

Report on The UK Date Based Export Scheme and the UK proposal on Compulsory Slaughter of the Offspring of BSE Cases

Opinion adopted by the Scientific Steering Committee during its Second Plenary Session of 8-9 December 1997

(Re-edited* version adopted by the Scientific Steering Committee during its Third Plenary Session of 22-23 January 1998)

(* *The corresponding section in paragraph IV is specified in a footnote*)

A. Report of the Scientific Steering Committee on UK Date Based Export Scheme.

I Background

As a result of the Florence agreement in 1996, the UK proposed a scheme for export of meat products derived from cattle born after a specific date, 1 August 1996. The proposal is, according to the agreement, a step towards the resumption of export of beef from animals not having been exposed to the risk of infection.

II Concept for the export scheme proposed

The basic concept for the scheme is that animals born after 1 August 1996 are guaranteed not to have been exposed to BSE agent in feed.

The OIE-Code (chapter 3.2.13) is addressed as the formal base to be fulfilled. Besides a general demand for disease surveillance and complete destruction of affected cattle and potentially infected organs of fallen and slaughtered cattle, the code requires that cattle from which bone in meat originates:

- a) were born after the date on which a ban on the use of ruminant meat and bone meal in feed for ruminants has been effectively enforced, **or**
- b) were born and had only been kept in herds in which no case of BSE had been recorded **and**
- c) have never been fed ruminant meat and bone meal

For deboned meat and meat products from cattle the code specifies the same requirements with the exception of alternative a, b and c but with the addition that nervous and lymphatic tissues exposed during the cutting process have to be removed and destroyed. The code thus recognises that meat from cattle born after any risk from feed has been eliminated can be safely imported. No recommendation is given concerning the potential significance of maternal transmission.

III General comments

References were made to the OIE-code as a basis for the proposed scheme. However, the committee recognise that the UK-date based export scheme should be based on the Florence agreement and known scientific data, not restricted to the OIE-code.

The Scientific Veterinary Committee (ScVC) on September 17, 1997 adopted a report (XXIV/B3/ScVC/0015/1997) on a previous UK proposal on this issue (Revised UK certified Herd Scheme), (XXIV/ScVC/014) in which the general principles for export of beef were presented. The Scientific Steering Committee (SSC) notes that the Date based export scheme largely follows principles similar to the ones contained in the Export Certified Herd Scheme. The committee notes that this proposal only applies to meat and meat products and not to live animals.

BSE is understood to be transmitted by contaminated feed, maternal transmission and possibly also horizontally. There is so far no scientific documentation for the existence of the latter route. An increased occurrence of BSE in larger herds have been attributed to other factors. Based on epidemiological studies, maternal transmission was found in the "UK Cohort study" to occur in calves which were offspring of cows developing BSE at an 9.6% (confidence limits: 5 - 15%) higher risk compared to the offspring of cows not developing BSE. The proposed date-based scheme is limited to eliminating infections by feed which is judged to be the cause of the vast majority of the BSE-cases in the UK epizootic and elsewhere.

The committee agrees that according to available knowledge, subject to Section C.I. and provided that necessary actions are taken to avoid the potential risk for maternal transmission, the risk concerning the presence of BSE- agent in beef and beef products selected according to the proposed scheme is remote. However, the Committee identified a risk area not covered by the present scheme. This occurs if an animal is born maternally infected but its dam does not show symptoms within 6 months or is even slaughtered after the 6 month period without showing symptoms. The Committee did not quantify this level of risk but believes it would be small. It would welcome quantification of this from UK authorities and in the interim believes that, in order to further reduce any risk of human exposure, and in the light of recent developments, the scheme should be restricted to deboned meat only, which is currently also the case for meat for the U.K. market.

IV Specific comments

- - **Page 5, 2, line 2: excluded be changed to remote**
- - **Page 5, 2 (i), line 1: there is a remote chance that cattle after the date could have been exposed to mammalian meat and bone meal and the text should be changed accordingly. The zero risk can never be achieved which the committee also found when the TSE-status of Australia, USA and New Zealand was evaluated.**
- - **Page 6, 6, line 3: Add feed analysed by a ELISA-testing system with the characteristics defined further on.**
- - **Page 6, 6, last line: exchange not to the risk that they have been exposed is remote.**
- - **Page 7, first line: exchange not to that the risk that they have been infected by maternal transmission is remote**
- - **Page 7, 8 : Add: and identity of the mother is known.(The text "Page 7,8,(i) line 3 : "Or" to be replaced by "and" was deleted**
- - **Page 7, 8, (iii): This is furtheron not detailed enough to judge about the efficacy of the control system.**
- - **Page 8, 12: This has to be compared to the results of the last EU inspection mission.**
- - **Page 14, 6-1: add: Feed is the main source.**
- - **Page 14, 6-1 (a): Perhaps: It is likely that mainly animals exposed to contaminated meat would develop disease**
- - **Page 14, 6, 1 (b): add depends chiefly upon exposure**

V Summary

The SSC considers that the date-based export scheme as proposed by UK should be combined with the compulsory slaughter of offspring of BSE-cases proposal. The latter is commented on below. A combined conclusion of the two proposals is then given at the end.

B. Report of the Scientific Steering Committee on UK proposal on Compulsory Slaughter

Of Offspring of BSE Cases

I Background

The proposed plan is a reply to findings that BSE may be transmitted from dam to calf (maternal transmission) as reported by the Spongiform Encephalopathy Advisory Committee (SEAC) on 17 April 1997.

II General comments

For BSE-cases occurring from approximately three years or more after 1 August 1996 the first generation of offspring may have given birth to a second generation and due to the long incubation period for BSE also further generations are possible to occur. When the first generation offspring is culled because of BSE is diagnosed in their dams they might be BSE-infected. According to the calculations presented in the proposal 1-2% of the total number of offspring would develop clinical infections if no actions were taken. For the years 1997-2004 according to Annex A-D this is estimated to be 1-2% out of 19.217 offspring or 192-384 cases. If the same proportion of 1-2% is applied, 2-8 cases of BSE would have developed also in the second generation offspring in the UK. The SSC therefore suggests that not only the first but also the second generation of offspring should be culled. The SSC further recommends that the risk for BSE in subsequent generations and in the whole maternal line should be statistically evaluated as a basis for a possible future decision whether the whole maternal line should be culled so as to accelerate the complete eradication of BSE.

The committee also proposes, as in the report on the certified herd scheme, that the dams should always be traceable and be kept alive up to six months after birth of the calf to enable detection of calves born to dams developing BSE during this period and thus considerably reduce the theoretical risk from maternal transmission. Accordingly the calf should not be slaughtered before six months of age.

Theoretically known risks of exposure to BSE agent are excluded from animals selected for production of meat by the date-based export scheme when combined with a cull of offspring from BSE-affected cows. However the committee notes, as can be seen in Annex A of the proposal, that potentially BSE-infected offspring may already have been slaughtered when BSE is diagnosed in their dams later than six months after birth. When considering that:

- the risk for maternal transmission is decreased by fourfold in calves born more than six months before BSE develops clinically in their dams compared with the preceding 6 month period, and is not detected in offspring born more than two

years before the same date, the potential risk for maternal exposure statistically exists in calves born between 6 and 24 months before BSE is diagnosed in their dams but at a relatively low risk (offspring are not allowed to be slaughtered before the age of six months).

- In an ongoing UK pathogenicity study, BSE infectivity is assessed by bioassay in mice with tissues derived from cattle orally challenged with 100 g of untreated brain from natural cases of BSE. To date, infectivity was found after 32 months

in the central nervous system (CNS) and associated CNS-ganglia, but in the intestine six months after challenge. For maternal transmission these values correspond to the age of the animals.

- infectivity has by the same method not been detected in muscular tissue

- only deboned meat (muscular tissue) will be allowed for export. The Committee finds the risk for BSE-infectivity therein

to be remote.

III UK plan for eradication of BSE

With regard to the eradication plan the committee finds no scientific argument not to consider the risk for maternal transmission by culling offspring born, not only after, but also before 1 August 1996, when their dams have developed

BSE.

The primary objective of the eradication plan is to accelerate the eradication of BSE. The existence of maternal transmission of the disease has previously been judged only to a limited extent to prolong the ongoing BSE-epidemic in UK. This fact may justify that available resources should be used in other areas of the control of BSE but it is not within the mandate of the Committee to give an opinion on how available resources should be allocated. The Committee therefore suggests that the consequences on the epidemic by slaughtering the subsequent generations of offspring to cows which have developed BSE, should be statistically evaluated before an amendment of the plan is decided upon.

C. Conclusions

I Compliance with proposed schemes

The Committee notes that previous attempts to prevent exposure of the cattle population by feed contaminated with the BSE-agent have not been fully successful. Therefore a continuous up to date monitoring and reporting programme to control compliance with all aspects of the scheme is considered essential.

The Committee, as in the past, emphasises the crucial importance of the existence of an effective and safe system for the identification and tracing of animals and products thereof. The SSC suggests that the Commission, on the basis of previous knowledge and inspections missions and future information from UK, be provided with sufficient knowledge to guarantee that the system fulfils the necessary criteria.

The committee also emphasises that the routines subsequent to slaughter, including issues concerning time and space separations, prevention of cross-contamination and mixing of meat, should also be in compliance with previous recommendations from the committee on the UK Export Certified Herds Scheme.

II Further recommendations

The UK Date Based Export Scheme and the UK Proposal on Compulsory Slaughter of the Offspring of BSE Cases are based on the following assumptions as stated in the proposals:

- - the MBM feed ban is effectively enforced from 1 August 1996;
- - the risk of maternal transmission significantly decreases by the compulsory cull of the offspring of cows with BSE;
- - at this moment there is no scientific evidence that horizontal transmission occurs;
- - that there is a significantly decreased probability of animals being infected with BSE when born earlier than 6 months before the onset of BSE in the dam.

Based on scientific knowledge, the SSC considers that the combination of both proposals, if properly implemented and taking into account the requests made by the SSC in the above report, will lead to a major risk reduction of human exposure to the BSE agent.

The ultimate acceptability of the programmes should be dependent on the documentation by the relevant inspection bodies, showing that both the feed ban and the selective cull are effectively enforced and controlled. Such documentation should also include data about the implementation of an adequate (preferably computer based) system for tracing and identification of animals and their carcasses.

The SSC finds no scientific argument not to cull offspring of cows developing BSE when born before (and not only after, as originally proposed) 1 August 1996. Before a decision is taken on the amendment of the eradication plan, the Committee suggests that the consequences on the BSE epidemic when the first and subsequent generations of such offspring is culled, is statistically evaluated.

The Committee considers that any remaining risk can further be reduced by only allowing deboned meat from animals

between 6 and 30 months for export, which is currently also the case for meat for the U.K. market, and recommends that exported meat must comply with all preceding conditions.

The above conclusions should be reviewed if the decline in the current epidemic fails to conform to predictions or if new facts indicate that other risk factors may be involved.

The SSC notes that the availability of a diagnostic test of subclinical cases of BSE would further decrease the risk for human exposure to BSE agent. Efforts to develop such methods are encouraged.