

MAFF FOOD SAFETY DIRECTORATE

News Release

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BSE TRANSMISSION EXPERIMENTS IN PIGS

Research into the transmissibility of Bovine Spongiform Encephalopathy (BSE) shows that under experimental laboratory conditions it can be transmitted by direct inoculation to a pig.

This experiment is one of a large number of transmission studies being conducted for the Ministry of Agriculture, Fisheries and Food. Their aim is to try to transmit BSE to a wide range of animals by various routes.

So far these experiments have only been able to transmit BSE to mice and cattle through intracerebral (parenteral) inoculation and to mice by feeding with large quantities of infected cattle brain. There is no evidence of natural transmission of BSE to other species.

In the experiment at the Central Veterinary Laboratory a pig became affected following massive parenteral inoculation with infected material. This result is the first evidence of the susceptibility of pigs to any form of transmissible spongiform encephalopathy.

It does not indicate the degree of susceptibility, or provide any evidence that pigs might be susceptible under natural conditions or show whether there might be any difference in susceptibility between breeds of pigs. It does demonstrate that pigs are capable of succumbing to the disease under extreme laboratory conditions.

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So far only one of the ten animals that were subject to identical exposure has succumbed to the clinical disease. There are no cases of the disease occurring in natural conditions.

The experiment's results were immediately referred to the Tyrrell Committee. It concluded that there were no new implications for human health as a result of this experiment (advice attached).

However as a further animal health precaution the Committee has advised the Government to make statutory the present voluntary ban by animal feed compounders and pet food manufacturers on the use of the specified offals already prohibited from food for human consumption. The Government is today making a Statutory Instrument prohibiting the use of the specified offals in all animal feed (including pet food).

Other transmission experiments are continuing. Preliminary results from experiments at the MRC/AFRC Neuropathogenesis Unit in Edinburgh confirm that BSE infection can be transmitted to both sheep and goats by parenteral inoculation, although this work is not finished. Due to the known susceptibility of these animals to spongiform encephalopathy these results are expected and confirm scientific assumptions that BSE could be experimentally transmitted to sheep and goats.

Notes for editors

1. Under the Bovine Offal (Prohibition) Regulations 1989, the brain, spinal cord, spleen, thymus, tonsils and intestines (the specified offals) of bovine animals over six months of age slaughtered in the United Kingdom were prohibited from 13 November 1989 for human consumption. (MAFF news release 436/89 of 8 November 1989). Similar regulations were made in Scotland and Northern Ireland.

SPONGIFORM ENCEPHALOPATHY ADVISORY COMMITTEE

EXPERIMENTAL TRANSMISSION OF BOVINE SPONGIFORM ENCEPHALOPATHY (BSE) TO A PIG

1. The Committee has considered the implications of recent work at the Central Veterinary Laboratory (CVL) in which pigs were inoculated experimentally with BSE. One of them became sick and was confirmed to have spongiform encephalopathy.
2. The animal was one of eight which were inoculated into the brain and other tissues with a massive quantity of material from the brains of cows suffering from BSE. On the basis of what is known about other spongiform encephalopathies, this method of giving the agent is more likely to lead to disease being transmitted than giving it by mouth. Although spongiform encephalopathy has not been found in a pig in the past, the result of this experiment cannot be ignored.
3. Since this result shows that pigs can get spongiform encephalopathy even though there is no evidence that they have done so in the field, we believe that pigs should no longer be fed with protein derived from bovine tissues which might contain the BSE agent, i.e. those bovine "specified" offals that are already excluded from human consumption. It would make sense to extend this prohibition to feed for all species, including household pets, as a number of other species have now developed spongiform encephalopathies. We are aware that many animal feed compounders and pet food manufacturers are already applying such a ban on a voluntary basis
4. As far as human health is concerned, we do not believe that this interim result requires any further action to be taken.