

**PROPOSED INCREASE IN THE AGE AT WHICH UK CATTLE ARE BSE TESTED**

**EXECUTIVE SUMMARY**

1. This paper summarises the present position on proposals to reduce the current levels of BSE testing, including testing of cattle slaughtered for human consumption, in EU Member States which can demonstrate a declining or low prevalence of BSE and that the controls on BSE have been effectively implemented.
2. The conclusions of independent analyses by the European Food Safety Authority (EFSA) and the Veterinary Laboratories Agency (VLA), on the effect of raising the age at which cattle are tested for BSE on the number of test positives found, are reported.
3. The Board is asked to:
  - **note** the results of the analyses by EFSA and the VLA that each indicate that raising the age at which cattle slaughtered for human consumption are tested for BSE from 30 to 48 months would be unlikely to result in any test positive cattle being missed
  - **note** that, on the basis of risk, the Executive considers that a move to testing UK cattle slaughtered for human consumption at 60 months would be justified; and
  - **agree** that, if the UK's application to raise the age for BSE testing is successful, a move to testing at 48 months should be implemented in the UK.

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## PROPOSED INCREASE IN THE AGE AT WHICH UK CATTLE ARE BSE TESTED

### Issue

1. Whether it would be acceptable on grounds of risk to consumers and proportionality to raise the age at which cattle slaughtered in the UK for human consumption are required to be tested for BSE.

### Strategic Aims

2. This work links to the FSA's aims to protect consumers by implementing and enforcing proportionate and effective BSE controls.

### Background

3. EU legislation requires all Member States to carry out a monitoring programme for BSE which must include BSE testing of:
  - all "risk cattle"<sup>1</sup> aged over 24 months; and
  - all cattle aged over 30 months (OTM) slaughtered normally for human consumption.
4. The primary purpose of BSE testing is surveillance of the disease in cattle, rather than public health protection. Whilst appropriate disease surveillance is important in identifying any possible change in the BSE risk to public health, BSE testing of cattle slaughtered for human consumption provides little public health benefit, as very few of these cattle test positive (10 out of 1.3 million cattle tested in the UK – see Annex 2). The main protection of consumers from exposure to BSE is provided by the specified risk material (SRM) controls, which are estimated to remove over 99% of the infectivity from an infected animal. In addition, cattle born or reared in the UK before the reinforced feed ban came into force in August 1996 remain permanently excluded from the food supply.
5. A recent amendment to the EU legislation allows Member States to apply to reduce their BSE monitoring programmes. Applicant Member States must be able to demonstrate declining or low prevalence of BSE and that they have implemented the EU BSE surveillance programme and feed ban for at least six years. For this reason the option is currently restricted to the 15 Member States ("EU15") before the expansion of the EU of May 2004.

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<sup>1</sup> i.e. cattle sent for emergency slaughter or with observations at ante mortem inspection or cattle that have died or been killed other than for human consumption (fallen stock)

6. The FSA is responsible for advising government on whether or not any increase in the food-borne risk to UK consumers arising from a reduction in BSE testing would be acceptable. Policy and operational responsibility for BSE testing in the UK is currently held by Defra and the rural affairs departments in the devolved governments.
7. In order to avoid a divergence in monitoring programmes across the EU, the European Commission has decided that the reduction in testing should be applied in a uniform way. The Commission is planning legislation to allow eligible Member States to raise the testing age for both healthy and risk cattle to 48 months from 1 January 2009. Member States wishing to implement a change from that date were required to apply by 1 September 2008. To ensure that the UK may reduce BSE testing as soon as EU rules permit, the FSA agreed to the submission by Defra of a UK application<sup>2</sup> by the 1 September deadline, on the understanding that this would not pre-empt the Board's advice on whether implementation of a revised testing regime in the UK would be acceptable. All of the EU 15 Member States have submitted applications.
8. A chronology, including previous Board discussions, is at Annex 1.

### **Risk assessment**

#### **(a) European Food Safety Authority (EFSA)**

9. To provide a scientific basis for determining the harmonised testing requirement, the Commission asked EFSA to assess a range of options for increasing the age limits for testing both healthy and risk cattle. EFSA published two Opinions in July 2008<sup>3,4</sup> which provide estimates, based on a "worst case scenario"<sup>5</sup>, of the numbers of BSE cases that would be missed if the age limits for testing were raised. The Opinion notes that, in both the joint EU15 and in each of the individual EU15 countries in which sufficient data are available, the BSE epidemic has been constantly and significantly declining and is converging to the sensitivity limit of the current surveillance system.
10. EFSA's conclusions in relation to the numbers of cases that would be expected to be missed annually, in the whole of EU15, if the age limits for testing were raised, are tabulated below.

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<sup>2</sup> the application contains the information needed to establish that the UK meets the eligibility conditions for a revised monitoring programme and does not take a position on what the UK monitoring programme should be

<sup>3</sup> [Risk for Human and Animal Health related to the revision of the BSE monitoring regime in some Member States](#)

<sup>4</sup> [Further consideration of the age-related parameters on the Risk for Human and Animal Health related to the revision of the BSE Monitoring regime in some Member States](#)

<sup>5</sup> EFSA's estimates are based on the upper 95% confidence limit of the calculated expected number of cases and do not take into account the expected effect of the enhanced feed controls introduced in 2001

	Expected cases missed annually in EU 15	
Age limit (months)	Healthy	Risk
48	less than 1	less than 1
60	less than 2	less than 3

11. In relation to risk cattle, the EFSA opinion states that testing of risk cattle between 24 to 48 months of age represents 400,000 tests per year - around one third of the total tests on risk animals in EU15 – although all BSE cases in EU15 since 2005 have been in cattle aged over 48 months. EFSA note, however, that were BSE to re-emerge, i.e. begin to increase again, then testing of younger animals would increase the sensitivity of the surveillance system to detect such a change at an early stage. EFSA also note that if a new TSE in cattle were to emerge with a shorter incubation period than “classical”<sup>6</sup> BSE, then testing of younger cattle would increase the sensitivity of surveillance.

(b) Veterinary Laboratories Agency (VLA) BSE control model

12. In order to assess the implications of changing the testing requirement in the UK, the FSA asked Defra’s VLA to provide estimates of the effect on the BSE risk to the food supply of different BSE surveillance options using its BSE control model. The model can estimate the number of expected cases missed in Great Britain (GB) arising from changes in the testing requirement and the consequent effect on the amount of infectivity entering the food supply.

13. The Spongiform Encephalopathy Advisory Committee (SEAC) meeting of 25 April 2008 considered the validity of the approach taken by the VLA to evaluate the possible impact on human health of changes to the BSE testing requirements. The analysis carried out by the VLA and the results, in terms of numbers of cases missed and effect on infectivity entering food supply resulting from changes in testing, are presented in a paper produced for the SEAC meeting<sup>7</sup>. SEAC had some questions about the modelling and its final view will be agreed at its meeting of 15 October.

14. The VLA analysis indicates that over 550,000 OTM cattle slaughtered for human consumption would be expected to be tested in GB in each of the years 2008 and 2009. Of these, the mean number expected to test positive for BSE in the two-year period 2008-09 would be 1.2 animals.

15. The VLA estimate that, if the age of testing healthy cattle were raised to 48 months or 60 months, the number of test positive animals that would be missed in the two-year period 2008-09 would be a small fraction of one animal. The estimated number of test positives expected would not therefore be materially affected (the modelling predicts that the expected positives would be aged over

<sup>6</sup> i.e. the usual form of BSE acquired by cattle through contaminated feed

<sup>7</sup> [Paper for SEAC on impact on human health of proposals to reduce BSE testing of cattle slaughtered for food](#)

60 months). Annex 2 indicates that if the age for testing cattle slaughtered for human consumption in the UK had originally been set at 48 months instead of 30 months, then no positives would have been missed. If the UK testing age had been set at 60 months, then 1 positive would have been missed.

16. Although the estimated mean number of positives expected in 2008-09 is 1.2, there have been three positives so far in 2008. This remains within the upper end of the estimated range of results<sup>8</sup>. However if the VLA model does slightly underestimate the number of positives in healthy cattle, the estimated number of positives that would be missed by raising the age for testing to 48 months or 60 months is so low that even if it were increased several fold it would remain very low.
17. No equivalent risk assessment model exists for Northern Ireland (NI). However a comparison of the prevalence of BSE in GB and NI (see Annex 3) shows no significant difference between the two. Estimates of risk in GB are therefore considered likely to be representative of risk in NI.

### **Views of stakeholders and the food advisory committees (FACs)**

18. Meetings with stakeholder representatives have been held in all four constituent countries of the UK to seek views on a range options for raising the BSE testing age<sup>9</sup> for cattle slaughtered for human consumption. The FACs in Scotland, Wales and Northern Ireland were also consulted.
19. The almost universal view of the stakeholder meetings was that the analyses carried out by EFSA and the VLA provide a sound basis for considering a change in the testing age, that raising the testing age would be a logical step and that, on the basis of the results of the analyses carried out, a move to testing at 60 months would be justified. Industry representatives welcomed the potential for a reduction in the costs of controls, but considered that any change would require careful communication in order to retain consumer confidence. Some industry representatives were concerned that, without a corresponding change in the age at which vertebral column must be removed (which will remain at 30 months), a lifting of the testing age might increase costs, as it would create an additional processing stream (cattle requiring vertebral column removal but not BSE testing). However, all industry representatives considered that a lifting of the testing age would be a step in right direction.
20. The meeting of England stakeholders was attended by representatives of the CJD Support Network, who considered that public health should continue to be effectively protected and that any consideration of proportionality should take into account the human cost of the disease. Consumer representatives were invited

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<sup>8</sup> 90% confidence limits of 0.08, 5.27

<sup>9</sup> from 30 months to up to 60 months

to attend the stakeholder meetings but none did so. This may reflect the relatively low consumer concern about BSE evidenced in recent FSA consumer attitudes surveys.

21. The FACs also agreed in principle to raising the age limit for testing, with specific support from WFAC and NIFAC for an age limit of 60 months for testing cattle slaughtered for human consumption, subject to SEAC assurance that the risk modelling is robust. NIFAC considered that the computerised cattle identification system used in Northern Ireland provided better control of the testing age than the GB cattle passport system. SFAC advised that future discussions of risk should include human infectious doses as well as bovine infectious doses.

### **Resource implications**

22. The costs of testing, including the cost of MHS enforcement of the testing controls in abattoirs, currently fall to Defra/DARD. Defra estimate that raising the testing age from 30 months to 48 months or 60 months would result in a reduction in the number of cattle that require testing by around 25% or 40% respectively. The consequent annual reduction in the laboratory costs of testing<sup>10</sup> would be around £1.4 million for testing at 48 months or £2.2 million for testing at 60 months. Abattoir operators' costs of sampling and transport of samples to the laboratory would also be reduced. This cost has been estimated by industry at £8.50 per sample, leading to an annual saving to industry of around £1 million for testing at 48 months or £1.7 million for testing at 60 months.
23. The MHS cost of supervision of the testing controls in the 74 abattoirs currently approved to operate testing in GB is in the region of £3.7 million for the current financial year. The MHS's immediate operating assumption is that raising the BSE testing age to 48 months would have no net resource implication for the MHS, as the duties performed as a result of BSE testing would continue, albeit in relation to a smaller number of eligible cattle. The MHS consider that levels of controls in the larger establishments, which process approximately 85% of cattle throughput, would be unlikely to change. Abattoirs currently slaughtering cattle under 48 months could drop out of BSE testing if the testing age were raised, but these are more likely to be smaller establishments where ceasing the testing controls would be unlikely to affect the number of MHS staff required at the plant. MHS costs could however be affected if the pattern of cattle slaughtering were to change as a result of an increase in the testing age. The MHS are currently awaiting data from the British Cattle Movement Service on cattle throughput at abattoirs by age at slaughter in order to obtain a more accurate picture of the potential impact of a change in the testing age.

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<sup>10</sup> based on annual throughput of 500,000 cattle and a cost per sample, less EU subsidy, of £11.00

## **Sustainability**

24. Raising the age of BSE testing would provide an economic benefit to the meat industry, in terms of a reduction in the costs of producing meat, which could potentially result in a small increase in the price producers receive for their animals. Such a change could also potentially contribute to encouraging more traditional farming practices, as the incentive to finish beef animals at under 30 months of age in order to avoid the BSE testing requirement would be reduced, which may have broader benefits for the industry and for consumer choice. There would also be a saving in the physical and energy resource costs of the biochemical testing that would no longer be needed. The risk assessments carried out indicate that the current level of protection of public health would be maintained.

## **Conclusion**

25. Prevention of human exposure to BSE infection relies fundamentally on the SRM controls, which are estimated to remove almost all infectivity from infected cattle. BSE testing is not the primary food safety control, as the capacity of BSE tests to identify infected animals is limited to the late stage of the incubation period<sup>11</sup>.

26. Separate assessments of the effect of changes to the testing age, using different methodologies, have been carried out by EFSA and VLA, with consistent results. Both indicate that raising the testing age of healthy cattle to 48 months would be unlikely to result in any positives being missed. EFSA estimate that raising the testing age of healthy cattle to 60 months would result in missing one positive case annually in EU15. VLA's assessment indicates that such a change would be unlikely to result in any cases being missed in GB. The impact on the level of infectivity entering the food supply in the UK of raising the age of testing healthy cattle to either 48 months or 60 months would therefore be minimal.

27. A move to testing of healthy cattle slaughtered for human consumption at 60 months in the UK would therefore be justified on the basis of risk. The expected decision at EU level is however that eligible Member States will be allowed to raise the BSE testing age to 48 months.

## **Board Action Required**

28. The Board is asked to:

- **note** the results of the analyses by EFSA and the VLA that each indicate that lifting the age at which cattle slaughtered for human consumption are tested for BSE from 30 to 48 or 60 months would be unlikely to result in any test positive cattle being missed;

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<sup>11</sup> Detection of cases by testing is predicted by modelling to be only 1-2 months before the onset of clinical disease (see section 1.4 of the EFSA Opinion referenced at footnote 3)

- **note** that, on the basis of risk, the Executive considers that a move to testing UK cattle slaughtered for human consumption at 60 months would be justified; and
- **agree** that, if the UK's application to raise the age for BSE testing is successful, a move to testing at 48 months should be implemented in the UK.

### ***Chronology (including previous Board consideration)***

- 1 January 2001: EU requirement to carry out surveillance for BSE, including BSE testing of cattle aged over 30 months (OTM) slaughtered for human consumption, enters into force.
- July 2003: FSA advises Government that a move to replace the “over thirty months rule” (the ban on the sale for human consumption of meat from OTM cattle then in force in the UK) by BSE testing for all OTM cattle would be justified on grounds of the public health risk in relation to food and proportionality.
- July 2004: FSA advises Government that replacing the OTM rule by BSE testing of OTM cattle born after July 1996 continues to be justified, subject to the putting in place of a robust testing system.
- July 2005: European Commission publishes TSE Roadmap which includes a reduction in the numbers of BSE tests as a strategic objective
- August 2005: FSA Board consider the report of the Independent Advisory Group (IAG) on the development of a system for BSE testing of OTM cattle slaughtered for human consumption and agree to advise Ministers that a reliable testing regime had been successfully designed and trialled.
- 7 November 2005: OTM rule lifted and cattle born after July 1996 re-admitted to food supply provided they test negative for BSE. Cattle born or reared in the UK before 1 August 1996 remain permanently excluded.
- July 2006: FSA Board consider an interim report from the Implementation Review Group covering the first 6 months of operation of the testing system and agree to advise Ministers that the system advised by the IAG is being effectively and consistently implemented.
- 1 January 2007: EU rules amended to allow Member States to apply to revise their BSE monitoring programmes.
- July 2007: FSA Board consider the final report of the Implementation Review Group and agree the Group’s overall conclusions which included that the BSE testing system had been fully and effectively implemented.
- February 2008: FSA Board discuss a paper providing an update on developments in relation to checks on the performance of the testing system (relating to “real-time checks”) and cattle born before August 1996.
- 17 September 2008: FSA Board briefed on the TSE Roadmap and the current position on BSE in the UK. The European Commission announce that the age for testing of both healthy and risk cattle would be raised in eligible Member States to 48 months.

***BSE test positive results in OTM cattle slaughtered for human consumption in UK since November 2005***

By the end of August 2008, around 1.3 million OTM cattle slaughtered for human consumption had been tested in the period since November 2005 when BSE testing of such cattle was introduced in the UK. Of these, 10 (9 in Great Britain, 1 in Northern Ireland) have tested positive for BSE (see below). All were subsequently confirmed as BSE cases.

**Great Britain**

	Date of birth	Date of death	Age at death (months)	Sex
1.	18/02/1997	28/07/2006	113	Female
2.	10/09/1999	01/09/2006	83	Female
3.	12/08/2002	06/09/2006	48	Female
4.	27/07/2000	27/04/2007	81	Female
5.	05/04/1999	28/06/2007	98	Male
6.	21/09/1998	04/09/2007	107	Female
7.	30/09/1997	04/02/2008	124	Female
8.	11/01/2003	03/07/2008	65	Female
9.	24/11/1999	08/07/2008	103	Female

**Northern Ireland**

There has been one BSE positive in an OTM bovine slaughtered for human consumption since November 2005 in Northern Ireland, in an animal of unknown age (but considered likely to have been born after August 1996) slaughtered in January 2007.

**Estimates of BSE prevalence in NI and GB**

(provided by Mark Arnold, VLA)

Estimates of BSE infection prevalence in GB and NI for each cohort born on or after 1 August 1996 (note: cattle born or reared in the UK before this date are ineligible for the food supply). Estimates are expressed in terms of number of infections per million born.

Table 1 - GB

	Birth cohort						
	96/97	97/98	98/99	99/00	00/01	01/02	02/03
MLE*	150	82	59	34	11	15	10
Lower 95% CI	84	52	40	21	5	5	5
Upper 95% CI	226	124	85	52	23	32	29

\* Maximum likelihood estimate

Table 2 - NI

	Birth cohort						
	96/97	97/98	98/99	99/00	00/01	01/02	02/03
MLE	68	134	65	53	14	0	0
Lower 95% CI	21	66	23	16	1	0	0
Upper 95% CI	158	235	140	125	23	32	61