

Florida Department of Environmental Protection



Watershed Quality Evaluation &
TMDL Program

Small Scale Horse Operations BMP Manual Update

September 19, 2013





The New Manual

Small Scale Horse Operations:
Best Management Practices for
Water Resource Protection in Florida



Florida Department of Environmental Protection
September 2013

Tool for **non-commercial** horse owners (not operating as a business).



DEP BMP Manual



Intended for
folks with a
few horses.

Geared to
small farms,
ranchettes,
hobbyists.

Main Sections

1. Manure Management



- Manure storage location
- Covering the pile

Small Scale Horse Operations

BEST MANAGEMENT PRACTICES FOR MANAGING MANURE

The potential for horse farms to cause water quality problems through runoff or leaching of nutrients, bacteria, and sediments varies, depending on soil type, slope, drainage features, **stocking rate**, nutrient management practices, and activities in or near wetlands, surface waters, or sinkholes.



Best management practices (BMPs) are cost-effective and practicable management actions for protecting and improving water quality and conserving water. They are developed through

research, field testing, and expert review. BMPs are typically used to prevent, reduce, or treat nonpoint source pollution. They can be structural (e.g., installing fencing or gutters) or nonstructural (e.g., managing fertilization and grazing practices). This manual describes BMPs for manure storage, manure composting, pasture management, and erosion control, and provides guidance on other important water resource protection issues such as using recommended **setbacks**, managing stormwater, managing horse washing, using pesticides correctly, disposing of unused pharmaceuticals, and handling animal mortality.



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Main Sections

2. Composting



- Benefits of composting
- Bin construction
- Compost maintenance

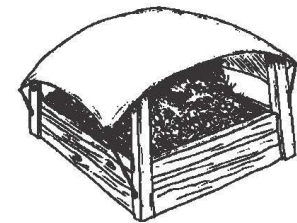


Small Scale Horse Operations

With a bit of effort, your manure storage pile can be transformed into valuable compost. Composting is a method of managing your horses' manure to accelerate its decomposition. During the

composting process, **microorganisms** break down manure into a nutrient-rich material that resembles soil. When done properly, composting kills the parasite eggs, insect larvae, and **pathogens** found in horse manure. It also reduces manure odor and can decrease the size of the pile by as much as 50 percent! Finished compost is so valuable as a soil amendment that it is sometimes referred to as "black gold." It can be used as slow-release fertilizer, as mulch, or as a growing medium for plants, mushrooms, and worm farms. When properly applied to pastures and other areas during the growing season, compost can also help reduce the use of commercial fertilizer.

Stock-piling manure does not ensure that composting will occur. Composting is a process that requires some effort to ensure the greatest efficiency and produce the best material.

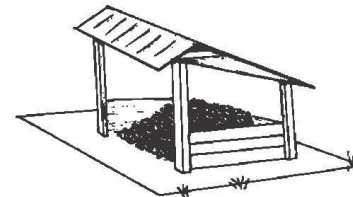


Creating Composting Bins



For best results, create composting bins in your manure storage area. Bins with walls will better contain the manure pile and will facilitate the use of mechanical equipment. Concrete, tightly fitted wood planks, or cement blocks can be used for constructing walls. Plan to build at least two bins and fill the first one completely before adding material to the second bin. Two bins are recommended for farms with one to three horses, and more bins can be added as needed.

To determine the proper bin size, gather information on the volume of manure and stall waste generated and the length of time you will be storing the compost. The manure generated by a 1,000-pound horse will average 0.9 cubic feet per day (ft³/day), (a pile measuring about 1 foot wide by 1 foot deep by 1 foot high per day). The addition of bedding can double or triple this volume. The number of horses, the type of feed, and the type and amount of bedding used will determine how much stall waste your farm



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Main Sections

3. Pasture Management



- Stocking rates
- Spreading /harrowing
- Grazing Plan
- Erosion control

Small Scale Horse Operations

BMPS FOR PASTURE MANAGEMENT

Good pasture management can decrease feeding expenses, help maintain healthy horses, and minimize environmental impacts. Healthy pastures allow grass roots to hold the soil in place, increase the soil's absorption of rainfall, and slow the rate of runoff—all of which help to minimize erosion, the development of bare spots, and weed infestations.

In contrast, overgrazed pastures typically result in bare ground, soil compaction, and weed growth that contribute to a loss of forage and preferred pasture grasses. Bare areas can quickly be churned to dust and mud, causing health risks to horses such as respiratory disease, sand colic, and thrush. In addition, soils are more easily eroded and washed away when vegetation and roots are not holding it in place. These problems ultimately can degrade water resources and become an eyesore, potentially straining neighbor relations.

Managing Stocking Rate

Good horse management requires that you recognize the limitations of your pasture area and stocking rate, which is the amount of land required for each horse. These limitations vary with the pasture species grown and its productivity, the size, age, and activity level of the horse; the amount of grain and other supplements fed; and the grazing plan in place for managing forage growth. Overstocking refers to the practice of allowing too many horses in a pasture so it becomes overgrazed. With some planning, you can adjust your stocking rate to improve your pasture forage supply and growth rates, prevent overgrazing and bare areas from developing, reduce weed growth, and improve your horse's health, all while protecting water resources.



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DEP Horse Farms BMP Manual

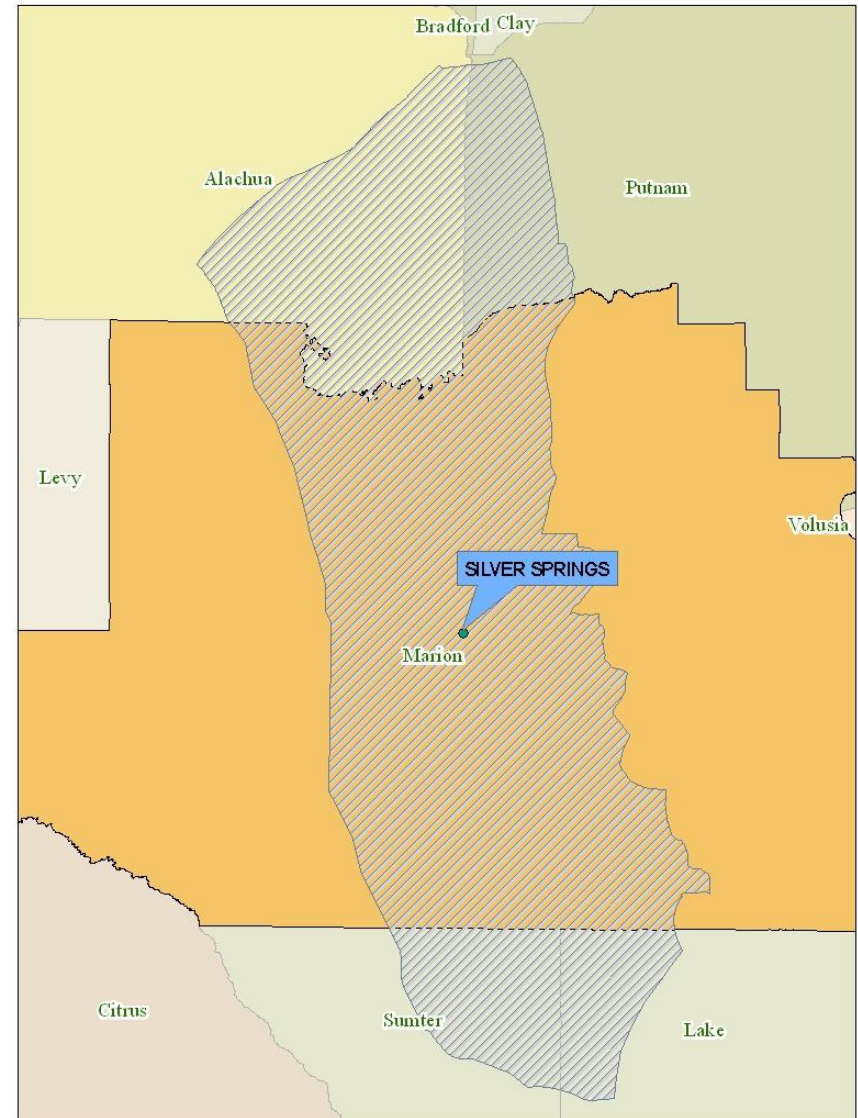
- 500,000 horses in Florida





DEP Horse Farms BMP Manual

- 2007 Ag Census:
31,128 horses in
Marion County





Distribution of the Manual

IFAS Extension Agents

DEP District Offices

County offices

FDACS Office of Agricultural Water Policy

Water Management Districts

Other?



Feedback on the Manual

Is the information useful to educational efforts?

What other formats would be useful?



Questions/Suggestions?

Kathryn Holland

(850) 245-8235

Kathryn.Holland@dep.state.fl.us