

FOOT AND MOUTH DISEASE

MEASURES TO MINIMISE RISK TO PUBLIC HEALTH FROM SLAUGHTER AND DISPOSAL OF ANIMALS – FURTHER GUIDANCE

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There are a large numbers of animal carcasses to dispose of as an inevitable part of controlling the current Foot and Mouth epidemic, and this is a major challenge. **Whilst there is no risk-free approach, disposal can be handled with proper regard to public health provided that the issues are understood and the necessary measures taken as part of the control strategy.** This guidance is intended to provide practical advice on the best way, from a public health perspective, to dispose of these carcasses. It is not intended to create or add to a backlog, which would in itself present a risk to public health.

Transmission of Foot and Mouth Disease from animals to humans is very rare¹. The Food Standards Agency has advised that there are no implications for the human food chain.

Those responsible for determining and carrying out policy on slaughter and disposal at local level should adhere, as far as possible, to the following guidance, which is aimed at minimising risks to human health. **Whilst the guidance is based on an assessment of the current evidence, it will need interpretation in the light of local circumstances. However, it makes clear that every effort should be made to use the best available disposal method, taking into account any risks. It also makes clear that rendering, incineration or burning on a pyre, subject to an appropriate risk assessment, must be used for the carcasses of cattle born before 1 August 1996.**

There are a number of routes of disposal appropriate for the different types of carcass. Table 1 and the attached decision tree indicate the preferred hierarchy of disposal methods, which are rendering, incineration, landfill, burning and burial. Every effort should be made to use rendering, incineration or landfill (where appropriate) before considering burning or burial.

¹ see Public Health Laboratory Service website for further information

Table 1

| Method of disposal preferred hierarchy | Permitted animals |
|---|---|
| Rendering | All |
| Incineration | All |
| Landfill on approved sites | Sheep, pigs, cattle born after August 1 st 1996 ¹ |
| Burning | All ² |
| Mass burial or on-farm burial on approved sites | Sheep, pigs, cattle born after August 1 st 1996 |

¹ With permission of the landfill operator

² For cattle born before August 1st 1996, a local risk assessment is required

THE KEY POINTS

Early disposal of carcasses

Time from slaughter to definitive disposal should be kept to a minimum. This will minimise any potential risk to human health from contamination of surface and groundwater.

Cattle born before 1 August 1996 were born before the strictest controls were introduced as a precaution against Bovine Spongiform Encephalopathy. High priority should be given to the disposal of carcasses of cattle born before 1 August 1996. For other animals, priority generally should be given to carcasses on the ground.

Other forms of disposal, carried out according to the guidance below, pose a lower risk than continued decomposition.

Identification and segregation of older cattle

Current guidance already requires cattle born before 1 August 1996 to be identified prior to slaughter, and their carcasses to be removed as described below. Where there is uncertainty about the age of cattle they should be assumed to be in the older group and disposed of accordingly. **See website for detailed MAFF guidance: Instructions to FMD Field Operators for deciding whether cattle are clearly born after 1 August 1996.**

Disposal of the carcasses of older cattle

Cattle born before 1 August 1996 should be disposed of by rendering or incineration. When this is not possible they should be burnt on pyres subject to an appropriate local risk assessment. These cattle must not be landfilled or buried under any circumstances. **See website for Environment Agency guidance: Guidance on Ash Disposal Arising from Pyres and Mobile Incinerators; and SEAC's statement on disposal.**

Landfill and burial of sheep, younger cattle and other animals

Sheep, cattle born after 1 August 1996 and other animals can be landfilled or buried but only in sites approved by the Environment

Agency on a case by case basis; informal or impromptu burial of carcasses is not permitted.

Pyres

Burning organic material on pyres generates large amounts of commonly produced air pollutants. Only particles and sulphur dioxide are likely to pose a threat to health. Dioxins are also produced but concentrations decrease as distance from the pyre increases. Options for involving smaller pyres should be preferred before larger pyres.

Modelling has been carried out on two scenarios, 250 cattle or their equivalent in weight burning over 3 days, representing a small pyre, and 1000 cattle or their equivalent in weight burning over 3 days. The figures below indicate the distances of the pyre beyond which health risks are considered to be low in those models. However, there may be a number of mitigating circumstances. For example, the prevailing wind is important as the risks are higher down wind of the pyre. Burning on high ground, where there is greater dispersal of the smoke, leads to a lower risk to health. Therefore they require interpretation according to local circumstances.

Small pyres

Small pyres (250 cattle, or their equivalents, burning over 3 days) should be built according to the guidance on the website, generally more than 2km from local communities, such as a village. Closer to the pyre, those suffering from asthma may experience a temporary worsening of their condition. Such effects should be reversed using standard medication. People less than 0.5km from pyres will be exposed to high concentrations of irritants including sulphur dioxide and particles. Members of the public should be advised to avoid such exposure.

Large pyres

Larger pyres (1000 or more cattle, or their equivalents, burning over 3 days) should generally be 3km or more from local communities, such as a village, and built according to the guidance on the website. Closer to the pyre, those suffering from asthma may experience a temporary worsening of their condition. Such effects should be reversed using standard medication. Members of the public should be advised to avoid sustained exposure within the vicinity of large pyres. Workers should take precautions according to the local risk assessment.

Detailed information is contained in a report on air quality *Effects on Health of Emissions from Pyres Used for Disposal of Animals* produced by the Department of Health. This is available on the website. Detailed guidance on the use of materials for pyres is available on the website in the MAFF Air Code.

Disposal of ash from burned or incinerated carcasses

Ash will normally be left on site and back-covered with soil, subject to satisfying the requirements of an Environment Agency risk assessment. Where it is necessary to remove ash arising from sheep, pigs and cattle born after 1 August 1996, it can be disposed of to landfill with the approval of the operator or to a burial site with the agreement of the Environment Agency. Where it is necessary to remove ash arising from cattle born before 1 August 1996, then it will require incineration at an authorised incinerator. If ash from cattle born before August 1st 1996 cannot be immediately incinerated, then it must be stored in sealed containers, or with temporary covering until incinerator capacity can be arranged. **See detailed guidance on website from Environment Agency: Guidance on Ash Disposal Arising from Pyres and Mobile Incinerators.**

Implications for the human food chain

Dioxins deposited onto plants decrease over a matter of weeks due to weathering and 'dilution' due to growth. Therefore deposition from pyres is likely to have no long-term effects on dioxin levels in plants.

Fruit and Vegetables

It is probable that many people living in the vicinity of the pyres will grow fruit and vegetables in their gardens. The usual preparation processes of washing, removing outer leaves or peeling should remove deposited dioxins. Dioxins in the soil are not translocated into growing crops and therefore pose no immediate or long-term hazards.

Grazing Animals

The Food Standards Agency advises that, once burning of pyres has ceased, levels of dioxins in grass are expected to decrease to normal background levels. This may coincide with the restriction on allowing animals to graze on suspected land, which is part of the FMD strategy. However, there may be a small long-term increase in levels of dioxins in soil close to pyres. Overall, this will not lead to a significant contribution to consumer exposure to dioxins above that normally present in the diet.

The Food Standards Agency advise that, for larger or continuous pyres, monitoring dioxin concentrations in soil and plants/grass will be necessary before land within 2km of the pyres can be used again for grazing.

The Food Standards Agency is planning to monitor food and other samples from around larger or continuous pyres to ensure that there are no long-term effects on food safety.

Integrity and safety of water supplies

There is a potential risk as a result of micro-organisms from carcasses entering the water supplies. This applies both to carcasses lying on the ground and to those that are buried. The Environment Agency carries out a risk assessment for each of the burning and burial sites prior to their use to ensure that surface and groundwater will not be put at risk by the proposed use of the site. The monitoring and treatment arrangements for public water supplies should be robust enough to deal with any pathogens, organisms or chemicals that might enter the water supply source and water companies are being extra vigilant in their monitoring of water supplies. The majority of private water supplies are not subject to water treatment and are therefore vulnerable to contamination by surface water run off from carcasses left lying on the ground and from animals buried in unlined sites. Local authorities have already been alerted to the need for risk assessments to be carried out wherever they think a supply could be affected.

Public health input and co-ordination at local and regional level

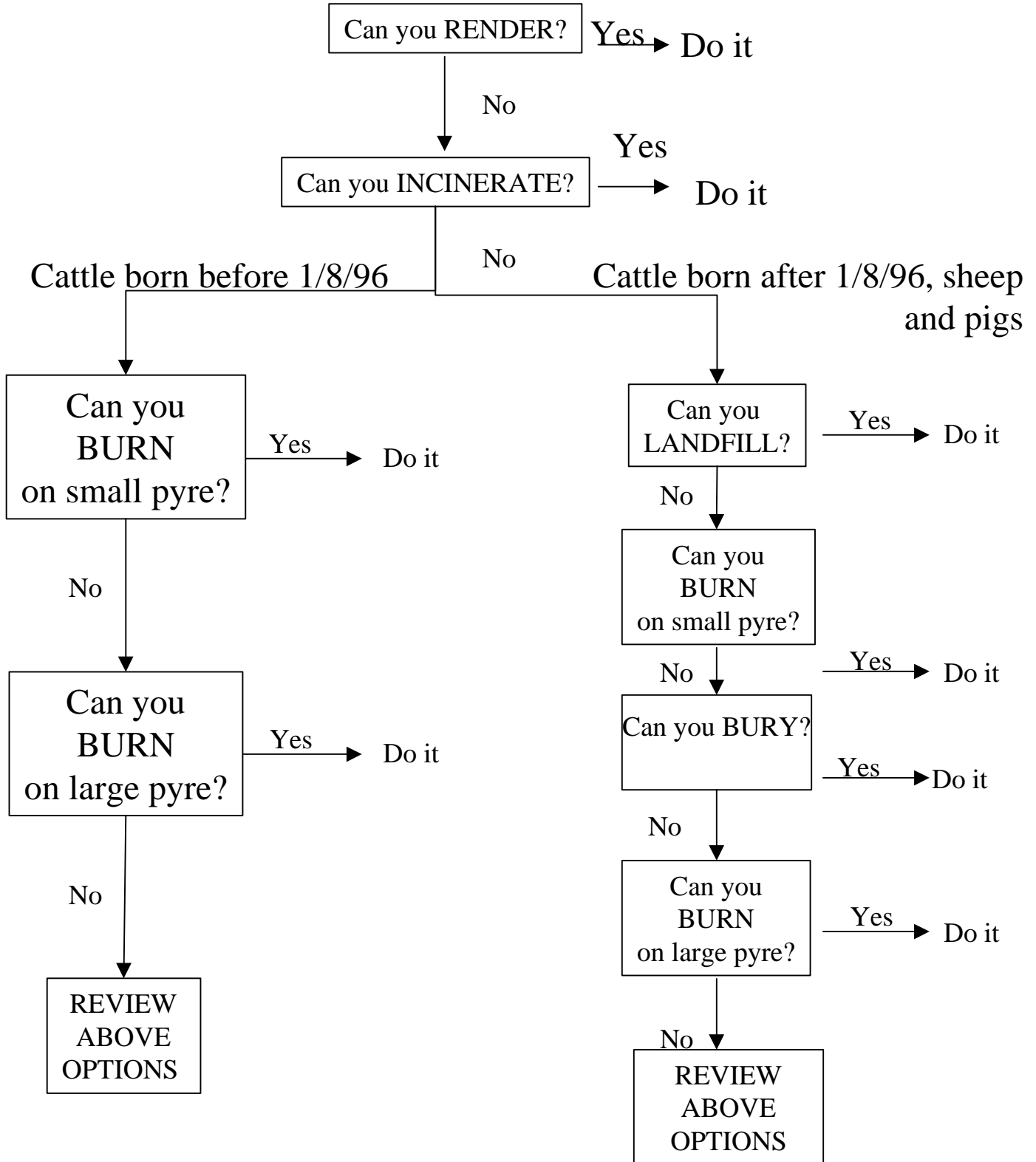
The lead for the public health issues in each Region should be the Regional Director of Public Health or nominated deputy, who should work closely with the Regional Operational Director. Locally, a public health member must be present in all local disease control teams to assess and advise on the public health risks. This should be the Director of Public Health or his/her deputy. At the local level, as well as the MOD and MAFF officials, other team members should include the local representative of the Environment Agency and the local Environmental Health Officer. Local Directors of Public Health should regularly liaise with their RDPH.

Decision Tree

To be read with reference to the appropriate guidance (see website).

Applies to the backlog as well as new carcasses

Priority for rendering and incineration should be given to carcasses of cattle born before 1 August 1996



Any rendering and incineration capacity remaining after use for the older cattle should be used for other carcasses before other methods