



SPONGIFORM ENCEPHALOPATHY ADVISORY COMMITTEE
Draft minutes of the open session of the 84th meeting held on 28th
September 2004

At

The Conference Centre
Holiday Inn Bloomsbury
Coram Street
London
WC1N 1HT

Members: Professor C. Higgins (Chair)
Mr. J. Bassett
Dr. D. Brown
Mr. C. Browne
Professor G. Bulfield
Dr. J. Chambers
Professor N. Hooper
Professor J. Ironside
Mr P. Jinman
Dr. C. Lasmezas
Professor. J. Manson
Professor I. McConnell
Ms. D. McCrea
Dr. G. Medley
Dr. P. Rudge
Professor M. Stanley

Assessors: Mr A. Harvey (FSA)
Dr E. Lawrence (DH)

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

SEAC Secretary: Dr C. Boyle

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

Also in attendance: Professor A. McLean (Oxford University)
(Paper 84/2)
Professor N. Ferguson (Imperial College)
(Paper 84/2)

ITEM 1-CHAIRS INTRODUCTION

1. The Chair welcomed members of the public and those watching via the web cast to the eighth open meeting of SEAC.
2. The Chair explained that the meeting was being filmed as part of a one-year trial of web casting SEAC open meetings to assess the potential benefits and uptake of viewing via this medium. SEAC was the first UK government advisory committee to web-cast their meetings. The initiative allowed greater access to meetings and continued SEAC's commitment to expanding openness. The Chair explained that for practical reasons, it was necessary to register, via the SEAC web site, at least 24 hours in advance of a meeting to determine whether the technology available to the viewer would support access to the web cast. An archive of meetings would also be available via the website for which registration was also required.
3. The Chair welcomed Mr Peter Soul (Defra), Mr Alan Harvey (FSA), Dr Danny Matthews (VLA) and Dr Angela McLean (University of Oxford) who were presenting items to the committee and Professor Neil Ferguson (Imperial College London) who was invited to provide additional expertise for the discussion of item 5. If required, officials from government departments and the devolved administrations would be invited to inform the committee of the research work sponsored by their departments. Members were reminded of their obligation to declare conflicts of interests at the start of each agenda item. The Chair noted there were no apologies for absence. Members were informed that the next SEAC meeting would be hosted by the National Assembly for Wales in Cardiff.
4. The Chair noted that since the last meeting Professor Robin Carrell's term as a committee member had finished and he recorded his thanks to Professor Carrell for his work on SEAC. The Chair announced that the SEAC Secretary, Dr Catherine Boyle, would leave at the end of November to take up a post as Head of Science Strategy and International Research Policy in Defra. A successor would be announced in due course. On behalf of the Committee, the Chair thanked Dr Boyle for the first-rate support she had given the committee and the Chair.
5. The Chair noted that because the open session of the last meeting had been cancelled there were no minutes to approve.

ITEM 2 – BSE UPDATE

6. Mr Peter Soul (Defra) presented an update on BSE in cattle in the UK and worldwide. The committee was presented with figures showing the annual numbers of BSE infected cattle in Great Britain (GB) since 1988 and the reductions in the number of cases after control measures¹ had been introduced. In GB, the BSE epidemic peaked in 1992, when over 36,500 cases were confirmed, but thereafter the number of cases had declined very considerably. In GB, a total number around 183,000 BSE cases had been recorded to date.
7. Mr Soul explained that an active surveillance programme had been in place since July 2001 following an EU legal requirement. Figures from the programme showed a substantial decline in the number of BSE cases in fallen stock and casualty animals over 24 months old, both regarded as risk groups, as well as in apparently healthy animals over 30 months old born both before and after the reinforced ban. The combined BSE cases identified by passive and active surveillance from January 1999 to August 2004 also show a sharp decline, indicating that UK control measures are having a major effect on the number of cases of the disease. Estimates of the future number of BSE cases from 2004 to 2010 predict a further annual decline from 285 cases in 2004 to around one in 2010. BSE cases have been reported in many other EU countries and in some other countries outside the EU.
8. Mr Soul explained that in the UK, and other EU countries, a number of BSE cases born post August 1996 (BARB cases²) had been reported. To date, a total of 97 BARB cases had been identified in the UK, 84 in GB and 13 in Northern Ireland. Research was underway to investigate the origin of the BARBs, which remains uncertain.
9. A member noted that confidence in the figures from the active surveillance programme depends on the number of animals tested and asked how many animals were tested. Mr Soul replied that a random selection of 10,000 animals/year born before the reinforced ban, all animals over 42 months born after

¹ Feed ban in July 1988; Specified Bovine Offal (SBO) ban in 1990; Staining of Specified Risk Material (SRM) in April 1995; Improved SRM controls in 1995; Reinforced feed ban in March 1996 and Fully Effective feed ban in August 1996.

² Any animal born after 1 August 1996 is referred to as a BARB case (Born After the Reinforced Ban)

the reinforced ban, and all casualty animals going into the OTM scheme were tested in the programme.

10. A member noted that a reduction in the number of confirmed clinical cases of BSE had been observed and asked whether differential diagnostic procedures were in place to allow the detection of an altered form of BSE or another unknown disease. Mr Soul acknowledged that there were cases of animals with clinical signs consistent with BSE that were not confirmed as BSE cases using the diagnostic tests applied. Although research proposals had been received to examine such cases further they had not been accepted because of the limited funds available. Members considered that research on methods to allow differential diagnosis of clinical cases of BSE was important particularly in view of evidence on the phenotypic differences in infection in humans and sheep.
11. One member asked what part of the brain was tested on post-mortem. Mr Soul responded that for the routine testing, the obex was tested but lesion profiles across a large number of different brain sections had been examined in animals early on in the BSE epidemic and in early BARB cases.

ITEM 3 – vCJD UPDATE

12. Professor James Ironside (National CJD Surveillance Unit) updated the committee on the number of cases of vCJD in the UK and worldwide. To date, the total number of definite and probable vCJD cases in the UK was 149, of which five cases were still alive. No significant gender difference had been observed in vCJD cases, with 84 male and 65 female cases. Codon 129 analyses of 126 cases have shown all to be homozygous for methionine at codon 129 of the PrP gene. The single case of probable iatrogenic vCJD infection, not included in this analysis, was heterozygous (methionine/valine) at codon 129.
13. Elsewhere, seven vCJD cases have been reported in France, and a single case in each of Ireland, Italy, Canada and the USA. It was noted that the vCJD cases reported in France and Italy had not had a history of residence in the UK, unlike the cases reported in Ireland, Canada and the USA that had a history of UK residence during the late 1980s.
14. Professor Ironside explained that the age distribution in cases had remained constant with the majority of cases in the 20-29 years age group and most cases occurring in the first four

decades of life with a single case over 70 years of age. Professor Ironside considered it notable that the age distribution of vCJD had not altered, in contrast to the increase in the average age of cases observed in the BSE epidemic.

15. Professor Ironside explained that statistical models of vCJD suggested that the incidence of onset of disease and of deaths is in decline. In contrast, the number of deaths in the UK from sCJD per annum had increased but this may reflect improved case ascertainment. A similar increase in sCJD had been observed in other countries. Seventy cases of sCJD were reported in 2003 and to date 30 cases have been reported in 2004 but additional reports were expected later in the year.
16. One member asked whether the current decline in the numbers of post mortem examinations may influence figures on the age range of vCJD cases because of a reduction in the number of cases that may be detected. Professor Ironside responded that the lower number of post-mortem examinations of elderly people with neurological conditions might affect the age distribution figures of vCJD. Additionally, given that recent cases of vCJD infection have been identified in the absence of clinical symptoms, it is possible that some cases may not be detected.
17. In response to a question on whether pathologists may be reluctant to conduct post-mortem examinations of possible vCJD cases, Professor Ironside indicated neuropathologists in the UK supported the National Surveillance Program well and autopsy had been performed on all the cases for which consent for autopsy had been obtained.
18. A member asked for information on the basis of the diagnosis of vCJD in the patient over 70 years of age. Professor Ironside explained that the patient had clinical symptoms typical of vCJD but he recognised that the differential diagnosis of vCJD in younger adults may be more straightforward than for older adults because in older adults other neurological diseases could produce similar symptoms.
19. A member pointed out that there appears to be an age-related susceptibility to vCJD in humans such that human adolescents are more susceptible to vCJD infection than older age groups. Professor Ironside considered that it was possibility that there was an age-related susceptibility but pointed out that, even if an age-related susceptibility existed, a shift in the age distribution of cases to older ages would be expected if it was assumed that

exposure had occurred at a specific point in time. This has not been observed. Alternatively, the lack of a shift in the age distribution of vCJD may indicate that exposure may have occurred over a much wider period of time than originally suspected.

20. One member asked whether there are studies of vCJD that include random testing of humans who died for reasons other than possible TSE infection to establish whether there is a background level of vCJD or whether there are clinical symptoms of the disease that may be being missed. Professor Ironside explained that a tonsil and appendix survey had been looking for PrP in a sample of the UK population. Additionally, a study to examine the brains of young individuals who died from a range of causes, and a study of brains in older individuals who died with neurological illnesses, are also under consideration but ethical issues relating to the use of human tissues had limited progress of the projects.
21. One member asked whether diagnosis of sCJD had improved. Professor Ironside explained that there is more awareness of sCJD generally, and this had aided ascertainment, along with the establishment of a National CSF Laboratory in NCJDSU for 14.3.3 protein analysis (to detect this protein in cerebrospinal fluid (CSF) as a marker of disease).

ITEM 4: REPORT BACK FROM THE SEAC SHEEP SUB-GROUP

22. The Chair informed the committee that the SEAC sheep sub-group (SSG) had considered two issues relating to the National Scrapie Plan (NSP) this year. The SSG had considered, via correspondence, the impact of reports of PrP^{Sc} in the brains of ARR homozygote sheep, previously thought to be naturally resistant to scrapie, on the NSP. The SSG had concluded that the scientific rationale behind the NSP strategy remains appropriate but should be kept under review.
23. The SSG had also considered, at a meeting in July 2004, the impact of four options to breed TSE resistance into the national sheep flock as part of a Defra consultation on NSP. Professor McConnell summarised the four options (A-D).
24. On the basis of modelling work examining the impact of the four options, the SSG had considered that a solution close to Option D was the most scientifically desirable. However, at the request of the SSG, two additional options (E and F) had been modelled and

their impact was considered. The SSG had agreed that Option D remained the most scientifically desirable but given high voluntary take-up; options E and F would also be expected to increase TSE resistance.

25. SEAC endorsed the SSG statement but requested that the following minor amendments be considered by the SSG:

- *change paragraph 3 line 5 from “..these would not reduce scrapie in ARQ sheep..” to read “..these would not reduce scrapie in ARQ sheep, which may be more important than assumed in the modelling, ..”*
- *change paragraph 3 line 6 from “.. BSE in sheep which targets the ARQ alleles..” to read “.. BSE in sheep which appears to preferentially target the ARQ alleles..”*
- *replace paragraph 4 so that it reads “The subgroup recognised there were potential practical difficulties with option D and therefore, recommended that an additional option, Option E (mandatory Option B combined with voluntary Option D) be considered. This option, together with a further option, Option F (Option E combined with voluntary ewe genotyping and removal of VRQ ewes) were modelled. The subgroup considered the outcome of the additional modelling work and agreed that Option D remains the most scientifically desirable. Option F offered no significant advantage over Option E. Members agreed that Option E, given high voluntary take up, could also be regarded as precautionary from a risk reduction perspective.”*

ITEM 5 – BSE AND SHEEP: THE FSA’S CONTINGENCY POLICY

26. The Chair informed the committee that the FSA would shortly review its contingency policy on action to take should BSE ever be found in sheep. To assist with this review, the FSA commissioned two modelling studies (a) to estimate the possible prevalence of BSE in sheep and (b) to estimate the likely impact of different risk reduction strategies should BSE be found in sheep. SEAC were asked to advise on the underlying scientific assumptions and approaches adopted in both studies, taking any uncertainties into account. Members were reminded that the Annexes of the paper contained unpublished information that should be regarded as confidential.

27. Mr Alan Harvey (FSA) provided a background to the FSA contingency policy. In 2000, an FSA review of BSE controls concluded that, although BSE had never been found in sheep, there remained a theoretical possibility that it could be present because, in the past, some sheep consumed the same feed that infected cattle. Although these sheep are no longer alive, it is possible that following an initial infection, BSE may have been transmitted within flocks. In 2002, the FSA formulated a contingency policy that should BSE be found in sheep, only animals demonstrated to be free of BSE would enter the food chain. At the time, it was acknowledged that, because the necessary testing mechanisms were not available, implementation of this policy would prevent all UK sheep from entering the food chain. The FSA is reconsidering whether, in the light of scientific developments, this contingency policy remains proportionate. To inform its consideration, the FSA has asked for SEAC's opinion on the modelling studies it commissioned.

TSE testing

28. Dr Danny Matthews (VLA) presented a summary of the western blot and immunohistochemical methods used at VLA to detect TSEs and to discriminate between scrapie and BSE infection in sheep. The methods had been used in two studies conducted by the VLA to monitor TSEs in sheep: a retrospective study, which involved the testing of samples collected between January 1998 to October 2001 and a prospective study from November 2001 to May 2004. Of a total of 2367 TSE cases examined, 2316 cases gave positive results for scrapie infection but 51 samples had given equivocal results. In the course of the prospective study, two additional samples had given unusual (atypical) test results and had been reanalysed as part of a Community Reference Laboratory ring-trial by VLA and other laboratories. On the basis of the combined results from these analyses, it was concluded that the samples did not precisely resemble known strains of either scrapie or BSE in sheep but reflected a TSE infection, possibly by an unknown scrapie strain. No cases of clear-cut BSE in sheep had been identified in the two studies. Of the scrapie cases identified, 2147 cases could be traced back to 450 flocks with almost half of these cases coming from 34 flocks. The origin of 220 cases could not be determined and were excluded from the data set. A statistical analysis of these data, using an approach similar to that of Gravenor *et al.* (2003)¹, which

¹ Gravenor *et al.* (2003) Searching for BSE in sheep: interpreting the results so far. *Vet. Rec.* 152, 298-299.

assumed a skewed distribution in the data, had provided two estimates of the possible proportion of the scrapie cases that could be BSE: 0.14% based on the number of scrapie cases and 0.66% based on the number of flocks.

29. The Chair sought clarification on when the Community Reference Laboratory ring trial would be completed. Dr Matthews explained that, with the exception of a conformation-dependent immunoassay (CDI) test, all the other reference laboratories had submitted their test results. The Chair emphasised the importance of the CDI test as part of the evaluation of the methods generally as, unlike all the other tests used by laboratories taking part in the ring trial, CDI was not dependent on differential digestion by proteinase K. It represented an important confirmatory and possibly powerful discriminatory test. The Chair also emphasised the importance of continued evaluation of the two atypical samples, particularly the need for infection studies.
30. Members asked whether all the unusual scrapie cases had been tested using the mouse bioassay. Dr Matthews explained that the 51 samples, which had given equivocal results in the test, were not part of the bioassay programme, although mice were currently being bred for inoculation with material from the two atypical cases, next month.
31. Members asked whether there were plans to apply the discriminatory tests to random cattle samples to see whether variants of BSE exist in cattle. Dr Matthews explained that the western blot method had been applied to all cattle samples routinely for the past 18 months and, so far, no variation in test results had been found. A proposal from VLA for a retrospective immunohistochemical examination of cattle to test for phenotypes different to those already recognised is under consideration. Members considered it important to test a number of historical BSE cases by the western blot method.
32. The Chair noted that the two atypical cases could either be i) a variant form of scrapie with no implications for human health, ii) an unknown variant of BSE, iii) another as yet uncharacterised TSE, or iv) an unusual phenotype resulting from a combination of a TSE and a particular sheep genotype. Members emphasised the urgency of strain typing by transmission studies as the only validated way of discerning one strain from another in terms of biological properties and ascertaining possible health and welfare implications of the 'atypical' TSEs.

33. In concluding this part of the discussion, SEAC noted that:
- The analytical methods used to detect TSEs in sheep, and distinguish BSE from scrapie, were becoming more robust;
 - The results from the on-going ring trial were important to fully assess the robustness of the methods. The analysis of the final data from the CDI method was considered particularly important because, unlike all the other methods used in the ring trial, it does not rely on differential enzyme (proteinase K) digestion of PrP; and
 - Although no unambiguous case of BSE in sheep had yet been detected, this conclusion cannot be considered absolute because of the limitations of the test methodology and the relatively small numbers of samples that could be tested.
 - The two 'atypical' cases could not yet be defined as either scrapie or BSE variants, and follow up studies on these 'atypical' TSEs should be pursued with some urgency.

Possible prevalence of BSE in sheep

34. In respect of the modelling work to estimate the prevalence of BSE in sheep, members expressed concern about the extent to which cases based on the total sample size of 450 flocks represented a random selection. Dr Matthews responded that they were a non-random selection but represented all cases presented to the VLA, primarily via passive surveillance.
35. Professor Ferguson raised a concern about the use of the passive surveillance data, which may lead to a selective ascertainment bias and, therefore, an under-estimate of the maximum prevalence of BSE in sheep. Professor Ferguson suggested a more conservative approach would be to use the active surveillance results, although he acknowledged that this limited the amount of data that could be used in the analysis. He suggested that data from the 2002 scrapie postal survey, relating to the distribution of cases on scrapie affected farms, could be compared with the passive surveillance data in order to assess the possible effect of the sample bias.

36. Professor Ferguson provided further comments on two of the assumptions used to model the prevalence of BSE in sheep. Firstly, that the expected survival rate for sheep with BSE is assumed to be similar to that for scrapie, and secondly, whether BSE is likely to be identified as a TSE in the passive surveillance programme. Professor Ferguson considered that both these assumptions could be better addressed using the active surveillance data.
37. The Chair sought clarification on whether the uneven distribution of scrapie cases within the 450 flocks sampled had been taken into account as part of the modelling study. Professor Wilesmith believed that it had been taken into account but noted that the prevalence data was based on a simple statistical analysis rather than a complex modelling study. Professor Ferguson commented that by basing the prevalence on sheep flocks rather than individual cases, the clustering of scrapie cases within flocks had to some extent been taken into account.
38. SEAC generally accepted the approach used to model the possible prevalence of BSE in sheep, but noted that:
 - The model depended on the ability of the tests used to effectively detect and discriminate between scrapie and BSE;
 - Using the number of TSE affected flocks in the calculation of prevalence was preferable to using individual TSE cases

Impact of risk reduction strategies

39. Dr Angela McLean (University of Oxford) summarised the main assumptions, data and methodology used in a study to mathematically model the amount of infected material that could enter the human food chain as a result of a BSE epidemic in sheep. Due to the paucity of data available, it had been necessary to make a large number of assumptions.
40. Dr McLean explained that the possible number of sheep flocks with BSE had been based on the estimate of the proportion of scrapie cases that could be BSE presented earlier and the data from a postal survey of scrapie in sheep flocks. To model the distribution of BSE in these flocks, it had been necessary to greatly simplify the demography and genotype of sheep flocks and to assume that the time course of a BSE epidemic would be similar to a scrapie epidemic. It had also been assumed that

sheep of the ARR/ARR genotype were completely resistant to infection.

41. Dr McLean explained that the accumulation of BSE infectivity in sheep within flocks had been inferred using the limited experimental data available on the susceptibility, incubation period and accumulation of infectivity in scrapie infected sheep, combined with the very limited data on the tissue distribution of BSE in sheep. These data, together with information on sheep tissues used in the food chain, were used to model BSE infectivity that could enter the food chain.
42. Dr McLean noted that a key result from the modelling was the suggestion that the total infectivity entering the food chain from a single sheep, about one year prior to the onset of clinical disease, would represent a very large dose of BSE infectivity.
43. Dr McLean explained that the modelling work had been used to assess the impact of risk reduction strategies to reduce the potential for infected material to enter the food chain. The strategies were based on testing sheep prior to entry into the food chain, removal of certain specified risk materials, or restriction of sheep of certain PrP genotypes and age from entering the food chain. The modelling suggested that strategies based on sheep PrP genotype perform better than the other strategies.
44. The Chair invited Professor Neil Ferguson (Imperial College London) to comment on the study. Professor Ferguson acknowledged the difficulties in modelling BSE in sheep and the large number of assumptions that were required. In view of this, it was important to stress that the magnitude of the relative reductions in risk between strategies suggested from the modelling should not be regarded as absolute. In respect of the data presented on the level of infection in the peripheral nervous system, which assumes zero infectivity until 36 months post infection, Professor Ferguson understood that infection peaked at an earlier stage of the incubation period. It was noted that an earlier peak in infection would impact on the efficacy of the various SRM risk reduction strategies presented.
45. Professor Ferguson noted that the 10-fold reduction in the quantity of infectivity in duodenum and jejunum entering the food supply differed considerably from the much larger estimate of the level of infectivity entering the food supply in a previous study undertaken by Imperial College in 2001. It was acknowledged that the estimates used in the 2001 study were subject to debate

at the time. A member considered the effective removal of all lymph nodes assumed in the modelling was unrealistic. Professor Ferguson also noted that the modelling suggested that the total infectivity entering the food supply from a single BSE infected sheep would be very large compared with the amount of infectivity that could enter the food supply from a BSE infected cow.

46. Professor Ferguson commented on the assumption made in the model that sheep with the ARR/ARR genotype were completely resistant to naturally occurring BSE and suggested that other risk reduction strategies should be considered that assumed some level of susceptibility for sheep with the ARR/ARR genotype. Members agreed that even if the ARR homozygous genotype is not completely resistant to infection, there were still advantages of this genotype compared with the other genotypes.
47. Professor Ferguson noted that the model assumed a self-sustaining BSE epidemic in a small number of farms. Given that sheep would have been exposed to infected feed approximately 20 years ago, Professor Ferguson disagreed with the assumption that it was only necessary to consider large epidemics in a small number of flocks and suggested that a model of a self-sustaining transmission of BSE in a sheep flock was inconsistent with the data on the possible prevalence of BSE in sheep considered earlier. Professor Ferguson considered epidemics in smaller flocks to be more consistent with the data on the prevalence of BSE in sheep. Dr McLean agreed that the presence of large-scale epidemics on a small number of farms was unlikely but evidence from flock-to-flock modelling studies and the slow dynamics of BSE meant that this was not inconceivable.
48. Members asked whether any studies were underway to reproduce natural transmission of BSE in sheep. Dr Matthews responded that natural transmission studies were underway at both the VLA and the IAH.
49. Dr Matthews commented on the assumption made in the modelling that sheep were easy to infect with BSE. Studies at the IAH and VLA had suggested that despite the fact that oral challenge seemed to infect all ARQ/ARQ sheep dosed, a dose of 0.5g of infectious material or less seemed far less effective. Although attack rate studies in place at both institutes were incomplete, it seemed probable that the inputs on attack rate used in Dr McLean's model were rather pessimistic. Dr McLean explained that challenge data had been used to establish relative

susceptibility between genotypes, but these data were not used to model transmission rates between sheep

50. Members considered it important to note that, in contrast to assumptions made in the modelling, sheep breeds were heterogeneous and methods of husbandry differed considerably. Also, it may not be appropriate to generalise about the prevalence and distribution of PrP genotypes in sheep because PrP genotype can be extremely variable between sheep breeds. Dr McLean acknowledged the concerns expressed about the modelling not taking account of the heterogeneity of breeds and PrP genotype and differences in husbandry. The model did, however, take account of some differences relating to flock size and husbandry, as reflected by the proportion of homebred sheep. This was considered important given the results of the scrapie postal survey, which suggested that home breeding flock farms were more likely to report scrapie.
51. Members considered that if sheep had been infected with BSE, infection would have been most likely to occur before the reinforced feed ban and noted that since the ban one and a half life cycles in sheep would have passed. Thus, the likelihood of BSE infection now must be very small. Dr McLean agreed but pointed out that the model represented BSE infection in a very small number sheep flocks.
52. SEAC generally accepted the modelling approach undertaken and acknowledged the large number of assumptions that had to be used; in particular the assumption that the pathogenesis of BSE in sheep is similar to scrapie, which is largely unknown. Taking into account the various assumptions and caveats relating to the modelling study, SEAC noted that:
 - The model of BSE infectivity in sheep tissues suggested that a single BSE infected sheep entering the food supply could present a significantly greater risk to public health compared with the current risk associated from a single infected bovine entering the food supply;
 - Although there was no evidence of a large, self-sustaining epidemic of BSE in sheep, the presence of small epidemics in a few flocks cannot yet be ruled out;
 - the model suggests that strategies based on control of specified risk material or TSE testing are currently unlikely to be very effective in minimising risk of human infection,

although the committee noted that should the sensitivity of TSE tests be improved they may be effective in the future; and

- the model suggests that strategies based on PrP genotype of sheep would be the most effective in reducing risk of human infection. However, the committee stressed that the magnitude of the relative reductions in risk between the various strategies modelled could not be regarded as absolute.

ITEM 6: AOB

53. There was no other business to discuss.