

CARCASS DISPOSAL

In a disease outbreak situation, it is often necessary to dispose of animal carcasses. This is an often-overlooked aspect of infectious disease control. There are many factors that play a role in how carcasses are disposed and each situation requires individual attention and decisions in which several parties may play a role. Some of the factors to consider include:

- Species or animal for disposal
- Number of animals
- Amount of associated material - litter, eggs, milk, etc.
- Disease under consideration
- Zoonotic potential
- Environmental concerns

General categories of carcass disposal used globally:

- *Burial* may be the easiest and safest method for all species. Over time, there is inactivation of almost all pathogens. Disadvantages occur if the water table is high or if there are many large carcasses for disposal, and this can potentially contaminate the public water supply.
- *Burning / incineration* is an excellent method that ensures destruction of pathogens. The main disadvantage is that it requires considerable fuel to burn the carcasses thoroughly, which is especially difficult with cattle. This method can also contribute to air pollution.

- *Slaughtering* is humane killing with subsequent consumption of the meat is suitable for diseases that are not transmissible to humans.
- *Rendering* involves the processing of animal tissues to high temperatures, resulting in disassociated proteins and fats that are then used for animal feeds. A major disadvantage is that rendering requires dedicated and often technically sophisticated facilities.
- *Composting* is a process in which animal tissue undergoes heat-enhanced biological decomposition, resulting in total inactivation of pathogens. A disadvantage is that this is a slow process (days to weeks), and it is necessary to keep predators away during this time.
- *Alkaline hydrolysis*, also tissue digestion, is a method that combines heat, pressure and a high alkaline environment to completely break down animal tissue into a liquid that can be discharged into a sanitary sewer. Alkaline hydrolysis is the only disposal method that will inactivate prions (the cause of BSE). The major disadvantage of alkaline hydrolysis is that the equipment is very expensive.

Commonly used methods for carcass disposal in Afghanistan:

- For all species, the most common method is slaughtering, with subsequent consumption.
- In the case of avian influenza, where there is danger of disease transmission to humans, burial is used. Chickens are buried 3

meters deep (without plastic) and covered with lime, and then with soil.

- Burial is also used for mammalian species with zoonotic disease - in this case, burial is at least 2 meters deep, and covering with lime. The distance of the burial site should be 30 meters from a water well.



Example of burial with lime - chicken carcass at the bottom of a 3m hole (well).



Slaughter - an acceptable method when there is no danger of human disease