Surveillance and control programmes for terrestrial and aquatic animals in Norway
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The surveillance and control programme for infectious bovine rhinotracheitis (IBR) and infectious pustular vulvovaginitis (IPV) in Norway

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Introduction

All milk and blood samples tested in 2008 were negative for antibodies against bovine herpes virus (BHV-1).

In the early 1960s, two outbreaks of infectious pustular vulvovaginitis were diagnosed in cattle in Norway. Subsequently, no new cases of BHV-1 (infectious bovine rhinotracheitis/infectious pustular vulvovaginitis - IBR/IPV) were reported until 1993, when several animals in one single herd were found serologically positive after primary testing of bulk milk collected in 1992. However, clinical signs of IBR/IPV were never recorded on the farm. All animals on the farm were slaughtered. Attempts to isolate the virus from organ samples gave negative results. Sixteen contact herds and all dairy herds in the same region were serologically negative (1, 2). Likewise, 40 red deer that were shot in the neighbourhood during the hunting season the same year were serologically negative. After this incident, IBR/IPV virus infection has not been demonstrated in Norway.

EFTA Surveillance Authority (ESA) has recognised Norway as free from IBR since 1994. Decisions concerning the additional guarantees relating to IBR/IPV for bovines destined for Norway are described in ESA Decision 74/94/COL. Maintenance of the ESA Decisions accepting the IBR-free status of Norway requires annual reports of the surveillance of the disease.

The Norwegian Food Safety Authority is responsible for carrying out the surveillance and control programme for IBR/IPV. The National Veterinary Institute is in charge of planning the programme, collecting the bulk milk samples from the dairies and performing the tests. Blood samples from beef herds are collected by inspectors from the Norwegian Food Safety Authority.

Aims

The aim of the surveillance and control programme for IBR/IPV is to document freedom from the infection in Norway according to the demands in ESA Decision 74/94/COL with amendments, and to contribute to the maintenance of this favourable situation.

Material and methods

The surveillance of cattle for IBR/IPV in 2008 included both dairy and beef herds. Bulk milk samples from the dairy herds were provided by the dairies. From the beef herds, individual blood samples were collected on the farms from cattle older than 24 months.

The target population consisted of all cattle herds delivering milk to dairies during the sampling period. In 2008, bulk milk samples from 1,422 randomly sampled dairy herds were tested. The group of beef herds to be sampled was based on a register of all beef herds receiving governmental support according to recordings of July 2007. A total of 4616 individual blood samples from 444 beef herds were analysed in pools with a maximum of 20 samples in each. The sampled herds represented 11.8% of the Norwegian cattle herds (Table 1).

The number of herds in the surveillance and control programme for IBR/IPV in 2008 is given in Table 1.
All samples were tested for antibodies against bovine herpes virus 1 (BHV-1) using a commercial indirect ELISA (SVANOVIR® IBR-Ab ELISA from Svanova Biotech AB Sweden) at the National Veterinary Institute in Oslo. In case of any positive or dubious results, a serum neutralization test would be preformed.

Table 1. Total number of dairy herds and beef herds within the frame of the Norwegian surveillance and control programme for IBR/IPV in 2008

Herd category	Total no. of cattle herds*	No. of herds tested	% tested of the total no. of herds
Dairy herds	13,100	1,422	10.9
Beef herds	2,700	444	16.4
Total	**15,800**	**1,866**	**11.8**

* Based on data from the Register of production subsidies as of July 31 2008.

Results

All bulk milk samples and blood samples tested in 2008 were negative for antibodies against BHV-1. Table 2 shows the results of the testing during the period from 1993 to 2008.

Table 2. Samples in the surveillance and control programme for IBR/IPV in the Norwegian bovine population during the period 1993-2008

Year	Dairy herds	Beef herds		
	No. of bulk milk samples tested	No. of beef herds sampled	No. of individuals tested	No. of positive samples
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

Discussion

Until 2008, a non-commercial blocking ELISA (2, 3) was used for the antibody testing, and the surveillance and control programme for IBR/IPV has been evaluated in a retrospective analysis using a simulation model(4). As a result of participating in a proficiency testing scheme at VLA, England, it was found that the indirect ELISA was better suited for testing bulk milk specifically, and the previous test was replaced with the commercial indirect ELISA from 2008.

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 a compulsory test each year.

The results of the programme since 1992/93 strongly indicate that the Norwegian cattle population is free from IBR/IPV-infection (2, 4, 5).

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The National Veterinary Institute has its main laboratory in Oslo, with regional laboratories in Sandnes, Bergen, Trondheim, Harstad og Tromsø, with about 360 employees in total.

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The Norwegian Food Safety Authority (NFSA) is a governmental body whose aim is to ensure through regulations and controls that food and drinking water are as safe and healthy as possible for consumers and to promote plant, fish and animal health and ethical farming of fish and animals. We encourage environmentally friendly production and we also regulate and control cosmetics, veterinary medicines and animal health personnel. The NFSA drafts and provides information on legislation, performs risk-based inspections, monitors food safety, plant, fish and animal health, draws up contingency plans and provides updates on developments in our field of competence.

The NFSA comprises three administrative levels, and has some 1300 employees.

The NFSA advises and reports to the Ministry of Agriculture and Food, the Ministry of Fisheries and Coastal Affaires and the Ministry of Health and Care Services.

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