

**SEAC SHEEP SUBGROUP POSITION STATEMENT ON ATYPICAL SCRAPIE****Executive summary**

1. This paper draws attention to a position statement by the SEAC Sheep Subgroup, which summarises the current knowledge on a recently recognised form of TSE disease in sheep known as atypical scrapie. The paper concludes that atypical scrapie could reliably be distinguished from a previously-known TSE in sheep, now termed classical scrapie, and from experimental BSE in sheep.
2. The issues being drawn to the Board's attention are:
  - atypical scrapie is relatively widespread in sheep flocks in Europe including the UK;
  - there are still a great many unknowns about atypical scrapie, including the potential implications, if any, for human health.
3. The Board is invited to:
  - **note** the content of the SEAC sheep sub group statement and the issues regarding atypical scrapie;
  - **agree** that there should be no change in the Agency's advice on the consumption of sheep or goat meat or dairy products but that this advice should be reviewed in the light of emerging evidence;
  - **endorse** the need for additional research; and
  - **agree** that a more detailed paper should be presented to the Board in April 2006 discussing whether any additional precautionary measures should be recommended.

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## SEAC SHEEP SUBGROUP POSITION STATEMENT ON ATYPICAL SCRAPIE

### Issue

1. The recent Spongiform Encephalopathy Advisory Committee (SEAC) Sheep Subgroup position statement on atypical scrapie has raised new uncertainties about the risk to human health from transmissible spongiform encephalopathy (TSE) in sheep.

### Strategic Aims

2. This work links to the Agency's aim to ensure that BSE controls in the food chain are based on the latest scientific knowledge.

### Background

3. Cattle and sheep are known to suffer from a group of transmissible neurological diseases known as TSEs. The best known of these is BSE in cattle. It has previously been recognised by the Board that there is a possible risk of BSE in sheep because they ate the same feed that gave cattle BSE and it has been shown that sheep can be experimentally infected with BSE. UK and other member states are required under EU law to undertake TSE testing<sup>1</sup>. All TSE positive samples are then also tested for BSE using the EU approved tests. In Great Britain a total of over 2,400 samples, collected between 1998 and 2005, have been tested to differentiate between BSE and scrapie with no findings of BSE.
4. Sheep also get a related neurological disease, scrapie. This form of the disease, now referred to as "classical scrapie", has been recognised for over 200 years and, unlike BSE, is not known to be linked to any human disease.
5. In 2002/3, with the introduction of new, more sophisticated testing methods, the rapid testing programmes for scrapie in the UK and a number of other EU countries produced some anomalous scrapie positive results that were difficult to confirm. In September 2003, the Board discussed these results and recognised

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<sup>1</sup> The current requirement in the UK is that 10,000 sheep slaughtered for human consumption and 10,000 fallen sheep are tested per annum.

that one possibility was that these anomalies could be due to another TSE. Working with scientists in these other countries confirmatory methods for these atypical scrapie cases were introduced. The first question that had to be answered was whether this disease that had now been detected was transmissible. As reported in the SEAC statement it has now been shown that atypical scrapie can be experimentally transmitted to mice and sheep. In October 2005, the European Food Safety Authority (EFSA) concluded that an operational definition of atypical scrapie in small ruminants was now possible and recommended that surveillance should be continued.

6. It is now known, as a result of continuing surveillance, that atypical scrapie is relatively widespread in sheep flocks in Europe, including the UK, and infects a range of sheep genotypes, including those which are relatively resistant to classical scrapie and experimental BSE in sheep. Data from the surveillance programme show that the frequency of atypical scrapie infections in the British sheep flock is similar to that of classical scrapie, and may be slightly higher. Very few sheep with atypical scrapie are known to have reached the final stage of the disease where the animals show clinical signs of brain damage. One explanation is that atypical scrapie has a longer incubation period than classical scrapie.

### **Risks**

7. There are still a great many unknowns about atypical scrapie. These include the potential implications for human health, as the possibility that atypical scrapie could infect humans cannot be ruled out on the current evidence. Research taking several years will be needed before it may be possible to understand more fully atypical scrapie and any possible risks for people.
8. Any precautionary measures taken to reduce any possible risk from atypical scrapie could have an impact on consumers, producers of sheep and goats, and the meat and dairy industries. There could also be an impact on the MHS if controls at abattoirs slaughtering sheep or goats were introduced.

### **SEAC Consideration of Atypical Scrapie**

9. SEAC has previously considered emerging information on atypical scrapie. Most recently, the SEAC Sheep Subgroup met in January 2006 to consider current data and give an opinion on (a) the best interpretation of current data on atypical

scrapie, (b) the potential risks for human and animal health and (c) the additional information necessary to improve assessment of risk for human and animal health. The group's draft statement was discussed at the open meeting of SEAC on 24 February and a final version agreed.

10. The full SEAC Sheep Subgroup position statement is attached at Annex 1. The key conclusions for the FSA to consider from the statement are:

- *“atypical scrapie could reliably be distinguished from both classical scrapie and experimental BSE in sheep” and that “on the basis of emerging data, it may be more appropriate to consider atypical scrapie as a distinct TSE of small ruminants and not simply a variant of what is now called classical scrapie.”*
- *“there is no evidence to date that atypical scrapie can infect humans, although a theoretical risk cannot be excluded.”*
- *“there are insufficient data, as yet, to make reliable risk assessments for human health or animal health and welfare.”*
- *“data from active surveillance show that the frequency of atypical scrapie infections in the British sheep flock is similar to that of classical scrapie, and may be slightly higher.”*
- *“on the basis of current data, it is not possible to ascertain whether atypical scrapie is an old or new disease of sheep, or whether the prevalence of atypical scrapie is changing over time.”*
- *“the available evidence suggests that, unlike experimental BSE in sheep, atypical scrapie may be absent from the lymphoreticular system<sup>2</sup>. Thus, assuming Specified Risk Material (SRM) regulations remain in place, if atypical scrapie can be transmitted to humans, it may pose a relatively lower health risk than BSE if it ever enters the sheep flock. However, one study.....suggests [the abnormal prion] may be present in the LRS.”*

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<sup>2</sup> the lymphatic system including the spleen

- *“although the current information on atypicals is insufficient to alter the risk basis of the National Scrapie Plan, emerging findings on atypicals scrapie should be kept under constant review.”*

11. The SEAC statement also identified a number of areas for urgent research, including studies to help determine (i) the potential risk to human health, (ii) the distribution of infectivity within the tissues of sheep of different genotypes, (iii) the prevalence of atypical scrapie and (iv) whether it has been in the national flock for many years or is relatively new.

## **Conclusion**

12. The developing evidence on TSE diseases in sheep and their possible effect on human health is an area of considerable uncertainty. However, the Board is asked now to consider the following three aspects: (i) FSA advice on eating sheep and goat meat (ii) future research and (iii) what data the board will draw on in any future consideration of proportionate, precautionary control measures. In the longer term, the Board may wish also to review its position on the National Scrapie Plan (NSP) in GB and the Northern Ireland Scrapie Plan (NISIP), but SEAC has advised that there are currently insufficient data to warrant immediate changes to the NSP.

## **Advice on Eating Sheep and Goat Meat**

13. The Agency's current advice to consumers is that we are not advising people to stop eating sheep or goat meat or dairy products (see Annex 2). That advice was given in the context of the possible risk of BSE in sheep. Given the present lack of knowledge of whether or not atypical scrapie poses any risk to human health, the Executive is not at this stage proposing that the Agency change its current advice to consumers, but that the advice should be kept under review in the light of emerging evidence. The Board is asked to agree this recommendation.

## **Future Research**

14. Research taking several years will be needed before it may be possible to understand more fully atypical scrapie and any possible risks for people. UK research funded by Defra and work in other Member States has provided the initial results that show that atypical scrapie can be experimentally transmitted to mice and sheep. Work in this area is continuing. In addition data on the

prevalence and epidemiology of the disease and details of the variation in susceptibility associated with different genotypes are being collected. In December 2005 the Agency called for research proposals to investigate the potential for a human risk from atypical scrapie. The Executive are urgently considering what further research would be appropriate for FSA funding (either solely or jointly with other funders), and whether current data allow any meaningful (scenario) modelling work to be carried out. The Board is asked to endorse the need for additional research in this area.

### **Proportionate Re-cautionary Control Measures**

15. Given the significant uncertainty and that this uncertainty will continue for some time, the Board may wish to consider whether it is appropriate to make recommendations now for additional proportionate precautionary measures to manage the possible risk from atypical scrapie. It is suggested that the Board consider a more detailed paper at the April 2006 meeting. This would allow officials to develop some proposed options for precautionary measures, to collate information on the practicality, costs and feasibility of the various options. The Executive would also proactively seek initial views of stakeholders, through a limited number of facilitated workshops, and seek input from the Food Advisory Committees in Scotland, Wales and Northern Ireland.

### **Board Action Required**

16. The Board is invited to:

- **note** the content of the SEAC sheep sub group statement and the issues regarding atypical scrapie;
- **agree** that there should be no change in the Agency's advice on the consumption of sheep or goat meat or dairy products but that this advice should be reviewed in the light of emerging evidence;
- **endorse** the need for additional research; and
- **agree** that a more detailed paper should be presented to the Board in April 2006 discussing whether any additional precautionary measures should be recommended.