

Waste management: equine carcass disposal

Scott R. R. Haskell, DVM, MPVM, and Carol J. Ormond, JD, DVM

Disposal of horses that are euthanatized on-farm poses many challenges to today's practitioner. In most states, responsibility for carcass disposal is that of the veterinarian. Generally, most state laws require that the carcass be disposed of within 24 to 72 hours after euthanasia unless it is refrigerated or frozen, and each state has approved disposal methods. Without proper disposal, carcasses can threaten the health of wild and domestic animals as well as humans. Many states consider failure to comply with disposal guidelines a misdemeanor or felony, and a veterinary practitioner can be held liable for failure to comply. Additionally, conviction on such charges could then subject the veterinarian to disciplinary proceedings by the state's veterinary licensing board or similar authority. Sociolegal aspects have also come into play recently, with many waste management and rendering facilities considering euthanatized animals as biomedical waste.

It is essential that the practitioner realize that carcass disposal must be a part of any euthanasia protocol. Toxicosis involving pets and wildlife that consume portions of a carcass after chemical euthanasia is becoming a very real threat. Special care should be taken in the selection of a nontoxic agent if the carcass is not to be promptly removed for appropriate disposal.

Methods of Equine Carcass Disposal

It should be emphasized that although there are many methods of carcass disposal, not all methods are approved by local and state authorities. The practitioner should first consult local or state veterinary and public health officials prior to establishing equine carcass disposal plans.

Rendering

Rendering is probably the most common method of equine carcass disposal. The carcass must be removed to an approved rendering plant, generally by a licensed livestock disposal hauler. Where rendering is convenient, it is a waste-free solution for recycling carcasses. Recent changes in rendering practices, however, have caused changes in animal euthanasia practices. Many local ordinances now consider animals euthanatized with an overdose of barbiturate as biomedical waste, and disposal haulers are refusing pickup. The practitioner should consult state and local agencies as well as rendering companies for local regulations.

Burial

Burial can be a fairly cost-effective means of carcass disposal. State and local ordinances governing

depth of burial, water table requirements, soil and vegetation types and conditions, and positioning near water sources should be consulted. Carcasses should not be buried near waterways, wells, ponds, riparian regions, and areas of high water table. Burying a carcass generally requires that the carcass be a minimum of 5 ft above the high water level and covered with 3 to 5 ft of dirt. Sandy or gravelly areas or areas within 10 ft of bedrock should be avoided. Burial of carcasses should not permit access by vermin, scavengers, or other potential vectors of disease. Burial should include a cover of sufficient depth and character to prevent exposure of the carcass by burrowing or digging by animals, subsidence, or eruption.

Incineration

Many clients will request cremation of their horse. It is important for the practitioner to inform owners that a burn pile on the property cannot attain complete incineration. Burn pile combustion will not maintain sustained high temperatures sufficient to destroy bone. Most states stipulate that a thorough and complete incineration of the carcass must occur and must include all bones. Generally, incineration is completed by a state-licensed facility under strict emissions and temperature guidelines.

Composting

Composting offers a labor-intensive method for carcass disposal for ranches and farms. The carcass can yield nutrient-rich organic matter within 3 to 6 months. Dry organic matter is layered over the carcass, which will generate adequate heat for subsequent tissue digestion and breakdown. Temperatures must be monitored with a compost thermometer at least every other day, with daily monitoring preferred. The compost site must reach a temperature of 130 to 160°F for 30 minutes or more to properly decompose carcasses and destroy pathogens. Depending on environmental conditions, it should be noted that through anaerobic digestion, this process may take 2 months to a year to complete.

Special state requirements must be followed. Composting must occur on a permanent concrete floor, most states require roofing, and the facility must be scavenger proof. Information on composting is available at local USDA-Natural Resources Conservation Service offices.

Landfill

Most states do not allow the use of landfills for the disposal of large animal carcasses. Consult your local landfill or public health official.

Other Options

Many exotic animal farms and wildlife parks seek sources of meat to feed their large cats and other carnivorous species. With the exception of swine, carcass-

From the Department of Environmental Toxicology, College of Agricultural and Environmental Sciences, University of California, Davis, CA 95616 (Haskell); and Oak Hill Equine Services, PO Box 898, Orinda, CA 94563 (Ormond).

Address correspondence to Dr. Haskell.

es of most species can be used legally for this purpose. It is generally required that the farm or park maintain a state exotic feeding permit (occasionally, a federal permit is also required). Carcasses left at an off-site pickup point must be contained in an animal-proof enclosed area that in most instances is at least 200 yds from buildings. Carcasses must be picked up within 72 hours, except if the enclosed area is refrigerated to < 45°F. Generally, with cooling or freezing, carcasses must be picked up within 7 days.

Veterinarians should realize that these guidelines are only suggestions for methods for the disposal of dead horses. Local communities and counties may have additional ordinances that further regulate disposal practices, and local authorities should be consulted prior to disposal of a carcass. Horses that are known to have died of a reportable or dangerous trans-

missible disease should be reported to the state veterinarian's office.

Additional Information

1. Sander JE, Warbington MC, Myers LM. Selected methods of animal carcass disposal. *J Am Vet Med Assoc* 2002;220:1003-1005.

2. National Euthanasia Registry. Available at: www.usner.org. Accessed April 11, 2003.

3. Euthanasia policy and procedures. In: *BRL Bulletin*. Chicago: University of Illinois, 1993;1-3.

4. Bagley CV, Kirk JH, Farrell-Poe K. Cow mortality disposal. Salt Lake City: Utah State University, 1999;AG-507. Available at: <http://extension.usu.edu/publica/agpubs/ag507.pdf>. Accessed April 11, 2003.

5. Morris JR, O'Connor T, Kains F, et al. Composting livestock mortalities. Fact sheet ISSN 1198-712X. Ontario Ministry of Agriculture. Food and Rural Affairs. Available at: <http://www.gov.on.ca/OMAFRA/english/livestock/sheep/facts/97-001.htm>. Accessed April 11, 2003.



You need a veterinarian . . . to preserve and protect this relationship



This 16" x 20" poster, with an explanatory placard, celebrates the important role veterinarians play in protecting the human-animal bond. This poster is perfect for the reception or waiting area of a veterinary hospital, or may be displayed in human-health care facilities as a gentle reminder of the importance of including veterinarians as principal players in animal-assisted health intervention programs. Veterinarians are uniquely qualified to protect the health of animals and people participating in these programs and to aid in scientific evaluation and documentation of the health benefits of the human-animal bond. The poster and placard have been designed to fit standard-sized frames. \$10, including shipping and handling.

To place an order, contact:
American Veterinary Medical Association
Division of Education and Research
1931 North Meacham Road, Suite 100
Schaumburg, Illinois 60173
800-248-2862, ext 6624
Fax 847-925-1329.



Please be sure appropriate contact information (including name, mailing address, and telephone number) accompanies your request.