

TSE SURVEILLANCE IN DEER

Background

1. Prior to the reinforced mammalian meat and bone meal ban, it is likely that deer in the UK and elsewhere in Europe were exposed to contaminated feed. Therefore, the possibility that BSE may be present in deer cannot be ruled out. Additionally, some deer species in North America are known to be affected by chronic wasting disease (CWD) a naturally occurring TSE.
2. Although there has been no reported evidence of TSE infection among deer in the EU, active surveillance is necessary to determine whether or not it is present. There is no current EU requirement for TSE surveillance in deer. However, it is likely that Member States may be required to initiate surveillance programmes in the future. In advance of this possible requirement, the VLA has conducted some small surveys to evaluate the tests. Other Member States have also conducted some TSE surveillance in deer.

UK surveys

3. In 2002, VLA obtained samples of whole carcasses and viscera from 304 wild deer (189 roe, 66 fallow, 22 red and 13 muntjac deer as well as 14 samples from undetermined deer species). Most had been shot for human consumption but there were also some road kills. All had been submitted for TB testing. Samples, including brain, spleen, lymph node and Peyer's Patch, from these cases were examined by immunohistochemistry using antibodies known to be able to detect CWD as well as those used in the UK for the detection of BSE and scrapie. Positive control samples of CWD from US deer and BSE from UK cattle were also included.
4. In 2003, a further 99 samples were collected from 52 roe, 33 fallow, 5 muntjac and 9 undetermined species of deer. In addition, to the immunohistochemical examination, these samples were also tested using the Biorad ELISA. No evidence of TSE was detected in any of the 403 deer examined in this survey.
5. A further survey of 1249 deer culled from Royal Parks (856 red and 393 fallow deer) was conducted from September to December 2003. All the samples were examined by immunohistochemistry

using antibodies that recognise CWD and BSE and by the Biorad ELISA. No evidence of any TSE was detected.

6. A further survey of deer culled from the New Forest is now in progress.

Surveys in other Member States

7. A number of other EU Member States have conducted surveys for TSEs in deer. The programmes vary considerably in their size and scope and, although the surveillance is limited, none have detected any evidence of TSE in deer. The available information from these surveillance studies is summarised in Table 1.

TABLE 1 Surveys of TSEs in deer in other EU Member States

Country	Period	Number of animals (type/species)	Test methods
Germany	2001	1000 (Wild deer)	Biorad, IHC
	2002- 2004	> 4000 (Roe, red and fallow)	Biorad, IHC
	2004- 2005	Testing of 6000 planned	Biorad, IHC
Belgium	1997- 2003	38 (unknown)	Histopathology, IHC, SAF. Biorad since 2001
Denmark	1999- 2002	6 (farmed fallow), 7 (wild roe), 3 (exotic)	
Italy	1999- 2004	18 (wild)	Histopathology, IHC and western blot
Finland	1999- 2002	5 (white tailed) 4 (unknown)	
	2003	900 (healthy reindeer) 3 (fallen reindeer)	Biorad
Sweden	2002- 2003	6 (moose) 2 (roe)	IHC, histopathology. Biorad since 2003