Planning For Burial Of Catastrophic Animal Mortality For All Type Animals (excluding disposal of diseased carcasses)

The producer, with assistance from NRCS, Mississippi Soil and Water Conservation Commission personnel, or other qualified professionals should select burial pit sites. During the planning process, the proposed burial site should be evaluated for the following:

- Soil Properties
  - Soil texture
  - Soil permeability
  - Surface fragments (Cobbles or Stones)
  - Slope
  - Depth to high water table (perched) **1/**
  - Depth to high water table (apparent) **2/**
  - Depth to bedrock
  - Flooding hazard
  - Ponding
- Presence of fractured or cavernous bedrock
- Proximity to water bodies (rivers, streams, ponds, lakes, etc.)
- Proximity to wells
- Distance to public areas
- Distance to residences and property lines

1/ Perched high water table is defined as a zone of saturation above an unsaturated zone at the highest average depth during the wettest season.
2/ Apparent high water table is the level at which water stands in a freshly dug unlined bore hole after adequate time for adjustments in the surrounding soil at the highest average depth during the wettest season (actual ground water level).

Where applicable, local NRCS offices maintain a listing of suitability for Animal Mortality Burial (Catastrophic) by soil map unit. Each soil that is mapped in the county will fall into one of the following categories:

- **Not Limited**—Soils are expected to be suitable for burial. These soils are preferred areas for locating burial pits.
- **Somewhat Limited—**Soils may be used for burial, as long as limitations shown in the FOTG, Section 2, Animal Mortality Burial (Catastrophic) Interpretation are addressed. Soils in this category may have slight to moderate limitations. Care should be taken in evaluating a potential burial site on these soils (See Table 1, below).
- **Very Limited**—Soils are generally not suited for burial pits without overcoming major limitations. These locations are not recommended for burial.

Alternative methods of disposal will normally be required if these are the only available soils on the farm. It should be noted that Soil Interpretations are a preliminary planning tool. They only provide flags for things that need to be considered. Soil Interpretations do not provide criteria for pit design or construction.

The chance of an inclusion of a contrasting soil at a particular soil map location varies. For this reason a planned site for burial of catastrophic mortality should never be selected without a site visit to verify assumptions about the location. When a building is full of dead birds is not a good time to discover a high water table at the planned animal burial site.

Site Evaluation Criteria

- Watch for perched water tables. A site would not be acceptable without cutoffs and drainage or other special design features if any water table (apparent, perched, seasonal, etc.) is likely to result in water being above the level of the bottom of the pit or flowing down gradient into the pit.
- Soils rated "Not Limited" for Animal Mortality Burial (Catastrophic), FOTG, Section 2, are suitable for burial sites.
- Soils that have a Unified Soil Classification of CH, MH, CL, GC, or SC are suitable for burial sites. Some of these soils will, however, have limitations relating to high clay content (i.e. difficulty in excavation, handling and compacting fill.
- Do not locate the burial pit on soil mapping units that are frequently or occasionally flooded.
- Do not locate the burial pit on soil mapping units that are rarely flooded without constructing measures to protect the site from flood waters.
- Do not locate the burial pit with planned bottom elevation within 2 feet of an apparent water table, highly permeable soils, or fractured bedrock.
- Do not locate the burial pit within 300 feet of private wells, springs, streams, public areas, or within 500 feet of a public well.
- Do not locate the burial pit where surface runoff could enter the pit.
- Do not locate the burial pit within 300 ft of residences or property lines.
- Assess potential impact of an existing hydraulic connections (i.e. tile drains, or drainage ditches)

Procedures for Estimating Burial Pit Volume

Document design assumptions for the worst case scenario (maximum number of animals to be buried and maximum expected average weight of animals). Determine total weight of mortality for disposal in pounds (lbs.). Divide total weight of mortality by 62.4 lb./cu. ft. The result is the approximate volume of mortality to be buried in cu. ft. Additional pit volume will be required to account for voids in placed mortality.

In addition, the burial pit should be excavated large enough for both mortality and (where planned) alternate layers of approximately equal thickness of soil. The volume of pit excavation required to provide for burial of the mortality could be between 2 and 4 times the mortality volume. Evaluate the site to determine areas with suitable soils.

Determine practical and safe pit width, depth, and side slopes for the equipment available. Select a cross-sectional geometry for the pit. Determine the pit length with assumed cross sectional area that would be required to provide the total required excavated volume.

An area of suitable soil must be available that is larger than the total planned burial pit surface area before burial is a viable option. Depending on shape of the area containing suitable soils this might require multiple pits. If adequate suitable soils are not available, an alternative or secondary method of catastrophic mortality disposal must be planned.

When a portion of the land area devoted to or planned for catastrophic mortality is utilized, the area should be surveyed (not necessarily a legal survey) and recorded in the producer's plan, or the area should be staked with reference points and survey notes included in the producers plan. This provides the producer with information needed to manage the burial area. With this information it should be possible to avoid a previously utilized area should another catastrophic event occur.

Additional Burial Considerations and Recommendations

Burial of dead animals (all animal types) requires a backhoe, scraper, bulldozer or other equipment capable of excavation and/or trenching for construction of a burial pit. Burial pits should be dug to an appropriate depth for the specific soil and geologic conditions. Burial pits should be a minimum of 2 ft wide and 4 ft deep with a length adequate to accommodate mortality. Pit bottoms should be relatively level. If excavation depths greater than 6 ft below existing natural ground are anticipated, test pits and/or augured soil samples should be examined to a depth two ft below lowest planned excavation.

Site limitations may dictate the use of multiple pits. If more than one pit is required, they should be separated by 3 ft. of undisturbed or compacted soil.

Excavation and trench safety should be taken into account when selecting planned geometry of a burial pit. If there is any chance of the producer or his employees getting into a trench to place or rearrange animals, shovel dirt, or anything else, trench safety must be considered. Trenches or pits 5 ft or deeper are covered by OSHA trench safety criteria and shallower excavations can be dangerous. Personnel constructing or working in or around these burial pits should be aware of trench cave-in hazards (See referenced web sites at the end of this document). Appropriate OSHA safety measures shall be used during excavation and material placement. Excavations greater than 5 feet deep should have a minimum side slopes of 1.5 (horizontal) to 1 (vertical).

For small animals (poultry, nursery pigs, etc.) place carcasses in a layer no thicker than one foot and cover each layer with at least one foot of soil. Carcasses of large animals (hogs, cattle, etc.) should be placed in one layer and covered with a minimum of two feet of soil. For deep soils (where bedrock is not a concern), carcasses and soil can be placed in multiple layers up to a total depth of eight feet.

The burial site should be mounded with a covering of at least two feet of soil, and surface water should be diverted away from the mound. Specifying earth fill compaction is not recommended. Compaction will be very difficult to achieve and could have a negative impact on the natural decay process. As animals begin to decay, it may be necessary to place additional soil material in areas that subside. If a potential exists for varmints such as coyotes, dogs, opossums, etc., to dig into the burial site, either use more than the two feet of cover material (recommended) or use an appropriate temporary fence to exclude these animal types.

The burial site should be vegetated as soon as practical to prevent erosion of the soil cover.