

Conquering Mount Manure

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Manure Happens

Along with the joys of riding, driving or companionship, horse ownership involves dealing with manure. The average 1100-lb horse produces 50 lbs of manure (urine + feces) or about 1 cubic foot every day. Over the course of a year, you could fill a 12 x 12 foot stall 6 feet high with the manure produced by one horse. If the manure includes bedding, that volume can easily double or triple, depending on your stall cleaning habits.

Manure is an Asset and a Liability

Historically, manure has served as a valuable fertilizer. Unfortunately, more and more horses are being housed on smaller properties where the quantity of manure produced exceeds the land's ability to utilize the nutrients to support plant growth. As a result, manure is often over-applied or allowed to accumulate on pastures, stored ineffectively for extended periods, or ignored and "left to nature."

Manure that is mishandled can become a significant source of pollution. The same nutrients that make manure a good fertilizer can be carried away by storm water runoff into rivers, lakes, streams, and ponds, as well as leach down into groundwater. When these nutrients enter water, they kill fish and other aquatic life and reduce the water available for farming, industry, recreation, and drinking.

Taking Responsibility

Managing horse manure is seen by many as an inconvenience—it certainly isn't as rewarding as time spent with the animal that produced it! However, all horse owners are obligated by federal law to take responsibility for the proper storage and disposal of the manure produced by their animals.

Last year, the United States Environmental Protection Agency (USEPA) enacted regulations on manure produced where large numbers of animals, including horses, are confined and fed (confined animal feeding operations, or CAFO's). Depending on the number of animals, such facilities may be required to account for all manure produced and disposed on their operation, and must apply for the same pollutant discharge permits that industrial factories must hold in order to remain in operation. With the exception of many racetracks and large boarding, training and show ground facilities, most horse operations will fall outside these federal regulations. However, any horse facility can be required to abide by these laws, no matter how many horses are involved, if they pose a significant threat to water quality. (For more information on CAFO's and the USEPA regulations, visit http://www.epa.gov/npdes/pubs/cafo_brochure_horse.pdf)

The manure handling regulations put forth by the USEPA are minimum standards. Each state has the authority to implement stricter regulations. In Florida, the Florida Watershed Restoration Act (S. 403.067 F.S., 1999) has defined the maximum amount of pollutants that can be discharged into state waters. While the Act does not specifically address horse operations, the cumulative effects of all horse operations (along with other agricultural, industrial and municipal operations) are recognized as contributors to the degradation of water quality in Florida. Rather than forcing each and every horse owner to comply with specific manure management practices, whether they discharge pollutants or not, the Act is essentially calling for voluntary compliance from those falling outside of the USEPA manure regulations. To provide guidance to horse owners, the Act is allowing the Florida Department of Agriculture and Consumer Services (FDACS) to endorse a series of manure “best management practices” (BMP’s). In return, those horse operations that voluntarily implement the BMP’s will receive a “presumption of compliance” with the Act and state water quality standards from the Florida Department of Environmental Protection.

Getting Involved

The FDACS and the University of Florida are in the process of developing a BMP manual for Florida horse operations. Leaders of the Florida equine industry are currently being asked to participate on a task force that will provide input and feedback on the BMP manual. Because the manual will be applicable to all horse operations including racetracks, training and boarding facilities, broodmare operations, and private recreational farms, we are seeking representatives from all aspects of the industry in order to create a product that will be relevant for all types of equine operations. Ultimately, the contents of the manual will be determined by the stakeholders who participate in its development. If you wish to be involved in this process, please contact Dr. Sandra TenBroeck by phone: (352)392-2789, or email: tenbroeck@animal.ufl.edu

Manure Management Practices

Although the official BMP manual is still in development and has yet to be adopted by rule by the FDACS, the following are some general manure management practices that will help reduce the risk of water contamination:

- Locate manure storage and composting facilities away from wells, springs and any open body of water.
- Avoid storing manure in low-lying areas where storm water tends to pool.
- Provide a covering for the manure storage (or composting) facility to prevent storm water from contacting the manure and carrying away nutrients.
- Store manure on a concrete slab or well-compacted clay soil base to prevent pollutants from leaching into ground water.
- Remove manure regularly from corrals, paddocks, or other dry-lot facilities. Do not allow manure to accumulate.
- Divert “clean” storm water around areas where manure accumulates (storage facility, corrals, feeding areas, etc). This may be accomplished through adequate storm gutters and drains or ditches. If storm water does come in contact with manure, construct a catch basin to collect and contain contaminated runoff.

- Do not allow manure to accumulate in riding rings or arenas. Also, control runoff of sediment from these areas.
- Create “vegetative buffer strips” (areas of grass, shrubs and trees) between surface waters and areas where manure accumulates. Vegetative buffer strips act to filter nutrient and sediment runoff from manure.
- When disposing of manure by land application, apply only the amount of manure that is required by the pasture or crop growing there. Appropriate land application of manure requires accurate soil testing (typically every 1 to 3 years) and knowledge of the plants growing there (so their fertilizer needs can be addressed).
- Land application of manure should only occur during the crop/pasture’s growing season.
- Harrow pastures regularly to distribute nutrients evenly.
- Fence off your horse’s access to open bodies of water (rivers, lakes, ponds, etc).
- If your property is too small to effectively utilize the manure produced there, make arrangements to have the manure removed off-site on a regular basis.
- Consider composting manure to stabilize the nutrients, as well as create a more attractive end-product for gardeners, landscapers, hay growers, and construction/land reclamation projects. Composting also kills intestinal parasites and destroys weed seeds, making it an ideal slow-release fertilizer for pastures. Compost is also an absorbent bedding.
- Partner with others in your community to create a “manure co-op.” Participants can share in the labor of managing the pile, as well as the cost of larger equipment that makes handling manure easier. A larger volume of manure may also help to attract more profitable end-users.