

Australia's Quarantine Policy on Bovine Spongiform Encephalopathy

Pat Boland, 19 Stanley St, Hackett ACT 2602

Introduction

Bovine spongiform encephalopathy was first seen in Britain in 1985. The disease is now widely believed to have originated from the feeding to cattle of meatmeal prepared from the tissues of scrapie infected sheep, even though this scenario has never been precisely reproduced experimentally. The feeding of meatmeal incorporating protein derived from ruminants is now prohibited in the UK and Europe.

The infectious agents which cause BSE and scrapie belong to an unusual group of agents known as prions, some characteristics of which make for considerable difficulties in assessing risk of disease transmission. The agents are very resistant to heat and to disinfectants which would easily kill most other organisms. There is a very long incubation period for the disease (years) and there is no simple diagnostic test in the preclinical animal; virtually the only way to detect an animal with early infection is to try to transmit the disease to another animal.

The agents of both scrapie and BSE are capable of being transmitted, at least under laboratory conditions, to a limited range of other mammals but there has been no evidence of transmission to man.

As far as we know, Australia is free of not only BSE but all known prion diseases of animals. This is a valuable position in terms of both consumer confidence and exports of meat and animal products. It is one which we should take great pains to preserve.

The position has not always been quite so pristine. In 1952, scrapie was diagnosed in two of 18 Suffolk sheep imported from the UK. The disease was eradicated by immediate slaughter of the affected flock and the in-contact sheep and destocking of the property for 12 months. Surveillance was undertaken for some 15 years.

In 1992, post-mortem examination revealed a spongiform encephalopathy in one of three cheetahs which had been imported two years earlier from a British zoo into a Western Australian zoo. Subsequently, the British zoo was found to have cases of spongiform encephalopathy in other animals and this is presumed to have been the source. The affected cheetah's two litter mates were subsequently destroyed. Post-mortem examination revealed no evidence of spongiform encephalopathy.

Although these two incidents are the only known cases of spongiform encephalopathies in Australia, live sheep were imported from the UK to Australia in considerable numbers prior to the 1950s. Scrapie is relatively

common in the UK and it is a matter of conjecture whether scrapie could have been imported into Australia with these sheep yet not have survived due to environmental conditions. Certainly scrapie in the UK is most common amongst intensively farmed sheep under winter housing conditions the like of which are not seen in Australia.

Australia's quarantine policy with respect to BSE is influenced by the conservative views of many countries to which we export our meat and animal products and the conservative views of local industries which rely on those voluminous exports. The policy has recently been subject to a review which is now almost completed. A point by point summary of the currently proposed policy is as follows:-

Australia's recognition of BSE status of other countries Australia now proposes to categorise exporting countries as follows:

- **BSE free** - includes countries in which BSE has occurred only in animals imported from other BSE affected countries. Examples are New Zealand (no cases), Denmark and Canada (cases in cattle imported from UK but affected herds destroyed).
- **Low BSE incidence** - countries in which there have been few cases in indigenous cattle eg France (9 cases detected in indigenous cattle and affected herds destroyed).
- **Other** - countries in which there has been a moderate or high incidence of BSE cases amongst indigenous cattle eg UK. AQIS is currently reviewing the situation in several European countries such as Switzerland and Ireland to ascertain whether they should be included in this category or be classified as "low BSE incidence".

Importation of live cattle

Since 1988, Australia has not permitted the importation of live cattle from any BSE-affected country.

Importation of bovine semen and embryos

From 1988 until January 1995, Australia did not permit importation of bovine semen or embryos from any BSE-affected country. Recently, following the review of our BSE policy, importation from low BSE incidence countries has been proposed provided the donors have never been fed meat meal and were born after the date on which feeding of meat meal was prohibited.

Importation from BSE free countries

Prior to the recent review, Australia required that for importations from BSE-free countries, the following must never have resided in any BSE-affected country:

- live cattle to be imported and their sires and dams;

- bovine semen or embryos to be imported and the donor of the semen or embryos and the sires and dams of those donors.

As a result of the review, the last requirement relating to sires and dams of semen/embryo donors was dropped because there no longer seemed to be any convincing argument in favour of its retention.

Importation of other animals/products

Australia does not permit the importation of live deer or zoo antelope species from BSE-affected countries. There may be a case for importation of cervid genetic material from low BSE incidence countries but this has not yet been addressed.

Certain biological products used for the production of vaccines are not permitted import if they originated in a BSE-affected country.

Stock feed containing ingredients of animal origin is not permitted entry except from New Zealand and it must be heat treated.

Importation of sheep and goats and their semen and embryos is restricted to countries where scrapie is either absent or known to be of low incidence. Importation is then dependent on a scrapie freedom assurance programme under quarantine which involves inoculation of sentinel goats and observation for at least three years.

Future trends

The recent review indicates a willingness on the part of government and industry to adopt a certain degree of flexibility in the light of a better understanding of BSE and the risks of its transmission.

Approval of the current proposals may enable relaxation of the current restriction on Galloway semen imported from the USA and progeny derived from that semen. In the case of the Galloway semen, the male parent of the semen donor had in fact resided in the UK despite the fact that there was certification to the contrary. Under the current proposals, such importation would be permitted.

Further progress towards easing the requirements for importation is limited by the lack of knowledge in several areas, particularly the possibility that BSE can be spread via semen or embryos. There is good circumstantial evidence that it cannot be so transmitted in either semen or embryos but confirmatory experiments underway in the UK will not be completed for some 5-7 years.

International Belted Galloway Conference
February, 1995