

THE ERADICATION PROGRAMME AGAINST BHV-1 IN SWEDEN

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In 1970, the first BHV-1-seropositive cattle were found in Sweden. Until the end of 1990, nine additional infected herds were identified. Anonymous bulk milk screenings in 1990/1991 and 1993 indicated a BHV-1-prevalence of 0.2 and 0.05% respectively. In order to eradicate BHV-1 from Sweden, a mandatory control programme was initiated in February 1994. Up to and including the first quarter of 1997, 18 dairy herds and one beef herd have been detected as infected within the programme. The last infected animal was slaughtered on February 22nd 1996. BHV-1 infection has never been associated with clinical outbreaks in Sweden, indicating a low virulence of the virus strains. The eradication programme has been approved by the EEC and Sweden has been granted additional guarantees based on the programme. Sweden attends to apply for freedom from BHV-1 as soon as all herds have been tested free according to the program, which hopefully will be the case during 1997.

HISTORY

Sweden was for many years considered free from Bovine herpes virus-1 (BHV-1) infection. However, in 1970, seropositive cattle were found. The infection was probably introduced by imported semen. Serosurveys of in contact herds revealed a very limited spread of infection. As a consequence of this first case, infection with BHV-1 became compulsory notifiable and control of imported semen and live animals was implemented. In addition, since 1972, all calves chosen to be semen donors at artificial insemination centers are serologically tested. In spite of the fact that more than 26 000 routine samples from cattle were analysed between 1982 and June 1993, no more infected animals were found in Sweden until 1986, when a bull calf intended as semen donor was found seropositive. Until the end of 1990, eight additional infected dairy herds were identified. In 1990/1991, an anonymous survey performed on bulk milk, randomly collected from 10% of all Swedish herds delivering milk, indicated a herd prevalence of 0.2%. In 1993, 96% of a total of 19 447 milk delivering herds were anonymously tested on bulk milk, indicating that the herd prevalence was even lower, 0.05%.

CONTROL/ERADICATION PROGRAMME

A control programme against BHV-1 was initiated in February 1994 and in January 1995 the programme was intensified in order to declare Sweden free from BHV-1. The Swedish Board of Agriculture is the national and official authority responsible for the programme. The Swedish Association for Livestock, Breeding and Production has been appointed and authorized to collect samples and keep records of the results. All samples are analysed at the National Veterinary Institute. The costs for the programme are entirely financed by the government. The programme is mandatory for all bovine herds in Sweden, except for fattening herds without own replacement. Dairy herds are screened by testing two bulk milk or pooled milk samples annually and in beef herds all animals more than two years old are tested serologically once a year. In addition, 5 000 samples from animals placed on the market are tested annually. The screening method used for detection of BHV-1 antibodies is an indirect ELISA (SVANOVIR IBR EIA, produced by SVANOVA Biotech, Uppsala, Sweden) carried out on bulk/pooled milk (≤ 50 animals) or pooled blood samples (≤ 10 animals). Possibly positive or doubtful samples are retested using a gB-blocking ELISA and/or a virusneutralisation test. All positive herds are put under restrictions and individual testing as well as epidemiological investigations are carried out. All seropositive animals are slaughtered. Not until all remaining animals have been retested twice with negative results - at the earliest 1 and 4 months after the slaughter of the last seropositive animal - the restrictions are lifted.

RESULTS AND DISCUSSION

During 1994 and 1995, 18 dairy herds and one beef herd were found infected, while none was found during 1996 and the first quarter of 1997. Of the animals infected, the last was slaughtered on February 22nd 1996. Extended serological examinations and epidemiological investigations have been performed in a small number of herds, due to unexplained, serological single reactors (SR). All SR were slaughtered and a polymerase chain reaction (PCR) assay were performed on brain materials from some of them. However, BHV-1 infection was not detected in any of these herds. BHV-1 infection has never been associated with clinical outbreaks in Sweden, indicating a low virulence of the virus strains. Vaccination has never been allowed. The ongoing eradication programme was approved by the EEC in March 1995 for a period of two years and Sweden has been granted additional guarantees based on the programme. Sweden can apply to be declared free from BHV-1 when all herds have been tested according to the program and at the earliest one year after the last infected animal was slaughtered. At the end of April 1997, all milk delivering herds were tested as planned and it is estimated that approximately 95% of the beef herds have been tested at least twice as required.

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