ACM/643

ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD

MICROBIOLOGICAL RISK ASSESSMENT : PATHOGENS IN BIOSOLIDS

1. Following discussion of this issue at the Committee's 47th meeting on 20 March 2003, ACMSF comments on the draft Report of the Microbiological Risk Assessment for Pathogens in Biosolids, and the terms of an ACMSF statement to be included in the Foreword to the Report, were agreed first with the *Ad Hoc* Group on Sewage Sludge and then with ACMSF Members.

2. These were conveyed to the contractor responsible for the risk assessment, on 12 May 2003. A copy is attached for the information of Members.

Secretariat
June 2003

Advisory Committee on the Microbiological Safety of Food

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12 May 2003

Dear Alan

MICROBIOLOGICAL RISK ASSESSMENT : PATHOGENS IN BIOSOLIDS

1. Thank you for your e-mail of 24 March enclosing a draft final report of the microbiological risk assessment for pathogens in biosolids. Please accept this letter as a formal response on behalf of the ACMSF.

2. ACMSF members had a number of observations and suggestions on the draft report. These are detailed in Annex A and I hope you will feel able to take them on board.

3. You asked in your e-mail whether the ACMSF would be prepared to provide a statement which could be included in the report. A suggested form of words, which I hope meets your needs, is at Annex B.

4. If you need anything further, please do not hesitate to get in touch.

Yours sincerely

By e-mail

COLIN MYLCHREEST
Administrative Secretary

ANNEX A

ACMSF COMMENTS ON UKWIR REPORT ON PATHOGENS IN BIOSOLIDS : MICROBIOLOGICAL RISK ASSESSMENT

Executive summary : second page ; paragraph 3 (beginning "Estimated annual numbers of infections……")

It is proposed that, in the final 2 sentences of this paragraph, the references to numbers of infections from pathogens other than *Cryptosporidium* and those from *Cryptosporidium* should be transposed. Thus, the final 2 sentences of this paragraph should be replaced by the following "The annual numbers of infections from conventionally-treated sludges has been estimated on the basis of linear decay over the 12 month harvest interval of the Safe Sludge Matrix. The highest risk is for *Cryptosporidium*, the model estimating one infection every 45 years on average in the UK. For all other pathogens studied, the numbers of infections in the UK annually are estimated at less than 1 every 10 million years."

Main report : page 4, section 3.1, indent 2

Should read "To model the pathways……".

Main report : page 5, section 3.3, paragraph 3 (beginning " The model in Figure 3.2……")

This paragraph refers to Figure 3.2 assuming a 2-log removal by conventional treatment. However, Figure 3.2 (on page 6) shows a 99.9943 (>4-log) reduction.

Main report : page 6, Figure 3.2

This figure indicates the decay of salmonellas in sludge after 5 weeks. However, the decay time was extended to 6 weeks.

Main report : page 9, Table 4.2

The number of replicates shown in the table are very low (1 to 3). Does this represent another level of uncertainty ? Has it been factored into the risk assessment ?

Dose response curves

These are based on healthy adult studies (or, in the case of *Listeria* for example, on an animal model). This clearly is not entirely representative, nor does it reflect the worst case, but presumably reflects currently available data.

ANNEX B

ACMSF STATEMENT FOR INCLUSION IN UKWIR REPORT ON PATHOGENS IN BIOSOLIDS : MICROBIOLOGICAL RISK ASSESSMENT

The use of human and animal wastes on land represents a potential risk in relation to the spread of microbiological hazards. In reviewing this risk assessment, the Advisory Committee on the Microbiological Safety of Food (ACMSF) is satisfied that the researchers have used the best available current information and approaches to estimating the potential risk to consumers associated with the use of treated human sewage sludge on agricultural land for the production of food crops.

Data used for the risk assessment are lacking in many areas, including those on the survival of potential pathogens and the dose-response curves, and significant sources of error may well be contained in the final estimate of risk. These errors could equally decrease or increase the calculated risk. However, the ACMSF believes that the risk assessment is sufficiently conservative that any additional risk would have no material impact on public health.

Notwithstanding the fact that some of the data are limited, the conclusion that properly treated and applied sewage sludge represents a minimal food safety risk is supported by the ACMSF.

The ACMSF reiterates the importance of complying with the controls detailed in the Safe Sludge Matrix and statutory regulations.

The apparent risk associated with the application of sewage sludge to agricultural land is, in the view of the ACMSF, likely to be significantly less than that associated with the application of animal and industrial wastes to agricultural land, and it is recommended that similar risk assessments are conducted in these areas, to inform risk management decisions. In this connection, the Committee welcomes the risk assessment which has recently been performed in relation to the spreading of animal manure and abattoir waste on agricultural land.

The ACMSF also recommends that further research should be conducted to fill gaps in the risk assessment, particularly in relation to survival of pathogens on land for extended periods and the operational efficiency of treatment plants, as both of these factors have a significant effect on the estimate of risk associated with the agricultural use of sewage sludge.