

Panhandle Exercise
Report of Carcass Composting at Cactus Feeders
Amarillo, Texas

Dr Suzanne Burnham, TAHC
with
Dr Daniel Thomson, Cactus Feeders



Images by Suzanne Burnham, DVM

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Panhandle Exercise
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Ambassador Hotel

Introduction

Participants of the Panhandle Exercise in Amarillo, Texas reviewed the consequences of outbreaks of foreign animal diseases (FAD) such as Foot-and-mouth disease (FMD) or Rinderpest, both being cattle diseases that would adversely impact the industry, the state economy and ultimately the economy of the country. Because of the high concentration of cattle in feedlots in the Panhandle of Texas and the surrounding regions, the consequences would be complex and costly. One of the complex topics in the discussion concerned the disposal of infected or exposed carcasses. In the most recent outbreak of FMD in the UK, infected animals were burned in pyres or buried under 6 feet of soil which are both considered acceptable means of disposal. In such an emergency, disaster managers of the Panhandle region will have to consider all safe and effective methods in order to handle the large quantity of potentially affected animals. Primary consideration must be given to controlling the spread of disease and minimizing contamination of animals, premises, vehicles and farm equipment during carcass disposal.

One alternative to burn and burial currently under review is composting. One member of the tabletop exercise described the process of composting in use at one of the major feedlots near Amarillo. Dr Daniel Thomson, consulting veterinarian for Cactus Feeders, invited several guests to observe first hand the process in place at the feedlot. Granted, the composting at Cactus feeders handles only the few deaths that occur at the feedlot and large numbers had not yet been considered. Dr Thomson is now studying the possibilities of preparing for just such a horrendous eventuality.

The exercise team wishes to submit Dr Thomson's expertise and experience as a supplement to the after action report.



Dr. Rosemary Speers (C.N.A.), Dr Dan Thomson (Director of Veterinary Services, Cactus Feeders)
_____ Cactus Feeders Mgr, Dr Bruce Lawhorn (TAMU), Dr Jim Amend (TAHC)

The Basic Process of Composting Cactus Feeders

Preparing the Pad

Manure that has been cleared from the pens is moved to the composting area where it is turned twice before using in carcass disposal. This aged manure is used to create a “pad” approximately 1 foot deep and 14 feet wide. The length depends on the space and number of head to be composted. A carcass is laid on the pad and covered with manure. Between 1.5 and 2 tons of manure is required per head.

Note: Death loss is variable at the feedlot, and a pad may not be entirely loaded with carcasses all at one time.

Active Composting

The mound is left undisturbed for 60 days from the day the last carcass is covered. Active composting begins after this interval and the mound is turned every 10-14 days until it has been turned 10-12 times. The internal temperature of the composting mound reaches from 135-150 degrees which is monitored with a Reotemp© bimetal core thermometer with a 36 inch probe. Composting is completed in 3 months producing a mound of dry organic material.

Considerations for disposal of FMD infected carcasses using composting:

1. How much manure will be needed to cover pads containing near finished cattle vs lighter calves?
2. How much space will be needed to lay pads for one hundred head of cattle?
3. Will there be enough composted manure on hand to compost 50% of the feedlots capacity? 75%? 100%?
4. Are there other sources for composted manure nearby?
5. Can the already processed manure used to compost other animals be used again?
6. Are the pads far enough away to avoid contamination from drainage in case of rain?
7. Can pathways be arranged to minimize contamination throughout the feedlot as animals are transported from pens to the pads?
8. Will there be equipment on hand that can be used for the handling of infected carcasses and can it be cleaned and disinfected?





Animals infected with FMD that have been euthanized can be buried beneath 6 feet of soil as an accepted method of disposal. If an outbreak of Rinderpest occurred, however, animals would be found dead in the pens within 3-5 days, many with infective diarrhea. Dr Thompson proposes a combination of burial and composting within the pens to deal with the problems of potential contamination that would occur when the infected animals were moved.

Logistic considerations for In-the-Pen Composting/Burial

1. Could a quarantine zone be delineated around the affected pens including alleyways?
2. Live animals would be shifted to the alley way or adjacent pens while the burial holes were dug. Can this be done without further infecting other animals?
3. Is there a portable squeeze chute on hand to work the infected cattle?
4. As the animals were euthanized and dropped into the pit can it all be done humanely?(considerations of press people on site)
5. How many animals will fit into the pit created in the average sized pen? Using both burial and composting will 1 pen be sufficient to dispose of the animals it contains?
6. Can all the equipment used be cleaned and disinfected adequately?
7. Is there a place for the dead cattle to be maintained until pits are dug?



A Pad of composted manure is laid approximately 12 inches deep



The number on the mound corresponds to records of the composting schedule.



Bone fragments may still be seen during the first month of composting



When the process is completed the organic meal is dry and has no odor of decay.



The pile is turned at regular intervals until the process is complete.



Over time the particle size becomes smaller