



# The surveillance programme for infectious bovine rhinotracheitis (IBR) and infectious pustular vulvovaginitis (IPV) in Norway 2023



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## The surveillance programme for infectious bovine rhinotracheitis (IBR) and infectious pustular vulvovaginitis (IPV) in Norway 2023

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## Summary

All samples tested in 2023 were negative for antibodies against bovine herpes virus (BHV-1).

## Introduction

Infectious bovine rhinotracheitis and infectious pustular vulvovaginitis (IBR/IPV) are diseases caused by bovine herpesvirus 1 (BHV-1). The virus affects the upper respiratory tract of cattle causing purulent nasal discharge, hyperaemia of the muzzle and conjunctivitis. Signs of general illness are fever, depression, reduced appetite, abortions and reduced milk yield. The virus may also infect the genital tract and cause pustular vulvovaginitis and balanoposthitis. IBR/IPV is classified as a list 2 disease in Norway and is listed by the World Organisation for Animal Health (WOAH). IBR/IPV is a category C, D and E disease in the EU.

Norway has not experienced clinical outbreaks of infectious pustular vulvovaginitis since the early 1960s when there were two outbreaks of the disease in cattle. In 1993, animals in one single herd were found seropositive after primary testing of bulk milk samples. Clinical signs of IBR/IPV were not recorded and all animals on the farm were slaughtered. Attempts to isolate the virus from organ samples gave negative results. Contact herds and dairy herds in the same region were found to be serologically negative (1). Likewise, red deer that were shot in the neighbourhood during the hunting season the same year were found to be seronegative. Since then, no BHV-1 infections have been identified in Norway.

EFTA Surveillance Authority (ESA) has recognised Norway as free from IBR since 1994. Decisions concerning the additional guarantees related to IBR/IPV for bovines entering Norway, are described in ESA as described in ESA Decision 032/21/COL. Maintenance of the ESA Decisions acknowledging the IBR-free status of Norway requires annual reports of the surveillance of the disease.

The Norwegian Food Safety Authority (NFSA) is responsible for implementing the surveillance programme for IBR/IPV. The Norwegian Veterinary Institute is in charge of planning the programme, collecting the bulk milk samples from the dairies, and analysing the samples and interpreting the results. Blood samples from beef herds were collected by inspectors from the NFSA at slaughterhouses.

## Aim

The aim of the surveillance programme for IBR/IPV was to document freedom from the infection in Norway according to the demands in Regulation (EU) 2020/689, and to contribute to the maintenance of this favourable situation.

## Materials and methods

The surveillance programme included both dairy and beef herds. The target population of dairy herds consisted of all cattle herds delivering milk to dairies during the sampling period. The target population of beef herds were all herds delivering cattle to slaughter in 2023.

Of the Norwegian dairy herds, 21.6% herds were randomly selected for sampling. From the beef herds, individual blood samples from animals older than 24 months were collected at 19 slaughterhouses, with a maximum of five animals per herd and day of sampling.

The dairies provided 1,445 bulk milk samples from 1,337 dairy herds. One bulk milk sample was not approved, leaving 1,444 samples from 1,336 dairy herds for analysis. A total of 4,219 individual blood samples from 1,393 beef herds were received for analyses in pools (n=1,757). The sampled herds represented approximately 21.9% of all Norwegian cattle herds (Table 1).

*Table 1: Numbers of dairy herds and beef herds sampled within the frame of the Norwegian surveillance programme for IBR/IPV in 2023.*

Herd category	Cattle herds (total no. <sup>1</sup> )	Sampled herds (no. <sup>2</sup> )	Sampled herds (%)
Dairy herds <sup>3</sup>	6,485	1 337	20.6
Beef herds <sup>4</sup>	5,968	1 393	23.3
<b>Total</b>	<b>12 453</b>	<b>2 730</b>	<b>21.9</b>

<sup>1</sup>Based on data from the Register of production subsidies as of 1 March 2023.

<sup>2</sup>Combined beef- and dairy farms could be sampled under both herd categories. Number of unique farms is given as a total number of sampled herds.

<sup>3</sup>Cattle herds delivering milk to dairies.

<sup>4</sup>Sampling performed at slaughterhouses.

Bulk milk samples were analysed using SVANOVIR® IBR-Ab Confirmation (Indical Bioscience GmbH, Leipzig, Germany). Samples with inconclusive and positive reactions were retested in duplicates using the same method. In case of positive or doubtful serological results, new blood samples/bulk milk samples from the suspected herd were collected and tested.

Blood samples (pooled or individual samples) were analysed using SVANOVIR® IBR-Ab Confirmation (Indical Bioscience GmbH, Leipzig, Germany). In case of positive or inconclusive reactions in pooled blood samples, individual samples were retested. Individual samples with inconclusive or positive results were retested in duplicates using the same method. In case of

positive or doubtful results, new blood samples from the suspected herd were collected and tested.

## Results

When screening the 1,444 bulk milk samples, one sample (0.1%) had positive and another sample had doubtful reactions, while the remaining 1,442 samples were negative. The positive or doubtful samples were retested with negative results.

All 1,757 pooled blood samples from 1,393 herds tested negative. Thus, all herds included in the program were concluded to be negative for antibodies against BHV-1.

In conclusion, all tested herds were negative for antibodies against BHV-1 in 2023.

Table 2 shows the results of the testing during the period from 1993 to 2023.

*Table 2: Numbers of samples and positive results of the surveillance programme for IBR/IPV in the Norwegian cattle population during the period 1993-2023*

Year	Dairy herds	Beef herds		No. of positive samples
	No. of herds sampled	No. of herds sampled <sup>1</sup>	No. of individuals tested <sup>2</sup>	
1993	26 642	0	0	1
1994	24 832	1 430	5 954	0
1995	25 131	1 532	9 354	0
1996	2 863	303	1 523	0
1997	2 654	2 214	16 741	0
1998	2 816	2 191	17 095	0
1999	2 930	2 382	18 274	0
2000	1 590	340	2 892	0
2001	2 564	434	3 453	0
2002	2 308	462	3 693	0
2003	1 845	449	3 901	0
2004	1 573	402	3 364	0
2005	1 919	484	4 766	0
2006	1 673	479	4 624	0
2007	1 575	412	4 241	0
2008	1 422	444	4 616	0
2009	1 315	435	5 048	0
2010	1 265	507	4 020	0
2011	1 226	1 278	4 758	0
2012	1 189	1 178	4 308	0
2013	1 042	1 167	4 079	0
2014	1 489	935	4 132	0
2015	1 176	1 205	3 698	0
2016	1 179	1 330	4 211	0

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2017	1 107	1 448	4 282	0
2018	1 131	1 341	4 153	0
2019	1 071	1 328	4 124	0
2020	1 169	1 258	3 709	0
2021	1 212	1 413	3 952	0
2022	1 093	1 432	4 200	0
2023	1 337	1 393	4 219	0

<sup>1</sup>Sampling performed in the herds prior to 2011.

<sup>2</sup>A small number of blood samples collected at slaughterhouses could originate from dairy herds.

## Discussion

All beef cattle and dairy herds tested in the 2023 surveillance programme were concluded to be negative for antibodies against IBR/IPV.

In addition to the surveillance programme, all breeding bull candidates are serologically tested before entering the breeding centres, and all breeding bulls are subject to compulsory testing each year.

The results of the programme since 1993 strongly indicate that the Norwegian cattle population is free from IBR/IPV infection (4).

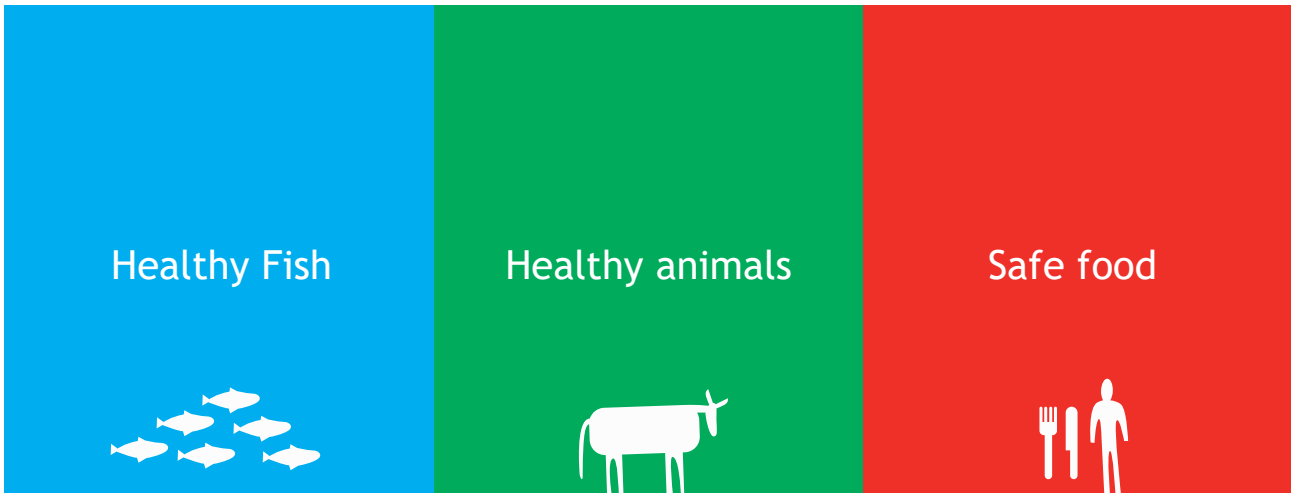
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