

Hillsborough County Horse Owners Learn About Manure Management and Benefits of Composting

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Situation:

Best management practices (BMPs) for horse farms comprise an integrated approach to reduce the environmental impact in Florida soils and wetlands. BMPs provide a nutrient management plan based on farm size, year-round forage availability, climate conditions, pasture fertilization, integrated pest management, and manure management strategies. Horse manure contains water, macro and micronutrients, and potentially pathogenic microorganisms. Unmanaged manure piles can result in pathogens, offensive odors, leaching of nutrients into groundwater, and contamination of water bodies from nutrient runoff, causing negative impacts for water quality, human and animal health. Composting is a practice through which nutrients can be recycled for use in pasture systems, gardens, and nursery beds. Effective compost management and use can improve soil conditions and reduces the amount of waste generated.

Objectives

- To help participants understand the environmental impacts of horse manure in Florida soils and wetlands.
- To teach participants about the benefits of composting horse manure.
- To help participants acquire the skills necessary to implement composting and use of the final product.

Materials and Methods:

In 2017, a collaborative team of private sector, state agency, and University of Florida extension personnel (state specialists and county faculty) initiated formal meetings to address horse manure issues on small equine farms and provide solutions to reduce the environmental impact of manure waste in water bodies in Hillsborough County. As a result of these meetings, the team created a series of workshops held in June 2018 and April 2019 to improve horse owner knowledge on composting. Workshops consisted of a combination of classroom instruction and hands-on demonstrations. Topics covered included an introduction to the importance of water quality protection and BMPs, "how-to" compost, compost quality, and how to use finished compost.

How well do you understand the following topics after attending the workshop? (n=44)

Topic	Very Well	Well	Not Well	Not at All
How to build a compost structure	1	2	2	0
Proper location of compost structure/piles	1	2	2	0
Alternative uses for the compost	1	2	2	0

Figure 1. Survey used to determine workshop effectiveness.



Figure 2. Simon Bolin Hillsborough County Agriculture Industry Economic Development Manager teaching about How to build a compost structure at The Greater Hillsborough County Fair.



Figure 3. Members of the collaborative team involved in the development and delivery of educational, hands-on, horse manure management workshops.

Results:

A total of 44 people participated in the horse manure composting workshops. Program evaluations (n = 9) demonstrated knowledge gain in the impact of manure on water quality, building a compost bin, proper location of compost bins, and how to use the compost in their operation. Sixty-nine percent of participants indicated they would share the information and knowledge gained with others. Fifty-four percent reported they would construct a composting area on their property, and forty-six percent indicated they will change at least one practice based on the information presented.

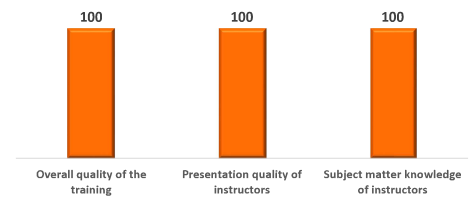


Figure 4. Participants training percent of satisfaction as a result of attending the workshops (n=9).

Knowledge/Skills Gain	Percent Attainment (%)
Impact of manure on water quality	67
Building a compost structure	54
Horse manure management	89
Proper location of compost structure/piles	89
Alternative uses for the compost	100

Table 1. Participant learning improvement as a result of attending the workshops (n=9).

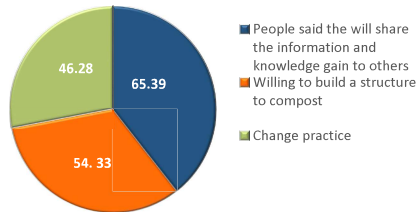


Figure 5. Participant perceptions and willingness to change practices, build a compost structure and share information (Promote Extension) in their community.

Conclusion:

- Composting workshops have been effective in improving Hillsborough County horse owners' awareness of on-farm nutrient management practices that promote water resource protection, and increasing participant knowledge regarding proper location, design, and management of manure compost.
- Composted horse manure creates a product that can be used to improve the soil structure in gardens and pastures and could provide a source of additional income for horse owners.



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