Annual Report

The surveillance programme for *Brucella abortus* in cattle in Norway in 2017

Veterinærinstituttet
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The surveillance programme for *Brucella abortus* in cattle in Norway in 2017

Content

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Summary

Blood samples from 127 cattle with abortion in the second half of the pregnancy from 48 different herds were analysed for antibodies against *Brucella abortus*. All the samples were negative for *B. abortus*.

Introduction

Eradication of bovine brucellosis in Norway was achieved in 1950 (1). Since 1994, the EFTA Surveillance Authority (ESA) has recognised Norway as a state officially free from brucellosis as described in ESA Decision 66/94/COL, later replaced by ESA Decision 227/96/COL.

A surveillance programme for *Brucella abortus* was launched in 2000. All samples were negative in 2000, 2001, 2003 and 2004. In 2002 however, two bulk milk samples were antibody positive. Further investigation did not confirm the positive results and it was concluded that the positive serological results most likely were false positive reactions. Since 2005 the programme has consisted of passive clinical surveillance. From 2004 to 2014 both aborted foetuses and blood samples from the dams were examined for *B. abortus* infection. After 2014 only blood samples from the dams are analysed for antibodies against *B. abortus*.

The Norwegian Food Safety Authority is responsible for carrying out the programme. The Norwegian Veterinary Institute is in charge of planning the programme, performing the analyses and reporting the results. The samples are collected by inspectors of the Norwegian Food Safety Authority.

Aim

The aim of the programme is to document freedom from *B. abortus* in cattle according to demands in Directive 64/432/EEC with amendments, and to contribute to the maintenance of the present favourable situation.

Materials and methods

Herd criteria for submission of clinical material are:

- abortions occurring between the fifth month of pregnancy and 14 days before expected birth.
- at least two abortions within this pregnancy period the last twelve months.

Blood sampling is limited to one sample taken at least two weeks after the abortion. The blood sample is tested in duplicates for antibodies against *B. abortus* in an indirect ELISA (Svanova®). If the result is doubtful or positive, the sample is retested in duplicates using the same ELISA. If the result then is negative, the sample is concluded to be negative. If the result is doubtful or positive, new blood sample from the suspected animal is taken and tested as described above.

Doubtful or positive samples in ELISA tests are subjected to a complement fixation test (CF). If the CF test is negative the sample is concluded to be negative for antibodies against *B. abortus*. If the CF test is positive, the result is reported and new blood sample from the suspected animals is required and tested. In addition there will be an immediate follow up with post-mortem and bacteriological investigations

Results and discussion

A total of 127 blood samples from 48 herds (99 blood samples from 39 dairy herds and 28 blood samples from 9 beef herds) were analysed for antibodies against *B. abortus* in 2017 (Table 1).

In conclusion, there was no detection of antibodies to *B. abortus* in cattle examined in the surveillance program in 2017. Bovine brucellosis has not been detected in Norway since 1953 (1).

Table 1. Number of cattle examined for brucellosis in Norway 2000-2017.

Year	Dairy cattle		Beef cattle		Total		
	Foetuses (herds)	Cows (herds)	Foetuses (herds)	Cows (herds)	Foetuses (herds)	Cows (herds)	Herds
2000	-	-	-	-	17 (14)	-	14
2001	21 (18)	-	0 (0)	-	21 (18)	-	18
2002	18 (17)	-	10 (6)	-	28 (23)	-	23
2003	30 (25)	-	4 (3)	-	34 (28)	-	28
2004	25 (21)	28 (19)	2 (2)	2 (2)	27 (23)	30 (21)	26
2005	16 (14)	48 (26)	8 (7)	8 (4)	24 (21)	56 (30)	31
2006	11 (11)	19 (13)	0 (0)	1 (1)	11 (11)	20 (14)	15
2007	11 (10)	14 (11)	1 (1)	1 (1)	12 (11)	15 (12)	12
2008	20 (17)	42 (19)	2 (1)	5 (2)	22 (18)	47 (21)	22
2009	14 (11)	19 (11)	5 (3)	7 (3)	19 (15)	26 (10)	15
2010	9 (8)	30 (15)	3 (3)	14 (4)	12 (11)	44 (19)	22
2011	7 (7)	42 (17)	2 (1)	10 (3)	9 (8)	52 (20)	22
2012	11 (10)	47 (20)	1 (1)	1 (1)	12 (11)	48 (21)	22
2013	37 (31)	130 (64)	7 (4)	22 (7)	44 (35)	152 (71)	72
2014	20 (18)	90 (37)	6 (5)	8 (7)	26 (23)	98 (44)	45
2015	-	103 (46)	-	10 (5)	-	113 (51)	51
2016	-	116 (55)	-	31 (7)	-	147 (62)	62
2017		99 (39)		28 (9)		127 (48)	48

References

1. Sandvik O. Animal Health Standards in Norway. A historical perspective and assessment of the existing situation. Næss B (editor). Oslo: The Royal Ministry of Agriculture; 1994.

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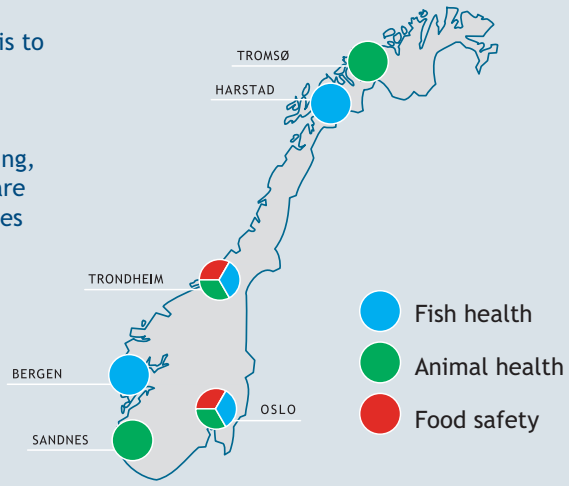

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