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The surveillance programme for *Brucella abortus* in cattle in Norway in 2024

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Content

Summary

Blood samples from 113 cattle with abortions in the second half of pregnancy from 31 herds, and 39 bulk milk samples from 33 dairy herds with at least two registered abortions, were negative for antibodies against *Brucella* spp.

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 032/21/COL. Brucellosis caused by *B. abortus*, *B. melitensis*, and *B. suis* is classified as a List 1 disease in Norway and is also listed by the World Organisation for Animal Health (WOAH). Within the EU, brucellosis is categorised under disease categories B, D, and E. Bovine brucellosis is mainly caused by *B. abortus*.

A surveillance programme for bovine brucellosis was launched in 2000. All samples were negative in 2000, 2001, 2003, and 2004. However, in 2002, two bulk milk samples tested positive for antibodies against *Brucella* spp. Further investigation did not confirm these findings, and the serological results were therefore concluded to be most likely false-positive reactions. Since 2005, the programme has been based on passive clinical surveillance. From 2004 to 2014, both aborted foetuses and blood samples from the dams were examined for *Brucella* spp. infection. From 2015 onward, only blood samples from the dams were analysed for antibodies against *Brucella* spp. In 2023, the programme was expanded to also include bulk milk samples from selected dairy herds with abortion registrations.

The Norwegian Food Safety Authority (NFSA) is responsible for implementing the surveillance programme for bovine brucellosis. The Norwegian Veterinary Institute is responsible for planning the programme, collecting the bulk milk samples from the dairies, performing the analyses, and reporting the results. Inspectors of the NFSA collect the blood samples.

Aim

The aim of the programme is to document freedom from bovine brucellosis according to the demands in Regulation (EU) 2020/689, and to contribute to the maintenance of the present favourable situation.

Materials and methods

Herds and sampling

For blood sample submission, herds were eligible for inclusion in the programme if they had experienced at least two abortions occurring between the fifth month of pregnancy and 14 days before the expected calving date within the past twelve months. From each herd fulfilling the inclusion criteria, one blood sample was collected from the dam at least two weeks after the abortion. In addition, blood samples were collected from up to five other dams within the same herd that had aborted during the same stage of pregnancy (one sample per animal).

For bulk tank milk samples, samples were requested from 36 herds with at least two registered abortions in 2023.

Laboratory analyses

The blood samples were tested in duplicate for antibodies against *B. abortus*, *B. melitensis*, and *B. suis* using an indirect enzyme-linked immunosorbent assay (ELISA), the ID Screen® Brucellosis Serum Indirect Multi-species (IDvet, Grabels, France). If the result was positive or doubtful, the sample was retested in duplicate using the same ELISA. If the result from retesting was negative, the sample was concluded to be negative. If the result was inconclusive, a new blood sample from the suspected animal would be requested and tested as described above.

Samples with positive or doubtful results from the ELISA tests were subjected to the complement fixation test (CF). If the CF test was negative, the sample was concluded to be negative for antibodies against *Brucella* spp. If the CF test was positive, the result would be reported as a suspicion to the NFSA and new blood samples from the suspected herd would be requested and tested. In addition, there would be an immediate follow-up by post-mortem and bacteriological investigations.

Bulk milk samples were tested for antibodies against *B. abortus* and *B. melitensis* using an indirect ELISA, ID Screen® Brucellosis Milk Indirect (IDvet, Grabels, France). Samples with positive or inconclusive reactions were retested in duplicate using the same ELISA. If results from retesting were positive or doubtful, new bulk milk samples from the suspected herd were collected and tested using the same method.

Results and discussion

In 2024, blood samples from 113 cattle from 31 herds were analysed for antibodies against *Brucella* spp. (Table 1), including 91 samples from 25 dairy herds and 22 samples from 6 beef herds. In addition, 39 bulk milk samples from 33 dairy herds were tested. All blood and bulk milk samples were negative for antibodies against *Brucella* spp.

In conclusion, all herds examined in the surveillance program for *Brucella abortus* were negative for antibodies against *Brucella* spp. in 2024. Bovine brucellosis has not been detected in Norway since 1953 (1, 2).

Table 1. Number of blood samples from individual cows examined for brucellosis in Norway 2000-2024.

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
2018		110 (48)		29 (8)		139 (56)	56
2019		98 (29)		6 (2)		104 (31)	31
2020		107 (36)		21 (7)		128 (43)	43
2021		102 (33)		4 (1)		106 (34)	34
2022		63 (19)		15 (4)		78 (23)	23
2023		107 (35)		3 (2)		110 (37)	37
2024		91 (25)		22 (6)		113 (31)	31

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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
2. Krosness, Marie M, Tarpai, Attila, Dalaker, Jørgen, Klevar, Siv. The surveillance programme for *Brucella abortus* in cattle in Norway in 2023. Surveillance program report. Oslo: Norwegian Veterinary Institute 2024

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