

The surveillance and control programme for enzootic bovine leukosis (EBL) in Norway

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Introduction

All milk and blood samples tested in 2008 were negative for antibodies against bovine leukaemia virus (BLV).

Enzootic bovine leukosis (EBL) had never been reported in Norway until antibodies against BLV were detected in eight dairy herds in samples collected through the surveillance and control programme in 1995 (1).

No new herds have tested positive since 1997 (2), except a single positive bulk milk sample in one herd in 2002, and one blood sample from one of the cows in that herd, but after extensive follow up, it was concluded that the positive antibody results were due to false positive reactions (3, 4).

Free status from EBL was granted to Norway by the EFTA Surveillance Authority in 2007.

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

Aims

The aim of the surveillance and control programme for EBL is to document freedom from the infection in Norway according to Council Directive 64/432/EEC as amended and to contribute to the maintenance of this favourable situation.

Materials and methods

The surveillance and control programme 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 of dairy herds 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 for antibodies against BLV. The target population of beef herds is all beef herds receiving governmental support according to recordings of July 2007. A total of 4,616 individual blood samples from 444 beef herds were analysed in pools, with a maximum of 20 samples in each. The sampled herds represented approximately 11.8% of the Norwegian cattle herds (Table 1).

Bulk milk samples and blood samples were examined by an indirect ELISA (SVANOVA[®]) (5). For verification and for follow-up of suspect cases, LACTELISA BLV Ab and SERELISA BLV Ab from SYNBIOTICS were used.

Table 1. Total number of dairy herds and beef herds within the frame of the Norwegian surveillance and control programme for EBL 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 BLV. Table 2 shows the results of the testing during the period from 1995 to 2008.

Table 2. Results of antibody testing in the surveillance and control programme for EBL in the Norwegian bovine population during the period 1995-2008

Year	Dairy herds	Beef herds		No. of positive samples
	No. of bulk milk samples tested	No. of beef herds sampled	No. of individuals tested	
1995	25,131	1,532	9,354	8 (bulk milk)
1996	2,278	303	1,523	1 (bulk milk)
1997	26,903	2,214	16,741	0
1998	23,581	2,191	17,095	0
1999	19,933	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	1 (bulk milk)
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

The requirement from the EU for granting an EBL free-status is that the herd prevalence must be lower than 0.2 %, which represents 32 herds out of the total number of 15,800 herds.

No new cases have been reported since 1995, and the continuous surveillance since 1995 shows that the Norwegian cattle population is free from EBL according to the requirements (2, 3, 4, 6). From 1995 to 1999, all cattle herds were tested annually. Since 2000, a minimum of 10 % of dairy and beef cattle herds have been tested each year.

Together with the possible isolation period of six months and the testing protocol for imported animals, the surveillance and control programme for EBL should be an effective means to detect introduction of new infection.

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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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