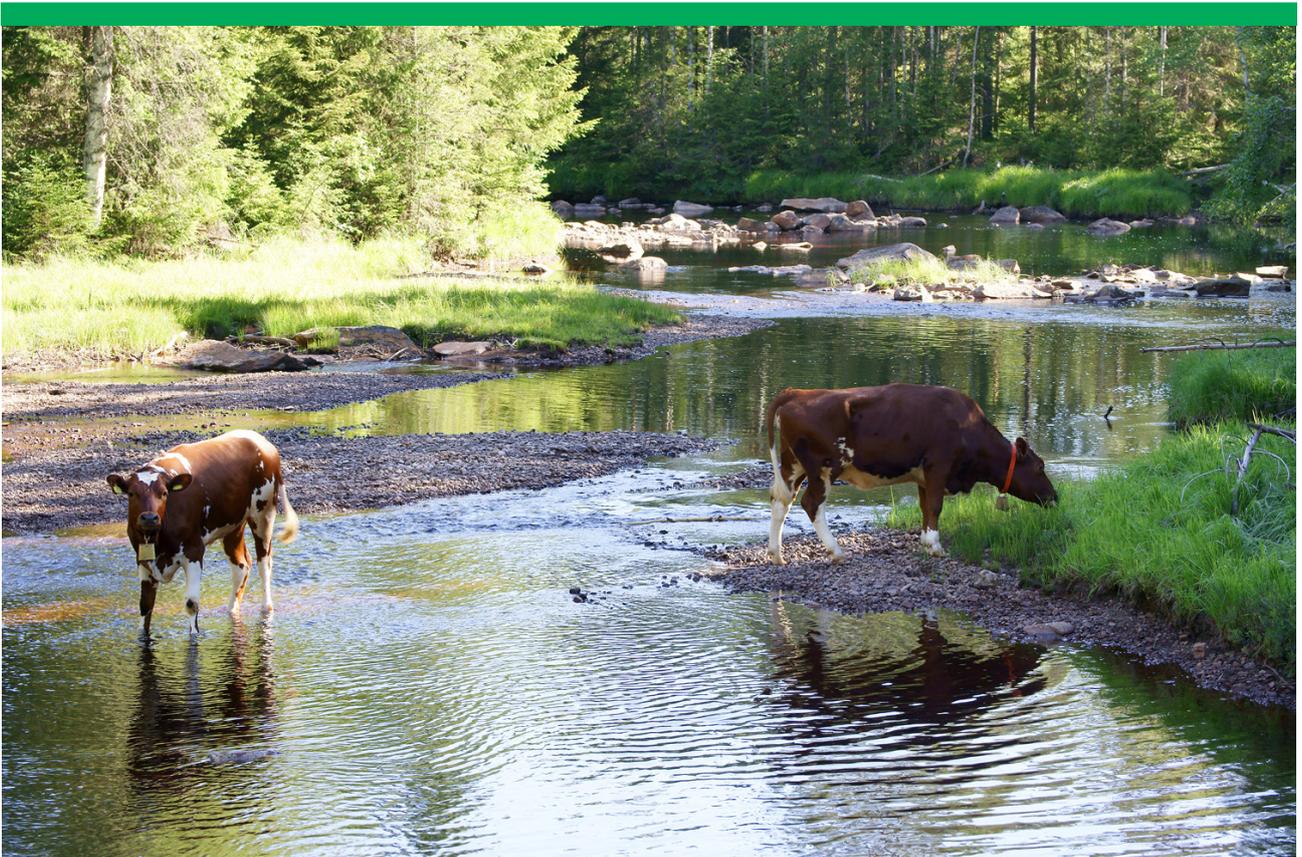


The surveillance programme for bovine tuberculosis in Norway 2016



The surveillance programme for bovine tuberculosis in Norway in 2016

Content

Summary	3
Introduction	3
Aim	3
Materials and methods	3
Submission of material from slaughterhouses.....	3
Histopathological examination	3
Bacteriological examination	3
Results and discussion	3
References	4

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Summary

In 2016 samples from three cattle were submitted for *Mycobacterium* sp. examination. None of the samples were positive for *Mycobacterium* sp.

Introduction

Apart from two single-herd outbreaks in Sogn og Fjordane county in 1984 and 1986 Norway has been considered free from bovine tuberculosis since 1963 (1). And since 1994, the EFTA Surveillance Authority (ESA) has recognised Norway as officially free from bovine tuberculosis, as described in ESA Decision 225/96/COL replacing ESA Decision 67/94/COL.

In 2000, a surveillance programme for bovine tuberculosis was launched. The programme includes compulsory veterinary inspection of all bovine carcasses at slaughter, with submission of suspicious materials to the Norwegian Veterinary Institute for further examination.

Aim

The aims of the programme are to document absence of bovine tuberculosis, according to Directive 64/432/EEC with amendments, and to contribute to the maintenance of this favourable situation.

Materials and methods

Submission of material from slaughterhouses

Lung tissue, lymph nodes and other organs with pathological lesions where bovine tuberculosis cannot be excluded, are submitted for examination.

The Norwegian Food Safety Authority collects the samples during routine meat inspection.

Histopathological examination

Tissues are fixed in 10% neutral phosphate-buffered formalin for more than 24 hours, processed according to a standard routine protocol, embedded in paraffin, sectioned at 5 µm and stained with haematoxylin and eosin and Ziehl-Neelsen.

Bacteriological examination

Samples are examined as described in the OIE manual (2). Samples are homogenised, decontaminated with 5% oxalic acid and centrifuged. The sediment is used for culturing and microscopic examination. The sediment is inoculated onto slopes Löwenstein Jensen medium, Stonebrink's medium, Middelbrook 7H10 medium and Dubos medium. The slopes are incubated aerobically at 37°C for two months and checked every week for growth of acid-fast bacilli, determined by the Ziehl-Neelsen method. If acid-fast bacteria are detected, molecular methods are used for species identification.

Results and discussion

Table 1 shows the number of samples collected and the results since the programme started in 2000. In 2016, samples from three cattle were submitted.

The low number of submitted samples indicates a low prevalence of suspicious pathological lesions. Continuous surveillance by veterinary meat inspection, early and effective eradication campaigns, combined with restricted import of live cattle, have contributed significantly to this situation.

Table 1. Number of samples tested for bovine tuberculosis from 2000 to 2016.

Year	No. of samples	No. of herds	No. of positive	
			Samples	Herds
2000	0	0	0	0
2001	3	3	0	0
2002	0	0	0	0
2003	1	1	0	0
2004	4	4	0	0
2005	1	1	0	0
2006	3	3	0	0
2007	0	0	0	0
2008	4	2	0	0
2009	1	1	0	0
2010	1	1	0	0
2011	1	1	0	0
2012	0	0	0	0
2013	5	4	0	0
2014	1	1	0	0
2015	2	2	0	0
2016	3	3	0	0

References

1. Sandvik O. Animal Health Standards in Norway. Næss B (editor). Oslo: The Royal Ministry of Agriculture; 1994.
2. Office International des Epizooties.
http://www.oie.int/fileadmin/Home/eng/Health_standards/tahm/2.04.07_BOVINE_TB.pdf

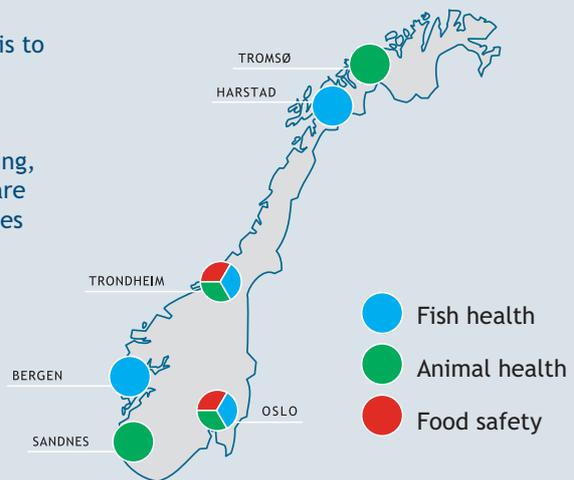
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