

SEAC 103/3

MAMMALIAN MEAT AND BONE-MEAL AS FERTILISER ON AGRICULTURAL LAND

ISSUE

1. The Department for Environment, Food and Rural Affairs (Defra) has asked SEAC to consider a risk assessment (Annex A) entitled “Risk assessment of TSE related risks associated with the use of rendered Category 3 animal by-products (ABP) as fertiliser on non-pasture land” produced by the Veterinary Laboratories Agency.

BACKGROUND

2. In 2005, at its 87th meeting, SEAC considered (Annex B) a ‘release assessment’ which evaluated the amount of potential infectivity available in the soil of non-pasture land following the application of Category 3-derived¹ fertiliser. In summary, the committee concluded:

- It was content with the approach used and assumptions made in the risk assessment.
- The assessment predicted that TSE infectivity levels on land as a result of the application of fertiliser would be extremely low. However, because of the likely heterogeneous nature of infectivity in fertiliser and the uneven spread of fertiliser, TSE infectivity levels might be higher in some geographical locations than predicted.
- Controls to ensure that Category 3 ABP are processed separately from Category 1 and Category 2 ABP² be audited.

¹ Category 3 is low risk material, most of which is fit for human consumption, but not intended for human consumption.

² Categories 1 & 2 are the highest risk materials, animals with a suspected or confirmed TSE, Specified Risk Material, condemned meat, diseased animals etc.

- A watching brief be kept on CWD and BARB cases to assess the possible persistence of the agent in the environment.

3. Domestic TSE legislation was then amended in 2006 to lift the ban on the application of Category 3-derived mammalian meat and bone meal (MMBM) as organic fertiliser and soil improvers (OFSI) on agricultural land. Also in 2006 EU Animal By-Products legislation was amended³ to permit application of OFSI to land in accordance with certain conditions. This change in EU legislation was underpinned by an EFSA Opinion of 3 March 2004 (Annex C).

4. The EU Animal By-Products Regulation (1774/2002) requires that the category 3-derived MMBM must have been submitted to “Method 1” rendering. Method 1 is the most stringent of the seven rendering methods permitted by the Regulation. The animal by-products must be reduced to a particle size of no greater than 50mm, heated to a core temperature of more than 133°C at 3 bar pressure (absolute) for at least 20 minutes without interruption. The EU ABP Regulation is now being renegotiated and Defra are considering whether it is appropriate to seek a relaxation of the requirement for Method 1 rendering. To this end Defra need an understanding of the difference in the risk of transmitting a TSE, as between the use of Method 1 and Method 7, which is potentially the least stringent method. This is because Method 7 does not prescribe any particle size, time, temperature or pressure standards on the processing of animal by-products but requires the processed product to comply with a microbiological standard set out in the Regulation. It can only be used for Category 3 animal by-products.

5. If there is a difference in risk in this context Defra would then consider whether it would be feasible to manage any increased risk resulting from the use of Method 7, for example the better labelling of the fertiliser or by reducing its palatability to animals.

6. In order to inform this consideration, Defra commissioned a full risk assessment to evaluate the danger to cattle and sheep of becoming infected with BSE and/or scrapie as a result of the change to the domestic TSE legislation in the use of rendered Category 3 ABP with regard to MMBM being converted into fertiliser and applied to non-pasture land. This new risk assessment, which SEAC is now invited to consider, represents a significant overhaul of the original assessment and includes additional analyses.

³ Regulation (EC) 181/2006 amended the ABP Regulation 1774/2002 as regards the use of organic fertilisers and soil improvers (except manure).

7. The main changes compared to the previous release assessment are:

- the values assigned to parameters within the release assessment have been amended to take account of an increase in scientific knowledge, legislative changes and the decline in disease incidence over time.
- account is taken of a case study investigating the palatability to ruminants of fertilisers applied to land.
- a new exposure assessment and a new dose response model are included.

NEW RESULTS

8. The effects of each of the seven processing methods on TSE infectivity are not known, with the exception of limited experimental data regarding Method 1 as set out in the risk assessment. Due to the absence of such information, the risk assessment makes a number of assumptions in order to compare two scenarios based on the use of the processing methods at opposite ends of the range permitted in legislation: Method 1 and Method 7.

9. The main conclusions from the risk assessment are that the number of animals infected with a TSE disease annually, due to exposure to fertilizer produced from Category 3 ABP according to Method 1 is low (i.e. below one). Indeed, there is 90% certainty that the maximum number would be one new infection. The assessment concludes that when considering fertiliser produced by Method 7 the estimated mean number of new BSE new infections in cattle is 1.1, the number of new infections of scrapie is 47 and the number of new infections of sheep BSE is 0.04.

FUTURE RESEARCH

10. The risk assessment also considers what further investigations might help to reduce the uncertainty in the risk assessment and concludes that the following information would be helpful:

- The proportion of processed materials destined for fertiliser production.
- The average yearly livestock stocking density on grassland.

- The average depth of penetration of the fertiliser within the top soil upon application.
- The reduction rate in TSE infectivity due to processing into fertiliser.
- The proportion of scrapie that is masking sheep BSE disease.
- The probability that a scrapie infected sheep is slaughtered for human consumption in GB.

ADVICE SOUGHT

11. SEAC is asked to:

- consider the scientific validity of the methodology used, and the assumptions made, in the new risk assessment and to comment on its findings; and
- whether any other information, other than that suggested above, would be likely to improve the uncertainties associated with the assumptions made in the risk assessment.

**SEAC SECRETARIAT
NOVEMBER 2009**

ANNEX A

A copy of “Risk assessment of TSE related risks associated with the use of rendered Category 3 animal by-products as fertiliser on non-pasture land”.

ANNEX B

Paper from SEAC 87

ANNEX C

EFSA Opinion