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Backyard Composting

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The Florida-Friendly Landscaping™ Program was created to help preserve, protect and conserve the state's natural resources. The program teaches nine landscaping principles that educate Floridians on how to design, install, and maintain an attractive, healthy and environmentally-friendly landscape while saving time, energy, and money. These principles include: right plant–right place, water efficiently, fertilize appropriately, maximize mulch, attract wildlife, control yard pests responsibly, recycle, reduce stormwater runoff and protect the waterfront. The focus of this paper is to show how the current economy and renewed interest in home gardening has increased opportunities to teach Backyard Composting basics to Hillsborough County residents.

Materials and Methods

During 2011, the Hillsborough County Extension Service presented 38 "Compost Happens" workshops in which residents were taught compost terminology, how to reduce lawn and landscape clippings, the pros and cons of various types of composting units, items that can be composted, passive and aggressive composting methods, how to monitor the temperature, moisture, and odor, screening compost, and how to use it.

Compost terminology included: composting—the controlled decomposition of organic materials; compost—partially decomposed organic matter; humus—completely decomposed organic matter; and mulch—organic or inorganic materials spread on the surface of the soil. Mulch is beneficial because it provides a renewable resource, conserves water, controls weeds naturally, releases nutrients as it decomposes and insulates soil temperature. By selecting slow growing plants, considering mature size, using purposeful turfgrass, leaving clippings on the lawn, and creating self-mulching areas under trees, residents will reduce lawn and landscape clippings.

Holding units work well for passive composting with a finished product in 14–24 months, whereas turning units are better for aggressive, hot composting methods producing humus in 6–8 weeks. Carbons (browns), which are twigs, leaves, sawdust, wood chips, newspaper, and cardboard, and nitrogen (greens), which are kitchen scraps, nitrogen fertilizers, herbivore manure, and coffee grounds, are explained as well as the ideal ratio of carbon to nitrogen, which is 30:1.

Composting with the hot, fast, aggressive method kills weed seeds, pests and plant pathogens and produces finished compost more quickly. Several elements are required for success using this method. These elements include: a minimum pile/bin size of 3 ft × 3 ft × 3 ft, the appropriate blend of carbons and nitrogen, proper moisture content, frequent turning to provide air to the microbes and particles that are less than 2–3 inches. Mixing and turning adds oxygen, helps destroy undesirable weed seeds and pathogens, decreases odor problems and breaks up clumps and layers.

Composting with the cold, slow, passive method can be accomplished by digging a trench directly in the soil, heaping compostable materials, top dressing the soil with organic materials or filling the bin halfway with carbon materials and burying the nitrogen materials.

Managing a compost system includes monitoring the temperature, moisture, and odor. If the aggressive/hot composting method is used, the pile should be turned when the temperature drops below 100 °F or if the pile is more than 150 °F. The compost pile should be as moist as a wrung-out sponge. Moisture should be added as the pile is turned. If it is too wet, it should be turned and carbon (browns) should be added. If an odor exists, it is because too much nitrogen or water is present. This can be corrected by turning the pile, adding carbon (browns) and burying all food scraps.

Curing or finishing the compost allows the materials to complete the composting process at lower temperatures. By allowing the compost to cure, you quit adding new materials and can start a new compost pile in a separate location. Screening compost separates materials that did not decompose as quickly from those that did. The larger materials can be added to the next compost pile and allowed to break down further.

Compost can be used as a soil amendment, potting mix, mulch or as compost tea. Mix or till finished compost into a landscape bed to use as a soil amendment. Potting soil can be created from finished compost using this recipe: mix 1/4 part compost, 1/4 part perlite, 1/4 part peat, and 1/4 part builder's sand. Finished compost can be used as mulch by applying it in landscape beds. To create compost tea, place finished or unfinished compost in a burlap bag or pantyhose leg. Tie off at the top, place the burlap bag or pantyhose into a bucket of water, leave overnight and in the morning compost tea will be created that can be used to water plants.

I would like to thank Dr. Sydney Park Brown, University of Florida, who created the brochure Yard Waste to Garden Treasure, 1991, and University of Florida IFAS Extension and Florida, Department of Environmental Protection, The Florida Yards & Neighborhoods Handbook, 2009, A Florida-Friendly Landscaping™ Publication, from which this paper and presentation were created. The purpose of this work is to share content and results from educating Floridians on the seventh of nine Florida-Friendly Landscaping™ principles that help preserve, protect and conserve the state's natural water resources: recycling.

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Results and Discussion

Of the 1,298 residents that attended the "Compost Happens" workshops, 58% indicated knowledge gain according to the pre- and post- survey results. In follow-up 30-d, 60-d, and 1-year post-workshop surveys, 87% started composting post-workshop; 48% had finished compost in 3–6 months, and 52% were using their finished compost as a soil amendment. Thirty-two percent were using compost as a potting mix, and most respondents estimated $240 to $600 yearly savings by using homemade compost vs. purchasing materials. Heightened knowledge of Backyard Composting procedures (proper mixture of carbon and nitrogen, bin type and size, appropriate moisture level, aeration, finished and unfinished compost uses) resulted in significant increases in Backyard Composting, recycling on-site, and cost savings from using created soil amendments vs. purchasing them.

Literature Cited

Extension Circulars

Brown, Sydney Park. 1991. Yard waste to garden treasure. University of Florida.

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