

**BOVINE SPONGIFORM ENCEPHALOPATHY
IN GREAT BRITAIN**

A PROGRESS REPORT

JUNE 2000

FOREWORD

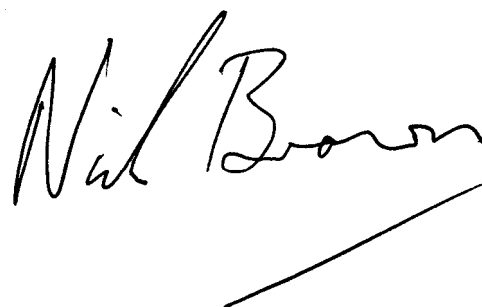
I am pleased to present this latest report on progress in dealing with BSE. There have been some significant developments since the last report.

The number of BSE cases reported continues to fall in line with predictions. In June the first confirmed case of BSE in a cow born after the stringent controls on animal feed were introduced in August 1996 was reported. This was not, however, unexpected, and the latest forecasts show that the epidemic will continue to die out over the next few years. I am committed to maintaining this progress.

More than 80 countries are known not to have import bans on UK Date Based Export Scheme beef. France remains the only EU Member State to retain an import ban.

During the period of this report the Food Standards Agency began a review of BSE controls in relation to the food chain. Its report will be submitted to UK and Devolved Administrations Health and Agriculture Ministers by 31 October 2000, or as soon as possible thereafter, taking account of the report of the BSE Inquiry which is due to report in late September.

There are no grounds for complacency but this latest report shows the progress we continue to make in achieving our aims of protecting human and animal health and eliminating BSE.

A handwritten signature in black ink, reading "Nick Brown". The signature is written in a cursive style with a long horizontal line extending from the end of the name.

NICK BROWN
MINISTER OF AGRICULTURE, FISHERIES AND FOOD

August 2000

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GLOSSARY OF ACRONYMS

SECTION 1 - INTRODUCTION

1. This report updates to 30 June 2000 information about the measures taken to protect public and animal health in Great Britain and about the progress in eradicating BSE.
2. Further information on BSE is available on the Internet at:

<http://www.maff.gov.uk/animalh/bse/index.html>

This report and the reports on the periods ending December 1998, June 1999 and December 1999 may be accessed from the Publications section of this Internet site.

3. If readers have any comments on the report please contact **Deborah Hines** at:

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SECTION 2 - PROTECTION OF PUBLIC HEALTH

Food Standards Agency

4. The Food Standards Agency (FSA) was established on 1 April 2000. From that date, it took over responsibility for food safety and standards from the Ministry of Agriculture Fisheries and Food. It is a separate non-Ministerial Government Department which operates on a UK basis, with Executives in Scotland, Wales and Northern Ireland. It is run by a Chairman (Sir John Krebs) and a Board of 12 members. Parliamentary accountability is via Health Ministers.

Food Standards Agency Review of BSE Controls

5. The Prime Minister announced on 30 March 2000 that the FSA would undertake a review of BSE controls in relation to the food chain. The terms of reference are:

"To review the current main measures to protect the public against BSE/vCJD in relation to the food chain. The review will consider both the adequacy of the measures to protect public health and their proportionality to the assessed risk, both currently and in relation to the projected decline of BSE in the UK. The measures to be examined will specifically include the ban on entry into the food chain of cattle over the age of 30 months at slaughter, the ban on the feeding of mammalian meat and bone meal to any farmed animals and the removal at slaughter and controlled disposal of specified risk material from cattle, sheep and goats."

6. The FSA will submit a published report to UK and Devolved Administration Health and Agriculture Ministers by 31 October 2000, or as soon thereafter as is possible taking account of the report of the BSE Inquiry.

7. The report will be the responsibility of the Food Standards Agency with expert advice from the Spongiform Encephalopathy

Advisory Committee (SEAC). The Food Standards Agency has formed a stakeholder group including representatives of the UK and Devolved Administration Health and Agriculture Departments, consumer organisations and industry experts to contribute throughout the period of the Review to the Agency's consideration of the issues.

8. The Review is being led by Sir John Krebs, FSA Chairman, with a FSA team which is obtaining expert advice from SEAC and other external advisers. The stakeholder group is being consulted on issues arising by means of meetings which are held in public. The first such meeting was held on 24 May. Stakeholder group papers and minutes of meetings are placed on the FSA website:

<http://www.foodstandards.gov.uk>

and are available on request from **Simon Petty** at the FSA on **020 7238 6231**.

9. The report of the review will be agreed by the FSA Board before being published and submitted to Health and Agriculture Ministers.

Measures taken to protect public health

10. Precautions have been taken to protect public health since 1989; they were greatly strengthened in 1996. A list of all the statutory measures which have been taken and other significant events is at **Appendix 1**. A total of nearly 4.5 million cattle have been excluded from the food chain, mostly under the Over Thirty Month Slaughter Scheme (OTMS). Details of this are shown in **Table 1**.

UK Specified Risk Material legislation

11. Throughout the sometimes difficult consideration of EU wide controls on Specified Risk Material (SRM), the Government has maintained the unilateral controls introduced on 1 January 1998. These controls are embodied in the Specified Risk Material Order 1997 and the Specified Risk Material Regulations 1997 (as

amended). EU wide SRM controls were adopted on 29 June 2000 and will require amendments to the domestic legislation (see paragraphs 60-64).

Enforcement of controls on Specified Risk Material

12. The Food Standards Agency (FSA) assumed overall responsibility for the enforcement of the SRM controls in licensed slaughterhouses and cutting plants from 1 April. Standards of compliance in slaughterhouses and cutting plants with the requirements of the SRM legislation remain consistently high. Monthly audit visits to premises handling SRM are carried out by the State Veterinary Service (SVS) on behalf of the FSA. There were 26 unsatisfactory visits to slaughterhouses out of a total of 4,118 visits (0.6%) during the twelve-month period to the end of June 2000. The comparable figures for the period up to the end of June 1999 were 20 unsatisfactory visits from a total of 4,050 visits (0.5%).

13. Up to the end of June 2000 these audit visits had detected a single case of incomplete removal of bovine spinal cord in GB licensed slaughterhouses since March 1996. This incident, in January 2000, concerned the finding of a small piece of spinal cord attached to a side of beef which had been health-marked by an MHS Meat Hygiene Inspector. The material was removed and disposed of in accordance with SRM rules before the carcass left the abattoir and so public health was not at risk. A full investigation into the circumstances of this incident is underway but all the indications are that this was an isolated occurrence.

14. In licensed slaughterhouses and cutting plants the SRM controls are rigorously enforced on a day to day basis by the Meat Hygiene Service (MHS), which is now an agency of the FSA. The MHS will report to the FSA any failure of compliance with the Regulations at these premises and the FSA will prosecute if there is sufficient evidence and it is in the public interest to do so. There have been 35 successful prosecutions in England, Scotland and Wales since March 1996 and further investigations are ongoing into other cases.

15. Local authorities enforce the SRM controls at other premises with the SVS carrying out unannounced surveillance visits to

ensure compliance. Any premises found to have failed to comply may face prosecution by the appropriate local authority if there is sufficient evidence of wrongdoing. We are aware of 16 successful prosecutions by local authorities.

16. Full statistical details of SVS visits to premises handling SRM are given in the Government's monthly BSE Enforcement Bulletin, which can be obtained from **Jill Wilson** at the FSA on **020 7238 6498**. The Bulletin can also be accessed on the Internet at

<http://www.maff.gov.uk/animalh/bse/bse-publications/bse-publications-index.html>

Over Thirty Month Cattle Slaughter Rule

17. At their meeting on 29 November 1999, SEAC reviewed the Over Thirty Month (OTM) rule (i.e. the ban on the sale for human consumption of meat derived from cattle aged over thirty months at the time of slaughter), taking account of the latest predictions of the BSE epidemic. The Committee agreed that the Rule had been a key measure put in place to protect public health in 1996 and concluded, on an interim basis, that modifying it to increase the age of animals permitted to be slaughtered for human consumption would be premature, as this might re-introduce an unacceptable level of risk. The Government accepted this advice. The Rule will be considered again in the FSA Review of BSE controls (see paragraphs 5-9).

Over Thirty Months Slaughter Scheme (OTMS)

Update on operation

18. The OTMS provides for the purchase of cattle over thirty months of age for their carcasses to be incinerated or rendered and destroyed. Under the Scheme, which is run by the Intervention Board Executive Agency on behalf of MAFF, cattle over thirty months of age, mostly at the end of their productive lives, are slaughtered under official supervision. Any animal over thirty

months of age which has been in the United Kingdom for at least six months is eligible. This includes casualty animals not fit to travel, for which special arrangements have been made.

19. From 5 June 2000, the weight limit on payments for animals entering the OTMS has been removed. The previous weight limit of 560kg was introduced in August 1997. Payment rates under the OTMS are unchanged at 0.8 euro (£0.50) per kilogram for cull cows and 0.9 euro (£0.56) per kilogram for other animals.

20. OTMS slaughtering services were re-tendered during 1999, with 21 new contracts beginning from 4 January 2000. Under these new contracts, 13 out of 21 abattoirs are wholly OTMS dedicated, including those in Scotland (compared with 7 out of 29 prior to January 2000). Although the new arrangements resulted in a reduced number of abattoirs slaughtering OTMS animals, overall slaughtering capacity has been maintained and the Intervention Board (IB) is confident that the new arrangements are working satisfactorily.

Disposal issues

21. 4.25 million cattle have been slaughtered under the Scheme so far, of which some 403,000 have been sent for direct incineration. The remainder have been rendered, with the resulting material – meat and bone meal (MBM) and tallow – being safely and securely stored pending disposal. Some 460,000 tonnes of MBM and 209,000 tonnes of tallow are in store awaiting destruction.

22. Following a tender conducted under EU rules, three contracts worth an estimated £51.1m were awarded by the Intervention Board for the incineration of OTMS MBM. The first was awarded to Fibrogen, who are currently incinerating some 1,500 tonnes of MBM per week. The second contract went to Prosper de Mulder, who are contracted to burn 195,000 tonnes of OTMS MBM over three years in new incinerators at Widnes (start date expected to be August 2000) and Wymington (start date expected to be October 2000). Both sites have the necessary planning permission and outline environmental approvals in place to burn MBM. A third

contract to incinerate 180,000 tonnes of OTMS MBM over 3 years has been awarded to Shanks for a new built incinerator at their Fawley site. Shanks expect to commence incineration in April 2001, subject to obtaining the necessary consents. Negotiations continue with a fourth company to meet the balance of the Intervention Board's requirements for OTMS MBM incineration capacity.

23. When all of the plants are operational these contracts should increase the Intervention Board's incineration capacity to over 200,000 tonnes of OTMS MBM per annum for a three year period. This will enable them to reduce stocks to very low levels by March 2004, although MBM production levels will continue to be influenced by the number of cattle entering the OTMS and their average weight.

24. Assessments produced by the Environment Agency on the risks to human health from BSE via environmental pathways show risks from current and proposed methods of destroying cattle waste to be negligible compared to other risks in daily life.

variant Creutzfeldt Jakob Disease (vCJD)

Number of Cases of vCJD

25. From April 2000, the Department of Health began publishing on a monthly basis the number of living patients known to be suffering from 'probable' variant Creutzfeldt-Jakob disease (vCJD), in addition to the number of confirmed vCJD deaths.

26. This followed SEAC's advice confirming newly agreed criteria for diagnosing vCJD in living sufferers as being reliable enough to publish the number of 'probable' cases identified in this way. As at 30 June 2000, there were 74 known cases of vCJD in the UK classified 'definite' or 'probable'. These comprised 7 patients still alive who are 'probable' sufferers of vCJD. In addition, there a further 4 'probable' vCJD cases who have died but are awaiting pathological confirmation that their deaths were 'definitely' attributable to this disease. That leaves a further 63 who are known to have died from the disease.

27. Being able to count and record the number of living sufferers is now possible because diagnostic tests have been very accurate in identifying 'probable' vCJD in severely neurologically impaired patients. However, there is no test available to detect those who may be infected with vCJD at the pre-clinical stage. Developing such a test remains one of the Department of Health's research priorities.

28. Further information on vCJD can be found on the UK CJD Surveillance Unit web site at:

<http://www.cjd.ed.ac.uk>

or the Department of Health website at:

<http://www.doh.gov.uk/cjd/>

vCJD: First Findings from Survey of Human Tonsil and Appendix Tissues

29. A scientific committee chaired by Professor Borysiewicz of the University of Wales College of Medicine met on Thursday 20 April to review the results of analyses undertaken from 3,000 specimens of human tonsil/appendix tissue. These are preliminary results from a survey that will eventually examine tissue of around 18,000 samples. None of these were found to show the presence of the abnormal prion protein associated with variant Creutzfeldt Jakob Disease.

30. The fact that no positives have been found is welcome news, but these early results should not be taken as an indication of an 'all clear'. The methods of analysis used on the small sample of specimens have some limitations. In addition we do not know at what point in the incubation period tissues such as tonsils or appendices would turn positive, how long the incubation period would be, or even whether any individuals who were found positive would necessarily go on to develop the disease. Nevertheless, these research findings are another contribution to increasing our understanding of this disease.

Inquiry into BSE and vCJD

31. The BSE Inquiry Phase II hearings (dealing with clarification, conflicts of evidence and potential criticisms) finished in mid-December. The Inquiry team is now preparing the Report to be presented to Ministers by 30 September 2000.

Cattle identification and tracing

32. The Cattle Tracing System (CTS) for Great Britain is a computerised system operated by MAFF to register cattle and their movements from birth to death. It holds the full movement history of all cattle born or imported since 28 September 1998. Animals born or imported between 1 July 1996 and 27 September 1998 are also registered on the system. All animals entering the human food chain are therefore registered on the CTS and issued with a cattle passport.

33. To comply with Commission Regulation (EC) No 2629/97 Great Britain introduced a system of all numeric eartagging for cattle with effect from 17 January 2000.

34. It was announced on 25 April 2000, that the CTS was to be extended to cover all cattle in the GB herd. Work to refine the database so that it fully covers older cattle born or imported before the CTS was set up is expected to be completed this year.

35. From 1 January until 30 June 2000 the British Cattle Movement Service (BCMS) issued 1,696,010 cattle passports and recorded 3,422,523 cattle movements.

SECTION 3 - PROTECTION OF ANIMAL HEALTH

Feed controls

36. One of the pre-conditions endorsed at the Florence Council for the lifting of the export ban was that legislation should provide for the removal of mammalian meat and bone meal (MBM) from feed mills and farms, and subsequent cleansing of the premises and equipment concerned. A voluntary Feed Recall Scheme was completed by 1 August 1996. The European Commission inspected the arrangements in respect of animal feed (including the Feed Recall Scheme) and mammalian MBM on 26-29 July 1996 and confirmed that it was content. That position was confirmed in discussion with the Standing Veterinary Committee on 10-11 September 1996 and in subsequent Commission inspection missions - the most recent one took place during October 1999.

Testing of Animal Feed

37. To monitor compliance with the feed controls, the Government has in place a feed sampling programme which fulfils the requirements of EC Commission Decision 95/287/EC. The feed sampling programme has been conducted by the State Veterinary Service since February 1996, and currently covers feed mills, on-farm mixers and other premises handling livestock feed.

38. The results of the feed sampling programme are encouraging, and indicate wide compliance with the feed controls. Up to 6 June, 0.29% of the total 60,000 samples taken and tested with the compound feed Enzyme-Linked Immunosorbent Assay (ELISA) for the presence of mammalian protein had positive or inconclusive results. After investigation of these, the majority have been attributed to the legitimate presence of mammalian protein (i.e. in forms other than mammalian MBM) in feed intended for non-ruminant animals. No case of mammalian MBM in ruminant feed has been detected since August 1996. Full details of these test results and any enforcement activity are

published on the Internet and in the monthly BSE Enforcement Bulletin (see paragraph 16). The Internet address is:

<http://www.maff.gov.uk/animalh/bse/bse-publications/bse-publications-index.html>

SECTION 4 - EUROPEAN AND INTERNATIONAL PERSPECTIVES

Lifting the beef export ban

39. On 27 March 1996 the European Commission adopted Commission Decision 96/239 which banned the export from the UK of live bovine animals, beef, beef products, and other bovine tissues. In June 1996 the Florence European Council agreed a framework for the gradual removal of the export ban. Further Commission and Council Decisions have since amended the ban, notably Decisions 98/256 and 98/692 which permitted exports to resume under the Date-based Export Scheme (DBES). All are included in the chronology at **Appendix 1**.

Date-based Export Scheme

40. Beef exports have been permitted under the DBES since 1 August 1999. Currently there are two plants - St Merryn Meats at Probus, near Truro and Bryson Meats at Strathaven in Lanarkshire - approved to export deboned beef under the DBES.

41. The European Commission launched legal proceedings against France over its failure to lift its import ban on UK beef on 16 November 1999. In reply to a Commission Reasoned Opinion France refused to lift its ban. The Commission then submitted an application to the European Court of Justice (ECJ) on 4 January 2000. Notification of the Commission's ECJ case (Case C-1/00) was published in the Official Journal on 4 March. The UK Government applied to the ECJ to intervene in the case and on 27 June was given leave to intervene.

42. On 17 March the German Bundesrat voted in favour of an order to lift the German import ban on UK beef, and it was formally lifted on 29 March. The other EU member states have confirmed that they have no barriers in place to prevent the import of UK DBES beef.

43. The Government continued to work towards the lifting of import bans in third countries. Minister of State Joyce Quin met

Ambassadors of 9 of the 13 target countries identified in agreement with the industry and promoted British beef at various international trade fairs. The Government hosted incoming missions from other countries including South Africa, Poland and Hungary. Commercial Agricultural attaches in all overseas posts are pressing relevant host governments to lift any remaining bans. By the end of June there were 81 countries which did not ban the import of UK beef. See **Appendix 11**.

44. Following their inspection of the UK's DBES arrangements and Cattle Identification procedures from 4-8 October 1999, the European Commission issued their final report on the internet in May 2000. Amongst other things, this report confirmed that stand alone cold stores may now also seek approval to handle DBES goods under the Export Approved Premises (XAP) scheme. There was a further Commission Inspection Mission on the DBES and BSE surveillance from 20-24 March. The report of this inspection will be published shortly.

45. After confirming with the European Commission that EU rules did not prevent DBES approved establishments from despatching bone-in beef to the domestic market, a consultation letter was issued to industry in mid-May on a proposal to amend the Bovine and Bovine Products (Trade) Regulations 1999. These regulations currently prohibit the despatch of bone-in beef, and the proposal was to amend them to bring DBES approved establishments into line with other slaughterhouses and cutting plants which may despatch bone-in beef to the domestic market following the lifting of the beef on the bone ban last year. Following a favourable response from the industry, a decision was taken to proceed with amending the legislation and the Bovine and Bovine Products (Trade) (Amendment) Regulations 2000 which permit DBES establishments to despatch bone-in beef to the domestic market came into force on 17 July 2000.

Proposal for the despatch of bone-in veal carcasses under the Date based Export Scheme

46. On 6 March 2000 the Minister met Commissioner Byrne to raise the possibility of amending the rules of the Date-based Export Scheme so as to permit the export of bone-in carcasses from veal calves aged 6-9 months old. Currently the rules require

that all beef is deboned before export. Subsequently, the European Commission asked the Scientific Steering Committee (SSC) to assess the safety of whole carcasses from these animals exported from the UK to other countries. A draft report on this issue was discussed for adoption at the SSC meeting on 6-7 July 2000.

Low BSE incidence status for Northern Ireland

47. Preliminary discussions have been held with the European Commission about seeking a low BSE incidence status for Northern Ireland, which now has an incidence of BSE comparable to several EU Member States that are not subject to any export restrictions with respect to BSE. This would allow the resumption of exports of cattle, beef and beef products from NI without the restrictions which apply to exports from the rest of the UK and on an equivalent basis to other Member States with a low incidence of BSE. GB would, for the time being, retain its current BSE status and the existing export controls.

48. Ideally beef and beef products originating in Great Britain would be able to move to Northern Ireland but controls would be placed on their processing in Northern Ireland so that ineligible bovine material originating in GB could not be exported from Northern Ireland. A draft plan setting out how the controls might operate in principle has been sent to the Commission for comment and interested parties in GB and Northern Ireland are being formally consulted.

Exports of meat, minced meat, meat preparations, meat products, 'other products of animal origin' and petfood derived from bovines slaughtered outside the UK

49. Controls on exports of the above products have been enforced under the Bovines and Bovine Products (Trade) Regulations 1999 since May 1999. Amongst other things, these require all establishments involved in the production chain from import to re-export to be officially approved by MAFF's State Veterinary Service (SVS) and under official veterinary supervision. There are also labelling, storage, record keeping and certification requirements. At 30 June 2000 some 55 establishments in Great Britain are approved under these controls.

Gelatin, collagen, tallow derivatives, amino acids and peptides

50. As at the end of June 2000, seventeen plants were approved for export of gelatin, collagen, tallow derivatives, amino acids and peptides made from materials derived from bovine animals slaughtered outside the UK. All of them remain subject to periodic inspections by the SVS to ensure they continue to meet the requirements of Article 9 of Council Decision 98/256.

Tallow

51. Inspection of the four plants registered to produce tallow from UK bovine materials for use in animal feed, cosmetics, medical or pharmaceutical products continued throughout the period covered by this report. By the end of June 2000, the export of tallow produced by these plants remained prohibited since the necessary inspections by the European Commission had not been completed.

Semen

52. The EU ban on exports of bovine semen from the UK was lifted in June 1996 thereby enabling the resumption of exports to Member States under harmonised rules, and third countries (i.e. non-EU countries) subject to bilateral agreement. Bilateral agreement has been reached with, amongst others, the United States of America, Canada, the Republic of South Africa, Australia and New Zealand.

53. In May 2000 the Office Internationale des Épizooties (OIE) reiterated its 1992 recommendation that trade in semen collected from healthy bulls requires no additional certification in respect of BSE. The UK already ensures that the donor bull is not confirmed or suspected of having BSE and also that the dam of the donor bull is not confirmed or suspected of having BSE at the time of the bull's entry to the collection centre.

Enforcement of the beef export ban

54. The Bovines and Bovine Products (Trade) Regulations 1999 make it an offence to despatch, or consign for despatch, UK cattle, beef and beef products or goods derived from foreign origin beef, if there is an export prohibition or if they do not comply with the specified conditions for permitted exports (under the DBES arrangements for re-export of non-UK origin meat etc. described in paragraph 49). The Regulations provide clear powers to search, seize and detain goods together with penalties which include fines of up to £5,000 and up to 2 years imprisonment.

55. The State Veterinary Service (SVS) enforces export conditions by surveillance at ports to deter and detect any attempted illegal export. Over 5,000 consignments are currently checked each month. When any consignment is found to be in breach of export conditions it is detained or seized by SVS Inspectors, who then apply to a Magistrates Court for an Order for destruction or disposal. In addition investigation and prosecution of those involved with such cases may be considered, in collaboration with other Member States and the Commission's anti-fraud unit (OLAF) where appropriate. Further details of the two cases reported on below and other completed legal actions are reported in the monthly BSE Enforcement Bulletin (see paragraph 16).

56. One case (after the March 1996 export ban), involving the large-scale despatch to Belgium of British beef during 1996/97 which had been mis-described as Belgian and as a separate misrepresentation of the source of French beef imported to the UK, led at the end of 1999 to two defendants receiving sentences of imprisonment for 12 months on each of the charges to run concurrently and costs of £5,000 each. Sentencing of a third defendant was delayed until May this year due to ill health. He has now received a sentence of nine months imprisonment, suspended for two years.

57. In a linked case two defendants were prosecuted under the Products of Animal Origin (Import and Export) Regulations 1992 for failing to ensure that a substantial amount of beef exported to France had been accompanied by a valid Export Health Certificate. At the end of 1999, they were convicted and fined a

total of £8,000 plus £3,000 costs and £9,000 plus £10,000 costs respectively. An appeal has been lodged and should be heard later this year.

Offspring Cull

58. The premise upon which the DBES is based is that the controls on feed were substantially tightened from 1 August 1996 and that risks of feedborne transmission from that date would be insignificant. Maternal transmission appears to represent the only remaining route of infection. The offspring cull supports the DBES by removing animals born after that date known to be at risk of infection by their dams. Commission Decision 98/692/EC required that before beef exports could resume under the DBES the UK must slaughter all offspring born after 1 August 1996 to BSE cases confirmed before 25 November 1998 - "the backlog". This was completed by 4 June 1999. All other offspring born after 1 August 1996 must be slaughtered without delay. As at 30 June 2000, a total of 8755 offspring had been slaughtered under the cull, and a further 193 offspring were awaiting slaughter.

Selective cull (Accelerated Slaughter Scheme) update

59. The selective cull is one of the five pre-conditions set out in the Florence Agreement for the lifting of the beef export ban. The aim of the cull is to produce a single step reduction in the number of future cases of BSE by identifying and slaughtering, before they develop the clinical disease, those animals considered to be most at risk of being infected. The scheme targets animals born between 1 July 1989 and 30 June 1993 which are believed to have shared the same contaminated feed as confirmed BSE cases in the first six months of life. By the end of June 2000, nearly 76,000 animals had been slaughtered under the cull.

EU-wide Specified Risk Material controls

60. On 7 June the Standing Veterinary Committee considered a proposal to amend Commission Decision 97/534/EC, the application of which had previously been deferred by the Council of Ministers until 1 July 2000. The proposal was the Commission's fifth attempt to replace Decision 97/534 on specified risk material (SRM) following recognition that it would

have serious consequences for cosmetics and important pharmaceuticals in the Community market. The proposal failed to secure a qualified majority in the Standing Veterinary Committee. It was referred to the 19 June Agricultural Council where it secured support from a simple majority of member states. This allowed the Commission to act; it adopted the decision on 29 June 2000.

61. The Commission Decision requires implementation by 1 October 2000, except for a prohibition on pithing which is due to be implemented by January 2001, and provisions relating to imports from third countries which are due to be implemented by 1 April 2001. National measures will remain in place until the Community Decision is in force.

62. The decision introduces EU-wide controls on SRM. All Member States, including those which do not consider they have BSE, will be required to remove and destroy SRM from cattle, sheep and goats and introduce controls to ensure that none of this material gets into food, animal feed or fertilisers. The same controls will apply in all Member States, except that a longer list of SRM from cattle will apply in the UK and Portugal, the countries with the highest incidence of BSE.

63. The definition of SRM in the decision is very similar to the one applied in the UK under national legislation. In considering their proposal, the EU Commission took account of the opinions of the Scientific Steering Committee, including an opinion on the UK decision to lift the beef on the bone ban. (See also paragraph 111). However, the UK national controls go further in respect of heads of sheep and goats and bovine thymus and intestines.

64. SEAC considered the proposal and agreed that, on balance, the benefit of introducing SRM controls across the Community would outweigh concerns about the perceived slight increase in risk which might arise from any consequential change to the UK's existing controls. SEAC's statement is attached at **Appendix 3**.

Commission Decision on Surveillance

65. Following the publication by Doherr and colleagues in 1999 (Veterinary Record, **145**, 672) of a report that targeted surveillance of fallen stock and emergency slaughtered cattle increased the detection rate of BSE cases, on 4 April the Standing Veterinary Committee agreed by a qualified majority a proposal to amend Commission Decision 98/272 on surveillance for Transmissible Spongiform Encephalopathy (TSEs). All Member States will be required to introduce from 1 January 2001 a programme of surveillance for BSE covering fallen stock and casualty slaughtered animals using the recently evaluated rapid post mortem tests (see paragraph 100). The UK will be required to test approximately 7000 brains collected from emergency slaughtered and fallen stock, with the latter category accounting for at least 10 per cent of the samples.

66. Arrangements for surveillance of scrapie were not altered.

67. On 20 to 24 March officials from the Commission's Food and Veterinary office inspected the arrangements in place in the UK in order to comply with the existing legislation on TSE surveillance (Commission Decision 98/272). The report will be published shortly.

Commission proposal on TSEs

68. In January 1999 the Commission has put forward a proposal for a European Parliament and Council Regulation on transmissible spongiform encephalopathies (TSEs). The aim is to provide a secure legal base for the Community measures against TSEs. The proposal covers the control and prevention of all animal TSEs, and is based on recommendations from the OIE and on advice from the Commission's Scientific Committees.

69. A Council Working Group has been considering a draft compromise text under the German, Finnish and Portuguese Presidencies. The Council has published a progress report of the Working Group which includes a further compromise text. This is based on the BSE Chapter of the OIE code, as amended in May 2000, which sets out the measures which should be applied in

respect of trade with countries in five categories of risk. The categories are based largely on the reported incidence of BSE. A copy of the most recent working document of the Council Working Group is at **Appendix 6**. The Commission has maintained a reserve on the whole text throughout these discussions. Meanwhile, the European Parliament has considered the original Commission text and agreed a report at their plenary session of 17 May. Among the suggested amendments from the European Parliament were controls on semen and the introduction of a herd slaughter policy.

Review of Animal Waste Directive, 90/667/EEC

70. The processing of animal by-products (animal carcasses, parts of animal carcasses and products of animal origin not intended for human consumption) is currently controlled by the EU Animal Waste Directive, 90/667/EEC, and its associated Commission legislation.

71. The European Commission has recently undertaken a review of the Animal Waste Directive and has proposed a number of radical changes. The changes are based on a number of opinions from the EU Scientific Steering Committee (SSC) which recommended the safe sourcing of material, its safe processing and its safe utilisation. The proposals would therefore prevent the use in livestock feed of meat and bone meal and tallow derived from 'high risk' material, such as fallen stock or diseased animals. There would also be greater control of premises on which animal by-products are processed or disposed of, and of premises on which processed material is used.

72. Discussions on the proposals are at an early stage, and a proposal has yet to be formally submitted to the Council of Ministers and the European Parliament. The Commission has indicated that it expects to submit a formal proposal in July 2000 with a view to its adoption by the Council and Parliament in December 2001.

SECTION 5 - EPIDEMIOLOGY

Effect of the ruminant feed ban

73. The decline in the number of BSE cases in cattle which started in 1993 is continuing, reflecting the considerable impact of the measures taken in 1988 and 1990 to reduce infectivity in animal feed. About 30 suspect cases are being reported each week at present, compared with over 1,000 at the peak of the epidemic in early 1993. BSE has been confirmed in 79.5% of cases slaughtered in 1999.

74. Epidemiological investigations carried out in 1987 and 1988 indicated that BSE was caused by consumption of infected feed, probably due originally to the inclusion in cattle feed of protein derived from scrapie-infected sheep, but exacerbated by recycling infection from cattle to cattle in feed. A ban on the use of ruminant-derived protein in ruminant feedstuffs was therefore introduced in July 1988, as soon as the feed-borne hypothesis had been established, to prevent further transmission of the infective agent from sheep to cattle, from cattle to cattle, or from cattle to sheep by this route and also to protect other ruminants.

75. There is clear evidence that the feed ban is affecting the course of the epidemic in the way which had been predicted:

- the number of suspected cases now being restricted is significantly less than in the years 1989 to 1998 (**Figure 1**). The number of restricted cases in 1999 was 30.5% below that for the same period in 1998 and 46.8% below the same period in 1997. **Figure 2** shows the distribution of confirmed cases by month of birth as at 1 July 2000,
- **Table 2** and **Table 3** show the most recent data on age specific incidence,
- the within herd incidence in affected herds has declined from a peak of 3.49% in 1992 to 1.84% in 1999,
- the national annual incidence also peaked in 1992 at 0.97% of all adult cattle. This fell to 0.06% in 1999.

Incidence

76. The number of suspect cases reported by calving season (1 July to 30 June) and placed under restriction is shown in **Figure 1**, which is plotted using a rolling mean (i.e. the mean number of suspect cases reported in the previous four weeks) to even out weekly fluctuations in the report rate). **Figure 3** uses the same method to show the number of cases which are placed under restriction after being reported, and those which are subsequently confirmed, since 1988. In the period since November 1986, when the disease was first recognised, up to and including 30 June 2000, 176,954 cases of BSE were confirmed on 35,051 farms. 62.6% of herds with adult breeding cattle (dairy or beef) have never had a case of BSE. Looking separately at the two sectors, 61.2% of dairy herds, but only 16.6% of beef suckler herds have experienced at least one case of BSE. Most of the cases in beef suckler herds are in animals which were purchased as calves from dairy herds, where they would have been exposed to infection through feed (**Figure 4**). Those herds with more than four cases of BSE account for 74.6% of all BSE cases, but represent only 11.9% of all herds with adult cattle.

77. Averaged over the period 1988 to June 2000, BSE is confirmed in approximately 84% of the suspects compulsorily slaughtered each year. This confirmation rate fell in 1996 to 78.9%, rose in 1997 to 81.4% and fell again in 1998 to 78.9%. It is currently 79.5% for January to June 2000. There is some seasonal variation (**Figure 5**). **Figure 6** shows the total number of confirmed cases of BSE by month and year of onset of clinical signs. **Table 4** shows the number of suspect cases reported and placed under restriction each week since the disease was made notifiable, the number subsequently slaughtered and the number and percentage of cases in which the disease is subsequently confirmed. These data are subject to revision and the figures for confirmed cases for the more recent months are inevitably incomplete. **Table 5a** shows the number of suspect cases reported and placed under restriction each month since the disease was made notifiable and **Table 5b** shows by month of restriction the number of cases in which the disease was subsequently confirmed. **Figures 7a,7b** and **7c** show the incidence of BSE by county for the years 1986 to 1999.

78. **Figure 8** shows how the accuracy of clinical diagnosis varies according to the age of the suspect cases. The unconfirmed rate is high in young and old animals where there is a greater incidence of disorders with neurological symptoms likely to confuse the clinical diagnosis of BSE.

79. Up to 1 July 2000, 41,392 cases of BSE had been confirmed in animals born after the introduction of the ruminant feed ban (BABs). **Figure 9** shows that many of the BABs were born in the period immediately after the introduction of the feed ban in July 1988. We are, however, continuing to see cases in animals born some years after the feed ban, albeit at reducing incidence. In the second half of 1999, most cases were born in the years 1992-94, probably due to accidental contamination of animal feed with mammalian meat and bone meal (MBM) containing the BSE agent beyond 1988. It was evidence of such cross contamination that led to the strengthening of feed controls in March 1996. The latest born animal was born in August 1996. This is the only case of BSE in an animal born after the latest tightening of the feed controls on 1 August 1996. A copy of Press Notice 217/00 is at **Appendix 4**.

80. The measures in place to protect animal health have been significantly strengthened, especially in 1995 and 1996. A full list of legislation is included in the chronology at **Appendix 1**.

81. Measures taken will obviously not protect cattle already incubating the disease but will prevent further infection through feed. The normal range of the incubation period makes it inevitable that further cases, which were infected before the enhanced measures became effective, will be confirmed in the future. **Table 6** shows the proportion of suspected cases currently being reported that were born before and after the ruminant feed ban. The introduction of improved rendering standards on 1 January 1995 following Commission Decision 94/382, is expected to have significantly reduced any risk in feed thereafter.

Surveillance

82. A survey of cattle brains collected from animals slaughtered in the Over Thirty Months Scheme in 1999 identified that approximately 0.5% of the cattle sampled were infected. On the advice of SEAC, samples were deliberately selected from cattle that were five years of age or older in order to maximise the chances of finding infected cattle. There was a danger that the testing of brains from younger cattle would have failed to detect infected cattle if infectivity had not reached the central nervous system by the time of testing. Three tests were used to examine the brains; the results of two, histopathology and western blotting, were in agreement. The result of the third (DELFI) test will not be available until EU evaluation of the test method is complete.

83. A second and larger OTMS survey was announced on 10 April 2000. A copy of Press Notice 130/00 is at **Appendix 5**.

BSE cases in the UK and other countries

84. The numbers of cases of BSE which have been recorded in the UK and other countries are listed at **Table 7**. Figures for 1999 show a continuing decline in the epidemic in all parts of the UK. The figures also show that the rise from much lower levels in the number of cases confirmed in Ireland and France has continued whilst the number of confirmed cases in Portugal has remained static.

85. The number of BSE cases in other countries is much lower than in the UK. However, the UK alone has the Over Thirty Month Scheme which limits the number of pre-clinical cases entering the food chain (see paragraphs 18-20). Taking account of the OTMS Professor Anderson's group at the Wellcome Trust Centre for the Epidemiology of Infectious Disease at the University of Oxford has concluded that only one, or perhaps two, BSE infected cattle within twelve months of clinical infection would enter the human food chain in Great Britain in the year 2000. The tissues from these animals which are most likely to carry BSE infectivity are removed under the Specified Risk Material controls; these are applied in all countries which have reported indigenous cases of BSE.

86. The incidence of BSE has been higher in Great Britain than in other countries because historically there has been a higher level of exposure of cattle to infected animal feed. For instance, dairy calves in most other European countries are not fed concentrate feed containing mammalian MBM, the primary source of BSE infection, in the same way that they used to be in Great Britain. Comprehensive control measures now prevent animals from receiving infected feed in the UK.

SECTION 6 - SCRAPIE AND OTHER SPONGIFORM ENCEPHALOPATHIES (SEs)

Scrapie

Proposals for a National Scrapie Plan

87. SEAC have recommended that a long-term programme be developed for the control and eradication of scrapie. This recommendation and another that ways should be sought to improve the ascertainment of scrapie was contained in their report on research and surveillance on TSEs in sheep published in April 1999 (available on the MAFF internet site) at:

<http://www.maff.gov.uk/animalh/bse/bse-publications/seac/sub-rep.pdf>

88. In the *Action Plan for Farming* launched at the Prime Minister's farming summit on 30 March the Government announced that it would work for the reduction in scrapie as recommended by SEAC and noted that breeding based on ram genotyping has been shown to be a promising approach. Building on its own and wider research the Government would hold preliminary discussions with industry representatives on the Scrapie Information Group with the objective of making a start with a scheme this year.

Surveillance

89. Under legislation which came into effect on 29 July 1998, it is compulsory for sheep and goats displaying clinical signs of scrapie to be slaughtered. Compensation is paid to owners and MAFF disposes of the carcase. The rules also improve controls on affected animals and provide additional information and materials for the study of the disease.

Confirmed cases of scrapie in Great Britain

90. The figures for annual confirmed cases of scrapie since January 1993, when the disease was made notifiable, are given at **Table 8**. The figures for the years up to 1999 (**Table 8a**) include a small number of assumed positive cases, i.e. where subsequent or second reports were not sent for laboratory diagnoses. **Table 8b** shows confirmed cases for the period 1 January to 30 June 2000.

91. As well as the compulsory slaughter and compensation legislation mentioned above, a number of initiatives are in place to encourage the reporting of scrapie. These include:

- publication of a video of the clinical signs of scrapie, used by the State Veterinary Service for training. This is available from the MAFF video catalogue;
- publication of an advisory note for farmers on scrapie, which has been sent to all sheep and goat farmers. This booklet explains the notifiable status of the disease, the symptoms, why it must be reported, the notification and compulsory slaughter procedures, and information sources.

SE cases in other species

92. **Table 9** gives details of SEs (presumed transmissible, but not proved in all cases) in domestic cats and exotic species. The number of cases of feline spongiform encephalopathy (FSE) confirmed each year in domestic cats remains at a low level.

SECTION 7 - RESEARCH

Introduction

93. MAFF has a wide-ranging programme of research on TSEs addressing issues that affect both animal and human health. The research programme on TSEs deals with epidemiology, pathogenesis, diagnosis and transmission of BSE and scrapie in cattle and sheep. The policy aims that drive the programme are:

- the protection of public health through the prevention of risk of infection with the BSE agent
- the eradication of BSE from UK cattle
- the prevention of recurrence of a BSE-like epidemic
- the eradication of TSEs from UK sheep

94. Following the announcements of March 1996 concerning the identification of vCJD, a rapid expansion of certain parts of MAFF's TSE research programme to further support the protection of both animal and human health was initiated. This required the establishment of a joint committee of all funders of research into TSEs to ensure that funding was used most effectively, with duplication of effort avoided and gaps in knowledge identified. The committee includes representatives of MAFF, Departments of Health, the Biotechnology and Biological Sciences Research Council, the Medical Research Council, the Wellcome Trust, the Food Standards Agency, the Health and Safety Executive and the Environment Agency. Professor Sir John Pattison, the Director of Research at the Department of Health, chairs the Funders Committee.

95. Research into TSEs is inevitably slow and long-term because of the nature of the diseases. Establishment of new research in the field is not easy because of the need for specialised facilities, but in order to ensure that obstacles did not cause unnecessary delay the Government established the High Level Committee which is chaired by Sir Richard Wilson, the Head of the Home Civil Service. The Committee membership includes the Permanent Secretary of MAFF, the Chief Medical Officer, the Chief Scientific Advisor, Professor Sir John Pattison, and the Chief Executives of the Research Councils.

96. In order to improve the co-ordination of the TSE research programme, MAFF established the TSE Research and Surveillance Unit in December 1999. The Unit has sole responsibility for management of the current research programme. The Unit will also be responsible for the delivery of the programme of research and surveillance on TSEs in sheep recommended by SEAC. The Unit aims to:

- deliver an integrated programme of research and surveillance on TSEs which meet policy needs and priorities in a timely way, making the most effective use of resources and funds available.
- communicate effectively the content of and results from the research programme to policy makers, ministers, SEAC and other stakeholders.

97. More than £30 million of additional funding has been secured to take forward the new sheep research programme over the next two years. The funding will enable the work to progress more rapidly and cover the cost of building laboratory and animal accommodation. A further bid for £29 million will be made to meet the full cost of the sheep research programme over the next six years.

98. The Unit published a research requirements document seeking new proposals for research on TSEs in April. Proposals were invited on high-priority areas, identified by SEAC and the policy aims that drive the research programme, that are not already covered by the existing programme. Much of the work focuses on diagnostic testing and TSEs in sheep.

Results

99. Many of the TSE projects which MAFF funds take many years to complete and consequently, results are published on a less frequent basis. All results are submitted for publication in peer reviewed scientific journals. However, interim results are provided in confidence to SEAC on a regular basis to ensure that they can provide the best advice to the Government. Occasionally it is possible to publish interim results by other routes. This is only done if the interim results are fully interpretable as they stand, but

where the experiment itself has some time to run to completion. For example when new statutory measures are needed the results may be announced by means of a press release. Other results are published in this report from time to time and on the MAFF website.

100. The UK archive of tissues from BSE-affected cattle enabled the European Commission to evaluate four “new” diagnostic tests. Three proved to be highly specific and sensitive. Technical difficulties with the fourth resulted in a disappointing evaluation. This new generation of tests may form the basis of future surveillance for BSE and possibly scrapie in Europe and elsewhere. All are intended for use as post-mortem tests. They cannot yet be used on live animals.

Sheep

101. Analysis of data from two initiatives recommended by SEAC in 1996 to improve our understanding of the scrapie status of the national flock continued.

102. Responses to an anonymous postal survey of sheep farmers were analysed. Some results have been published and the first of these were published in a paper ‘Scrapie occurrence in Great Britain’ in *The Veterinary Record* vol 145, No. 14 (**Appendix 8**) which suggested a reporting rate of 13%. The survey concluded that the policy of slaughter and compensation is not providing a true indication of scrapie incidence. In the second paper, ‘Scrapie transmission in Britain: a recipe for a mathematical model’ published in the proceedings of the Royal Society London B, vol 226, No. 1437 the authors identified certain risk factors associated with farms that have had scrapie as size of flock, geographical region, lambing practices and holding of certain breeds. The third paper, ‘Descriptive epidemiology of scrapie in Great Britain: results of a postal survey’ published in the *Veterinary Record*, vol 146, (**Appendix 10**), reported the results indicated that 14.9% of farmers with more than 30 breeding sheep thought they had experienced scrapie in their flock and that 2.7% thought they had had cases in the previous 12 months. On the majority of farms the first case of scrapie occurred in purchased animals. The survey also revealed the need for the provision of further information about scrapie to farmers.

103. The findings of a survey of scrapie in the brains of sheep at abattoirs were published in the paper 'Scrapie surveillance in Great Britain: results of an abattoir survey, 1997/98', The Veterinary Record, vol 146, No. 14 (**Appendix 9**). Brains from 2,809 randomly sampled sheep at abattoirs were examined using two diagnostic tests. None were judged positive for signs of scrapie by both tests and as such the authors concluded that no unequivocal scrapie positive sheep were identified in this abattoir survey. No scrapie infectivity was confirmed in any of the sheep brains tested.

104. Using data from the survey, they produced a statistical model of the prevalence of infection in the slaughter population. The authors concluded that the range of animals in GB abattoirs that might carry the infectious agent is up to 11%. This is, however, hypothetical. It arises because of the relatively low sensitivity of the diagnostic tests when applied to apparently healthy animals showing no clinical signs.

105. Sheep tonsils collected in the same survey have been examined using one diagnostic test but final data analysis is still ongoing.

106. The outcome of this survey highlights the difficulty of using alternative approaches to the statutory reporting of clinical cases in order to establish the scale of the scrapie problem in any country. A breakthrough in the development of diagnostic tests for use on live animals could significantly improve prospects of doing so. Research into such tests is progressing, especially with respect to a potential blood test developed at the United States Department of Agriculture, which has shown some promise to detect, in apparently healthy sheep, the abnormal form of protein associated with scrapie.

107. The test, known as 'ICE' (Immuno Capillary Electrophoresis), is currently being further developed and validated, for use in UK livestock, at the Veterinary Laboratories Agency. If successful, it is hoped that this test could be used to screen UK sheep and also be developed further to test for BSE in cattle.

Further information on research

108. Further information on research is at **Appendix 12**. The current MAFF programme of BSE and related research is at **Appendix 13**.

SECTION 8 - SCIENTIFIC ADVICE

SEAC

109. During the period covered by this report, SEAC held two meetings. These took place on February 15 and May 11. Summaries of the meetings are at **Appendices 2** and **3**. SEAC holds press briefings when the summaries are published and following this they are placed on the MAFF Website. No additional statements or advice to Government were published in conjunction with these two public summaries and SEAC has not produced any additional publications during this period.

SSC

110. The Scientific Steering Committee's (SSC) mandate is to provide high quality scientific advice to the European Commission within the multidisciplinary field of consumer health and food safety. A key role within the Committee's remit is the delivery of advice on all aspects of transmissible spongiform encephalopathies, including BSE. The Committee's advice feeds into EU policy decisions on TSEs, which in turn impacts on UK policy.

111. During the period of this report, the SSC met four times. These meetings took place on 20-21 January, 2-3 March, 13-14 April and 25-26 May. The Committee considered a number of issues at these meetings and delivered several opinions, notably:

- a preliminary categorisation of geographical BSE risk,
- oral exposure of humans to the BSE agent - infectious dose and species barrier,
- the use of vertebral column in the production of gelatin and tallow and the safety of gelatin,
- specified risk material of small ruminants,
- the UK decision to lift the ban on the consumption of meat on the bone,

- criteria for diagnosis of clinical and pre-clinical TSE disease and for differential biochemical diagnosis of TSE agent strains, and
- the safety of ruminant blood,

112. The SSC maintains an extensive website. All opinions, reports and minutes can be viewed using the following address;

http://europa.eu.int/comm/food/fs/sc/ssc/index_en.html

The SSC secretariat can be contacted at:

telephone: (00) 32 2 295 85 54

fax: (00) 32 2 295 95 79

E-mail: paulvossen@cec.eu.int

SECTION 9 - CONCLUSION

113. The number of clinically suspect cases of BSE reported in Great Britain continues to fall. The rate of decline in 1999 rose to just over 29.1% compared with 26.3% in 1998. During the period 1 January 2000 to 30 June 2000, the number of reported cases was 39% lower than during the same period in 1999. The epidemic has now fallen to levels not seen since the disease was made notifiable in 1988.

114. The general trend of exposure has been downwards since July 1988. However, a higher than expected incidence in some year groups indicates that exposure did not decline uniformly. Available evidence has been reviewed and also examined by the EU Scientific Steering Committee. Despite the reduction of the rate of decline, all are content that the decline will continue. Only when the full effect of the additional measures taken in 1996 are felt can we expect a significant change in the rate of decline. By that time, towards the end of the year 2000, the report rate will already be very low. The absence of two year old cases in 1999, and virtual absence of three year old animals in 2000 (one case only) together with a decline in the proportion of cases that are four years old are promising indicators of the effect of these measures.

115. Projections of the number of BSE cases, derived from the Veterinary Laboratories Agency's (VLA) computer model, predict that the epidemic will continue to decline. The latest VLA forecast as at 3 July 2000 is given in the table below:

Year	Central estimate of confirmed cases	95% confidence intervals	
		Lower	Upper
2000	1115	890	1340
2001	477	330	624
2002	171	84	258

These forecasts of a declining epidemic are in broad agreement with the following, which have been provided courtesy of the Wellcome Trust Centre for Epidemiology of Infectious Diseases, University of Oxford.

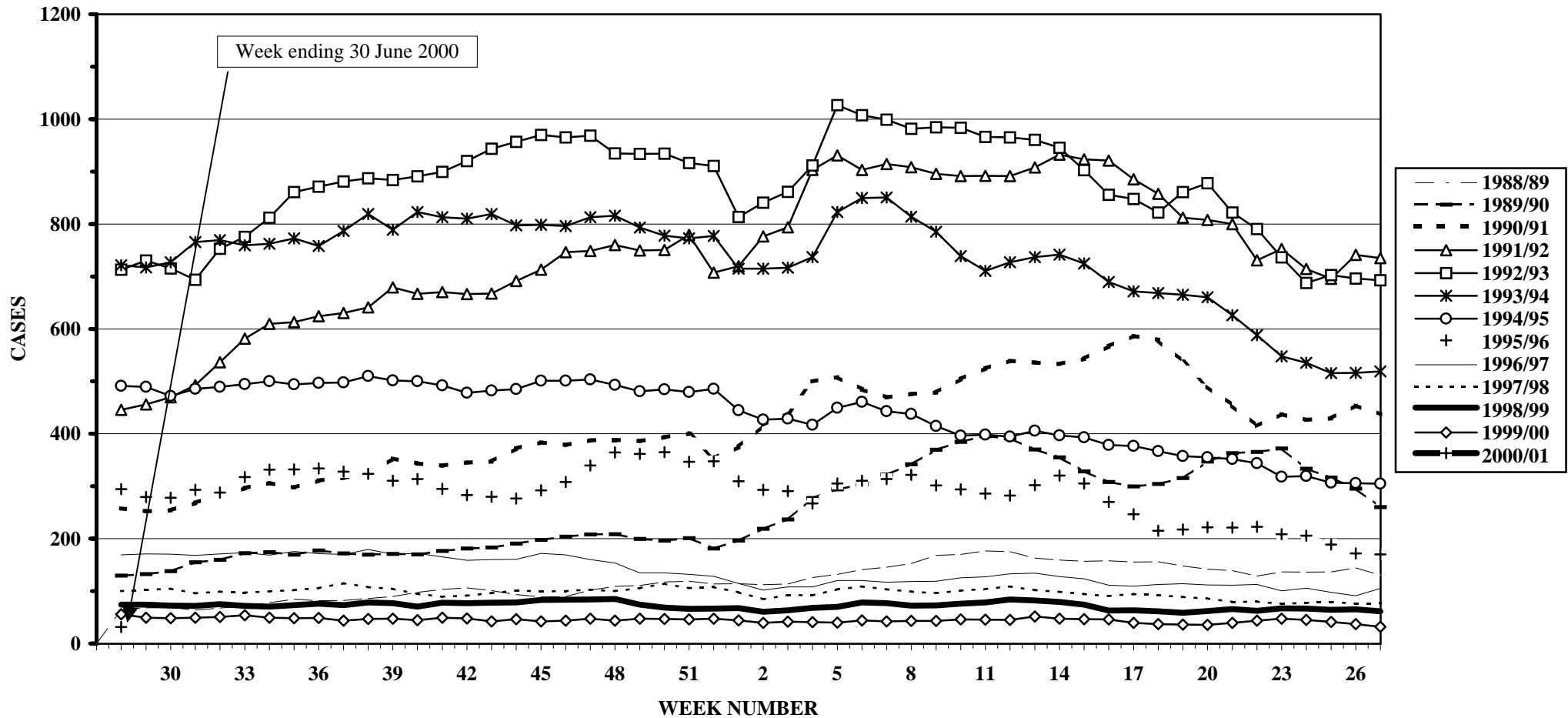
Year	Central estimate of confirmed cases	95% confidence intervals	
		Lower	Upper
1999	2578	2394	2798
2000	1753	1527	2202
2001	866	733	1283

* assuming 10% maternal transmission

116. The expectation is that the outcome, as in recent years, will tend to be closer to the upper 95% confidence interval of the VLA projections.

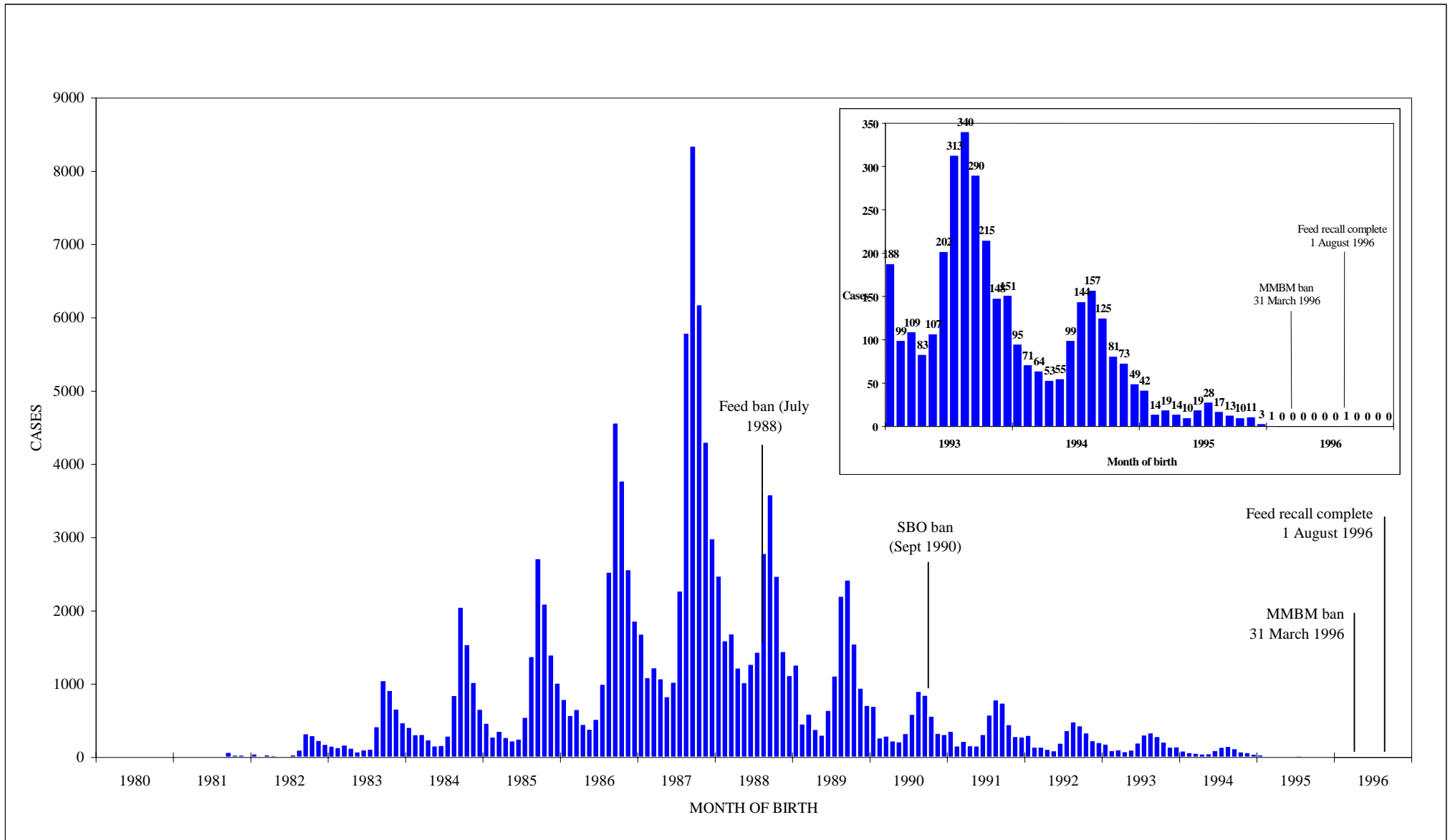
Ministry of Agriculture, Fisheries and Food
August 2000

Figure 1: ROLLING MEAN OF BSE SUSPECTS BY CALVING SEASON



Please note that because the X axis is restricted to 52 weeks, with the passage of time the calendar/calving years and the lines representing them have moved out of alignment. For example weeks 1 and 2 of the 1999/2000 line now represent the weeks ending 24/12/99 and 31/12/99.

Figure 2: CONFIRMED CASES OF BSE WITH KNOWN DATES OF BIRTH, PLOTTED BY MONTH OF BIRTH



Data valid to 1 July 2000

The inset shows 1993 to 1996 on a larger scale as the cases for later years do not show on the scale used in the larger graph

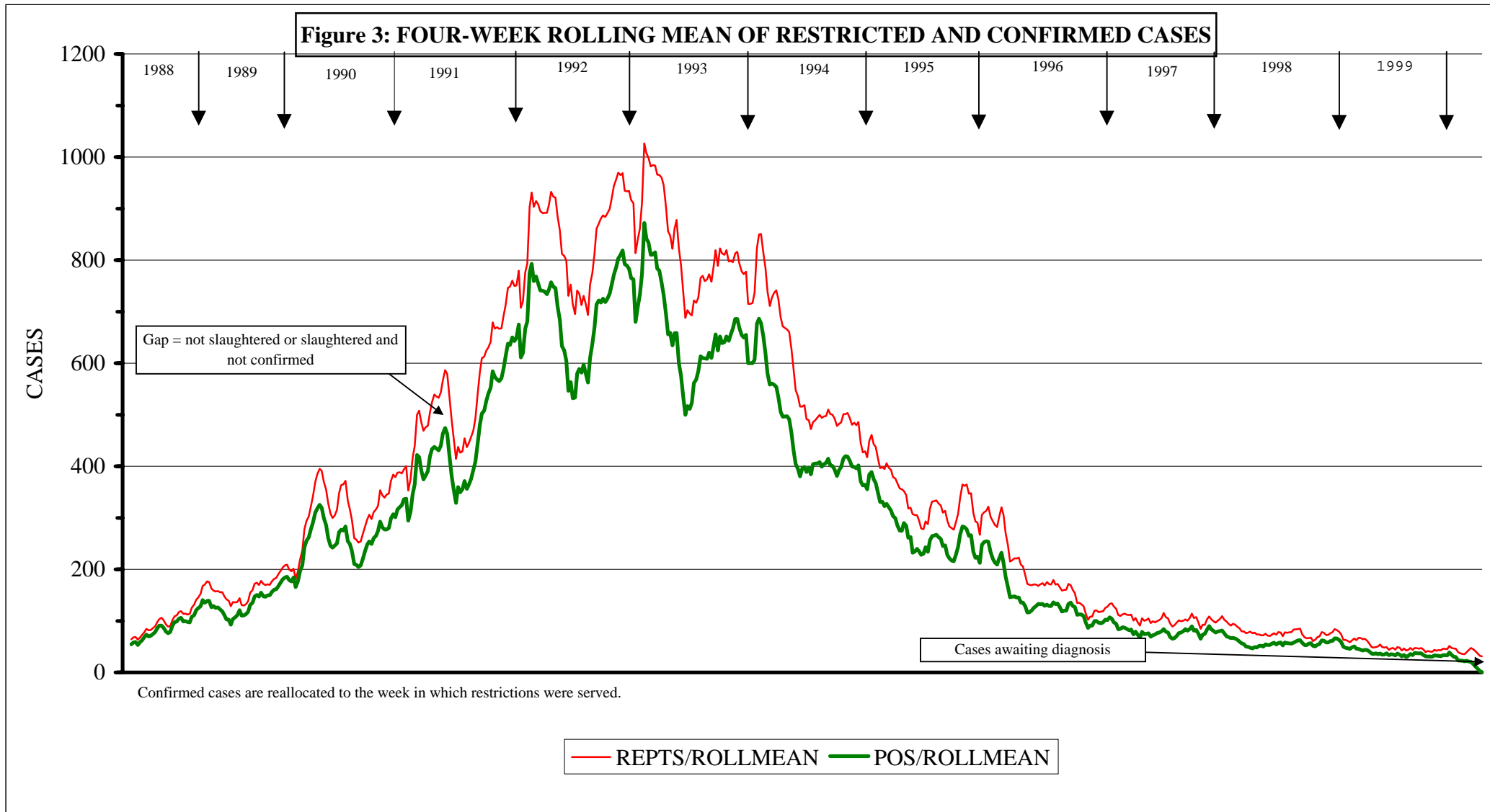


Figure 4: SOURCES OF BSE CASES IN AFFECTED DAIRY AND BEEF SUCKLER HERDS

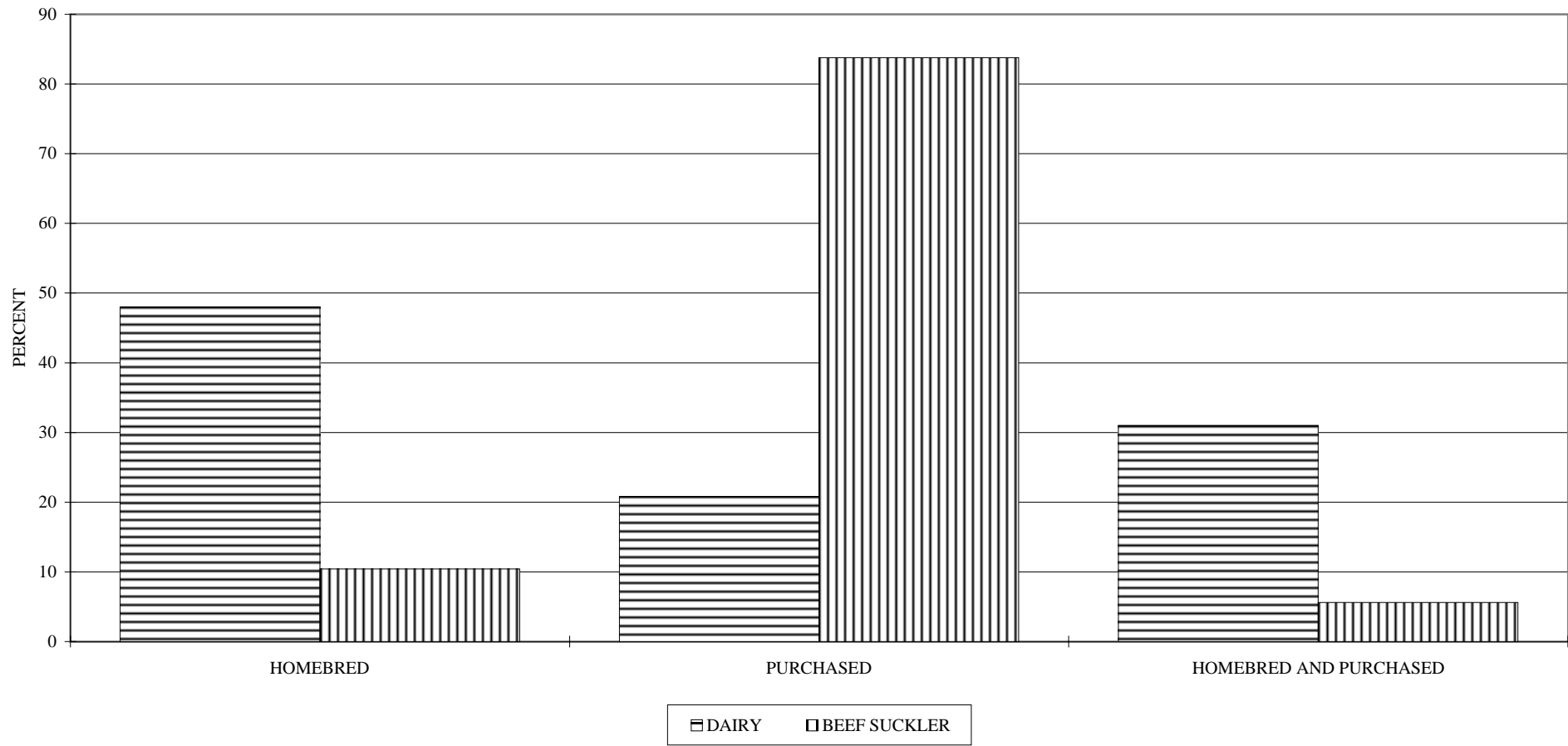


Figure 5: PERCENTAGE OF SUSPECT CASES NEGATIVE AT POST MORTEM

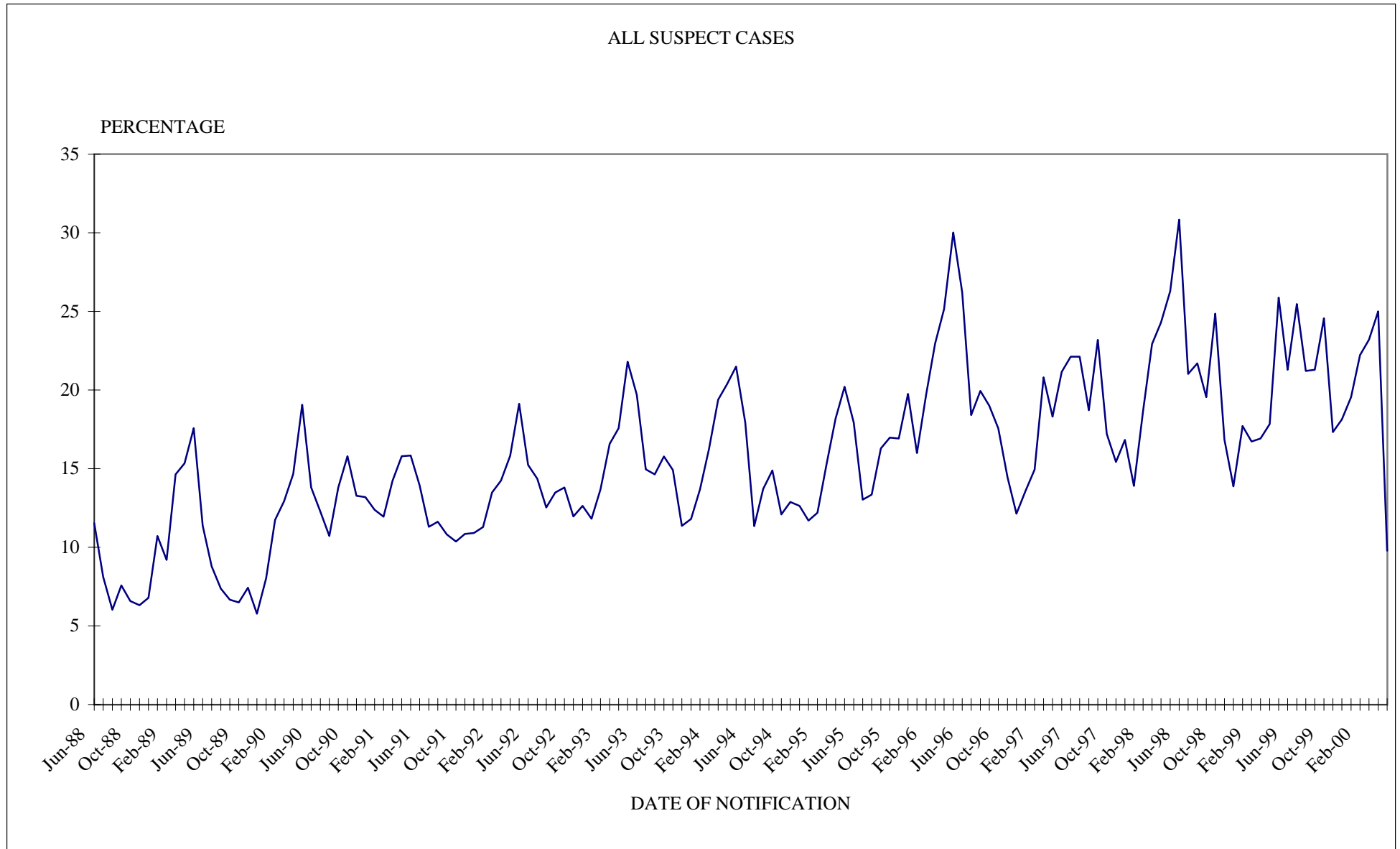
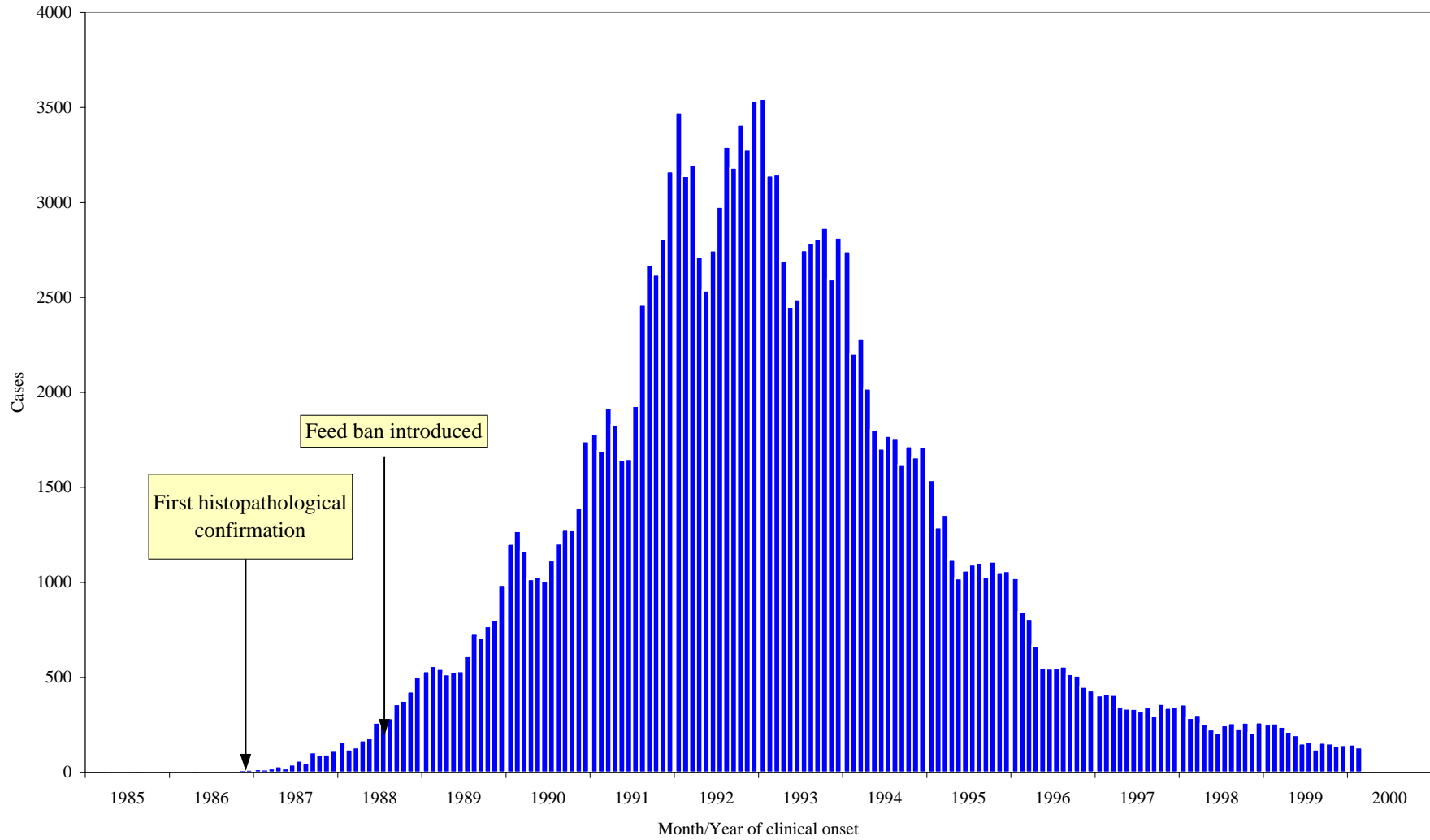


Figure 6: CONFIRMED CASES OF BSE PLOTTED BY MONTH AND YEAR OF CLINICAL ONSET



Data valid to end of February 2000. Produced 12 July 2000.

MAFF BSE Progress Report - June 2000

Figure 7 - Geographical Distribution of Cases of BSE

Maps showing the incidence of BSE by country for the years 1986 to 1999.

Due to their sizes these maps have been placed in a separate file.

Click [here](#) to view (449kb).

Figure 8: AGE SPECIFIC NON - CONFIRMATION RATE

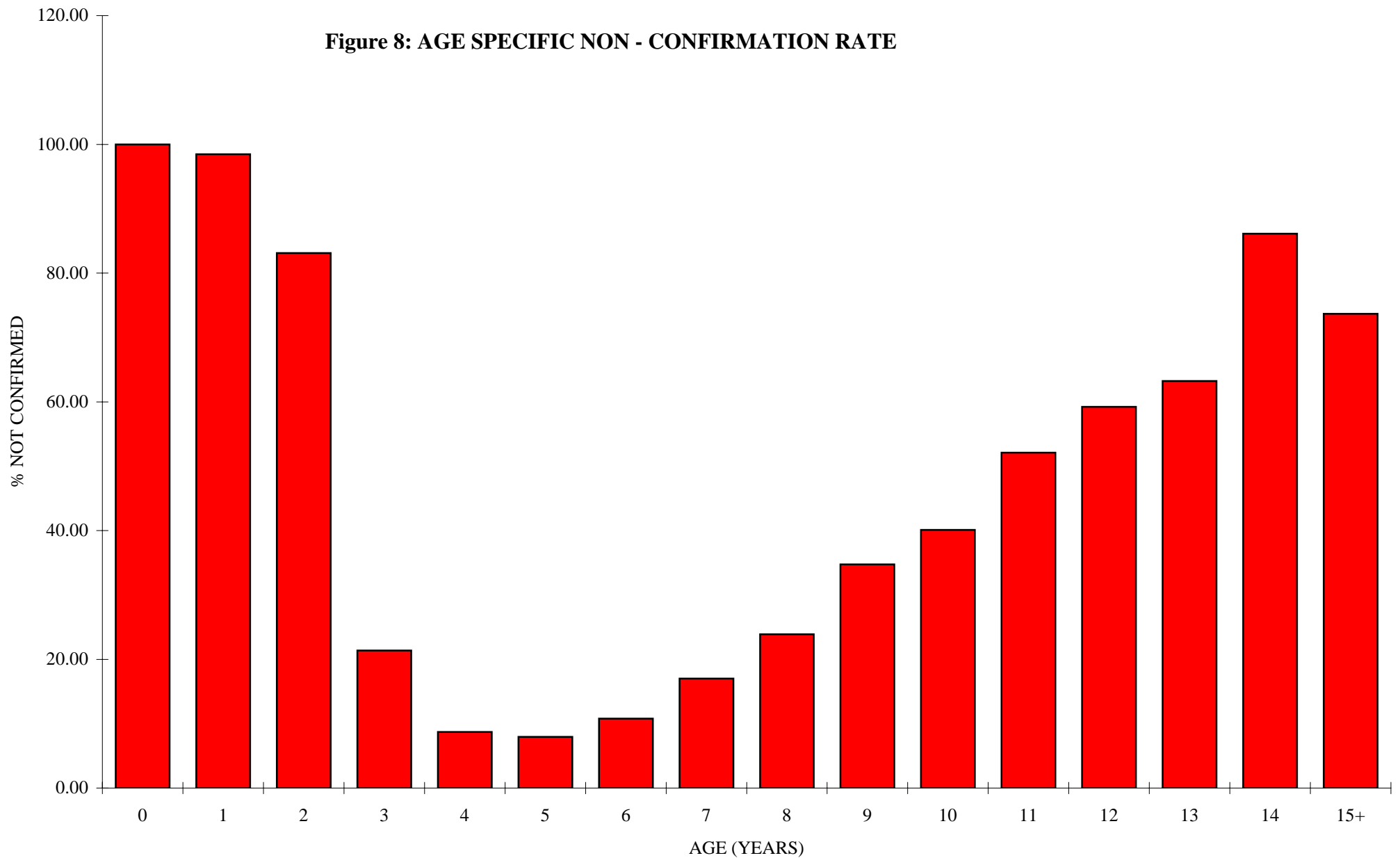
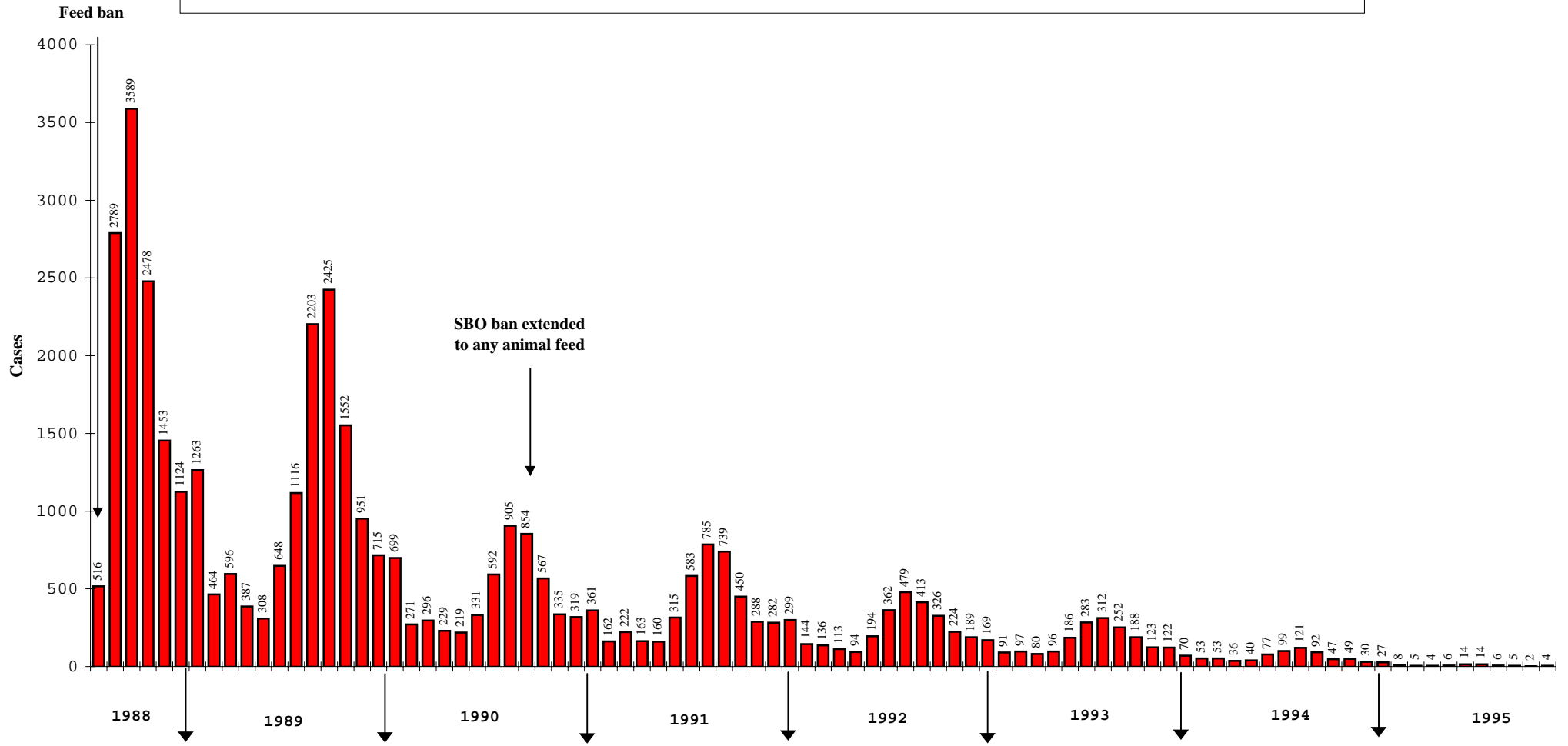


Figure 9: BSE IN SUSPECTS BORN AFTER 18 JULY 1988 - CONFIRMED CASES BY DATE OF BIRTH



Total to 1 January 2000 = 40538 of which 1988=11949; 1989=12628; 1990=5617; 1991=4510; 1992=2973; 1993=1999; 1994=767; 1995=95

Table 1**Cattle Removed from the Food Chain because of BSE**

Year	BSE cases	BSE suspects, not confirmed	Over thirty months old	Selective cull	Offspring of BSE cases
(a) at start	727	-	-	-	-
1988	2,180	192	-	-	-
1989	7,133	924	-	-	-
1990	14,181	2,460	-	-	-
1991	25,026	3,995	-	-	-
1992	36,680	6,474	-	-	-
1993	34,370	6,714	-	-	-
1994	23,943	4,765	-	-	-
1995	14,301	2,855	-	-	-
1996	8,013	2,137	975,296	-	-
1997	4,309	992	751,218	55,465	-
1998	3,178	853	755,213	18,956	1,532
1999	2,254	584	821,901	1,413	5,844
2000*	611	159	447,525	21	1343
Total	176,906	33,104	3,751,153	75,855	8719

(a) Numbers at the start are for the period up to June 1988, when BSE became a notifiable disease.

* As at 30 June 2000 with 223 pending cases

Table 2: Number of confirmed cases of BSE and the number of animals at risk in BSE affected herds with only homebred cases in each year 1989 - 1999**

BSE AFFECTED HERDS : CASES WITH A CLINICAL ONSET IN YEAR																						
Age years	1989		1990		1991		1992		1993		1994		1995		1996		1997		1998		1999 *	
	Animals at risk	cases of BSE	Animals at risk	cases of BSE	Animals at risk	cases of BSE	Animals at risk	cases of BSE	Animals at risk	cases of BSE	Animals at risk	cases of BSE	Animals at risk	cases of BSE	Animals at risk	cases of BSE	Animals at risk	cases of BSE	Animals at risk	cases of BSE	Animals at risk	cases of BSE
1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	22406	16	32382	18	46260	10	59041	10	59888	7	45158	3	32001	2	20868	1	12160	0	9595	0	6384	0
3	41270	316	60014	787	85679	1503	109193	613	109869	374	83147	157	59118	156	38251	90	22243	47	17644	48	11742	14
4	36408	1235	52657	2050	75463	4098	95960	5440	95311	2441	71145	1334	50880	638	32703	509	19047	281	15067	257	9996	120
5	31376	1097	44858	1553	63715	2350	80736	4477	80026	5057	59075	2204	41933	1300	26859	553	15814	396	12074	337	7995	194
6	25014	388	36144	717	50927	945	64026	1505	63523	2458	46881	2333	33103	1073	21127	549	12537	251	9039	204	6007	167
7	18598	85	27022	183	38349	337	47759	420	47312	626	34397	894	24541	773	15518	350	8971	144	6327	67	4275	50
8	13029	23	19055	39	27077	91	33373	162	33002	186	24344	229	17331	301	10771	219	6100	87	4354	33	2854	24
9	8431	4	12327	10	17863	24	21845	50	21590	72	16300	69	11614	92	7334	99	4183	58	2870	28	1877	15
10	4964	1	7140	4	10644	8	12953	9	12835	36	9629	44	6908	31	4278	35	2422	34	1675	20	1077	13
11	2721	3	3906	2	5759	1	6996	3	7104	10	5240	14	3691	12	2265	10	1235	13	849	7	550	4
12	2102	0	2912	2	4304	2	5681	5	5659	3	4175	3	2749	11	1862	10	951	2	651	6	407	1
No. herds	1977		2889		4289		5668		5561		3841		2658		1668		972		748		468	

** Herds with a known age structure

* Herds with cases accumulated by 31 December 1999

Top section	Animals born after 18/07/88
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Middle section	Born between 02/01/87 and 30/12/89
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Bottom section	Animals born before 18/07/88
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Table3: Annual incidence (%) of confirmed BSE cases in herds affected by only homebred cases in each year 1989 - 1999**

BSE AFFECTED HERDS : INCIDENCE (%) OF CASES WITH A CLINICAL ONSET IN YEAR											
Age years	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.07	0.06	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
3	0.77	1.31	1.76	0.56	0.34	0.19	0.26	0.23	0.21	0.27	0.11
4	3.40	3.90	5.44	5.68	2.56	1.87	1.25	1.54	1.46	1.70	1.21
5	3.49	3.46	3.69	5.55	6.33	3.74	3.09	2.06	2.49	2.80	2.62
6	1.55	1.97	1.86	2.36	3.87	4.98	3.24	2.61	2.01	2.23	2.89
7	0.45	0.68	0.88	0.88	1.32	2.60	3.15	2.23	1.60	1.04	1.17
8	0.18	0.21	0.33	0.49	0.57	0.94	1.74	2.03	1.43	0.77	0.86
9	0.05	0.08	0.13	0.23	0.33	0.42	0.80	1.35	1.39	0.95	0.83
10	0.02	0.06	0.08	0.07	0.28	0.46	0.45	0.82	1.41	1.21	1.19
11	0.11	0.05	0.02	0.04	0.14	0.27	0.33	0.44	1.05	0.84	0.85
12	0.00	0.07	0.05	0.09	0.05	0.07	0.40	0.54	0.21	0.93	0.47
No. herds	1967	2877	4277	5649	5543	3829	2645	1661	968	741	536

** Herds with a known age structure

* Herds with cases accumulated by 30 June 2000.

Top section	Animals born after 18/07/88
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Middle section	Born between 02/01/87 and 30/12/89
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Bottom section	Animals born before 18/07/88
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Number of suspect cases by week of report

Table 4

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
24/06/88	25	59	50	90.91
01/07/88	26	59	48	82.76
08/07/88	27	70	63	92.65
15/07/88	28	70	58	89.23
22/07/88	29	73	63	91.30
29/07/88	30	62	52	88.14
05/08/88	31	50	40	88.89
12/08/88	32	85	79	97.53
19/08/88	33	93	78	91.76
26/08/88	34	84	76	97.44
02/09/88	35	76	60	84.51
09/09/88	36	74	66	91.67
16/09/88	37	95	83	93.26
23/09/88	38	98	88	91.67
30/09/88	39	91	76	88.37
07/10/88	40	107	95	95.96
14/10/88	41	118	104	92.04
21/10/88	42	108	89	89.90
28/10/88	43	71	58	89.23
04/11/88	44	76	66	91.67
11/11/88	45	101	92	96.84
18/11/88	46	110	97	92.38
25/11/88	47	120	106	91.38
02/12/88	48	104	96	95.05
09/12/88	49	109	96	94.12
16/12/88	50	136	119	93.70
23/12/88	51	127	113	94.17
30/12/88	52	83	67	85.90
06/01/89	1	111	101	92.66
13/01/89	2	128	111	89.52
20/01/89	3	133	109	87.20
27/01/89	4	131	112	88.89
03/02/89	5	135	112	91.06
10/02/89	6	165	150	93.17
17/02/89	7	151	126	90.00
24/02/89	8	159	125	83.33
03/03/89	9	197	161	85.64
10/03/89	10	174	129	79.63
17/03/89	11	177	139	84.76
24/03/89	12	153	127	84.67
31/03/89	13	148	111	82.84
07/04/89	14	158	138	89.61
14/04/89	15	169	125	80.65
21/04/89	16	156	131	86.75
28/04/89	17	139	96	76.19
05/05/89	18	159	122	83.56
12/05/89	19	137	96	75.59
19/05/89	20	132	97	80.17
26/05/89	21	128	95	81.20
02/06/89	22	117	83	78.30
09/06/89	23	169	140	89.17
16/06/89	24	130	109	86.51

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
23/06/89	25	130	111	88.80
30/06/89	26	147	124	87.32
07/07/89	27	115	97	86.61
14/07/89	28	127	110	89.43
21/07/89	29	140	121	88.97

Number of suspect cases by week of report

Table 4

28/07/89	30	171	142	88.75
04/08/89	31	182	151	87.79
11/08/89	32	146	126	88.11
18/08/89	33	190	169	91.85
25/08/89	34	179	155	89.08
01/09/89	35	163	138	89.03
08/09/89	36	179	157	93.45
15/09/89	37	166	141	88.68
22/09/89	38	171	151	90.96
29/09/89	39	167	149	93.13
06/10/89	40	176	159	95.21
13/10/89	41	193	166	89.25
20/10/89	42	190	168	91.80
27/10/89	43	174	153	91.62
03/11/89	44	205	183	91.04
10/11/89	45	221	194	89.81
17/11/89	46	215	193	94.61
24/11/89	47	192	167	91.76
01/12/89	48	207	188	93.07
08/12/89	49	185	168	92.31
15/12/89	50	202	184	93.40
22/12/89	51	211	197	96.10
29/12/89	52	128	114	91.20
05/01/90	1	244	214	91.85
12/01/90	2	293	260	90.28
19/01/90	3	282	245	89.42
26/01/90	4	292	253	91.67
02/02/90	5	309	264	87.71
09/02/90	6	329	287	91.11
16/02/90	7	359	307	89.50
23/02/90	8	370	305	85.67
02/03/90	9	421	341	84.20
09/03/90	10	389	319	84.62
16/03/90	11	401	337	89.63
23/03/90	12	354	280	82.35
30/03/90	13	336	263	83.23
06/04/90	14	329	263	84.03
13/04/90	15	294	238	84.10
20/04/90	16	274	218	82.58
27/04/90	17	302	250	84.75
04/05/90	18	347	278	82.74
11/05/90	19	339	254	77.68
18/05/90	20	401	306	80.10
25/05/90	21	366	269	77.52
01/06/90	22	355	272	81.44
08/06/90	23	365	285	83.33
15/06/90	24	247	192	82.40

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
22/06/90	25	299	247	86.36
29/06/90	26	271	217	86.11
06/07/90	27	224	185	86.45
13/07/90	28	237	186	81.22
20/07/90	29	276	230	86.79
27/07/90	30	279	229	85.45
03/08/90	31	281	235	86.40
10/08/90	32	297	249	87.99
17/08/90	33	329	278	86.60
24/08/90	34	317	254	83.28
31/08/90	35	247	216	91.14
07/09/90	36	350	294	87.50
14/09/90	37	351	295	86.51
21/09/90	38	346	294	87.24

Number of suspect cases by week of report

Table 4

28/09/90	39	366	287	81.53
05/10/90	40	311	250	83.61
12/10/90	41	334	279	84.80
19/10/90	42	369	293	83.24
26/10/90	43	375	299	82.83
02/11/90	44	410	325	81.86
09/11/90	45	381	311	85.44
16/11/90	46	349	269	81.02
23/11/90	47	410	358	90.18
30/11/90	48	413	346	87.82
07/12/90	49	373	325	90.03
14/12/90	50	379	315	85.60
21/12/90	51	435	362	86.19
28/12/90	52	225	175	81.02
04/01/91	1	460	396	87.03
11/01/91	2	544	448	86.15
18/01/91	3	529	442	86.16
25/01/91	4	466	402	88.74
01/02/91	5	493	380	80.00
08/02/91	6	451	340	77.80
15/02/91	7	466	376	84.49
22/02/91	8	493	431	89.42
01/03/91	9	505	416	86.49
08/03/91	10	553	454	86.64
15/03/91	11	547	433	83.59
22/03/91	12	552	447	84.18
29/03/91	13	491	403	84.84
05/04/91	14	542	440	83.81
12/04/91	15	587	470	83.48
19/04/91	16	648	541	86.28
26/04/91	17	570	447	81.27
03/05/91	18	511	393	80.04
10/05/91	19	421	311	77.36
17/05/91	20	459	377	85.68
24/05/91	21	426	339	82.89
31/05/91	22	351	290	85.55
07/06/91	23	515	433	87.47
14/06/91	24	413	336	83.79

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
21/06/91	25	438	363	86.02
28/06/91	26	451	353	81.34
05/07/91	27	446	373	85.55
12/07/91	28	447	370	87.06
19/07/91	29	481	403	87.04
26/07/91	30	504	426	87.12
02/08/91	31	538	437	84.04
09/08/91	32	622	498	84.26
16/08/91	33	661	555	87.82
23/08/91	34	618	519	86.50
30/08/91	35	550	458	85.61
06/09/91	36	668	573	88.84
13/09/91	37	685	614	91.37
20/09/91	38	661	564	87.58
27/09/91	39	702	587	85.82
04/10/91	40	620	529	88.46
11/10/91	41	697	593	88.24
18/10/91	42	647	551	87.88
25/10/91	43	706	610	89.18
01/11/91	44	716	603	87.14
08/11/91	45	782	690	90.43
15/11/91	46	781	649	85.85
22/11/91	47	715	600	87.21

Number of suspect cases by week of report

Table 4

29/11/91	48	762	662	89.58
06/12/91	49	741	660	91.54
13/12/91	50	785	677	87.47
20/12/91	51	829	702	86.56
27/12/91	52	475	406	87.50
03/01/92	1	790	693	89.65
10/01/92	2	1012	868	87.77
17/01/92	3	898	757	87.41
24/01/92	4	913	784	88.69
31/01/92	5	901	761	87.47
07/02/92	6	901	735	85.76
14/02/92	7	943	793	86.10
21/02/92	8	888	732	85.02
28/02/92	9	850	707	86.54
06/03/92	10	884	732	85.81
13/03/92	11	945	787	86.11
20/03/92	12	887	710	83.92
27/03/92	13	915	745	83.90
03/04/92	14	982	789	83.49
10/04/92	15	909	750	84.84
17/04/92	16	879	701	83.06
24/04/92	17	771	603	81.82
01/05/92	18	871	684	81.72
08/05/92	19	728	545	79.80
15/05/92	20	862	668	81.56
22/05/92	21	738	523	74.29
29/05/92	22	595	451	79.26
05/06/92	23	815	612	80.53
12/06/92	24	710	543	81.04

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
19/06/92	25	662	527	83.12
26/06/92	26	777	639	84.97
03/07/92	27	791	647	84.69
10/07/92	28	621	515	86.26
17/07/92	29	733	589	83.55
24/07/92	30	716	571	83.48
31/07/92	31	704	575	84.43
07/08/92	32	858	707	85.91
14/08/92	33	823	700	89.06
21/08/92	34	864	692	83.68
28/08/92	35	899	759	87.54
04/09/92	36	898	737	86.50
11/09/92	37	863	685	82.43
18/09/92	38	888	723	85.26
25/09/92	39	886	731	85.40
02/10/92	40	927	761	85.41
09/10/92	41	896	727	84.53
16/10/92	42	972	792	83.90
23/10/92	43	979	806	85.38
30/10/92	44	979	820	86.41
06/11/92	45	949	794	85.93
13/11/92	46	954	821	89.24
20/11/92	47	992	841	87.15
27/11/92	48	844	713	87.16
04/12/92	49	944	782	85.84
11/12/92	50	957	796	86.90
18/12/92	51	921	769	85.83
25/12/92	52	820	702	89.09
01/01/93	1	556	454	85.66
08/01/93	2	1065	915	87.90
15/01/93	3	1004	862	88.96
22/01/93	4	1022	861	86.10

Number of suspect cases by week of report

Table 4

29/01/93	5	1015	851	86.84
05/02/93	6	989	793	84.00
12/02/93	7	969	833	88.05
19/02/93	8	954	766	83.81
26/02/93	9	1025	852	85.97
05/03/93	10	985	809	85.07
12/03/93	11	900	706	82.19
19/03/93	12	950	752	82.64
26/03/93	13	1006	757	80.02
02/04/93	14	925	713	81.39
09/04/93	15	730	559	80.55
16/04/93	16	762	595	82.52
23/04/93	17	974	769	82.78
30/04/93	18	821	615	79.97
07/05/93	19	887	653	76.91
14/05/93	20	830	598	76.57
21/05/93	21	750	531	75.97
28/05/93	22	695	523	79.60
04/06/93	23	671	484	75.74
11/06/93	24	634	462	76.49

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
18/06/93	25	811	599	78.10
25/06/93	26	669	500	78.74
02/07/93	27	657	531	83.75
09/07/93	28	749	616	84.50
16/07/93	29	794	626	82.48
23/07/93	30	709	564	83.80
30/07/93	31	811	647	82.95
06/08/93	32	764	602	82.69
13/08/93	33	753	624	87.03
20/08/93	34	721	561	81.30
27/08/93	35	852	696	85.19
03/09/93	36	706	560	81.75
10/09/93	37	868	713	85.49
17/09/93	38	851	654	81.24
24/09/93	39	731	572	82.42
01/10/93	40	842	669	83.21
08/10/93	41	828	660	82.91
15/10/93	42	840	662	83.48
22/10/93	43	767	617	84.06
29/10/93	44	755	635	88.07
05/11/93	45	832	710	88.64
12/11/93	46	830	708	89.06
19/11/93	47	835	690	86.79
26/11/93	48	767	636	86.89
03/12/93	49	741	639	89.75
10/12/93	50	769	653	88.12
17/12/93	51	813	670	86.56
24/12/93	52	787	658	87.62
31/12/93	53	491	419	88.21
07/01/94	1	769	653	87.89
14/01/94	2	820	670	84.49
21/01/94	3	868	685	84.05
28/01/94	4	835	698	87.80
04/02/94	5	875	692	82.68
11/02/94	6	825	635	80.58
18/02/94	7	720	583	85.23
25/02/94	8	721	569	83.43
04/03/94	9	690	533	83.15
11/03/94	10	712	548	81.55
18/03/94	11	785	593	80.35
25/03/94	12	761	558	78.59

Number of suspect cases by week of report

Table 4

01/04/94	13	708	519	77.69
08/04/94	14	644	467	77.57
15/04/94	15	644	479	78.52
22/04/94	16	691	520	78.79
29/04/94	17	694	521	79.91
06/05/94	18	632	469	78.82
13/05/94	19	625	455	77.12
20/05/94	20	554	411	78.74
27/05/94	21	541	387	77.40
03/06/94	22	471	365	82.58
10/06/94	23	576	415	76.15

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
17/06/94	24	475	355	78.54
24/06/94	25	542	450	86.87
01/07/94	26	482	374	81.66
08/07/94	27	466	376	85.84
15/07/94	28	468	389	86.44
22/07/94	29	472	399	87.50
29/07/94	30	536	453	89.17
05/08/94	31	482	380	83.52
12/08/94	32	488	389	85.87
19/08/94	33	494	410	86.32
26/08/94	34	512	417	85.45
02/09/94	35	493	400	84.75
09/09/94	36	492	399	84.00
16/09/94	37	543	443	85.52
23/09/94	38	479	366	81.88
30/09/94	39	486	394	84.91
07/10/94	40	461	371	84.90
14/10/94	41	487	393	86.18
21/10/94	42	496	412	87.66
28/10/94	43	496	419	89.91
04/11/94	44	526	437	87.05
11/11/94	45	487	411	88.01
18/11/94	46	504	408	84.47
25/11/94	47	455	385	87.90
02/12/94	48	477	393	87.14
09/12/94	49	502	407	86.05
16/12/94	50	484	398	85.41
23/12/94	51	480	409	88.72
30/12/94	52	314	267	87.54
06/01/95	1	430	377	90.41
13/01/95	2	492	404	83.82
20/01/95	3	433	373	89.23
27/01/95	4	442	382	89.88
03/02/95	5	476	397	85.93
10/02/95	6	420	348	86.57
17/02/95	7	412	343	87.06
24/02/95	8	350	304	89.94
03/03/95	9	404	327	84.94
10/03/95	10	427	351	85.19
17/03/95	11	397	309	82.62
24/03/95	12	395	321	85.15
31/03/95	13	369	300	84.51
07/04/95	14	412	326	82.74
14/04/95	15	339	266	82.35
21/04/95	16	386	306	83.38
28/04/95	17	331	242	78.06
05/05/95	18	373	287	80.17
12/05/95	19	331	263	82.19
19/05/95	20	373	267	76.29
26/05/95	21	299	221	78.93

Number of suspect cases by week of report

Table 4

02/06/95	22	269	194	75.19
09/06/95	23	337	269	82.77

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
16/06/95	24	322	244	80.26
23/06/95	25	295	230	82.73
30/06/95	26	266	216	82.44
07/07/95	27	295	250	87.72
14/07/95	28	261	217	85.77
21/07/95	29	290	239	87.23
28/07/95	30	327	265	85.21
04/08/95	31	273	215	83.01
11/08/95	32	380	307	84.57
18/08/95	33	346	270	81.82
25/08/95	34	330	271	84.95
01/09/95	35	279	220	83.33
08/09/95	36	356	290	84.80
15/09/95	37	330	255	81.47
22/09/95	38	276	216	85.38
29/09/95	39	293	225	81.23
06/10/95	40	280	217	82.20
13/10/95	41	284	228	84.44
20/10/95	42	263	198	78.57
27/10/95	43	280	220	83.02
03/11/95	44	342	271	81.87
10/11/95	45	347	286	85.37
17/11/95	46	389	295	81.49
24/11/95	47	380	281	79.38
01/12/95	48	331	265	84.13
08/12/95	49	359	270	77.81
15/12/95	50	317	244	79.22
22/12/95	51	383	286	77.93
29/12/95	52	179	136	78.61
05/01/96	1	294	224	78.60
12/01/96	2	306	252	85.71
19/01/96	3	290	239	85.97
26/01/96	4	332	275	85.67
02/02/96	5	314	246	83.11
09/02/96	6	319	258	85.15
16/02/96	7	322	235	76.55
23/02/96	8	252	194	81.17
01/03/96	9	283	197	74.06
08/03/96	10	288	228	81.43
15/03/96	11	306	218	76.49
22/03/96	12	331	241	77.49
29/03/96	13	357	242	72.24
05/04/96	14	227	147	70.33
12/04/96	15	166	113	72.90
19/04/96	16	237	161	73.18
26/04/96	17	231	162	76.06
03/05/96	18	236	151	67.71
10/05/96	19	182	117	70.06
17/05/96	20	236	151	68.64
24/05/96	21	237	162	73.30
31/05/96	22	180	113	66.08
07/06/96	23	170	117	75.00

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
14/06/96	24	168	122	76.25
21/06/96	25	170	114	71.25
28/06/96	26	172	114	71.25

Number of suspect cases by week of report

Table 4

05/07/96	27	166	132	84.08
12/07/96	28	176	141	83.93
19/07/96	29	168	129	78.18
26/07/96	30	162	129	82.17
02/08/96	31	178	130	78.31
09/08/96	32	185	144	80.90
16/08/96	33	149	114	79.17
23/08/96	34	190	138	77.09
30/08/96	35	161	120	76.43
06/09/96	36	181	144	82.29
13/09/96	37	185	142	79.78
20/09/96	38	155	124	82.12
27/09/96	39	166	126	79.75
04/10/96	40	155	114	78.08
11/10/96	41	159	109	75.69
18/10/96	42	161	130	86.09
25/10/96	43	167	127	79.87
01/11/96	44	200	165	87.77
08/11/96	45	148	121	84.62
15/11/96	46	126	103	83.74
22/11/96	47	141	119	88.15
29/11/96	48	124	105	87.50
06/12/96	49	149	124	86.11
13/12/96	50	114	101	89.38
20/12/96	51	126	109	90.83
27/12/96	52	70	55	83.33
03/01/97	1	98	81	83.51
10/01/97	2	139	119	89.47
17/01/97	3	126	109	88.62
24/01/97	4	117	90	82.57
31/01/97	5	99	82	85.42
07/02/97	6	125	104	86.67
14/02/97	7	132	105	84.00
21/02/97	8	119	97	82.91
28/02/97	9	125	103	85.83
07/03/97	10	134	102	82.93
14/03/97	11	153	125	84.46
21/03/97	12	125	87	72.50
28/03/97	13	99	74	77.08
04/04/97	14	117	91	82.73
11/04/97	15	104	82	82.83
18/04/97	16	118	92	82.88
25/04/97	17	112	85	80.19
02/05/97	18	122	89	76.72
09/05/97	19	95	70	80.46
16/05/97	20	117	83	75.45
23/05/97	21	116	90	81.82
30/05/97	22	74	52	77.61
06/06/97	23	115	92	80.70

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
13/06/97	24	85	60	73.17
20/06/97	25	90	66	79.52
27/06/97	26	131	97	76.98
04/07/97	27	95	74	82.22
11/07/97	28	92	62	72.94
18/07/97	29	101	72	73.47
25/07/97	30	95	70	77.78
01/08/97	31	109	84	84.00
08/08/97	32	84	69	87.34
15/08/97	33	111	83	79.05
22/08/97	34	103	74	77.08
29/08/97	35	124	94	81.74

Number of suspect cases by week of report

Table 4

05/09/97	36	123	85	75.22
12/09/97	37	80	63	86.30
19/09/97	38	91	67	77.91
26/09/97	39	86	59	72.84
03/10/97	40	100	72	76.60
10/10/97	41	89	68	80.95
17/10/97	42	111	84	83.17
24/10/97	43	104	82	85.42
31/10/97	44	94	76	83.52
07/11/97	45	92	76	86.36
14/11/97	46	122	102	89.47
21/11/97	47	93	70	79.55
28/11/97	48	116	89	81.65
05/12/97	49	126	97	85.09
12/12/97	50	87	68	85.00
19/12/97	51	101	76	80.00
26/12/97	52	77	62	81.58
02/01/98	1	74	56	84.85
09/01/98	2	119	99	87.61
16/01/98	3	99	81	87.10
23/01/98	4	121	96	82.76
30/01/98	5	96	83	87.37
06/02/98	6	98	75	79.79
13/02/98	7	82	68	83.95
20/02/98	8	110	83	77.57
27/02/98	9	113	92	84.40
06/03/98	10	110	77	74.76
13/03/98	11	103	73	76.84
20/03/98	12	82	60	78.95
27/03/98	13	100	71	73.20
03/04/98	14	93	70	82.35
10/04/98	15	88	65	79.27
17/04/98	16	96	63	67.74
24/04/98	17	94	65	76.47
01/05/98	18	77	61	83.56
08/05/98	19	76	50	70.42
15/05/98	20	71	50	79.37
22/05/98	21	95	59	67.82
29/05/98	22	62	41	77.36
05/06/98	23	82	48	63.16

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
12/06/98	24	78	44	64.71
19/06/98	25	82	53	68.83
26/06/98	26	67	51	80.95
03/07/98	27	69	47	72.31
10/07/98	28	78	56	77.78
17/07/98	29	75	54	79.41
24/07/98	30	66	44	72.13
31/07/98	31	82	64	86.49
07/08/98	32	64	51	80.95
14/08/98	33	70	54	79.41
21/08/98	34	78	55	76.39
28/08/98	35	93	70	77.78
04/09/98	36	52	37	75.51
11/09/98	37	90	67	78.82
18/09/98	38	74	58	86.57
25/09/98	39	65	48	82.76
02/10/98	40	83	60	76.92
09/10/98	41	86	61	74.39
16/10/98	42	78	57	78.08
23/10/98	43	67	46	76.67
30/10/98	44	101	66	70.97

Number of suspect cases by week of report

Table 4

06/11/98	45	89	71	83.53
13/11/98	46	79	65	86.67
20/11/98	47	71	48	76.19
27/11/98	48	58	47	83.93
04/12/98	49	66	53	81.54
11/12/98	50	69	63	92.65
18/12/98	51	74	60	88.24
25/12/98	52	62	51	82.26
01/01/99	53	38	31	83.78
08/01/99	1	80	60	77.92
15/01/99	2	93	73	82.02
22/01/99	3	68	56	83.58
29/01/99	4	73	59	84.29
05/02/99	5	74	59	81.94
12/02/99	6	75	58	84.06
19/02/99	7	70	57	85.07
26/02/99	8	86	69	83.13
05/03/99	9	82	62	81.58
12/03/99	10	98	77	80.21
19/03/99	11	62	55	91.67
26/03/99	12	75	58	80.56
02/04/99	13	61	47	83.93
09/04/99	14	54	39	78.00
16/04/99	15	63	48	78.69
23/04/99	16	68	54	87.10
30/04/99	17	50	41	83.67
07/05/99	18	67	52	82.54
14/05/99	19	78	56	76.71
21/05/99	20	55	36	72.00
28/05/99	21	68	38	63.33
04/06/99	22	66	45	71.43

Week Ending	Week Number	Reported	Confirmed	% Confirmed of those slaughtered
11/06/99	23	69	51	76.12
18/06/99	24	58	42	75.00
25/06/99	25	53	35	71.43
02/07/99	26	43	34	82.93
09/07/99	27	43	35	85.37
16/07/99	28	55	40	78.43
23/07/99	29	56	40	74.07
30/07/99	30	49	27	58.70
06/08/99	31	56	40	76.92
13/08/99	32	36	31	88.57
20/08/99	33	53	41	80.39
27/08/99	34	51	37	74.00
03/09/99	35	35	26	74.29
10/09/99	36	48	37	78.72
17/09/99	37	55	39	73.58
24/09/99	38	40	31	77.50
01/10/99	39	54	40	85.11
08/10/99	40	43	28	75.68
15/10/99	41	33	26	78.79
22/10/99	42	56	42	76.36
29/10/99	43	38	24	68.57
05/11/99	44	48	36	81.82
12/11/99	45	48	41	91.11
19/11/99	46	41	33	84.62
26/11/99	47	52	42	84.00
03/12/99	48	47	32	71.11
10/12/99	49	44	41	95.35
17/12/99	50	46	34	77.27
24/12/99	51	40	28	71.79
31/12/99	52	28	22	81.48

Number of suspect cases by week of report**Table 4**

07/01/00	1	53	39	78.00
14/01/00	2	42	35	87.50
21/01/00	3	36	26	81.25
28/01/00	4	45	33	75.00
04/02/00	5	46	36	80.00
11/02/00	6	46	33	75.00
18/02/00	7	35	23	71.88
25/02/00	8	58	43	79.63
03/03/00	9	44	36	85.71
10/03/00	10	44	31	75.61
17/03/00	11	60	45	91.84
24/03/00	12	42	24	66.67
31/03/00	13	40	22	62.86
07/04/00	14	42	29	82.86
14/04/00	15	34	18	64.29
21/04/00	16	32	23	85.19
28/04/00	17	36	22	68.75

Table 5**Table 5a**

Number of suspect cases reported by month of restriction as at 30 June 2000

Month	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Jan		555	1290	2307	4123	4165	3511	2017	1405	536	459	316	184
Feb		633	1435	1876	3599	3933	3096	1572	1251	501	403	307	200
Mar		771	1642	2279	4036	4384	3442	1839	1343	521	436	353	207
Apr		639	1257	2510	3829	3639	2729	1482	945	523	384	256	146
May		595	1660	1984	3103	3215	2484	1517	968	447	325	279	201
Jun	108	637	1271	1831	3237	3104	2313	1334	690	432	334	259	139
Jul	286	591	1147	2172	3273	3375	2044	1259	775	450	343	224	
Aug	356	791	1335	2702	3517	3299	2249	1468	755	454	307	206	
Sep	389	722	1425	2848	4034	3617	2203	1314	723	412	324	210	
Oct	423	819	1625	3123	4207	3360	2082	1220	762	460	371	184	
Nov	447	893	1715	3174	3924	3599	2155	1603	585	427	315	213	
Dec	503	797	1521	3197	3962	3241	1951	1320	495	441	290	177	
Total	2512	8443	17323	30003	44844	42931	30259	17945	10697	5604	4291	2984	1077

Excludes private submissions and cases found as a result of surveys

Table 5b

Number of confirmed cases reported by month of restriction as at 30 June 2000

Month	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Jan		473	1129	1919	3515	3535	2880	1720	1128	445	378	250	140
Feb		532	1205	1523	2979	3240	2444	1319	949	409	318	244	147
Mar		606	1332	1848	3299	3453	2584	1483	969	392	316	280	139
Apr		499	1018	2022	3066	2800	2026	1146	644	406	271	198	93
May		439	1259	1572	2323	2329	1814	1146	625	328	215	185	83
Jun	90	529	1010	1494	2544	2313	1787	1039	473	324	213	190	9
Jul	245	506	943	1821	2662	2710	1699	1033	603	331	248	156	
Aug	310	675	1116	2229	2921	2646	1823	1179	572	343	231	156	
Sep	335	634	1177	2444	3276	2875	1762	1031	559	295	243	159	
Oct	365	719	1309	2666	3461	2705	1716	955	587	356	257	129	
Nov	397	794	1414	2716	3324	3038	1788	1250	485	340	246	167	
Dec	438	727	1269	2772	3310	2726	1620	1000	419	340	242	140	
Total	2180	7133	14181	25026	36680	34370	23943	14301	8013	4309	3178	2254	611

Excludes private submissions and cases found as a result of surveys

Table 6

**Number of Cattle Born After Feed bab (BAB) as at 30-June-00
Percentage of BSE Cases Being Reported**

Month of	Total reported	Number non-	Number BAB	Percent BAB
Jan/1993	4165	3657	508	12.20
Feb/1993	3933	3407	526	13.37
Mar/1993	4384	3746	638	14.55
Apr/1993	3639	3030	609	16.74
May/1993	3215	2619	596	18.54
Jun/1993	3104	2523	581	18.72
Jul/1993	3375	2685	690	20.44
Aug/1993	3299	2550	749	22.70
Sep/1993	3617	2730	887	24.52
Oct/1993	3360	2585	775	23.07
Nov/1993	3599	2666	933	25.92
Dec/1993	3241	2340	901	27.80
Jan/1994	3511	2397	1114	31.73
Feb/1994	3096	2136	960	31.01
Mar/1994	3442	2249	1193	34.66
Apr/1994	2729	1789	940	34.44
May/1994	2483	1571	912	36.73
Jun/1994	2313	1411	902	39.00
Jul/1994	2045	1206	839	41.03
Aug/1994	2249	1247	1002	44.55
Sep/1994	2203	1256	947	42.99
Oct/1994	2082	1205	877	42.12
Nov/1994	2156	1161	995	46.15
Dec/1994	1951	1063	888	45.52
Jan/1995	2017	985	1032	51.17
Feb/1995	1572	750	822	52.29
Mar/1995	1839	870	969	52.69
Apr/1995	1482	686	796	53.71
May/1995	1518	633	885	58.30
Jun/1995	1334	534	800	59.97
Jul/1995	1259	511	748	59.41
Aug/1995	1468	578	890	60.63
Sep/1995	1314	482	832	63.32
Oct/1995	1220	478	742	60.82
Nov/1995	1603	605	998	62.26
Dec/1995	1320	464	856	64.85
Jan/1996	1405	437	968	68.90
Feb/1996	1251	377	874	69.86
Mar/1996	1343	436	907	67.54
Apr/1996	945	277	668	70.69
May/1996	968	291	677	69.94
Jun/1996	690	180	510	73.91
Jul/1996	775	194	581	74.97

Month of	Total reported	Number non-	Number BAB	Percent BAB
Aug/1996	755	162	593	78.54
Sep/1996	723	187	536	74.14
Oct/1996	762	177	585	76.77
Nov/1996	589	110	479	81.32
Dec/1996	495	76	419	84.65
Jan/1997	538	90	448	83.27
Feb/1997	501	94	407	81.24
Mar/1997	521	83	438	84.07
Apr/1997	523	77	446	85.28
May/1997	447	58	389	87.02
Jun/1997	432	50	382	88.43
Jul/1997	450	65	385	85.56
Aug/1997	454	52	402	88.55
Sep/1997	412	50	362	87.86
Oct/1997	460	59	401	87.17
Nov/1997	427	47	380	88.99
Dec/1997	442	55	387	87.56
Jan/1998	459	39	420	91.50
Feb/1998	403	38	365	90.57
Mar/1998	436	43	393	90.14
Apr/1998	384	48	336	87.50
May/1998	325	29	296	91.08
Jun/1998	334	23	311	93.11
Jul/1998	343	29	314	91.55
Aug/1998	307	24	283	92.18
Sep/1998	324	32	292	90.12
Oct/1998	372	39	333	89.52
Nov/1998	315	29	286	90.79
Dec/1998	290	15	275	94.83
Jan/1999	319	28	291	91.22
Feb/1999	314	30	284	90.45
Mar/1999	361	25	336	93.07
Apr/1999	256	17	239	93.36
May/1999	279	12	267	95.70
Jun/1999	259	15	244	94.21
Jul/1999	224	9	215	95.98
Aug/1999	206	5	201	97.57
Sep/1999	210	7	203	96.67
Oct/1999	185	10	175	94.59
Nov/1999	213	13	200	93.90
Dec/1999	178	15	163	91.57
Jan/2000	184	7	177	96.20
Feb/2000	200	8	192	96.00
Mar/2000	209	12	197	94.26
Apr/2000	146	8	138	94.52
May/2000	201	5	196	97.51
Jun/2000	139	6	133	95.68

Table 6

Table 7: Number of cases of BSE in the UK and other countries as at 30 June 2000

Year of Report	1987 and before	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	UNKNOWN	TOTALS
Great Britain	442	2469	7137	14181	25032	36682	34370	23945	14302	8016	4312	3179	2274	613		176954
N.Ireland		4	29	113	170	374	459	345	173	74	23	18	7	7		1796
IOM		6	6	22	67	109	111	55	33	11	9	5	3			437
Guernsey	4	34	52	83	75	92	115	69	44	36	43	25	15	9		696
Jersey		1	4	8	15	23	35	22	10	12	5	6	5	3		149
Alderney								2								2
Belgium											1	6	3	3	1	14
Denmark						1								1		2
France					5		1	4	3	12	6	18	31	21		101
Germany								4			2					6
Ireland				11	17	18	16	19	16	73	77	79	91	48	19	484
Italy								1							1	2
Luxembourg											1					1
Netherlands											2	2	2			6
Portugal							1	7	14	29	30	104	168		12	365
Canada							1									1
Falklands			1													1
Oman			2													2
Liechtenstein												2				2
Switzerland				2	8	15	29	63	68	45	38	14	49	23		354
TOTALS	446	2514	7231	14420	25389	37314	35138	24536	14663	8308	4549	3458	2648	728	33	181375

Please note that reports of cases of BSE come from a variety of sources. Whilst this table has been prepared from the available information, its accuracy cannot be guaranteed. Figures for EU Member States include data to 19 June 2000.

Table 8

Scrapie Statistics

Table 8a

Summary of annual positive, negative, inconclusive and pending cases in Great Britain for the years 1993 - 1999

Year	Positive	Negative	Pending
1993	328	166	0
1994	235	92	0
1995	254	57	0
1996	459	90	0
1997	508	87	0
1998	499	102	0
1999	597	118	0

Table 8b

Confirmed cases reported from 01.01.00 to 30.06.00

Great Britain	Cases reported	Negative* reports	Alternative diagnosis & recovered	Positive	Negative	Pending**
Total	361	13	4	254	25	65

* initial pre-clinical diagnosis was negative

** as at 30 June 2000

Table 9**S E Diagnoses in Domestic Cats and in Exotic Species⁽¹⁾**

KUDU	6
GEMSBOK	1
NYALA	1
ORYX	2
ELAND	6
CAT (DOMESTIC)	87 ⁽²⁾
CHEETAH	5 ⁽³⁾
PUMA	3
TIGER	2
OCELOT	3
BISON (bison bison)	1
ANKOLE COW	2
LION	2

⁽¹⁾ As at 31 July 2000.

⁽²⁾ Cat total excludes one in N Ireland, one in Norway and one in Liechtenstein.

⁽³⁾ Cheetah total excludes one in Australia and one in the Republic of Ireland (both of these were litter mates born in the UK), and another two in France which were born in GB.

Table 10

Tissues from Naturally Infected and Clinically Affected Cattle with no Detectable Infectivity by Parenteral Inoculation of Mice (After H Fraser, 1994*)

Blood	Buffy Coat, Clotted blood, Foetal Calf blood, Serum
Bone marrow	
Cerebrospinal fluid	
Fat	Midrum
Gastro intestinal tract	Abomasum, Colon: <i>distal, proximal</i> ; Oesophagus, Omasum, Small intestine: <i>distal, proximal</i> ; Rectum, Reticulum, Rumen: <i>Oesophageal groove; Pillar</i>
Heart	
Kidney	
Liver	
Lung	
Lymph nodes	Mesentric, Prefemoral, Retropharyngeal
Muscle	Musculus (M.): <i>semitendinosus, M.diaphragma, M.longissimus, M.masseter</i>
Nerves	Cauda equina, Peripheral nerves: <i>N.sciaticus (proximal), N.splanchnic; N.tibialis</i>
Pancreas	
Reproductive	FEMALE: Milk, Ovary, Placental cotyledon, Placental fluids: <i>Amniotic fluid, Allantoic Fluid</i> Udder, Uterine caruncle MALE: Epididymis, Prostate, Semen, Seminal vesicle, Testis
Skin	
Spleen	
Trachea	
Tonsil	

Some of the tissues from different source cattle and others not so far reported are still in progress.

* Proceedings of a consultation on BSE with the Scientific Veterinary Committee of the Commission of the European Communities held in Brussels, 14-15 September 1993. Published 1994 by the Directorate General for Agriculture. Table amended by later unpublished data.

CATTLE TISSUES WITH NO DETECTABLE INFECTIVITY BY FEEDING TO MICE (MIDDLETON AND BARLOW, 1993) (VET REC 132, 545-547)

Milk and udder

Spleen

Placenta

Supramammary lymph node

Carcase and Mesenteric lymph nodes

BOVINE SPONGIFORM ENCEPHALOPATHY**CHRONOLOGY OF EVENTS (as at 30 June 2000)**

<u>DATE</u>	<u>EVENT</u>
November 1986	The disease was identified by the Central Veterinary Laboratory following a study of an affected cow referred to Weybridge for investigation and post mortem. This meant that transmission experiments were needed, which required fresh material from animals thought to be suffering from the same problem.
April 1987	Initial epidemiological studies started. The objective was to obtain detailed data from a case study of 200 herds.
5 June 1987	The CVO informed Ministers about the new disease. The transmission experiment was then put under way. It was not known if the disease was transmissible at that stage. The normal time for the disease to develop in mice proved to be about 10 months. The results became available in September 1988 and were published in October 1988 in <i>The Veterinary Record</i> .
15 December 1987	The initial epidemiology studies were completed. These concluded that ruminant derived meat and bone meal was the only viable hypothesis for the cause of BSE.
January - March 1988	Double checking of feeding histories of affected animals was initiated. A request was sent to compounders asking for details of frequency and levels of meat and bone meal included in feed and feed ingredients.
April-May 1988	The responses from compounders further substantiated the hypothesis the for the cause of BSE.
21 April 1988	The setting up of the Southwood Working Party was announced.
June 1988	Discussions took place with major compounders on the timing of the ruminant feed ban.
14 June 1988	The Bovine Spongiform Encephalopathy Order 1988 (SI 1988/1039) was made. Article 7, prohibiting the sale, supply and use of certain feedingstuff for feeding to ruminants, came into effect on 18 July; and the remainder on 21 June.

<u>DATE</u>	<u>EVENT</u>
20 June 1988	The Southwood Working Party held its first meeting and decided to issue interim advice immediately.
21 June 1988	The provisions of the BSE Order 1988 came into effect with the exception of article 7. This made BSE a notifiable disease and provided for the isolation of BSE suspects when calving.
22 June 1988	Interim advice was received from Southwood to destroy affected cattle. The proposed feed ban was welcomed.
7 July 1988	The decision to introduce a slaughter policy was announced.
18 July 1988	The ruminant feed ban came into force (included in BSE Order 1988, but implementation delayed until 18 July). The ban was to apply until 31 December 1988 while a review of rendering processes was conducted.
8 August 1988	The Bovine Spongiform Encephalopathy (Amendment) Order 1988 (SI 1988/1345) and the Bovine Spongiform Encephalopathy Compensation Order 1988 (SI 1988/1346) came into effect. These provided for a slaughter policy and compensation to be paid at 50% value for confirmed cases, and 100% for negative cases; both subject to a ceiling.
October 1988	The transmission to mice following intracerebral inoculation of BSE brain tissue was reported in The Veterinary Record.
15 November 1988	Further interim advice was received from Southwood. This was to extend the feed ban and destroy milk from infected cattle.
28 November 1988	In Northern Ireland the disease was made notifiable and a slaughter policy introduced by the Bovine Spongiform Encephalopathy Order (Northern Ireland) 1988 (SI 1988/422) and the Diseases of Animals (Modification)(No 2) Order (Northern Ireland) 1988 (SI 1988/421).
30 November 1988	The decision to prolong the feed ban and prohibit the use of milk from suspect animals for any purpose other than for feeding to the cow's own calf was announced.
22 December 1988	The Zoonosis Order 1988 (SI 1988/2264) designated BSE as a zoonosis, enabling powers under the Animal Health Act 1981 to be used to reduce the risk to human health from BSE.

<u>DATE</u>	<u>EVENT</u>
30 December 1988	The Bovine Spongiform Encephalopathy (No 2) Order 1988 (SI 1988/2299) came into force to prolong the feed ban and to prohibit the use of milk from affected or suspected cattle for any purpose other than feeding to the cow's own calf.
11 January 1989	In Northern Ireland the Diseases of Animals (Feeding Stuffs) Order (Northern Ireland) 1989 (SI 1989/8) banned the use of animal protein in ruminant feed.
9 February 1989	The Southwood Report was received by Ministers.
27 February 1989	The Southwood Report was published and the Government response announced (all recommendations had been or were to be introduced).
27 February 1989	The establishment of the Tyrrell Committee on research was announced. (This was one of Southwood's recommendations).
10 June 1989	The Tyrrell Report was received by the Government.
13 June 1989	The decision to introduce the offals ban was announced. The ban was a Government initiative, not a recommendation of Southwood, which advised the exclusion of offals from baby food only.
28 July 1989	The EC banned the export of cattle born before 18 July 1988 and of offspring of affected or suspect animals (Decision 89/469/EEC).
13 November 1989	The Bovine Offal (Prohibition) Regulations 1989 (SI 1989/2061) came into force in England and Wales which banned the use of certain specified bovine offals (SBO) for human consumption (following consultation - a legal requirement - and consideration by experts).
31 December 1989	The Bovine Spongiform Encephalopathy (No 2) Amendment Order (SI 1989/2326) came into force. This removed the time limitation of the ruminant feed ban in the principal Order by deleting the provision which stated that the ban would cease to have an effect on 1 January 1990.

<u>DATE</u>	<u>EVENT</u>
9 January 1990	The Tyrrell Report and the Government response (all top and medium priority work recommended either under way or was to be undertaken) were published. The publication was delayed to ensure that finance for R&D was in place. The research itself was <u>not</u> delayed.
30 January 1990	The Bovine Offal (Prohibition) (Scotland) Regulations 1990 (SI 1990/112) and the Bovine Offal (Prohibition) Regulations (Northern Ireland) 1990 (SI 1990/30) introduced the SBO ban in Scotland and Northern Ireland following additional consultation.
31 January 1990	It was announced that 5 antelopes had succumbed to a spongiform encephalopathy (1 greater kudu, 1 arabian oryx, 1 eland, 1 nyala and 1 gemsbok. The last two animals were referred to in the Southwood Report.)
3 February 1990	Cattle to cattle transmission following intra-cerebral and intravenous inoculation of BSE brain tissue and into mice via the oral route were reported in The Veterinary Record. This followed a press briefing on 2 February.
14 February 1990	The Bovine Spongiform Encephalopathy Compensation Order (SI 1990/222) changed amounts of compensation payable for animals slaughtered on account of BSE (full compensation for affected animals, subject to a ceiling).
1 March 1990	The EC restricted exports of cattle to those under six months which were slaughtered before that age (Decision 90/59/EEC made on 7 February).
30 March 1990	The administrative ban on the export to other Member States of specified offal and certain glands and organs (for uses other than for human consumption) came into force.
1 April 1990	The disease was made notifiable to the European Commission (Decision 90/134/EEC made 6 March).
3 April 1990	The establishment of the Spongiform Encephalopathy Advisory Committee (SEAC) was announced.
9 April 1990	The EC Decision to ban exports of SBO and other tissues (90/200/EEC) came into effect - this formalised the administrative ban imposed on 30 March.

<u>DATE</u>	<u>EVENT</u>
10 May 1990	The announcement of spongiform encephalopathy in a domestic cat was made.
17 May 1990	It was announced that decisions about breeding from offspring of affected cows should be left to individual farmers and their veterinary advisors.
8 June 1990	The Council of Ministers agreed arrangements for trade in beef and calves from the UK (Decision 90/261/EEC made on 8 June). These required that bone in beef for export must come from holdings where BSE had not been confirmed in the previous 2 years.
12 July 1990	The Tyrrell Committee's detailed reasoning on why there was no need to give official advice on breeding from the offspring of BSE cases was published.
12 July 1990	The Report of the Agriculture Committee was published
24 September 1990	An announcement on improved record keeping in cattle herds was made.
24 September 1990	The laboratory transmission of BSE to a pig was announced. The Tyrrell Committee advised that there were no implications for human health but, as an animal health precaution, a ban was placed on specified offals in all animal feed (including pet food).
25 September 1990	The Bovine Spongiform Encephalopathy (No 2) Amendment Order 1990 (SI 1990/1930) extended the ban on the use of specified bovine offals to any animal feed. Exports to other Member States of such feed were also effectively banned. (Third country exports were banned under DTI legislation on 10 July 1991.)
28-29 September 1990	At the OIE meeting in Paris, recommendations were made regarding trade in cattle, beef, dairy and bovine products and the co-ordination of research.
2-5 October 1990	At the OIE Conference in Sofia, Bulgaria, recommendations were made regarding the trade, prevention, control and surveillance of BSE, the support of research and the need for further consideration on trade in live animals.

<u>DATE</u>	<u>EVENT</u>
15 October 1990	The Bovine Animals (Identification, Marking and Breeding Records) Order 1990 (SI 1990/1867) introduced new record keeping arrangements requiring cattle farmers to maintain breeding records. These and the movement records were to be retained for ten years.
21 November 1990	The Government published its response to the Agriculture Committee Report.
27 March 1991	The first case of BSE in offspring born after the ruminant feed ban was announced.
10 July 1991	The Export of Goods (Control)(Amendment No 7) Order 1991 (SI 1991/1583) controlling the export of SBOs and feedingstuffs containing SBOs to third countries came into force. (Department of Trade & Industry legislation.)
6 November 1991	The Bovine Spongiform Encephalopathy Order 1991 (SI 1991/2246) consolidated existing BSE legislation and introduced new provisions to prevent the use of meat and bone meal produced from SBOs as a fertiliser.
12 March 1992	The Bovine Offal Prohibition (Amendment) Regulations 1992 (SI 1992/306) implemented recommendations made by Advisory Committees to prohibit the use of the head after the skull is opened (effectively minimising risks of contamination of head meat by the process of brain removal) and the removal of the brain, except in an area which is free at all times from any food intended for human consumption.
4 March 1992	The results of further experiments on the host range of BSE were announced - BSE was transmitted to a marmoset following inoculation of BSE affected cattle brain into its brain and body cavity. It was also announced that SEAC, having considered the latest BSE research, concluded that the measures at present in place provided adequate safeguards for human and animal health.
May 1992	The OIE General Assembly in Paris agreed trading conditions for bovine products from countries affected by BSE.
14 May 1992	An EC Commission Decision prohibited intra community trade in bovine embryos derived from BSE suspect or confirmed dams or dams born after 18/7/88 (Decision 92/290/EEC).

<u>DATE</u>	<u>EVENT</u>
30 June 1992	The 'Interim Report on Research' by the Spongiform Encephalopathy Advisory Committee (Tyrrell) was published.
November 1992	The UK Progress Report was presented to the EC Standing Veterinary Committee.
24 November 1992	It was announced by PQ that details of the total number of cases (by county) would be placed regularly in the Library of the House of Commons.
15 December 1992	The UK Progress Report was placed in the Library of the House.
1 January 1993	The Specified Diseases (Notification and Slaughter) Order 1992 (SI 1992/3159) came into force. It extended the list of notifiable diseases to include, amongst others, scrapie. The Animals and Animal Products (Export and Import) Regulations 1992 (SI 1992/3295) came into force, implementing Commission Decision 90/200/EEC. These prohibited the export of bovine animals not complying with Community legislation listed in Schedule 3 (including BSE Decisions).
27 May 1993	The UK Progress Report to the OIE was placed in the Library of the House.
10 June 1993	The UK Progress Report (the same as the OIE Progress Report) was presented to the EC Standing Veterinary Committee.
14 July 1993	The 100,000th confirmed case of BSE in Great Britain was announced in response to a Parliamentary Question, as an update to the UK Progress Report to the OIE.
25 November 1993	The GB Progress Report was placed in the Library of the House.
1 January 1994	The Animals and Animal Products (Export and Import) Regulations 1993 (SI 1993/3247) revoked and replaced the 1992 Regulations. These also implemented Commission Decision 92/290/EEC.

<u>DATE</u>	<u>EVENT</u>
1 April 1994	The Bovine Spongiform Encephalopathy Compensation Order (SI 1994/6743) came into force and introduced changes to the BSE compensation arrangements.
26 April 1994	The GB Progress Report was placed in the Library of the House.
May 1994	The UK Progress Report was presented to the OIE General Assembly.
24 May 1994	The Export of Goods (Control) Order 1994 (SI 1994/1191) revoked the 1991 Order and re-enacted the relevant restrictions.
27 June 1994	Commission Decision 94/381 on BSE and feeding of mammalian derived protein was made. This prohibited the feeding of mammalian protein to ruminants throughout EU.
June 1994	The UK Progress Report was updated.
27 June 1994	Commission Decision 94/382 on the approval of alternative heat treatment systems for processing animal waste was made. This was effective from 1 January 1995.
30 June 1994	The interim results of a further BSE experiment (pathogenesis) were announced. The extension of the SBO ban was implemented voluntarily by industry.
27 July 1994	Commission Decision 94/474 introduced new measures on beef exports. Bone-in beef for export was to come only from cattle certified not to have been on holdings where BSE had been confirmed in the previous 6 years.
2 November 1994	The Bovine Offal (Prohibition) (Amendment) Regulations 1994 (SI 1994/2628) extended the controls in the principal Regulations to include thymus and intestines of all bovine animals, except those under two months which have died.
	The Spongiform Encephalopathy (Miscellaneous Amendments) Order 1994 (SI 1994/2627) extended the ban on the use of SBOs in animal feed, banned the use of mammalian protein in ruminant feedingstuffs and made notifiable laboratory suspicion of spongiform encephalopathies in species other than cattle, sheep and goats.

<u>DATE</u>	<u>EVENT</u>
16 December 1994	The GB Progress Report was placed in the Library of the House.
14 December 1994	Commission Decision 94/474 was amended by Decision 94/794. Beef from cattle born after 1 January 1992 was excluded from the certification requirement.
30 January 1995 & 1 April 1995 (article 8(1))	The Bovine Animals (Records, Identification and Movement) Order 1995 (SI 1995/12) (BARIMO) implemented the requirement to identify cattle in Commission Decision 94/474/EEC. It revoked and replaced the Bovine Animals (Identification, Marking and Breeding Records) Order 1990, as amended; provided for identification and registration of bovine animals and required movement records to be kept.
February 1995	SEAC report 'Transmissible Spongiform Encephalopathies - a summary of present knowledge and research' was published.
6 March 1995	Commission Decision 95/60 lifted the restriction in Commission Decision 94/381 on the use of milk, gelatin, amino acids, dicalcium phosphate and dried plasma and other blood products from mammalian tissues in feedingstuffs for ruminants.
1 April 1995	<p>The Fresh Meat (Hygiene and Inspection) Regulations 1995 (SI 1995/539) came into force, which implemented Commission Decision 94/474/EC as amended by Commission Decision 94/794/EC. They required, in meat cutting premises, the removal of spinal cord from bovines over 6 months and the removal and collection of obvious nervous and lymphatic tissue and the prohibition of its use for human consumption.</p> <p>The Bovine Offal (Prohibition)(Amendment) Regulations 1995 (SI 1995/613) came into force, which made it a requirement to stain SBO with a solution of Patent Blue V (E131,1971 Colour Index No 42051). (Commission Decision 94/474/EC referred.).</p> <p>The Animal By-Products (Identification) Regulations 1995 (1995/614) provided for the sterilisation and staining of animal by-products and for the control of movement of such by-products.</p>

<u>DATE</u>	<u>EVENT</u>
15 May 1995	The UK Progress Report was presented to the OIE General Assembly in Paris.
18 May 1995	The GB Progress Report was placed in the Library of the House.
18 July 1995	Commission Decision 94/474 as amended by Commission Decision 94/794, now amended by 95/287, introduced new measures on beef exports. The previous requirement to exempt beef from cattle born after 1 January 1992 from certification requirements was replaced with provision to exempt beef from cattle less than 2½ years of age at slaughter. It also introduced requirement for routine monitoring in feed mills.
15 August 1995	<p>The Specified Bovine Offal Order 1995 (SI 1995/1928) took effect. The Order consolidated and streamlined the old rules on SBO. The main changes introduced were tighter controls on record keeping; dedicated lines for rendering plants processing SBO; a prohibition on the removal of brains and eyes so that the whole skull must be disposed of as SBO and a prohibition on the removal of the spinal cord from the vertebral column apart from in slaughterhouses.</p> <p>The Bovine Offal (Prohibition) (England, Wales and Scotland) (Revocation) Regulations 1995 (1995/1955) revoked the Bovine Offal (Prohibition) Regulations).</p>
9 October 1995	The Animals and Animal Products (Import and Export) Regulations (SI 1995/2428) revoked and replaced the 1993 Regulations
28 November 1995	Acting on advice from SEAC the Government announced its decision to suspend the use of bovine vertebral column in the manufacture of mechanically recovered meat.
14 December 1995	The November Progress Report was placed in the Library of the House.

<u>DATE</u>	<u>EVENT</u>
15 December 1995	<p>The Specified Bovine Offal (Amendment) Order 1995 (SI 1995/3246) took effect, prohibiting the use of bovine vertebral column in the manufacture of all MRM and also in the production of some other products for human consumption. It prohibited the use of bovine MRM made from the vertebral column in food for humans. It required all plants producing bovine MRM to register with MAFF. Finally, it prohibited the export of bovine MRM made from the vertebral column to other EC Member States.</p> <p>The Export of Goods (Control) (Amendment No. 2) Order 1995 (SI 1995/3299) took effect, prohibiting the export of bovine MRM made from the vertebral column for human consumption.</p>
1 January 1996	<p>The Fresh Meat (Hygiene and Inspection) (Amendment) Regulations 1995 (SI 1995/3189) implemented Commission Decision 95/287/EC. The Regulations imposed, in meat cutting premises, the requirement to remove specific lymph nodes from meat intended for export or consignment to an EEA State and derived from bovines over 2½ years at slaughter.</p>
20 March 1996	<p>SEAC announced that the CJD Surveillance Unit had identified a previously unrecognised and consistent disease pattern. The Committee concluded that although there was no direct evidence of a link, the most likely explanation was that these cases were linked to exposure to BSE before the introduction of the SBO ban in 1989.</p>
20 March 1996	<p>Government announced its intention to consult on further control measures following advice from SEAC. They were that carcasses from cattle aged over 30 months must be deboned in specially licensed plants supervised by the Meat Hygiene Service and that the trimmings must be kept out of the food chain; and that the use of mammalian meat and bonemeal in feed for all farm animals be banned.</p>

<u>DATE</u>	<u>EVENT</u>
27 March 1996	Commission Decision 96/239/EC prohibited the export from the United Kingdom of live bovine animals, their semen and embryos; meat of bovine animals slaughtered in the United Kingdom; products obtained from bovine animals slaughtered in the United Kingdom which were liable to enter the animal feed or human food chain, and materials destined for use in medicinal products, cosmetics or pharmaceutical products; and mammalian derived meat and bone meal.
28 March 1996	Government announced new BSE controls, the calf slaughter scheme and financial aid for the rendering industry.
29 March 1996	The Beef (Emergency Control) Order 1996 (SI 1996/961) prohibited the sale for human consumption of any meat from bovine animals showing more than two permanent incisors. The prohibition was introduced as an emergency measure pending consideration of a more targeted approach to protecting human health.
29 March 1996	The Bovine Spongiform Encephalopathy (Amendment) Order 1996 (SI 1996/962) prohibited the sale or supply of any mammalian meat and bone meal, or any feeding stuff known to include mammalian meat and bone meal, for the purpose of feeding to farm animals, including horses and farmed fish. This requirement was introduced on the advice of SEAC.
29 March 1996	The Specified Bovine Material Order 1996 (SI 1996/963) replaced the Specified Bovine Offal Order 1995 and introduced a requirement that the whole head of all cattle over 6 months, except for the tongue (provided it was able to be removed without contamination), must be treated in the same way as material designated as 'specified bovine offal'. This requirement was introduced on the advice of SEAC.
3 April 1996	Government announced changes to the Beef (Emergency Control) Order and the introduction of a 30 month slaughter scheme to ensure that all bovine animals over the age of 30 months at the time of slaughter did not enter the human food or animal feed chain. This scheme was introduced in place of a scheme for compulsory deboning recommended by SEAC.
4 April 1996	The Beef (Emergency Control) (Amendment) Order 1996 (SI 1996/1043) provided for the use of Cattle Identification Documents to identify the age of animals if they had more than two permanent incisors erupted.

<u>DATE</u>	<u>EVENT</u>
13 April 1996	The Beef (Emergency Control) (Amendment) (No 2) Order 1996 (SI 1996/1091) amended the Emergency Control Order by exempting from the restriction meat derived from animals slaughtered in certain third countries where no cases of BSE had been recorded.
19 April 1996	The Fertilisers (Mammalian Meat and Bone Meal) Regulations 1996 (SI 1996/1125) prohibited the use of meat and bonemeal as, or in, fertiliser used on agricultural land. It was only permitted for use in private gardens, and within greenhouses and glass or plastic structures.
19 April 1996	Commission Regulation (EC) No 716/96 set out the terms for which the EC was to provide aid, and the level of that aid, in respect of animals slaughtered under the 30 month slaughter scheme.
23 April 1996	The Fresh Meat (Hygiene and Inspection) (Amendment) Regulations 1996 (SI 1996/1148) permitted slaughterhouses to participate in the schemes slaughtering cattle over 30 months and calves under ten days old. Normally slaughterhouses were only permitted to slaughter animals intended for human consumption. Permission to slaughter these scheme animals was subject to strict separation from any meat intended for sale for human consumption.
29 April 1996	The Beef (Emergency Control) (Amendment) (No 3) Order 1996 (SI 1996/1166) provided for a document which could demonstrate the age of cattle in which more than two permanent incisors had erupted and which were not issued with a national identification document. The latter were only issued to traded male cattle and the amendment provided for documentary checks for female cattle.
1 May 1996	The Specified Bovine Materials (No 2) Order 1996 (SI 1996/1192) amended and replaced the Specified Bovine Material Order 1996. Its effect was to amend the way in which existing controls applied to specified material from animals slaughtered under Commission Regulation 716/96. It required specified bovine material (SBM) to be removed from carcasses and to be handled separately. The carcass meat from cattle slaughtered under the Commission Regulation had to be dyed a different colour from SBM. The Order also brought the existing rules on rendering and disposal into line with EU requirements.

<u>DATE</u>	<u>EVENT</u>
1 May 1996	The Bovine Animals (Enforcement of Community Purchase Scheme) Regulations 1996 (SI 1996/1193) made provision for the enforcement of certain of the new requirements of Commission Regulation 716/96. The new legislation created offences in respect of breaches of the provisions of this Regulation and specifies the penalties involved. It applied to approved operators of incinerators or rendering plants, approved under the Specified Bovine Material (No 2) Order 1996 and to licensed operators of slaughterhouses licensed under the Fresh Meat (Hygiene and Inspection) Regulations 1995, whose premises were designated under the terms of Commission Regulation 716/96.
6 May 1996	Commission Regulation (EC) 835/96 was made which amended Commission Regulation 716/96 by allowing the weight of animals under OTM to be calculated by deadweight.
23 May 1996	The Bovine Spongiform Encephalopathy Compensation (Amendment) Order 1996 (SI 1996/1351) amended the definition of 'market value' and the formula used to calculate the indicative market price (IMP). This ensured that compensation levels were protected from the effects of substantial decline in market prices.
31 May 1996	UK BSE Eradication Programme was sent to the Commission.
10 June 1996	The Feed Recall Scheme was launched. The aim of the scheme was to collect and dispose of any MBM and feed containing MBM which was still on farms, at feed mills and at feed merchants.
11 June 1996	Commission Decision 96/362/EC provided for the partial lifting of the export ban for gelatin, tallow and semen.
17 June 1996	Commission Regulation 96/1091/EC temporarily permitted the UK to authorise set-aside land for grazing bovine animals of more than 30 months.
21 June 1996	The Arable Area Payments (Grazing of Bovine Animals on Set-aside land) (Temporary Provisions) Regulations 1996 (SI 1996/1593) implemented Commission Regulations EC 1091/96.
21 June 1996	The framework for lifting the export ban was agreed at the Florence European Council.

<u>DATE</u>	<u>EVENT</u>
24 June 1996	Commission Decision 96/385/EC approved the UK's plan for the eradication of BSE.
1 July 1996	The May Progress Report was placed in the Library of the House.
1 July 1996	The Cattle Passports Order 1996 (SI 1996/1686) introduced a mandatory cattle movement documents ('cattle passports') in GB for all cattle born from 1 July 1996.
5 July 1996	The Beef (Emergency Control) (Revocation) Order 1996 (SI 1996/1742) came into force. It revoked the Beef (Emergency Control) Order and its amendments.
5 July 1996	The Fresh Meat (Beef Controls) Regulations 1996 (SI 1996/1743) replaced the Beef (Emergency Control) Order 1996 as amended, in similar terms to those set out in the emergency order, but putting them on a regular basis under Section 16 of the Food Safety Act 1990.
8 July 1996	Council Regulation (EC) No 1357/96 provided for additional premium payments in respect of male bovine animals of suckler cows.
18 July 1996	European Parliament voted to set up the Temporary Committee of Inquiry into the Commission and UK handling of BSE.
24 July 1996	Following SEAC advice the Government announced its intention to introduce controls to require the removal of sheeps' heads from the food chain, an interim measure pending EU wide controls. This followed publication of evidence that BSE could be isolated from the spleen of sheep experimentally infected with BSE.
26 July 1996	The SBM (No 3) Order 1996 (SI 1996/1941) came into force. This revoked and remade with amendments the Specified Bovine Materials (No 2) Order 1996. It extended controls to cover solid matter trapped in drainage systems at premises where bovine animals were slaughtered or their carcasses processed.

<u>DATE</u>	<u>EVENT</u>
29 July 1996	Commission Regulation (EC) 1512/96 further amended Regulation 716/96 to reduce the dead weight coefficient for clean cattle entered in the over 30 months scheme, from 2 to 1.7.
July 1996	Commissioner Fischler recommended to the Agricultural Council that EU wide controls to remove certain SBM tissues be introduced. This recognised the possibility that sheep throughout the EU could be exposed to BSE.
31 July 1996	The Government consulted on its proposed legislation to require the separation of vertebral column from raw materials used to produce tallow.
August 1996	The European Parliament set up a Temporary Committee of Inquiry to investigate alleged contraventions in the implementation of Community law in relation to BSE.
1 August 1996	The Bovine Spongiform Encephalopathy Order 1996 (SI 1996/2007) revoked and remade the BSE 1991 Order. New provisions included requirements on animals exposed to BSE, the prohibition on the possession of MBM on premises where livestock feeding stuffs were kept, the disposal and recall of MBM and the cleansing and disinfecting of places, vehicles and equipment where MBMs had been produced, stored or used.
1 August 1996	MAFF announced that SEAC had considered the interim results of MAFF research on maternal transmission (Cohort Study). SEAC concluded that very low levels of maternal transmission of BSE may have occurred. The final results of the research would not be available until 1997.
19 August 1996	The Beef Assurance Scheme for specialist grass reared beef herds which have not been affected by BSE or come into contact with meat and bonemeal was introduced.
29 August 1996	New epidemiological analysis carried out by Professor Anderson of Oxford University and his team, in collaboration with Wilesmith and others at VLA, was published in Nature, Vol 382. The analysis supported Government predictions and indicated that the epidemic would virtually die out around 2001 irrespective of any further measures.

<u>DATE</u>	<u>EVENT</u>
1 September 1996	The Fresh Meat (Beef Control) (No. 2) Regulations 1996 (SI 1996/2097) set out details of the Beef Assurance Scheme and included animals certified under that scheme on the list of those exempted from the prohibition of sale of meat from older bovine animals.
4 September 1996	Bovine Products (Despatch to Other Member States) Regulations 1996 (SI 1996/2265) implemented Article 1A of Commission Decision 96/362.
15 September 1996	The Heads of Sheep and Goats Order 1996 (SI 1196/2264) prohibited the sale for human consumption of any part of the head of a sheep or goat (with the exception of the tongue) and of any food containing any part of such heads.
18 September 1996	Commission announced its decision to seek the advice of its Multi-Disciplinary Committee on the Anderson Article.
19 September 1996	Ministers announced that in light of the findings on maternal transmission and the Anderson Study further work was needed on appropriate culling strategies. The UK was not therefore proceeding with the selective cull at this stage.
24 September 1996	BSE (Amendment) Order 1996 (SI 1996/2458) made exceptions from record keeping requirements re MBM for retail sale of fertilisers and in relation to sale of MBM products at feed mills.
4 October 1996	Fresh Meat (Beef Controls) (No 2) Amendment) Regulations 1996 (SI 1996/2522), altered two of the conditions of eligibility and one of the conditions of continued membership of the Beef Assurance Scheme.
October 1996	The MBM Feed Recall Scheme was completed. 10,000 tonnes were held securely by the Intervention Board until safe disposal could be arranged.
17 October 1996	The Fertilisers (Mammalian Meat and Bone Meal) (Amendment) Regulations 1996 amended the 1996 Regulations by replacing the definition of MBM in those regulations with a more precise definition.

<u>DATE</u>	<u>EVENT</u>
3 December 1996	The proposed Commission decision controlling “Specified Risk Materials” derived from cattle, sheep and goats was put before the Standing Veterinary Committee. There was no majority in favour, so it was put before the European Council.
10 December 1996	The European Council rejected the SRM proposal.
16 December 1996	Ministers announced that the backlog of animals waiting to be slaughtered under the Over Thirty Month Scheme had been cleared.
16 December 1996	Proposals for a certified herds scheme which could lead the way to lifting the ban on beef exports were announced.
16 December 1996	The selective cull of cattle most at risk of BSE was announced. This meant that the UK had acted on all five pre-conditions of the Florence agreement to lift the export ban on British beef.
17 December 1996	The November Progress Report was placed in the Library of the House.
24 December 1996	The Bovine Products (Dispatch to other Member States) (Amendment) Regulations 1996 (SI 1996/3000) came into force, providing for the registration of plants producing gelatin from non-UK material.
1 January 1997	Commission Directive 97/1 prohibiting the use of certain bovine, ovine and caprine tissues in cosmetics, was to take effect on 1 July 1997.
24 January 1997	The Bovine Spongiform Encephalopathy (No 2) Order 1996 (SI 1996/3183) came into force, revoking and remaking the BSE Order 1996. It introduced the new provisions for the selective cull of exposed animals and the carcasses of exposed animals.
24 January 1997	BSE Compensation Order 1996 (SI 1996/3184) and Selective Cull (Enforcement of Community Compensation Conditions) Regulations 1996 (SI 1996/3186) came into force which introduced compensation for “exposed animals” slaughtered under the cull and underpinning EU co-financing of compensation.

<u>DATE</u>	<u>EVENT</u>
24 January 1997	The Specified Bovine Material (No 3) (Amendment) Order 1996 (SI 1996/3185) amended the SBM (No. 3) Order 1996 by amending the definition of a “scheme animal”.
24 January 1997	The SBM (No 3) (Amendment) (No 2) Order 1996 (SI 1996/3268) came into force, which made provision for equipment previously used for rendering SBM to be used for other purposes following a specified cleansing regime.
6 February 1997	The Report of the European Parliament Temporary Committee of Inquiry was published. This was critical of the UK handling of the BSE problem.
25 February 1997	Papers were submitted to the Commission on UK action on the five pre- conditions of the Florence Agreement, on the administrative framework of the Export Certified Herds Scheme and on the scientific basis of the scheme.
15 March 1997	The Bovine Products (Production and Despatch) Regulations 1997 (SI 1997/389) implemented Commission Decision 96/362/EC. These consolidated existing regulations and contained registration provisions for by-products and meat products production, production controls and end-use restrictions.
17 March 1997	The BSE Regulatory Forum was set up. It brought together representatives from UK Agriculture Departments, the State Veterinary Service, the Meat Hygiene Service, the Intervention Board and Local Authorities to develop a more integrated approach to enforcement of BSE controls.
28 March 1997	The Specified Bovine Materials Order 1997 (SI 1997/617) consolidated the SBM Order (No 3) 1996. It introduced further controls in relation to the use of SBM and its derivatives in cosmetic, pharmaceutical or medical products, in relation to staining requirements for SBM and in relation to the definition of premises which could use SBM for manufacturing processes.
3 April 1997	The Bovine Hides Regulations 1997 (SI 1997/819) underpinned Commission Regulation 716/96 permitting the hides of OTMS animals to be used, providing they were processed for leather.

<u>DATE</u>	<u>EVENT</u>
18 April 1997	MAFF announced that SEAC had issued a statement on the final results of MAFF research on maternal transmission (Cohort Study). SEAC concluded that there was some evidence of direct maternal transmission of BSE at a low level and that offspring might inherit a genetic susceptibility to feed-borne infection. These findings were consistent with the interim results released in July 1996. SEAC confirmed that current measures to protect consumers were appropriate and that there was no evidence to suggest risk of BSE from milk.
24 April 1997	The European Parliament set up a Temporary Committee on the follow up of recommendations on BSE presented by the Temporary Committee of Inquiry in February.
14 May 1997	Commission announced that it would insist on the introduction of Community wide Specific Risk Materials (SRM) proposals (which had been rejected by the Council in December) and also issued helpful clarification of the terms of the export ban, notably in relation to products derived from bovine raw materials, e.g. gelatin.
23 May 1997	Following a report on risk factors and surveillance for BSE in other Member States, SEAC advised that, in the absence of Community measures, national SRM controls should be extended to imported meat.
11 June 1997	The Scientific Veterinary Committee (ScVC) delivered its opinion on the UK proposal for a first step to lifting the export ban - an export certified herds scheme.
30 June 1997	A new campaign was launched to remind farmers of the compulsory registration of cattle under the cattle passport system.
1-2 July 1997	The International Scientific Conference on MBM took place in Brussels.
21 July 1997	The updated BSE Internet Site was launched.
22 July 1997	The Agriculture Council voted, by a simple majority, to accept the Commission's SRM proposals, which were to come into force on 1 January 1998 (Commission Decision 97/534/EC).

<u>DATE</u>	<u>EVENT</u>
23 July 1997	The June Progress Report was placed in the Library of the House.
30 July 1997	A new procedure was introduced to help speed up the selective cull. Animals in groups of 10 or less were to be valued by only one valuer instead of two.
31 July 1997	The Minister announced the setting up of a new computerised cattle tracing system which was to be operational during 1998 and was to be managed in Workington by a new service - the British Cattle Movement Service.
1 August 1997	The Bovines and Bovines Products (Despatch Prohibition and Production Restriction) Regulations 1997 (SI 1997/1905), revoked and replaced the Bovine Products (Production and Despatch) Regulations 1997. These regulations fully implemented the requirements of Decision 96/239/EC, as amended by Decision 96/362/EC, on emergency measures to protect against BSE.
August 1997 - August 1998	The scrapie abattoir survey took place.
22 August 1997	The Cattle Identification (Enforcement) Regulations 1997 (SI 1997/1901) revoked and replaced the powers of entry and inspection in BARIMO 1995.
15 September 1997	MAFF and the Department of Health published a review of SEAC. The Minister confirmed SEAC's key role.
17 September 1997	ScVC delivered their opinion on the revised Certified Herds Scheme proposals.
21 September 1997	The Fresh Meat (Hygiene and Inspection) (Amendment) Regulations 1997 amended the 1995 Regulations, removing the provision for the slaughter of private kill animals, thereby ensuring that all red meat animals killed in slaughterhouses for human consumption were subject to full meat inspection.
21 September 1997	The Animal By-products (Identification)(Amendment) Regulations 1997(SI 1997/2073) amended the 1995 Regulations, adding a category to the animal by-product definition to include meat from a bovine animal presented for slaughter for human consumption subsequently found to be from an animal over 30 months old.

<u>DATE</u>	<u>EVENT</u>
2 October 1997	The UK proposal for the export of meat and meat products from cattle born after 1 August 1996 was submitted to the Commission. UK proposals for compulsory slaughter of offspring born on or after 1 August 1996 to BSE affected dams were also submitted to the Commission.
16 October 1997	The UK position paper was submitted to the Commission. This set out the framework for export of deboned beef and certain products made from meat from animals fulfilling a specified basic criteria (a revised Export Certified Herds Scheme).
24 October 1997	SEAC announced that it had reviewed the safety of beef in the light of its discussion on human blood and blood products. It concluded that no further measures governing beef and beef products for human consumption were necessary.
24 October 1997	BSE (No 2) (Amendment) Order 1997 (SI 1997/2387) amended the BSE (No 2) Order 1996 in respect of exposed animals, allowing certain notices to be served by an Inspector of the Minister, as well as by a veterinary inspector.
3 -7 November 1997	The Commission visited Northern Ireland to look at the practical application of their computerised system for tracing animals.
7 November 1997	European Parliament Temporary Committee produced its final report on BSE. This was endorsed by the European Parliament on 19 November.
21 November 1997	The Commission's Scientific Steering Committee (SSC) referred the UK's Date Based Export Scheme proposal to its BSE sub-group.
3 December 1997	Following SEAC advice, the Government announced its intention to consult on measures to require the deboning of all beef from cattle aged over 6 months old before it was sold to the consumer.
9 December 1997	The Scientific Steering Committee gave its opinion on the UK's Date Based Export Scheme proposals and adopted an opinion on specified risk materials.

<u>DATE</u>	<u>EVENT</u>
16 December 1997	The EU Standing Veterinary Committee postponed implementation of Decision 97/534/EC on SRMs until 1 April 1998
16 December 1997	The Beef Bones Regulations 1997 (SI 1997/ 2959) came into force requiring the deboning of all beef derived from cattle both home-produced and imported aged over 6 months at slaughter before it is sold to consumers.
17 December 1997	The Government accepted SEAC advice on same species feeding.
22 December 1997	Government announced the Public Inquiry into BSE, to be conducted by Lord Justice Phillips (the BSE Inquiry).
1 January 1998	The Specified Risk Material Order 1997 (SI 1997/2964) replaced the existing SBM Order and the Heads of Sheep and Goats Order and introduced controls on specified risk material on the lines of those in Commission Decision 97/534.
1 January 1998 (and 17 December 1997 for certain regulations on sheep and goats)	The Specified Risk Material Regulations 1997 (SI 1997/ 2965) provided for controls on specified risk material, continuing the provisions on food in the SBM Order 1997 and the Heads of Sheep and Goats Order 1996.
1 January 1998	The Specified Risk Material (Amendment) Regulations 1997 (SI 1997/ 3062) amended regulations 7 and 19 of the SRM Regulations 1997.
23 January 1998	The Scientific Steering Committee issues its opinion on defining the BSE risk for specified geographical areas.
9 March 1998	Public hearings started in the Public Inquiry into BSE.
16 March 1998	The Commission's Agriculture Council adopted Council Decision 98/256/EC, which amended Decision 94/474/EC and repealed Decision 96/239/EC. The new Decision allowed the export of beef and beef products from Northern Ireland under the Export Certified Herd Scheme, laid down new conditions for the export of tallow from UK bovines and gelatin from non-UK bovines and introduced stricter controls for the export of products containing foreign origin bovine material from Export Approved Premises.

<u>DATE</u>	<u>EVENT</u>
26-27 March 1998	The Scientific Steering Committee adopts: (i) the scientific report and opinion on the safety of gelatin, (ii) the opinion on the safety of tallow derived from ruminant tissues (iii) the opinion on BSE risk, and (iv) the scientific opinion on the safety of MBM from mammalian animals, naturally or experimentally susceptible to TSEs.
30 March 1998	The December Progress Report was placed in the Library of the House.
31 March 1998	The Agriculture Council deferred implementation of Decision 97/534/EC until 1 January 1999. It also called on the Commission to submit revised SRM proposals after the OIE Meeting in May 1998.
15 April 1998	The Cattle Identification Regulations 1998 (SI 1998/871) revoked the Bovine Animals (Records, Identification and Movement) Order 1995 in part, the Cattle Passports Order 1996, the Cattle Passports (Fees) Order 1996 and the Cattle Identification (Enforcement) Regulations 1997. The new Regulations provided for the administration and enforcement of Council Regulation (EC) No. 820/97. Cattle born after 1/1/98 had to have a MAFF approved eartag in each ear and a cattle passport.
23 April 1998	The Commission adopted Commission Decision 98/272/EC to provide for the epidemiological surveillance of TSEs.
29 April 1998	The Bovines and Bovine Products (Trade) Regulations 1998 (SI 1998/1135) came into force, implementing Council Decision 98/256/EC. These strengthened controls for exports of meat, meat products, meat preparations, “other products of animal origin” and petfood derived from bovines slaughtered outside the UK.

<u>DATE</u>	<u>EVENT</u>
30 April 1998	<p>The Fertilisers (Mammalian Meat and Bone Meal) Regulations 1998 (SI 1998/954) prohibited the sale of mammalian MBM for use as a fertiliser on agricultural land and its use as a fertiliser on agricultural land.</p> <p>The Fertilisers (Mammalian Meat and Bone Meal) (Conditions of Manufacture) Regulations 1998 (SI 1998/955) give effect to Commission Decision 96/449 on alternative heat treatment systems for processing animal waste to inactivate SE agents. They also prohibited the use of mammalian MBM for use in or as a fertiliser unless it is subjected to certain minimum process conditions.</p>
5 May 1998	The ECJ gave its final decision, which upheld the validity of the export ban on UK beef.
25-29 May 1998	At the OIE Annual General Session, a revised chapter on BSE for the International Health Code was adopted. This provided a clearer definition of the different risk analysis elements. The OIE restated its 1992 recommendation that trade in semen collected from healthy bulls required no additional certification.
1 June 1998	The ban was lifted on the export of ECHS beef from Northern Ireland.
25-26 June 1998	<p>The Scientific Steering Committee adopts:</p> <p>(i) the report and opinion on possible links between BSE and organophosphates used as pesticides against ecto- and endoparasites in cattle, and</p> <p>(ii) the report and opinion on the safety of dicalcium phosphate precipitated from ruminant bones and used as an animal feed additive.</p>

<u>DATE</u>	<u>EVENT</u>
29 July 1998	<p>The Sheep and Goats Spongiform Encephalopathy Order 1998 (SI 1998/1645), provided for the compulsory slaughter of animals suspected of having a TSE, e.g. scrapie.</p> <p>The Sheep and Goats Spongiform Encephalopathy Regulations 1998 (SI 1998/1646), provided for the conduct of veterinary investigations of premises where scrapie is suspected.</p> <p>The Sheep and Goats Spongiform Encephalopathy (Compensation) Order 1998 (SI 1998/1647), provided for compensation payment for compulsorily slaughtered animals.</p>
18 August 1998	The June Progress Report was placed in the Library of the House.
24-25 September 1998	<p>The Scientific Steering Committee adopted:</p> <ul style="list-style-type: none"> (i) the scientific opinion on the safety of organic fertilisers derived from mammalian animals, (ii) the report and scientific opinion on mammalian derived MBM forming a cross contaminant of animal feedstuffs, (iii) the updated scientific report on the safety of MBM derived from mammalian animals fed to non-ruminant food producing farm animals, and (iv) the opinion on the risk of infection of sheep and goats with BSE agent.
28 September 1998	<p>The Cattle Tracing System was launched.</p> <p>The Cattle Database Regulations 1998 (SI 1998/1796) came into effect, specifying the deadlines for notification of cattle births, movements and deaths to the British Cattle Movement Service.</p>
7 October 1998	The Commission adopted Commission Decision 98/564/EC amending Decision 98/256/EC to allow samples of bovines slaughtered in the UK to be sent from the VLA to officially approved centres for use in BSE research.
8 October 1998	The Specified Risk Material (Amendment) Regulations (SI 1998/2405) came into force (coming into force date amended to 8 October by SI 1998/2431). These enabled carcasses of sheep over 12 months old without spinal cords removed to be sent to plants in France, subject to certain conditions.

<u>DATE</u>	<u>EVENT</u>
22-23 October 1998	The Scientific Steering Committee adopts: (i) the opinion on the safety of bones produced as a by-product of the Date Based Export Scheme (DBES), and (ii) the report and scientific opinion on the safety of hydrolysed proteins produced from bovine hides.
12 November 1998	The postal survey on the incidence of scrapie started.
25 November 1998	The Commission adopted Commission Decision 98/692/EC amending Decision 98/256/EC to provide for the Date-based Export Scheme.
17 December 1998	The Commission deferred implementation of Decision 97/534/EC until 31 December 1999.
23 December 1998	SEAC published its 1997/98 Annual Report.
1 January 1999	The Cattle Identification (Amendment) Regulations 1998 (SI 1998/2969) came into force amending the Cattle Identification Regulations 1998 by requiring one tag to be applied within 36 hours of birth and the second tag to be applied within 30 days of birth, thus ensuring regulations for beef and dairy farmers were the same.
4 January 1999	BSE Offspring Slaughter Regulations (SI 1998/3070) came into force implementing a compulsory cull of offspring born on or after 1 August 1996 to BSE cases confirmed before 25 November 1998. BSE (No 2) (Amendment) Order 1998 (SI 1998/3071) came into force amending the BSE (No 2) Order 1996 by adding the definition of an offspring animal.
4 February 1999	Government announced that following advice from the CMO, the ban on bone-in beef would be retained and be reviewed again after 6 months.
3 March 1999	The December 1998 Progress Report was placed in the Library of the House
29 March 1999	The Specified Risk Material (Inspection Charges) Regulations 1999 (SI 1999/539) came into force enabling the Minister to levy a charge on licensed slaughterhouses and cutting plants for Meat Hygiene Service enforcement of SRM inspections.

<u>DATE</u>	<u>EVENT</u>
1 April 1999	The Animal By-Products Order 1999 (SI 1999/646) came into force revoking and replacing the Animal By-Products Order 1992. New provisions include the ban on swill feeding of pig slaughterhouse waste to pigs.
14 April 1999	The SEAC Subgroup published its report on Research and Surveillance for TSEs in Sheep
15 April 1999	The BSE (Feeding Stuffs and Surveillance) Regulations 1999 (SI 1999/882) came into force implementing EU obligations on feed sampling and epidemiological surveillance. The BSE (No 2) (Amendment) Order 1999 (SI 1999/921) came into force making housekeeping changes to animal feed rules and to the investigation of BSE cases.
1 May 1999	The Bovines and Bovine Products (Trade) Regulations 1999 (SI 1999/1103) came into force, implementing Council Decision 98/256/EC (as amended) and replacing the 1998 Regulations (SI 1998/1135). New provisions are made for the setting up and operation of the Date-based Export Scheme.
6 July 1999	The Feeding Stuffs (Sampling and Analysis) Regulations 1999 (SI 1999/1663) came into force, implementing Council Decision 98/88/EC on the testing of animal feed samples.
1 August 1999	The Date-based Export Scheme (DBES) started. This permitted exports of UK beef produced under the scheme and followed the Commission's announcement on 14 July 1999.
9 August 1999	SEAC published their 1998/99 Annual Report.
18 August 1999	The June 1999 Progress Report was placed in the Libraries of the House, the Scottish Parliament and the Welsh Assembly.
29 October 1999	The Commission's Scientific Steering Committee (SSC) concluded unanimously that it does not share the concerns of the French Food Standards Agency about the safety of British beef and beef products exported under DBES.
11 November 1999	Food Standards Bill to establish the Food Standards Agency received the Royal Assent.

<u>DATE</u>	<u>EVENT</u>
15 November 1999	The UK requested that the Commission take legal action against France for refusing to lift its ban on British beef.
23 November 1999	The Commission issued a document which allowed the French Government to review its decision not to lift the ban on British beef.
9 December 1999	The French Government announced it would maintain its ban on British beef.
14 December 1999	Commission issued a Reasoned Opinion on France's failure to lift the ban.
14-15 December 1999	The Agriculture Council deferred implementation of Decision 97/534/EC until 30 June 2000.
16 December 1999	The public oral hearings of the BSE Inquiry finished.
17 December 1999	The Beef Bones (Amendment) (England) Regulations 1999 (SI 1999/371) came into force, lifting the ban on the sale of beef on the bone. Similar regulations also came into effect in other parts of the UK. These had been announced by the Minister on 30 November following advice from UK CMOs.
22 December 1999	It was announced that the Government had received and accepted advice from SEAC that no change should be made to the over thirty month rule.
30 December 1999	France responded to the Reasoned Opinion, maintaining the ban on British beef. The Commission were to pursue the case through the ECJ in 2000.
4 January 2000	The European Commission submitted an application to the European Court of Justice concerning the French refusal to lift its import ban on British beef.
17 January 2000	Great Britain introduced a system of numeric ear tagging for cattle to comply with Commission Reg(EC) No 2629/97.
20-21 January 2000	Scientific Steering Committee met and: (i) updated report and opinion of the safety of Gelatin (ii) updated opinion of method for assessing Geographical BSE risk of a country or region
15 February 2000	SEAC meeting

2 March 2000	Scientific Steering Committee meeting
4 March 2000	Notification of the Commission's ECJ case (Case C-1/00) published in the Official Journal
6 March 2000	Meeting between The Minister and Commissioner Byrne to discuss amendments to the DBES
17 March 2000	German Bundestrat voted in favour of an order to list the import ban on UK beef.
20 - 24 March 2000	Further Commission Inspection Mission on DBES and BSE surveillance
29 March 2000	German ban on UK beef formally lifted
30 March 2000	The Government's Action Plan for Farming was launched by the Prime Minister
30 March 2000	The Prime Minister announced that the FSA is to undertake a review of BSE controls in relation to the food chain
1 April 2000	The FSA assumed overall responsibility for the enforcement of the SRM controls in licensed slaughter houses and cutting plants
10 April 2000	Second and larger OTMS survey announced
13-14 April 2000	Scientific Steering Committee met and: (i) delivered opinion on ruminant blood (ii) delivered report and opinion on criteria for diagnosis of clinical and pre-clinical TSE disease (iii) delivered opinion on UK decision to lift ban on beef on the bone (iv) delivered opinion on oral exposure of humans to BSE agent (v) delivered opinion on Quantitative risk assessment on the use of vertebral column in the production of gelatin and tallow (vi) delivered opinion on SRM of small ruminants
13 April 2000	The December Progress Report was placed in the Library of the House
20 April 2000	A Scientific Committee chaired by Professor Borysiewicz of University of Wales College of Medicine met to review analyses taken from 3,000 specimens of human tonsil and appendix tissue

25 April 2000	Announcement made that the CTS is to be extended to cover all cattle in the GB herd
May 2000	Consultation letter issued on a proposal to amend the Bovine and Bovine Products (Trade) Regulations 1999
May 2000	The Office Internationale des Epizooties (OIE) amended the BSE chapter of its Code.
1 May 2000	European Commission final report on the inspection of UK DBES arrangements and cattle identification procedures is published on the internet
11 May 2000	SEAC meeting
25-26 May 2000	Scientific Steering Committee met and: (i) delivered preliminary notes on safe handling, transport and storage of MBM (ii) delivered preliminary opinion on the geographic risk of BSE (iii) delivered considerations of the safety of amino acids from human hair
30 May 2000	BSE Advisory Notes for Farmers sent to farmers in England and Wales
7 June 2000	Standing Veterinary Committee considered a proposal to amend Community Decision 97/534/EC but failed to secure a qualified majority
19 June 2000	Proposal to amend 97/534/EC referred to the Agricultural Council where it secured a simple majority
27 June 2000	UK Government given leave to intervene in the ECJ case against France over the non - implementation of the DBES
29 June 2000	Announcement of the first confirmed case of BSE in an animal born since the tightening of feed controls on 1 August 1996.
29 June 2000	The European Commission adopted a Decision on Specified Risk Material to replace Decision 97/534/EC

News Releases

Appendix 2 - Public Summary of SEAC meeting 15/02/00

<http://www.maff.gov.uk/inf/newsrel/seac/seac100.htm>

Appendix 3 - Public Summary of SEAC meeting 11/05/00

<http://www.maff.gov.uk/inf/newsrel/seac/seac200.htm>

Appendix 4 - Confirmation of BSE in animal born after 01/08/96: statement by the minister

<http://www.maff.gov.uk/inf/newsrel/2000/000629b.htm>

Appendix 5 – New programme for BSE testing: statement by the Minister (10/04/00)

<http://www.maff.gov.uk/inf/newsrel/2000/000410b.htm>

Commission proposal for a European Parliament and Council Regulation on TSEs

Due to the size of this document we have not included it in the Internet version of the BSE Progress Report.

Instead copies can be obtained from:

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Appendix 7

List of articles on BSE and related subjects published in recent BSE Progress Reports.

<u>Date of Progress Report</u>	<u>Article, author(s) and source</u>
May 1996	A new variant of Creutzfeldt-Jakob disease in the UK by R G Will et al (The Lancet, Vol. 347/ 6/4/96 pp. 921-925)
November 1996	Molecular analysis of prion strain and the aetiology of 'new variant' CJD by John Collinge et al (Nature Vol. 383/ 24/10/1966/ pp. 685-690)
November 1996	Transmission dynamics and epidemiology of BSE in British cattle by R M Anderson et al (Nature /Vol. 382/ 29/8/1996, pp. 779-788)
November 1996	Detection of BSE infectivity in brain and spleen of experimentally infected sheep by J D Foster et al (The Veterinary Record / 1/6/1996, pp. 546-548)
December 1997	The same prion strain causes vCJD and BSE by Andrew F Hill et al (Nature /Vol. 389/ 2/10/1997, pp. 448-450)
December 1997	Transmissions to mice indicate that 'new variant' CJD is caused by the BSE agent by M E Bruce et al (Nature /Vol. 389/ 2/10/1997, pp. 498-500)
December 1997	Effect of rendering procedures on the scrapie agent by D M Taylor et al (The Veterinary Record /Vol. 141 /No. 25/ 20-27/12/1997, pp. 643-649)

<u>Date of Progress Report</u>	<u>Article, author(s) and source</u>
June 1998	Preliminary observations on the pathogenesis of experimental bovine spongiform encephalopathy (BSE): by GAH Wells et al (The Veterinary Record, 1998/Vol. 142 / 31/1/1998, pp. 103-106)
June 1999	Limited detection of sternal bone marrow infectivity in the clinical phase of experimental bovine spongiform encephalopathy (BSE): by GAH Wells et al (The Veterinary Record, 1999/Vol. 144 /13/3/1999, pp. 292-294)
December 1999	Scrapie occurrence in Great Britain: by L Hoinville et al (The Veterinary Record, 1999/Vol. 145/2/10/1999 pp 405-406)

Appendix 8

Article from The Veterinary Record

October 2, 1999

VR, 1999, Vol 145, pages 405-406

Scrapie occurrence in Great Britain

by

L Hoinville, A R McLean, A Hoek,
M B Gravenor, J Wilesmith

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Appendix 9

Article from The Veterinary Record

April 1 2000

VR, 2000, Vol 146, pages 391-395

Scrapie surveillance in Great Britain :
results of an abattoir survey, 1997/98

by

M.M. Simmons, S.J. Ryder, M.C. Chaplin, Y.I. Spencer
C.R. Webb, L.J. Hoinville, J. Ryan, M.J. Stack,
G.A.H. Wells, J.W. Wilesmith

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Appendix 10

Article from The Veterinary Record

April 15 2000

VR, 2000, Vol 146, pages 455-461

Descriptive epidemiology of scrapie in Great Britain :
results of a postal survey

by

L.J. Hoinville, A. Hoek, M.B. Gravenor, A.R. McLean

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BRITISH BEEF: LIFTING OF IMPORT BANS

1. COUNTRIES WITHOUT IMPORT BANS

Countries which lifted import bans after the European Commission lifted its export ban are highlighted by underlining.

Countries which have agreed Export Health Certification are shown in **bold**.

Anguilla	Guatemala	<u>Norway</u>
<u>Antigua & Barbuda</u>	Guyana	Palau
Ascension Island	Honduras	Palestine Authority
Australia	<u>Hong Kong</u>	Papua New Guinea
<u>Austria</u>	Iceland	Paraguay
Bangladesh	Iran	<u>Philippines</u>
<u>Belgium</u>	<u>Ireland (Republic)</u>	<u>Portugal</u>
Bermuda	Israel	St Helena
Bolivia	<u>Italy</u>	St Kitts & Nevis
Botswana	Kenya	St Lucia
Brunei	Kiribati	<u>St Vincent & the Grenadines</u>
Burundi	Laos	<u>Sevchelles</u>
Cambodia	Lesotho	Sierra Leone
Cuba	<u>Luxembourg</u>	Solomon Islands
<u>Cyprus</u>	Madagascar	<u>Spain</u>
<u>Denmark</u>	Malawi	Sudan
Djibouti	<u>Malaysia (to be confirmed)</u>	Suriname
<u>Dominica (Commonwealth of)</u>	<u>Malta</u>	Swaziland
Ecuador	Marshall Islands	<u>Sweden</u>
Ethiopia	<u>Mauritius</u>	Tajikistan
<u>Falkland Islands</u>	Micronesia	Tanzania
Faroe Islands	Mongolia	Tonga, Kingdom of
Fiji Islands	Montserrat	Turks & Caicos Islands
<u>Finland</u>	Mozambique	Tuvalu
<u>Germany</u>	Namibia	Vanuatu
<u>Ghana</u>	<u>Netherlands</u>	Yemen
<u>Greece</u>	Nauru	Zimbabwe

Total number of countries in above list = 81

Total number of countries which lifted bans after EC Decision = 26

Total number of countries with which EHC has been agreed = 20

2. COUNTRIES THAT BAN BRITISH BEEF IMPORTS

Angola	Estonia	Qatar
Argentina	Gabon	Romania
Armenia	The Gambia	Russia
Azerbaijan	Grenada	Rwanda
Bahamas	France	Samoa
Bahrain	Hungary	Saudi Arabia
Barbados	India	Senegal
Belarus	Indonesia	Singapore
Belize	Japan	Slovakia
Bosnia & Herzegovina	Jordan	Slovenia
Brazil	Korea (South)	South Africa
Bulgaria	Kuwait	Sri Lanka
Burkina Faso	Kyrgyzstan	Switzerland
Cameroon	Latvia	Syria
Canada	Lebanon	Taiwan
Cayman Islands	Libya	Thailand
Central African Republic	Macau	Togo
Chad	Macedonia	Trinidad & Tobago
Chile	Mexico	Tunisia
China (People's Republic of)	Monaco	Turkey
Colombia	Morocco	Turkmenistan
Congo (Democratic Rep. of)	Nepal	Uganda
Congo Brazzaville	New Zealand	Ukraine
Costa Rica	Nicaragua	United Arab Emirates
Cote d'Ivoire	Nigeria	United States of America
Croatia	Oman	Uruguay
Czech Republic	Pakistan	Uzbekistan
Dominican Republic	Panama	Venezuela
Egypt	Peru	Vietnam
El Salvador	Poland	Zambia
Equatorial Guinea		

Total number of countries in above list = 91

3. NON-EU COUNTRIES WHERE POSITION IS STILL TO BE CONFIRMED

Albania	Guinea-Bissau	Moldova
Algeria	Haiti	Niger
Benin	Jamaica	Pitcairn, Henderson... Islands
British Virgin Islands	Kazakhstan	St Helena Dependencies
Cape Verde	Liberia	San Marino
Comoros	Lithuania	Sao Tome & Principe
Eritrea	Maldives	Somalia
French Polynesia	Mali	S. Georgia & S. Sandwich Isl
Georgia	Mauritania	Yugoslavia
Guinea	Mayotte	Zaire

Total number of countries in above list = 30

FURTHER INFORMATION ON BSE RESEARCH

The Research Programme

Programme Objectives

The MAFF-funded BSE research programme was established to meet the recommendations of the Southwood, Tyrrell and subsequently SEAC committees as well as the requirement for information for MAFF policy divisions. This is a programme in transition. At the outset the clear focus was of determining the means of eradicating BSE in cattle and identifying the potential for infection of other food species.

Following the announcement on 20 March 1996 of a probable association between BSE in cattle and vCJD in humans, expert committees recommended a rapid expansion of certain parts of MAFF's TSE research programme to further support the protection of both animal and human health. The MAFF research programme on TSEs deals with epidemiology, pathogenesis, diagnosis and transmission of BSE and scrapie in cattle and sheep.

Although the BSE epidemic in cattle is declining it is important to maintain the research effort to gain a more complete understanding of the agent and disease. This is essential to prevent the recurrence of BSE, identify transmission routes as yet unknown that may perpetuate BSE and to act as a basis for refining or relaxing the controls to protect human and animal health.

There is also the possibility that the BSE agent might have infected some sheep but is being masked by natural scrapie infection. SEAC recommended further work in sheep in April 1999 and this has required an expansion of the research programme into BSE and scrapie in sheep to fully investigate the possible risk to human and animal health.

In addition, it is not at all certain to what scale vCJD in man will develop and it will be several years before we can be certain of this. It is important to continue studies of BSE and other TSEs in order to understand the nature of the agent, how it perpetuates, survives and can be destroyed. Of equal significance is the identification of the potential for transmission of the BSE agent within and between species, the ability for early diagnosis and strategies for the prevention, control and possible therapy of TSEs.

All this requires integrated research programmes promoted by health and agriculture departments with the research councils integrating the fundamental aspects of the research. The joint MAFF and Department of Health strategy for research and development relating to the animal health aspects of TSEs was published in July 1998. Full collaboration with other countries is essential in recognition of their expertise and innovation on such areas as prion biology and diagnostics technology. The need therefore remains to continue the core research programme to address MAFF's policy aims.

MAFF's TSE research programme has been developed under the guidance of SEAC and has been subject to peer review. BSE in cattle and both BSE and scrapie in sheep are under investigation. The current MAFF TSE research programme is focused on the key areas of epidemiology, pathogenesis, diagnosis and transmission of TSEs in cattle and sheep. This directly addresses and underpins MAFF's TSE policy aims. The scope of the research is summarised below. Specific areas of interest are noted which cover a number of different research projects. A full listing of the individual research projects is given in **Appendix 13**.

Diagnosis

One of the key areas for research is the development of a sensitive diagnostic test for TSE infection. The ideal test would be one that could be performed on the live animal before clinical signs of disease become apparent and that could differentiate between BSE and scrapie. Such a test could be used to identify infected animals before entering the food chain and would be valuable to the programme to eradicate scrapie. The test would need to be robust enough to use for large-scale testing and cheap enough to be viable.

There is no apparent development of antibodies to TSE infections and a major problem has been identifying an alternative surrogate marker of infection that can be detected in the early stages before clinical signs are evident. The tests need to be very sensitive and specific and some which show promise in the laboratory have neither the simplicity nor the reproducibility required for high throughput testing of animals.

The specific areas of interest are listed below.

- The production and archiving of reagents and tissues & body fluids from TSE infected animals for use developing diagnostic tests.
- The development of tests that detect the abnormal disease-associated form of prion protein.
- The search for new disease-associated metabolic markers which can be used to develop new diagnostic tests.
- Evaluation and validation of tests developed elsewhere.
- The development of experimental mouse models which can mimic TSEs in sheep and cattle.

Epidemiology

This is the study of the inception and development of a disease outbreak and of the factors which could be involved in its spread such as contaminated feed, transmission between animals and between mother and offspring (maternal transmission). Studies to date support the hypothesis that the principle source of BSE infection in cattle is from consumption of contaminated meat and bone meal (MBM).

Specific areas of interest are as follows:

- an ongoing long-term study which monitors and analyses the decline of BSE infection in UK cattle, the statutory measures in place and seeks to identify any sources or routes of infection or

other factors that may delay the decline of infection in UK cattle,

- an ongoing long-term study to identify the possible routes of natural transmission and risk factors for infection of flocks with scrapie. This involves the recruitment of farmers who are willing to have their flocks studied, surveys of farmers about scrapie and mathematical modelling. Experimental studies are also underway to determine whether and how scrapie can be passed from sheep to sheep including mother to offspring,
- there is evidence to suggest that the scrapie agent exists as a number of different strains whereas the BSE agent exists as a single predominant strain. The possible occurrence of different strains of the BSE agent, that may pose a risk to human health or delay the decline of BSE infection in cattle, is being monitored,
- the efficiency of various methods of inactivating the disease agent is being tested; some of this work is in collaboration with industry. Studies are also addressing whether residual TSE infectivity can be found in any of the other products of rendering (e.g. tallow), and
- studies are also underway to address the question of environmental persistence of the agent by investigating if and to what extent infectivity can persist in the soil in experimental systems.

Pathogenesis

This is the study of the development of the disease, that is, the sequence in which the various tissues in the body become infected and the progression of clinical signs in naturally infected and experimentally challenged animals.

Specific areas of interest include:

- investigation of the mechanisms by which BSE infection develops in sheep and cattle; work is ongoing to determine the method of spread within the animal and the tissues that contain

infectivity. (MAFF has a breeding flock of TSE-free sheep to supply animals for the programme),

- the pathology of BSE infection outwith the CNS is under investigation. Studies are underway to develop better methods of detection of the agent and better understand and recognise disease-associated pathology in peripheral tissues,
- experiments are underway to determine whether the biological appearance or phenotype of the BSE agent remains the same or changes when transmitted successively from sheep to sheep of differing breeds and prion protein genotype. If the BSE agent has infected some sheep and becomes more like scrapie it would be difficult to detect,
- experiments to transmit scrapie to cattle are underway; both natural scrapie and scrapie that has been rendered are being used in these studies. This may give an indication of whether meat and bone meal contaminated with scrapie could have been the cause of BSE,
- the long-term experiment to determine the minimum infectious dose of BSE agent that is required to cause disease in cattle is ongoing,
- we also need to identify the host factors that influence susceptibility to disease. Detailed studies of what happens in the gut and spleen at the early stages of infection are underway. The establishment of natural infection may be via these tissues, and
- the early response of cells to BSE infection is being modelled using cells from cattle grown in the laboratory. This may also determine whether it is possible to propagate the disease agent in the laboratory.

Transmission

Other food species such as pigs and poultry would also have been exposed to contaminated meat and bone meal in feed before the feed ban. It is therefore important to determine whether these species are susceptible to experimental BSE infection and if so

what tissues contain infectivity and may therefore have constituted a risk to human health. In addition, understanding the routes of natural transmission of TSEs in cattle and sheep is important in ensuring the effectiveness of eradication programmes.

Other areas of interest include:

- determine whether maternal transmission occurs. Experimental work is being funded to investigate whether infection can occur as a result of embryo transfer in cattle and sheep- either in the offspring resulting from the embryos or the recipient mothers,
- the level of infectivity present in a tissue from animals infected with BSE or scrapie is routinely determined by the dose needed to produce disease in experimental mice. However, it may not be possible to detect very low levels of infectivity using mice and consequently the response to a given dose in mice is being compared directly with the response of sheep and cattle. This will enable a more accurate estimation of levels of infectivity and may lead to a better understanding of the 'species barrier' or the relative ease or difficulty by which different disease agents can be transmitted between different animal species,
- a model is being developed to see whether repeated exposure to small amounts of scrapie agent can and or is as likely to cause disease as a single larger dose, i.e. is the effect cumulative? This is an important factor in risk assessment,
- two projects are looking at mites on sheep and cattle farms to see if they can harbour or propagate infectivity and whether they could act as possible vectors for scrapie and BSE, and
- alternative theories to the Prion Theory are also being studied including work investigating the autoimmune response to BSE in cattle and scrapie associated nucleic acids.

Funding

The Ministry spent a total of over £76 million on BSE research up to the end of 1999/2000. In this current financial year (2000/2001), £13.5 million is allocated to TSE research. Research into TSEs is also funded by the Department of Health, Medical Research Council and the Biotechnology and Biological Sciences Research Council; by the end of 1999/2000, the UK Government had spent a total of £140 million.

Appendix 13

Current MAFF BSE and related diseases research programme

PROJ CODE	TITLE	CONTRACTOR	START DATE	END DATE
Diagnosis				
SE0225	The diagnosis and neuropathological monitoring of suspect BSE cases	Central Veterinary Laboratory	01/04/99	31/03/02
SE1426	Generation and validation of transgenic mice expressing multiple copies of sheep and bovine PrP gene alleles	IAH, Neuropathogenesis Unit	01/04/98	31/03/01
SE1427	Association of PrP gene non-coding region polymorphisms with incidence of natural scrapie in sheep and PrP expression	IAH, Neuropathogenesis Unit	01/04/98	31/03/01
SE1728	Relationship between conformation of PrP, infectivity and pathogenicity of BSE as a basis for diagnosis	Central Veterinary Laboratory	01/04/96	30/06/01
SE1736	Experimental production of bovine tissues for validation of BSE diagnostic tests	Central Veterinary Laboratory	01/04/97	31/03/02
SE1737	Provision of "Pre-clinical BSE" body fluid samples from bovines experimentally challenged with infected brain material	Central Veterinary Laboratory	01/11/96	31/03/01
SE1741	Using the chemistry of blood and urine as an aid to the diagnosis of BSE	IGER, Inst. of Grasslands and Environment Research	01/04/97	31/03/00
SE1749	Extended provision of bovine body fluids from pre-clinical BSE and control animals	Central Veterinary Laboratory	01/10/97	31/03/01
SE1751	Paternal genotype and recessive inheritance effects on susceptibility to BSE	Dr WVS Wijeratne	01/01/99	31/12/00
SE1753	Preparation of more sensitive bioassay models for the improved detection, differentiation & diagnosis of BSE	Central Veterinary Laboratory	01/04/99	31/03/02
SE1755	Detection & identification of species-specific nucleic acids in rendered animal material	Central Veterinary Laboratory	01/01/99	31/12/02
SE1756	Detection of bovine prions from cattle with BSE using transgenic mice and conformation-dependent immunoassay (CDI)	University of California	01/04/00	28/02/03
SE1757	Detection, quantification and conformational determination of abnormal PrP by Immuno Capillary Electrophoresis (ICE)	Central Veterinary Laboratory	01/04/99	31/03/02
SE1758	To maintain a nucleus flock of scrapie resistant Swaledale sheep and use for research into PrP genotype	ADAS, Redesdale	01/04/99	30/12/02
SE1759	Analysis of transcripts & proteins in blood of uninfected & BSE-infected cattle to identify markers of TSE infections	Roslin Institute, Edinburgh	01/07/00	31/03/04
SE1761	Production, characterisation and utilisation of antibodies to abnormal ovine PrP for the diagnosis of scrapie	Central Veterinary Laboratory	01/04/99	31/03/02
SE1762	Assessment and validation of emerging methods and reagents for BSE diagnosis	Central Veterinary Laboratory	01/01/00	31/03/03
Epidemiology				
SE0209	BSE: Epidemiological studies	Central Veterinary Laboratory	01/04/96	31/03/01
SE0213	An epidemiological study of sheep scrapie to determine means of natural transmission	Central Veterinary Laboratory	01/04/95	31/03/01
SE0220	The neuropathological monitoring of suspect BSE cases born in 1993	Central Veterinary Laboratory	01/07/97	31/12/00
SE0224	Inactivation of the causative agents of TSEs by thermophilic and hyperthermophilic proteases	Centre for Applied Microbiology and Research	01/07/98	30/06/01
SE0227	Investigation of flock level risk factors for scrapie	Central Veterinary Laboratory	01/04/99	31/03/03
SE0228	Investigations of the transmission of scrapie within and between flocks	Central Veterinary Laboratory	01/04/99	31/03/03
SE0229	Effects of tallow separation and solvent extraction on the fate of PrP during the rendering process: a lab scale study	Central Veterinary Laboratory	01/09/99	31/08/03
SE1425	Inactivation of TSE agents by a novel biorefinement system	IAH, Neuropathogenesis Unit	01/10/99	30/09/02
SE1429	Characterisation (by transmission to mice) of BSE from experimentally infected sheep of different PrP genotypes	IAH, Neuropathogenesis Unit	01/07/98	30/06/01
SE1433	Studies on the environmental persistence of TSE infectivity	IAH, Neuropathogenesis Unit	01/09/99	31/08/07

SE1434	Pressurised steam with alkaline hydrolysis as a means of inactivating TSE agents	IAH, Neuropathogenesis Unit	01/10/99	30/09/02
Pathogenesis				
SE1416	Development of mouse models for the study of bovine transmissible spongiform encephalopathy	IAH, Neuropathogenesis Unit	01/04/96	31/03/01
SE1428	Pathogenesis studies of experimental BSE in sheep	IAH, Neuropathogenesis Unit	01/01/97	31/12/02
SE1432	The susceptibility of New Zealand sheep to TSE infection and linkage with PrP genotypes	IAH, Neuropathogenesis Unit	01/04/98	31/03/02
SE1909	Studies of cellular and humoral responses of distal ileum mucosa and mesenteric lymph nodes in the pathogenesis of BSE	Central Veterinary Laboratory	01/04/99	31/03/01
SE1918	Effect of oral inoculum dose on attack rate and incubation period of BSE in cattle [was SE1902]	Central Veterinary Laboratory	01/04/95	31/03/02
SE1919	Studies to identify possible homologies between TSEs	Central Veterinary Laboratory	01/04/95	31/03/02
SE1928	PrPSc distribution and kinetics in lymphoid tissues of sheep with natural scrapie: effects of PrP genotype and strains	Central Veterinary Laboratory	01/04/98	31/03/01
SE1929	Studies of experimental BSE in genetically susceptible sheep	Central Veterinary Laboratory	01/03/97	31/03/01
SE1930	Further studies of the effect of oral inoculum dose on attack rate and incubation period of BSE in cattle	Central Veterinary Laboratory	01/04/97	31/03/01
SE1931	Maintenance of a TSE-free sheep flock after importation from New Zealand	Central Veterinary Laboratory	01/04/97	31/03/01
SE1933	BSE agent replication in bovine brain cell lines	Moredun Research Institute	01/10/97	30/09/00
SE1934	Pathogenesis of BSE in bovine brain cell lines	Moredun Research Institute	01/10/97	30/09/00
SE1937	Sub-cellular studies of intestine, lymphoreticular tissue and peripheral NS in the murine and bovine BSE	Central Veterinary Laboratory	01/04/98	31/03/01
SE1938	Strain typing of isolates of natural scrapie: correlation's with host PrP genotype and pathological phenotype	Central Veterinary Laboratory	01/04/98	31/03/01
SE1940	Electron microscopic studies of CNS changes in sheep scrapie	Central Veterinary Laboratory	01/04/99	31/03/03
SE1941	Studies to examine the pathogenicity, phenotype and pathogenesis of endemic scrapie in cattle	Central Veterinary Laboratory	01/04/98	31/03/01
SE1942	The attack rate & phenotype of scrapie-like disease on transmission to cattle of scrapie	Central Veterinary Laboratory	01/04/97	31/03/01
SE1943	Studies of PrP localisation in murine spleen and vascular endothelium	Central Veterinary Laboratory	01/04/99	31/03/02
SE1944	Studies of genotype, pathology, PrP and scrapie carrier status of sheep in flocks heavily infected with scrapie	Central Veterinary Laboratory	01/04/98	31/03/02
SE1945	Investigation of sheep to sheep passage on the BSE strain phenotype	Central Veterinary Laboratory	01/10/99	30/09/03
Transmission				
SE1413	Strain-typing of scrapie agent in meat and bone meal	IAH, Neuropathogenesis Unit	01/01/97	31/12/02
SE1423	Transmission studies for the detection of BSE in sheep	IAH, Neuropathogenesis Unit	01/04/96	31/03/01
SE1424	The study of BSE in sheep and the possibility of its vertical transmission	IAH, Neuropathogenesis Unit	01/12/96	31/03/02
SE1435	Is the BSE strain phenotype stable on sub-passage in sheep	IAH, Neuropathogenesis Unit	01/04/00	31/03/03
SE1801	BSE: Embryo transfer studies	Central Veterinary Laboratory	01/10/89	30/06/01
SE1819	BSE Embryo transfer studies - ADAS input (revised July 1995)	ADAS, High Mowthorpe	01/04/96	31/03/01
SE1821	Comparative efficiencies of the bioassay of BSE infectivity in cattle and mice [was SE1809]	Central Veterinary Laboratory	01/04/95	31/03/01
SE1823	Investigation of the role of the embryo in maternal transmission of scrapie in sheep	IAH, Neuropathogenesis Unit	01/07/95	30/07/01
SE1828	The exposure of British sheep and cattle to mites	Central Science Laboratory	01/07/97	30/03/01
SE1829	Replication of scrapie and BSE prions in mites	Central Science Laboratory Central Veterinary Laboratory	01/06/97	31/05/01
SE1834	The role of the pre-implantation embryo in the vertical transmission of natural scrapie infection	Scottish Agricultural College, Edinburgh	01/10/98	30/09/03
SE1841	Stochastic dynamics of TSE agents	IAH, Compton Laboratory	01/04/00	31/03/01
SE1842	Comparative titration of infectivity of BSE in sheep and mice	Moredun	01/04/00	31/03/04

GLOSSARY OF ACRONYMS

BAB	Cattle born after the introduction of the ruminant feed ban
BARIMO	Bovine Animals (Records, Identification and Movement) Order 1995
BCMS	British Cattle Movement Service
BSE	Bovine Spongiform Encephalopathy
CJD	Creutzfeldt Jakob Disease
CMO	Chief Medical Officer
CNS	Central Nervous System
CTS	Cattle Tracing System
CVO	Chief Veterinary Officer
DBES	Date-Based Export Scheme
DELFLIA	Dissociation Enhanced Lanthanide FluoroImmunoassay
DTI	Department of Trade and Industry
EC	European Community
ECHS	Export Certified Herds Scheme
ECJ	European Court of Justice
ELISA	Enzyme Linked ImmunoSorbent Assay
EU	European Union
FSA	Food Standards Agency
FSE	Feline Spongiform Encephalopathy

GB	Great Britain (England, Wales and Scotland)
IB	Intervention Board
ICE	Immuno Capillary Electrophoresis
IMP	Indicative Market Price
MAFF	Ministry of Agriculture, Fisheries and Food
MBM	Meat and bonemeal
MHS	Meat Hygiene Service
MRM	Mechanically Recovered Meat
nvCJD	new variant Creutzfeldt Jacob Disease (now known as variant Creutzfeldt Jacob Disease)
NI	Northern Ireland
OIE	Office International des Epizooties
OLAF	European Commission Anti Fraud Unit
OTM	Over Thirty Month rule
OTMS	Over Thirty Month Scheme
PQ	Parliamentary Question
PrP	Prion Protein
R&D	Research and Development
SBM	Specified Bovine Material
SBO	Specified Bovine Offal
ScVC	Scientific Veterinary Committee

SE	Spongiform Encephalopathy
SEAC	Spongiform Encephalopathy Advisory Committee
SI	Statutory Instrument
SRM	Specified Risk Material
SSC	Scientific Steering Committee
SVS	State Veterinary Service
TSE	Transmissible Spongiform Encephalopathy
UK	United Kingdom (Great Britain and Northern Ireland)
vCJD	variant Creutzfeldt Jakob Disease (formerly known as new variant Creutzfeldt Jacob Disease)
VLA	Veterinary Laboratories Agency
XAP	Export Approved Premises