

# Animal Disease Emergencies

## Carcass Disposal Methods

The overall goal of an animal disease emergency response is to control and contain the spread of disease. This may include the need to depopulate any infected and exposed animals. In these situations, animals must be handled and euthanized humanely. Proper disposal of the animal carcasses and associated materials (e.g., bedding, manure) will also be necessary to ensure the disease does not spread.

The disposal method used will be determined by the State Veterinarian in conjunction with the Department of Natural Resources (DNR). Method selection will be based on a number of factors, including the type and quantity of animals, the risk of disease spread, the health and safety of responders, the public and the environment. In some cases a variety of methods may be used for a more efficient and effective operation.

Some of the possible disposal methods that may be used for animal disease emergencies are listed and briefly described below.

### Burial

On-premises burial is the preferred method of animal carcass disposal in Iowa. Any burial action should be coordinated with the Iowa DNR to ensure the selected site is away from water sources and public lands, has a steep slope greater than 15% and is in suitable soil. Listed below are some of the trench characteristics for animal carcass disposal.

- Fourteen square feet of surface area is needed to bury 1 cow carcass, or 5 pigs, or 5 sheep
- A trench 6 foot deep x 300 feet long x 10 ft wide (approximately 18,000 cubic feet) can hold approximately 360 horses, or 400 cows, or 2,100 pigs, or 3,900 sheep, or 30,000 turkeys, or 90,000 chickens
- Trenches should not be closer than 50 feet from another trench
- Trenches should be covered with 3 to 6 feet of cover soil below the natural contour to the top of the carcasses; this cover soil should not be compacted
- The Global Positioning System (GPS) of each burial site should be recorded

A burial site must be inspected regularly after closure to detect seepage or other problems that may arise.

### Rendering

Rendering is the most economical method of disposing of carcasses, however movement of infected carcasses to rendering plant locations, may pose some risk of disease spread, so preventive precautions must be taken.

### Composting

This method involves the above ground decomposition of animal carcass over a period of time. Composting may be done when soil conditions do not facilitate adequate burial procedures. The process can be complex and requires an appropriate site, proper management and the proper supplies (e.g., wood chips, sawdust and biosolids). The composting process and the natural decomposition of the animal serve to reduce the disease agents present.

### Landfill

The use of landfills for carcass and material disposal may be an option. The necessary equipment, personnel, procedures and containment systems are already in place and may be useful. However, the transport of carcasses to these locations may pose some risk of disease spread.

### Incineration/Burning

This method of carcass disposal is very difficult, expensive and resource intensive. In Iowa, open burning of animal carcasses is not allowed.

### Alkaline Hydrolysis

This process uses sodium hydroxide or potassium hydroxide under heat and pressure to digest carcass tissue. The resulting effluent typically has a pH level of 11.4 to 11.7, and in most cases, can be discharged into municipal sewage systems. The process does require specialized, expensive equipment therefore this method has limited application in a disease outbreak situation.

