

NCDA & CS Mass Animal Mortality Management Plan for Catastrophic Natural Disasters

October 2016

Introduction:

Owners of livestock and poultry are responsible for the proper disposal of mortality from natural disasters. It is understood that in times of disasters and disease events, catastrophic mortality may overwhelm the capabilities of owners/operators and outside assistance may be requested. Owners may choose to dispose of their mortality from storms and may do so, but catastrophic loss mortality must be reported to the State Veterinarian and the proposed method of disposal must be approved prior to disposal. Catastrophic mortality would be considered to be losses 20% of commercial farms (poultry and swine) and greater than ten (10) head in cattle or equine operations.

Requests for Assistance

For owners that need assistance for disposal of catastrophic mortality, assistance as to how to request those resources will be provided when losses are reported to the State Veterinarian. The State Veterinarian will advise the Incident Management Team to work with owners to form requests for resources submitted through County Emergency Operations.

Prioritization of Mortality Disposal Operations: As previously agreed upon by Division of Emergency Management and Department of Agriculture and Consumer Services, carcasses from animals that have perished due to natural disasters will be characterized as debris (i.e. not hazardous waste) and given a higher priority for disposal than other storm debris except for debris that hinders public safety and essential services.

Disposal Management Options: All options are in consideration for large events but those with three (3) stars are the primary options as a particular farm/site situation is considered when flooding is an issue. Thus rendering would be a first option if access to carcasses allows, but landfills and composting also considered. Burial would likely encounter additional challenges but could be an option as well but may be more likely to be ruled out depending on severity of flooding. There will likely be use of all options to some degree in a large scale event.

Method	Description	Resources needed
Rendering***	Rendering is a preferred off-site option with some limitations due to timing challenges and access to carcasses during flooding events. It is low cost and results in a product of value from rendered carcasses.	<ol style="list-style-type: none">1) Rendering facilities that are fully operational;2) Transportation (typically available through the renderer); and3) Timely access to carcasses (flooding conditions can often prevent timely access to animal carcasses, causing the carcasses to be unusable for rendering).
Landfills***	Landfills have been successfully used in past events as an off-site option. Limiting factors in using landfills include: acceptance of carcasses by the landfill, amount of landfill material available after an event to use to cover the	<ol style="list-style-type: none">1) Leak-proof transport for carcasses (liners or retrofitted dump trucks can be used if vehicle is not leak-proof);2) Access to animals (time is not a factor as with rendering);3) Equipment to load carcasses into transport vehicles; and4) Tipping fees at landfill.

	carcasses, and the number of carcasses to be landfilled. Landfills willing to accept carcasses should be identified prior to an event.	
Composting***	Composting is the best on-site carcass disposal option. There is a possibility that composting, under the right conditions, could be used off-site to meet the needs created by a multiple county event. Composting of poultry can be accomplished in 28 days or less. Composting of larger animals takes longer (up to six (6) months). Compost piles may be turned periodically to facilitate the process. Dry carbon materials are mixed to create the proper ratio based on moisture content of the carcasses and litter. Land application of compost material will be at recommended agronomic rates.	<ol style="list-style-type: none"> 1) Site allowing access for heavy equipment to form the compost pile and move carcasses; 2) Dry carbon source- dried sawdust or shavings are preferred material for compensating for wet litter and carcasses; 3) Other coarse and/or fine carbon materials are needed for proper windrow construction; 4) Composting Subject Matter Expert to oversee compost windrow construction. NCDA & CS has a list of qualified personnel; and 5) If a community composting off-site option is used, suitable land for composting operations would need to be identified.
Burial*	Burial is a limited on site disposal option due to flooded conditions and often minimal depth to seasonal high water table. Farmers are encouraged to obtain pre-approval for mass burial sites. Above ground burial (partial burial with mounding of the cover soil) has a number of challenges that must be addressed on a case-by-case basis.	<ol style="list-style-type: none"> 1) Burial sites for catastrophic mortality are evaluated on a site to site basis; 2) Heavy-equipment for carcass movement and burial; 3) Personnel and small-equipment to prepare carcasses for burial; and 4) Above ground burial may require additional soil and other equipment.
Alkaline Hydrolysis**	This option is noteworthy and will be considered as a support option. This option is limited by the throughput capacity and the number of available hydrolysis units.	<ol style="list-style-type: none"> 1) Fee for service with contractors; 2) Site must allow for heavy-equipment use; and 3) Resulting effluent must be disposed of properly or land applied.
Incineration	Incineration has many disadvantages that makes this option a very low priority for use in North Carolina. Under the right conditions, this option might be used.	<ol style="list-style-type: none"> 1) Incinerators rented from contractors and large amounts of fuel; 2) Environmental permits to incinerate; 3) Transportation to incineration sites; 4) Heavy equipment to load fuel and carcasses; and 5) Requires 24-hour staffing.

Mortality Management Decision Matrix

(flow also indicates preference order)

