



**SPONGIFORM ENCEPHALOPATHY ADVISORY COMMITTEE**  
Draft minutes of the 78<sup>th</sup> meeting held on 24<sup>th</sup> June 2003

At

The Department of Trade and Industry  
Conference Centre  
1 Victoria Street  
London

Members: Professor P. Smith (Chairman)  
Professor J. Ironside (Deputy Chairman)  
Professor A. Aguzzi  
Professor G. Bostock  
Professor R. Carrell  
Mr P. Jinman  
Prof H. Kimbell  
Dr C. Lasmezaz  
Professor C. Masters  
Professor I. McConnell  
Dr J. Safar

Technical Advisors: Dr P. Barrowman (Defra)  
Dr S. Dixon (FSA)  
Mr P. Soul (Defra)  
Dr J. Stephenson (DH)  
Dr D. Matthews (VLA)

Assessors: Dr M. Bailey (Defra)  
Mr A. Harvey (FSA)  
Dr R. Jecock (DH)

SEAC Secretary: Dr C. Boyle

Observers: Dr S. Baxter (SEERAD)  
Ms Y. Boyd (Defra)  
Dr I. Hill (FSA)  
Ms S. Senior (HSE)  
Dr M. Pitman (MRC)  
Dr M. Simmons (NAWAD)

Dr H. Tyson (BBSRC)

Secretariat: Mr M. Pemberton  
Dr B. Jeffery  
Dr P. Keep  
Dr C. Ravirajan  
Ms T. Dale

Also in attendance: Mr P. Comer (Paper 78/2)  
Dr N. Gill (Item 7)

## **Item 1 – Chair’s Introduction**

1. The Chair welcomed members of the public to the fourth open meeting, and provided a reminder of SEAC’s remit<sup>1</sup>. The Chair welcomed committee members and received apologies for absence from Professor Grahame Bulfield and Professor Roy Anderson.
2. The Chair introduced and welcomed Dr Corinne Lasmezas to her first SEAC meeting. The Chair informed members that Dr Deirdre Cunningham had taken up a new post in the Department of Health and had been obliged to resign from the committee, as civil servants are ineligible to serve on independent advisory committees. The Chair acknowledged the valuable contributions that Dr Cunningham made to the work of SEAC and extended thanks to her on behalf of the committee.
3. The Chair pointed out that open meetings of SEAC were intended to provide members of the public with an opportunity to observe the committee at work. Members of the public were asked not to participate directly to the committee discussion during the meeting, but any questions or comments could be put via the SEAC web site ([www.seac.gov.uk](http://www.seac.gov.uk)).
4. The Chair noted that the SEAC web site had been reorganised recently and invited comments to be sent to the secretariat.
5. The Chair welcomed Dr Philip Comer (DNV Consulting), Dr Mandy Bailey (Defra), Dr Danny Matthews (Veterinary Laboratories Agency (VLA)) and Dr Noel Gill (Health Protection Agency (HPA)) who were presenting agenda items to the Committee.

## **Item 2 – Approval of draft minutes from the 11<sup>th</sup> February 2003 SEAC meeting (SEAC 77)**

6. The minutes of the 11 February meeting were agreed subject to the following additions
  - Paragraph 4.14 line 8 should read “Tg35” not “Tg34”
  - Paragraph 4.15 line 2 should read “inoculum” not “inocula”

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<sup>1</sup> The remit of SEAC is 'to provide scientifically based advice to the Department for Environment, Food and Rural Affairs, the Department of Health, devolved administrations, and the Food Standards Agency on matters relating to spongiform encephalopathies, taking account of the remits of other bodies with related responsibilities'.

7. The Chair reminded members of one outstanding action from the previous meeting. The committee had asked Defra to provide further information on the estimated number of offspring that would enter the food supply under the proposed changes to the offspring cull. Members were informed that it was estimated that 70 to 75 additional offspring would enter the food chain in 2003/2004 as a result of a change in the BSE offspring cull.

### **Item 3 – Risk Assessment of Ox Tongue and Associated tonsil Tissue (Paper SEAC 78/2)**

8. The Chair reminded members they had previously considered this issue when informed by the Food Standards Agency (FSA) in September 2002 that one of five cattle had developed BSE 45 months after inoculation with pooled palatine tonsil taken from animals 10 months after being orally infected experimentally with BSE. The committee issued a statement on 21<sup>st</sup> October 2002 recommending that further work be carried out to assess the possible risk of BSE infectivity from ox tongue, because of the proximity of tongue to tonsillar tissue. The FSA commissioned a risk assessment from DNV Consulting. Included in the risk assessment were results from a study of the association of tonsillar tissue with ox tongue that had been carried out by scientists at the VLA.
9. Dr Danny Matthews (VLA) presented the results of a study, which examined the presence and distribution of tonsil tissue on ox tongues that had been extracted in abattoirs and that had been destined for human consumption after further processing. The tongues were examined at a macroscopic and histological level for the presence of lymphoid tissue. Significant variation was found in the amount of lingual tonsil present on different extracted ox tongues. Both organised and diffuse lymphoid tissues were present on ox tongues. The lymphoid tissue could only be identified histologically but was detected on some tongues in the absence of visible lingual tonsil tissue. Dr Matthews noted that lymphoid tissue was present at the sides of the torus in a significant number of tongues. This lymphoid tissue does not appear to be part of the lingual tonsil itself but may represent other tonsil tissue.
10. An examination of current practices showed that a significant amount of tonsillar tissue was present on around 50% of tongues examined. In 26% of tongues examined, the majority of lingual tonsil was removed but identifiable tonsillar tissue was still present. The remainder of tongues examined (24%) were free of macroscopically visible lingual tonsil.

11. Dr Matthews noted that tonsil tissue present on ox tongue was not discrete and this made it difficult to ensure the removal of all tonsil tissue. The work indicated that there is no clear point on the tongue where tonsil tissue ends, which would allow easy separation of tonsil tissue.
12. Members enquired about the removal of tonsil tissue from ox tongue in abattoirs. They were informed by the FSA that current SRM regulations require that visible tonsil is removed at abattoirs and that the Meat Hygiene Service (MHS) has responsibility for examining tongues to ensure that visible tonsil is removed. In view of the VLA results, FSA informed members that instructions, including a photograph, were being issued to the MHS to assist abattoir workers in the removal of all visible tonsil tissue from ox tongue.
13. Currently, tonsil is only classified as SRM from cattle from 6 months of age in UK cattle. New EU legislation to be introduced in the near future will classify tonsil as SRM from cattle of all ages.
14. Dr Matthews provided an update on the VLA cattle bioassay study. The remaining four animals that had been intracerebrally inoculated with pooled palatine tonsil (taken from cattle 10 months after oral infections) had no clinical signs of BSE 58 months post inoculation. In reply to a query Dr Matthews informed members that the tongue from the donor animals had not been examined by immunohistochemistry (IHC) for the presence of PrP<sup>Sc</sup>. However, tissues from these animals were available for further examination if required.
15. In reply to a query from members about the consumption of ox tongue, members were informed that virtually all tongues from cattle slaughtered in the UK are harvested for human consumption, and a small quantity of ox tongue is imported. Tongue is a high value product and approximately 80% of tongue is canned. It is thought that a small proportion of tongue is used to make garnishes and sauces. There are only a few companies that process ox tongue and over 90% of tongues are sold as a discrete product. Members commented that it would be useful to obtain additional information on the food products that contained the remaining 10% of tongues. One member commented that they would not wish to see tongue present in baby foods. It was clarified that for the purpose of the risk assessment it was assumed that 100% of tonsil was present on each ox tongue which was then subsequently consumed. Members noted this point but thought it would be helpful to obtain further information on the process of harvesting tongues for human consumption and the fate of the remaining 10% tongues not sold as a discrete food

product. It was agreed that the FSA would investigate if it was possible to source further detail on this point. **Action:** Secretariat<sup>2</sup>

16. Philip Comer (DNV Consulting) presented an assessment of BSE risk from the consumption of ox tongue potentially contaminated with tonsil tissue. Data from the VLA attack rate study were used to estimate the infectivity level in tonsil tissue for the risk assessment studies. The long incubation period (45 months m.p.i.) in the animal that had come down with BSE following challenge with tonsil tissue was roughly twice the incubation period seen in animals that been challenged with central nervous system (CNS) tissue. Based on the length of the incubation period it was estimated that the infectivity in the tonsil tissue would be of the order of  $10^1$  bovine i/c ID<sub>50</sub>/g, which is four logs less than whole brain. The median value titre of brain from an infected animal was estimated as 50 bovine oral ID<sub>50</sub>/g.
17. For the purposes of the risk assessment it was assumed that, in infected animals, infectivity would be present in tonsil early in the incubation period and remain at the same level throughout. The cattle bioassay studies of tonsil tissue taken later in the incubation period had so far been negative, suggesting this was a conservative assumption. The cattle to human species barrier was unknown but risk assessment studies conducted in relation to possible revisions of the Over Thirty Month Rule (OTMR) had estimated that the cattle to human species barrier must be at least 1000 and may be substantially greater than this.
18. The VLA did not quantify the residual tonsil tissue present on a typical trimmed tongue. For the purposes of the initial risk assessment, it was assumed that all tonsil tissue (50g) would be present on each tongue consumed and that all tongues are consumed.
19. The total infectivity present in tissues of a fully infected animal was estimated to be in the region of 40,000 bovine oral ID<sub>50</sub>s. The contribution of infectivity present in 50g of the tonsil was estimated to be 0.25 bovine oral ID<sub>50</sub> units. The population exposure to infectivity from tongue (assuming the entire tonsil was included) was estimated as 90 bovine oral ID<sub>50</sub> units per year.
20. It was thought unlikely that all tonsil tissue would remain on a tongue. It was proposed that a realistic upper limit of the amount of tonsil tissue remaining on a tongue would be in the order of 5g of tonsil tissue (10% of total). If 10% remained, the maximum exposure

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<sup>2</sup> Paragraph 6 of the minutes for SEAC 79 clarifies this action point.

to infectivity per tongue (from a BSE-infected animal) would be around 0.025 bovine oral ID<sub>50</sub> units and the population exposure would be about 9 bovine oral ID<sub>50</sub> units per year.

21. The level of exposure for tonsil was compared to that present in a Dorsal Root Ganglion (DRG) from a fully infected bovine, which was estimated to be 25 bovine oral ID<sub>50</sub> units. However, members noted that it was assumed that infectivity on the tongue could be present throughout the infectivity period, whereas infectivity in DRG had only been found late in the incubation period.
22. The OTMR review had estimated that the total exposure to infectivity from 1996, before the rule came into force, was in the region of 250,000 bovine oral ID<sub>50</sub> units, mainly from DRG and head meat. In 2003, the level of exposure was estimated to be 1.5 bovine oral ID<sub>50</sub> units. The risk of exposure from tongue consumption would be considerably less than this. It was also estimated that the total exposure to infectivity throughout the BSE epidemic was approximately 54 million bovine oral ID<sub>50</sub> units.
23. The recent OTMR review estimated the risk of infected animals entering the food chain in 2003 to be 0.014%. As approximately 2.1 million cattle are slaughtered annually for consumption, this suggests that 370 infected tongues may enter the food chain each year. It was assumed that imported animals had the same level of infectivity as UK animals. If 370 infected tongues enter the food supply each year and assuming the amount of tonsil consumed is likely to be between 1 and 10% of the entire amount of tonsil in the animal, the level of exposure would be of the order of 3 bovine oral ID<sub>50</sub> units per year.
24. Members discussed the possibility that the positive finding from palatine tonsil may have resulted from experimental artefact. As cattle had been orally dosed with infected brain material, the tonsil may have become contaminated at the time of dosing. Re-exposure to the infected material may also have occurred during rumination. Dr Matthews explained that the cattle would have been ruminating by the time they were exposed at 4 months of age. After dosing, the cattle were quarantined for a specified period to avoid the risk of cross-contamination. However, Dr Matthews agreed that experimental artefact could not be completely ruled out.
25. Members agreed that the further studies conducted by VLA and DNV had provided very useful information. However, they highlighted a number of scientific uncertainties in the risk assessment. A key uncertainty was how the estimate of infectivity in tonsil tissue was derived. Members noted that the estimate of infectivity was based

upon extrapolation of incubation time from a dose response curve for BSE-infected brain. Members agreed it would have been preferable to base the estimate on data from a dose response curve derived from lymphoid tissue, had this been available. The committee noted the variability in infectivity between bioassay experiments and noted that the estimate of incubation period for palatine tonsil was based on a single infected animal.

26. The hypoglossal nerve in the tongue was suggested as a potential source of infectivity, however, cranial nerves had not been dissected during the pathogenesis studies.
27. Members recommended that the tongues from the animals that had contributed to the positive tonsil pool be examined for the presence of PrP<sup>Sc</sup>.
28. The Chair summarised the discussion noting the uncertainty in some of the assumptions made in the risk assessment, particularly with respect to the level of infectivity in tonsil. It was agreed, however, that the amount of infectivity reaching the population was likely to be very small. Mr Comer commented that the greatest uncertainty was extrapolating the dose-response relationship in brain to tonsil. The Committee agreed that further scientific work would further refine the estimate of risk.

#### **Item 4 – Proposed relaxation of controls on the use of mammalian meat and bone meal (MBM) in fertiliser (Paper SEAC 78/3)**

29. Dr Mandy Bailey (Defra) introduced this item and explained the background to the EU animal by-products regulation adopted on 1<sup>st</sup> May 2003 that permits the use of material derived from meat and bone meal from Category 2 and 3 animals on non-pasture land as a fertiliser.
30. The EU animal by-products legislation aims to prevent the spread of animal pathogens and also provides a framework by which some value can be obtained from the final waste product. The legislation allows the use of Category 2 material derived from mammalian MBM (not containing SRM) as fertiliser on non-pasture land, provided it has been first rendered to the pressure cooking standard. The legislation also allows processing of pressure-cooked category 2 waste in a biogas or composting plant. Category 3 waste (derived from material fit for human consumption) could be rendered to the pressure-cooking standard and used as fertiliser, or used without any pre-treatment in a biogas or composting plant.

31. Category 1 material includes all Specified Risk Material (SRM), animals suspected of having TSEs, or whole carcasses that still contained SRM. No products derived from Category 1 animals can be used in the production of fertiliser. Any other material that has not passed abattoir pre-mortem and post-mortem inspection requirements would be classed as Category 2. All categories could contain bovine or ovine tissues or derived material.
32. There are some anomalies between this new legislation and the fertiliser controls in the TSE (England) Regulation. In the United Kingdom, mammalian MBM (other than blood) or its derivatives are currently not permitted for use as fertiliser on agricultural land. Poultry and fishmeal may be used as fertiliser after rendering without requirement for pressure-cooking. Although not directly banned, the composting of catering waste is effectively prohibited under domestic legislation because the Animal By-Products Order prevents the treated material being spread to land. In order to remove what are potentially confusing anomalies, policy makers are considering amending the TSE (England) Regulations to permit the use of category 3 mammalian material in compound fertilisers for use on non-pasture land. It is also proposed to allow ash derived from the incineration of category 2 and category 3 material on land without restriction.
33. Members were informed that the EU regulation permitted category 3 material that had first been rendered then transformed into compound fertiliser to be spread on non-pasture land. Land is classified as non-pasture if access has been prohibited to animals 3 weeks post application of fertiliser. Also no crops grown on such land may be fed to animals if they have been harvested within 3 weeks of the application of the fertiliser.
34. The committee was asked to consider if the change to the existing UK fertilisers' controls would result in significant additional risk to animal health with respect to TSEs.
35. The committee discussed the possible risks to animal health arising from the proposed use of mammalian MBM in fertiliser. Members were concerned that proposed use of fertiliser containing Category 3 material could pose a risk to animals via the possible risk of intraspecies recycling, particularly in the case of scrapie. They agreed that the risk was probably small and was difficult to quantify, however they were concerned that changes that had been adopted by the EU had not heeded lessons learnt from the BSE epidemic concerning intraspecies recycling. Members considered that the

definition of land use was not explicit enough to prevent the recycling of animal material by contamination of pastures.

36. Members commented on the proposed EU regulation's requirements for the pre-treatment of category 2 and 3 material prior to fertiliser manufacture. Differences were apparent between the treatment of MBM destined for compound fertiliser compared to that for compost. Dr Bailey explained that composting of waste makes an important contribution to targets in the Landfill Directive. Members expressed concern that pre-treatment of category 2 and 3 material at 70°C for one hour, prior to composting, as described in the EU regulation, was not as stringent in lowering levels of infectivity as that in the rendering process. This practice was of particular concern if the compost was to be spread on land or stored in a way that would permit exposure to animals. There was also concern that raw meat from catering waste going into compost would not be pre-treated. The committee was uncomfortable with the risks posed by composting MBM in view of the potential for intraspecies recycling. Members noted the lack of information on environmental persistence of prion proteins and it was difficult to advise on this issue before the research had finished.
37. Members were concerned that the EU regulation on animal by products must have been discussed previously without specific consideration for TSEs or referral to SEAC. Dr Bailey informed the committee that the SSC had specifically considered this issue and a quantitative risk assessment on the TSE issues and composting had been published. The committee noted they had not seen this risk assessment, and suggested that it may reassure them if the risk assessment was made available. Members concluded that the proposed change to the UK fertilisers controls would result in additional risk to animal health in view of the potential risk of intraspecies recycling. The committee confirmed its earlier advice that mammalian MBM should not be permitted in fertilisers likely to be spread on agricultural land or land where animals may graze.
38. Dr Bailey informed the committee that at present the UK TSE regulations prohibit the use of any material from mammalian MBM, including ash, to be used on land. Following SEAC's earlier advice, Defra introduced a requirement for ash from SRM incinerators to be disposed of in licensed landfill sites. It was now proposed to allow the use of ash from the incineration of MBM derived from Category 2 and Category 3 material without restriction.
39. The committee concluded that the risk of infectivity from ash was likely to be extremely small if incineration was at 850°C.

Furthermore, ash was unattractive as animal food. The committee advised that it did not consider that there would be significant additional risk to animal health if ash from the incineration of MBM derived from Category 2 and Category 3 material was used without restriction on land.

#### **Item 5 - VLA Survey - Examination and Genotyping of Sheep Brain and other Tissues (Paper SEAC 78/4)**

40. The Chair welcomed Dr Danny Matthews and Prof John Wilesmith from the VLA to present the findings on scrapie surveillance to the committee. Dr Matthews explained that two parallel abattoir surveys had been conducted. He outlined the complexity of presenting the combined data as different methods were used in each survey and not all tests had been applied to all tissues.
41. The Chair sought clarification if tissues examined in the VLA study were also included in the EU surveillance programme. Dr Matthews replied that there was no consistent guidance for the EU survey with regard to the specific target site that was to be tested using approved rapid tests. The UK chose to preserve and examine the obex for confirmatory purposes, so the VLA survey targeted the brain stem caudal to the obex for rapid testing.
42. Dr Matthews summarised the survey results, which combined brain stem testing and IHC. A total of 58 positives were detected from 49,972 completed results (i.e. 0.116%), with about 250 results outstanding.
43. Prof Wilesmith explained the background to the scrapie surveillance report. Four methods of surveillance were used (the EU and SEAC active survey; passive surveillance and postal survey). A research project had also been completed on mathematical modelling of sheep scrapie, which had been used to refine the prevalence of infection estimate derived from the abattoir survey, of older animals, to produce an estimate of the prevalence of infection in the whole GB sheep flock.
44. The Chair raised two points from the survey, one being the apparent lack of test sensitivity in the tests being applied on an EU-wide basis (compared to immunohistochemistry), the other being the failure to pick up significant numbers of additional infected sheep through testing of lymph nodes, which it had been expected might pick up a higher number of infected animals earlier in the incubation period of scrapie.

45. The Chair commented that he was aware of a report that sheep that tested positive by ELISA had not been verified by IHC but this survey did not seem to confirm this. Dr Matthews agreed and explained that 28 ELISA positive samples could not be further confirmed by IHC. These sheep were not included in the 58 reported as positive. Dr Matthews noted the ELISA test was optimised for use in cattle, rather than sheep. However it was noted that all EU countries appeared to have problems with the ELISA method, where some sheep tested positive by ELISA, but were negative by any other test method. It was unclear if the ELISA method was detecting “true” positives or whether there were problems with the specificity of the test. A Western Blot method developed by the same company, originally developed for use in cattle, was in the process of being modified for use in sheep, where it was hoped it might be able to distinguish false positives from true results. The twenty-eight samples from the abattoir study were being analysed by the Western Blot method and the results would soon be available. There were two possible issues that might affect these test results. One was the absolute analytical sensitivity, and the other was the relative sensitivity of PrP in individual sheep to Proteinase K (PK).
46. Members also noted that the testing showed that a proportion of sheep which tested positive by IHC were negative by the Western Blot methods. This was surprising and indicated a lack of test sensitivity; the two assays had very similar sensitivities in cattle. Dr Matthews explained that if clinically infected sheep were tested, there should be no difference between the two assays. The negative test results would almost certainly stem from the fact that the testing has been carried out in preclinical animals, which may have different PrP concentrations in the target sites to clinically infected sheep. Given that the tests were not conducted on the same target areas, comparison of test sensitivity should not be over interpreted.
47. The committee noted the disparity in the distribution of genotypes between the abattoir surveys and those detected by passive surveillance. A possible explanation for this was the abattoir survey had been carried out on older animals, which had picked up few ARQ and VRQ homozygous animals. Members asked whether active surveillance of older animals would be preferentially selecting for scrapie-infected animals at later stages in the incubation period and those with semi-resistant genotypes, both of which might be equally more likely to give positive test results for central nervous tissue than lymphoid tissue. Scrapie-infected sheep with highly susceptible genotypes, in which PrP<sup>Sc</sup> tends to be detected in lymphoid tissues first, would be under-represented in this surveillance sample, since they would tend to die before the age of

sampling. For this latter group, surveillance based on lymphoid tissues may have advantages.

48. Dr Matthews explained that the experimental evidence suggested that ARR-carrying sheep were less likely to have infection in the lymph nodes. The committee recommended it would be ideal if both whole brain and lymph nodes could have been examined in all animals. Dr Matthews replied that there was considerable variation in PrP concentrations at the target sites between different genotypes. The only genotype that would show evidence of infection in lymph nodes would be VRQ-carrying sheep.
49. Members noted there was a marked variation in the prevalence of scrapie- infected flocks. Members asked if there was an association between genotype and geographical location of animals. Prof Wilesmith indicated that no interpretation of geographical location could be made from the data collected from the abattoir study, because of the limitations of tracing animals from records. In terms of the scrapie notifications, there were some geographic variations, which largely fitted in with the results of the postal survey, which indicated that Wales and Scotland experienced the lowest prevalences of clinically infected flocks.
50. The Chair thanked the presenters for the update and informed members that a final report would be available in due course.

## **Item 6 – vCJD update**

51. The committee considered the epidemiology of vCJD in the UK and worldwide. The committee was informed that the total number of definite and probable vCJD cases in the UK, as at, June 2003, was 136, of which four cases are still alive. No significant sex difference is observed in vCJD cases with 75 and 61 male and female cases respectively. The mean age at death was 29 years (range 14-74) and the mean age at onset was 28 years (range 12-74). The median duration of illness was 14 months (range 6-39). All cases tested (n=115) exhibit methionine homozygosity at codon 129 for the PrP gene.
52. The committee noted six vCJD cases in France, and a single case in each of Ireland, Italy, Canada and the USA. Cases reported in France and Italy had not had a history of residence in the UK. The cases reported in Ireland, Canada and the USA had a history of UK residence during the late 1980's.

53. The number of onsets per annum peaked in 1999 (29 patients were detected in 1999) and then showed a declining trend. Similarly, the figures also showed that the number of deaths per annum of vCJD patients to a peak in 2000 and then declined.
54. Members were informed that there had been a decline in referrals to the CJD Surveillance Unit in 2002. The decrease in referrals in 2002 may be due to the improved quality of referrals i.e. most patients referred have some form of CJD, thus implying that clinicians are more experienced in diagnosis. 67 referrals had been made during 2003 to 2<sup>nd</sup> June 2003.
55. The committee noted figures of autopsy rates per annum from 1990 to 2003 (as at 6<sup>th</sup> June 2003) for sCJD. The autopsy rate had increased in sCJD cases.
56. Members were informed that the incidence of sporadic CJD in Switzerland had doubled since 2001, to approximately 3-3.5 cases/million population and had remained at this level. The committee heard that the Swiss Federal Office of Health had funded genotyping of Swiss sCJD patients. Members requested that, if possible, the Swiss data be shared with the committee.

#### **Item 7 – Epidemiology sub-group report**

57. The Chair of the subgroup reported on the incidence of vCJD, recent analysis of which suggests that it is no longer increasing at the rate seen previously. This may suggest that epidemic has reached or be reaching a peak. However the possibility of genotypes other than methionine homozygotes having longer incubation periods and the theoretical possibility of clinical manifestations, other than vCJD, of human infection with the BSE agent means that prediction of the evolution of the epidemic is uncertain and continued surveillance is essential.
58. Members discussed the possibility of age-related susceptibility to vCJD. The current data suggests that the number of vCJD cases born in the 1980's have yet to reach a peak. Members commented that long-term surveillance of this cohort would be of particular interest.
59. Data were presented from a publication by Ghani *et al* (2003) that projected the future size of the vCJD epidemic after adjusting for the prevalence of abnormal PrP infection in tonsil and appendix specimens, as reported by Hilton *et al* (2002). In this paper, the best estimate without adjustment for prevalence of 40 future vCJD cases,

was increased to 100 future vCJD cases (95% prediction interval 10-2600) after fitting the data to account for a prevalence of infection in a single appendix out of a total of 8318. This estimate is lower than previous predictions. Members commented on the need for an update on future planned, retrospective and prospective studies in appendices and tonsils, which aim to provide a better indication of the prevalence of asymptomatic infection of abnormal PrP in the UK population. The committee was informed that these studies are undergoing ethical review.

### **Item 8 – Report back from meeting of expert group on strain differentiation**

60. Dr Danny Matthews, Chair of the expert group reported on the meeting held at the Veterinary Laboratories Agency (VLA) on 23 June 2003. Professor Bostock had attended the meeting on behalf of SEAC. The European Commission had asked VLA as the Community Reference Laboratory (CRL) to set up an expert group to implement the SSC Strategy “to investigate the possible presence of BSE in sheep” by establishment of ring trials using available rapid TSE tests. The expert group will report direct to national bodies with respect to abnormal findings that in turn will report to the advisory bodies and the European Commission.
61. The Expert group had agreed that sample preparation for the respective assays was the top priority. The tests to be included in the ring trial include Western Blot, ELISA and CDI (conformation dependent immunoassay). The next stage of the work is to investigate the effect of sampling different sites in scrapie and BSE-infected (experimentally) sheep brain tissue. These samples will be issued to participants in the ring trial, together with positive BSE and scrapie tissues and will be tested “blind”. The results of this work will be reported to the expert group in September when they next meet to discuss the next stage, a more extensive blind trial. It is anticipated that, provided there is agreement on which tests should be used on future scrapie positive samples, where results occur that warrant further investigation (i.e. atypical scrapie) the samples would be subjected to a ring trial under the direction of the CRL, and the results would then be presented to the expert group.
62. Members inquired if CH1641, (a scrapie strain) would be compared to BSE in the ring trial. CH1641 was difficult to source and required testing by diagnostic test and IHC. It was noted that the VLA and Institute for Animal Health were to discuss the availability of historical fixed brain and fresh tissue for IHC.

## **Item 9 – Quinquennial Review of SEAC (Paper SEAC 78/5)**

63. The SEAC Secretary introduced the item by explaining the remit of the Quinquennial review, which was published on 17 March 2003. The committee received a copy of the report on publication but had not had an opportunity to discuss the report in session. A key conclusion of the review is that SEAC still has a crucial role and continuing role to play in providing advice to Government on TSEs.
64. Members were informed that key recommendations from the review were being implemented, including a re-organisation of the epidemiology subgroup and the uncoupling of the ACDP/SEAC Joint Working Group (JWG) from SEAC.
65. Members agreed with the recommendations. Members commented on the fact that the committee considered too many minor issues. The Secretary replied that the committee's remit was to provide advice on a wide range of issues of differing priority and this would continue. However, a more strategic, forward thinking view enabled by horizon scanning and the identification of key areas for discussion was intended to improve this area of committee business.
66. Members acknowledged the need for a good working relationship with the European Food Standards Agency (EFSA). Members were informed that once the structures of the EFSA scientific panels are established, the secretariat would develop links to allow for effective two-way communication of key information.
67. Recommendations made by the review would be implemented in a timely manner by the committee secretary. In closing, the Chair formally thanked the authors of the report on behalf of the committee.