

Impact of risk mitigation measures on relative BSE-infectivity load of cattle feed in Finland between 1990 and 2006

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Aim of the Study

The aim of the study was to estimate the efficacy of the implemented risk mitigation measures on infective load of Bovine spongiform encephalopathy (BSE) in ruminant feed in Finland.

Materials and Methods

Changes in infectivity load of BSE in cattle feed by meat and bone meal (MBM) was estimated using data on the volume of MBM in cattle feed, and on risk mitigation measures adopted between 1996 and 2001 (feed ban, heat treatment, separation of production lines, removal of SRM).

Estimation of MBM in feed in different time periods:

- Before the ruminant feed ban (1996): volume of MBM in ruminant feed (Figure 1),
- From 1997 until the total feed ban (2000): simulated cross contamination of ruminant feed by MBM, (@-Risk, Palisade Corporation) (Figure 1),
- After the total feed ban (2001): feed control results.

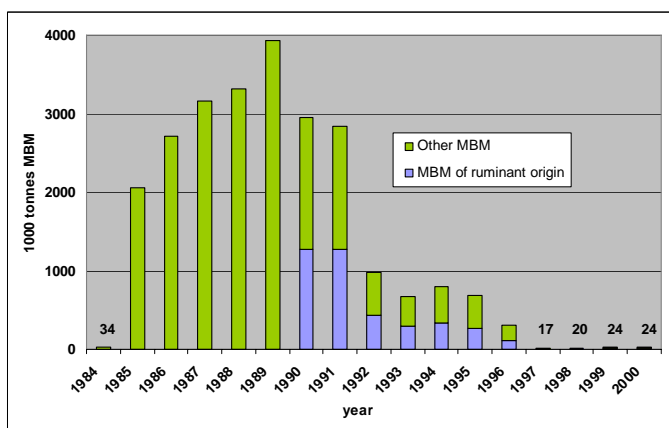


Figure 1. Use of MBM in ruminant feed in Finland (1984-1996). Volume of cross-contamination of ruminant feed by MBM (1997-2000). Data on amount of MBM of ruminant origin from 1984 to 1989 was not available.



The number of cattle in Finland has declined from 1.61 million in 1985 to 0.93 million in 2007. The number of the adult cattle (>24 months) was 0,38 million in 2006.

Results

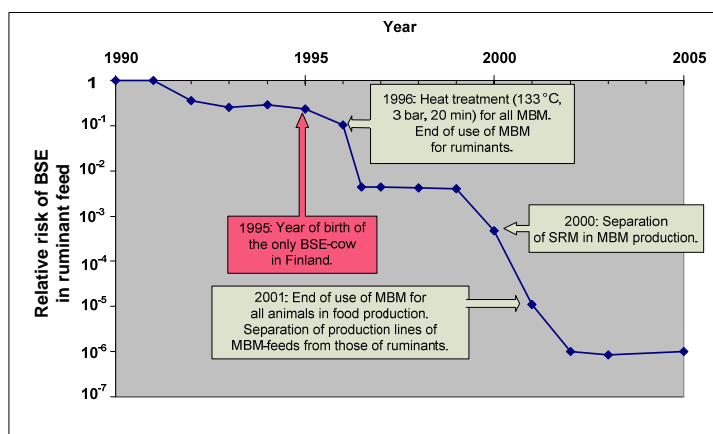


Figure 2. Impact of use of MBM and of risk mitigation measures on infectivity load of BSE in cattle feed in Finland between 1990 and 2005.

Discussion

The potential for exposing ruminants to BSE-infectivity via MBM has decreased considerably since 1990.

The only detected case of BSE in Finland was born in 1995 when the potential for infective MBM to expose ruminants had already decreased from its peak in 1990.

Our method allows for evaluation of the relative efficacy of risk mitigation measures in different time periods.