

UF/IFAS Sumter County Extension Service
Susan Kelly, County Extension Director
352-793-2728
FORCE Project Quarterly Report
April 1-June 30, 2006



Section I – Project Name & Overview

Project Name: Sumter County Extension Service Composting Unit Field Trial and Demonstration Project

Project Description:

The Sumter County Extension Service proposes to conduct a series of field trials at the Sumter County Youth Center on a pre-selected small-scale composting vessel. Compostable organic materials will be collected by local volunteer groups and will serve as the feedstock for the compost unit field test. Testing will take place to determine the effectiveness of a composting unit known as the Earth Tub composting vessel. The Earth Tub composting vessel was selected for this study by the Florida Organics Recycling Center for Excellence (FORCE). Testing and data collection will include; type and quantity of feedstock; elapsed time to compost various feedstock; weekly temperature readings and compost analysis by a private laboratory.

To create awareness of the program and to provide educational opportunities, a composting informational kiosk will be created to showcase composting techniques and the results of the Earth Tub demonstration. Children and adults will learn about composting while visiting the Sumter County Youth Center and educational publications will be available to for home, school, office or business application. A promotional publication will be created to promote composting as well as create interest in the FORCE sponsored composting unit field trial.

Organization/University Address, Telephone, FAX, Email

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d. Principal Investigator/Project Manager/Staffing

Susan Kelly Sumter County Extension Director
Wendel Martinkovic Sumter County Extension Agent-Horticulture

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- e. Project Duration: Summer 2005 – March 20, 2006
- f. Partner Organizations
 - a. In-Kind Contributions:
 - i. Sumter County Youth Center - electricity, water and site
 - ii. Master Gardener Volunteer- assistance and feedstock collection assistance
 - iii. UF Extension- project management
 - b. Matching Funds
- g. Project Deliverables:
 - Quarterly status reports of project progress
 - Final report on Earth Tub evaluations and comparisons with selected feedstocks including private laboratory analysis.
 - Copy of all educational and promotional materials developed during the duration of the project

Section II – Project Progress from April 1 through June 30, 2006

- On April 10, 2006, Master Gardner volunteers helped remove and weigh 1,346 pounds of compost from the first batch of compost produced in the Earth Tub vessel. All compost was applied to the garden beds of the children's garden at the Sumter County Youth Center.
- On April 18, 2006, Wendel Martinkovic met with Stacie Stokes and Jackie Jackson at the Earth Tub site to monitor the progress of the research.
- From April 20 through April 28, 2006, horse manure was added to the Earth Tub composting vessel; a total of 2090 pounds of horse manure was added to the Earth Tub. The horse manure is very fresh and contains a great amount of saw dust. The Earth Tub was mixed approximately every third day and temperatures were taken before each mixing.
- On April 27, 2006, children at the Youth Garden helped fill the bio-filter with wood mulch. This second batch of compost will utilize the aeration system although minor leaking still occurs due to a crack in the threaded fitting in the Tub port 00.
- A composting brochure developed by the grantee was submitted and approved by the FORCE Executive Committee (brochure is attached in a separate pdf file).
- A 4'x8' composting sign developed by grantee was submitted and approved by the FORCE Executive Committee (sign is attached in a separate pdf file).

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- Table 1 - The date and weight of ingredients added to the Earth Tub and the temperature of the compost.

Date	Weight of Horse Manure (lbs)	Temperature of Compost (F°)
04/20/06	Manure 1196	83°
04/28/06	Manure 894	106°
05/01/06		131°
05/04/06		140°
05/07/06		141°
05/10/06		144°
05/13/06		150°
05/16/06		146°
05/19/06		142°
05/22/06		140°
05/25/06		129°
05/28/06		126°
05/31/06		118°
06/03/06		122°
06/06/06		119°
06/09/06		124°
06/12/06		117°
06/15/06		111°
06/18/06		109°
06/21/06		113°
06/24/06		106°
06/27/06		93°

- Table 2 - Analysis of Horse Manure Compost in Earth Tub Composting Vessel (by Woods End Analytical Lab) taken on June 14, 2006

Variable Measured	Unit	Dry basis	As is basis	Notations
Density	lbs/cubic ft	-	40	1078 lbs/yd ³
Solids	%	100	62.8	1256 lbs/ton
Moisture	%	0	37.2	89 gals/ton
Est. water holding capacity	%	79	44	106 gals/ton
Inert & Oversize matter	%	~	0.6	12 lbs/ton
pH	-logH ⁺	~	8.02	Med-High

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Free Carbonates	Rating	~	2	Med-High
Organic matter	%	19.6	12.3	247 lbs/ton
Conductivity	mmhos-cm-1	~	3.2	Medium
Carbon:Nitrogen Ratio	w:w	18.0	18.0	Medium
Solvita Carbon Dioxide Rate		~	5.97	Medium
Solvita Ammonium Rate		~	5.00	Absent
Maturity Index		~	5.97	Post Active
Total Nitrogen	%	0.590	0.371	7.4 lbs/ton

- On June 28, 2006, Master Gardener volunteers helped remove and weigh 1462 pounds of compost from the Earth Tub vessel. This compost was applied to the garden beds of the children's garden at the Sumter County Youth Center.