Rushern L. Baker, III
County Executive

PRINCE GEORGE'S COUNTY
Department of Environmental Resources
Adam Ortiz
Director

Prince George's County

Yard Waste Composting Facility
6601 S.E. Crain Highway
Upper Marlboro, Maryland

Overview

- For more than 23 years Prince George's County has owned and managed the Western Branch Composting Facility
- Operated under contract by Maryland Environmental Services (MES)
- Yard waste including grass clippings, leaves, brush, small branches and Christmas trees

PRINCE GEORGES COUNTY
Department of Environmental Resources

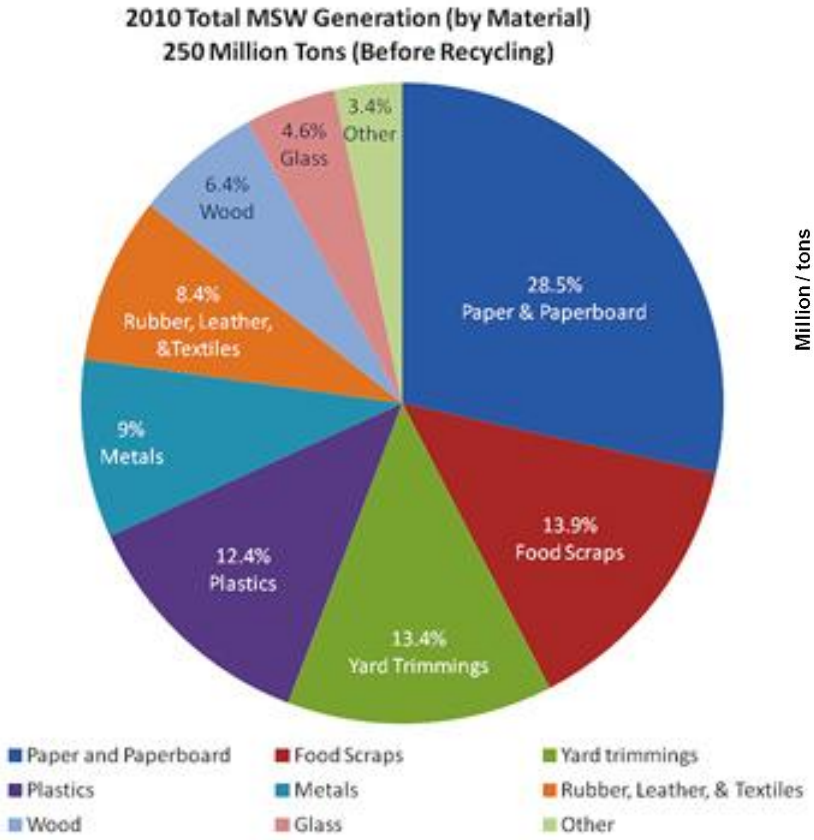
- Private and County contractors deliver yard waste to the facility
- Approximately 165,000 households receive yard waste curbside collection by County contracted haulers
- Nearly 60,000 tons of yard waste is processed annually

Yard Waste Composting Process– Open Windrows

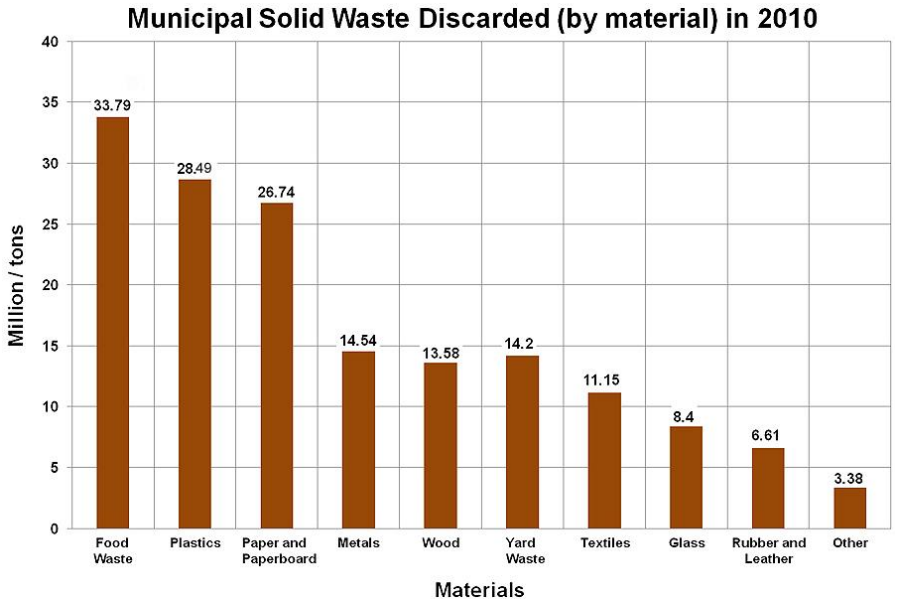
- Incoming yard waste is processed through a horizontal grinder and placed into windrows
- Windrows are turned using a Scarab and watered as needed
- Compost is spread out on the pad for drying until ready to be screened
- Final compost is marketed as Leafgro®
- The process takes roughly 6 to 9 months

Food Scrap Composting Demonstration Project

Food Scraps – Major Source of Waste Stream



Source: EPA



Source: EPA

We know that approx. 25% of waste going in the County's landfill is food scraps.

Please Clap!

Support for Food Scrap Composting Increases

- Recycling Section reviewing and studying various food scrap composting technologies and types systems to reduce yard waste composting time-frame and space / foot print
- County Council passes aggressive Recycling Bill – CB-87-2012
  - The Director shall implement a pilot food composting program in the County by July 1, 2014 and shall evaluate the food composting program for expansion on a County-wide basis by December 31, 2015
- Director of Department of Environmental Resources, Mr. Adam Ortiz
  - Gives Recycling Section GREEN LIGHT to move forward with the food scrap composting demonstration project
- Sustainable Generations LLC, the U.S. authorized Gore® Cover technology service provider selected for the demonstration project
- Project commences one year ahead of schedule
- Maryland Environmental Service – the County's yard waste composting facility operator contracted to also operate food scrap composting demonstration project

Demonstration Project Overview:

- Duration – 12 months
- Pre-and post consumer food scraps bulked with yard waste to create different compost recipes
- Intended to provide process installation simulation to best illustrate the manufacture of compost using mobile equipment that replicates the process and manufacture that happens in a full scale compost installation using the GORE® Cover system and supporting infrastructure
- 3 Heap System
- Will test and provide results for the following:
  - Feedstock materials
  - Input material mix ratio
  - Finished product quality
  - Confirmation of the assumptions for system sizing, construction and design
  - Cycle time – 8 week process

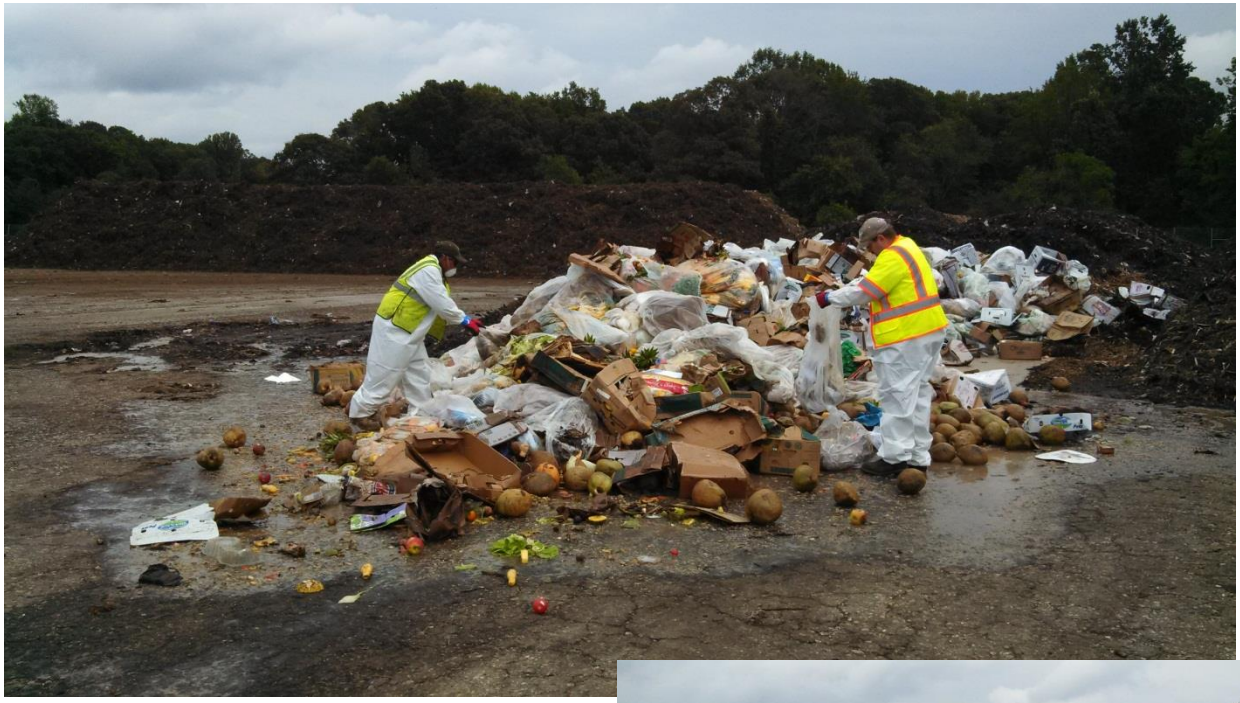
Demonstration Project Overview continued:

- 1 Compost Cycle – 8 week process – represents a Batch
- Each Batch will consist of 3 Heaps (750 tons total)
- One Heap consists of 250 tons of material
- Annual project will allow for 6 batches for a total of 4,500 tons of material
- 1 Cycle = 8 week process (4 + 2 + 2)
  - Phase 1 = four weeks under cover (uncover & turn material w/loader)
  - Phase 2 = two weeks under cover (uncover & turn material w/loader)
  - Phase 3 = two weeks not covered
- Will test various feedstock mixes


omposting


Cabbage

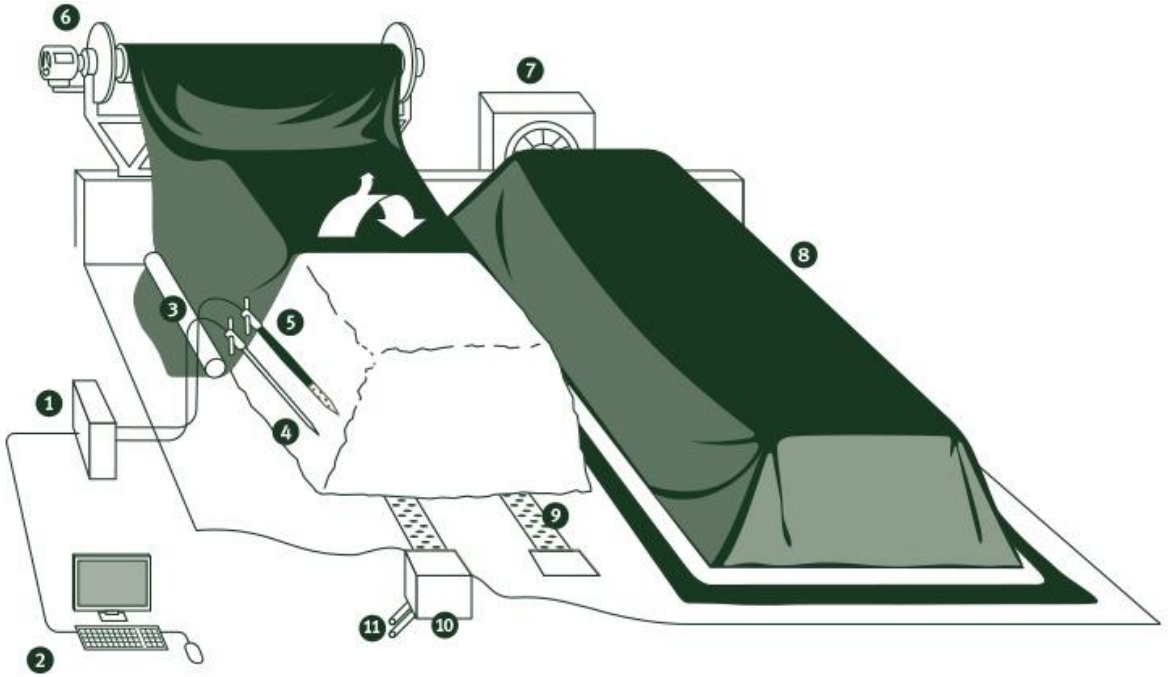

WHOLE FOODS
WHOLE FOODS



- Contaminates are hand-picked out and remaining minor contaminates are grinded via the horizontal grinder and removed during the screening process.

Gore® Cover System

1 Control system
2 PC
3 Rim weight
4 Temperature sensor
5 Oxygen sensor
6 Cover handling device
7 Aeration fan
8 GORE® Cover
9 Aeration and leachate system
10 Water trap
11 Leachate pipe



Placing the Gore® Cover over the windrow

GORE® Cover and Perimeter Weighting System

Blower/Aeration and Control Box

Oxygen and Temperature Probe

Covered Heaps

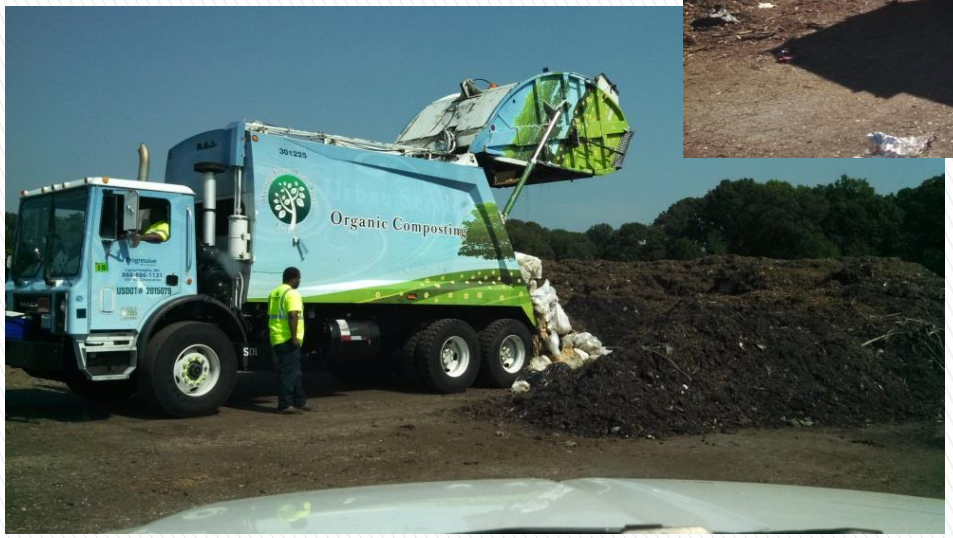
The heaps are monitored for temperature and moisture daily using a computerized system.

The curing process takes approximately 8 weeks from start to finish.

Each Batch is evaluated at the completion of the 8 week cycle.

Food Scrap Demonstration Pilot Project Customers

- University of Maryland
- University Park
- Apple Valley
- Progressive Waste Solutions



Partnerships:
MES
Sustainable Solutions
GORE
University of Maryland
University Park
EPA – *potentially*

Permitting:
Maryland Department of the Environment (MDE)

- This system of composting has obvious benefits
  - It allows the County to accept food scraps for composting
  - Allows Agency to conduct Zero Waste Events
  - It uses less space than open windrowing
  - It takes less time to produce finished compost product
  - It eliminates the odors generally associated with food waste
  - It creates landfill longevity by diverting materials to composting rather than landfill disposal
  - Cost effective for customers – tip fee is much less than landfill tip fee

Prince George's County
Department of Environmental Resources

Advice to others:

- Ensure food preparation businesses…people in the kitchens, cafeterias, etc…are educated on preparation/separation of food scraps
  - Initially, some loads contained more trash (non-compostable materials) than food – these loads were rejected
  - Rejected

- Encourage purchasing departments to buy certified biodegradable bags and convince them that the savings on tipping fees for food scraps at a composting facility versus tipping fees at a landfill will save them money even though they are purchasing more expensive bags ---or better yet, collect and contain the food scraps in a receptacle LOOSE using no bags at all ----mixing in paper products to help absorb potential liquid is okay!
- Continue to educate the public on purchasing only the amounts of food they actually need and or creating meals from their leftovers
- Continue to promote food donation to food pantries, churches, etc…

MES – Representative Steven Birchfield
Food Scrap Composting Project Manager

Steps of the Process:

- Remove contaminates
- Grind Material per recipe
- Build Heaps
- Cover Heaps
- Monitor Oxygen and Temperature Data
- Flip Piles at 4 weeks and again at 6 weeks
- 8 weeks move to curing pile
- Screen material
- Apply material to Test Plot (pending approval from MDE)

Proposed Batch Schedule

	Start Date	End Date	Heap 1	Heap 2	Heap 3	Food Waste	Green Waste
Batch 1	May 15	July 10	Green Waste	Green Waste	Green Waste	0 tons	750 tons
Batch 2	Jul 15	Sept 11	Green Waste	Food Waste 10%	Food Waste 10%	50 tons	700 tons
Batch 3	Sept 17	Nov 13	Green Waste	Food Waste 25%	Food Waste 25%	125 tons	625 tons
Batch 4	Nov 19	Jan 15	Green Waste	Food Waste 50%	Food Waste 50%	250 tons	500 tons
Batch 5	Jan 20	Mar 13	Optional	Optional	Optional	Optional	Optional
Batch 6	Mar 17	Apr 21	Optional	Optional	Optional	Optional	Optional

KOMPMASTER protocol

Company :

* Text *
* Text *

Stack- name : Batch2_Stack2_Food
File- name : C:\Users\SG-DEMO-UNIT\Desktop\Data\Batch2_Stack1_Food_7-15-2013.CSV

Food / Leaf & Mulch_10% food

First data download at: 7/15/2013

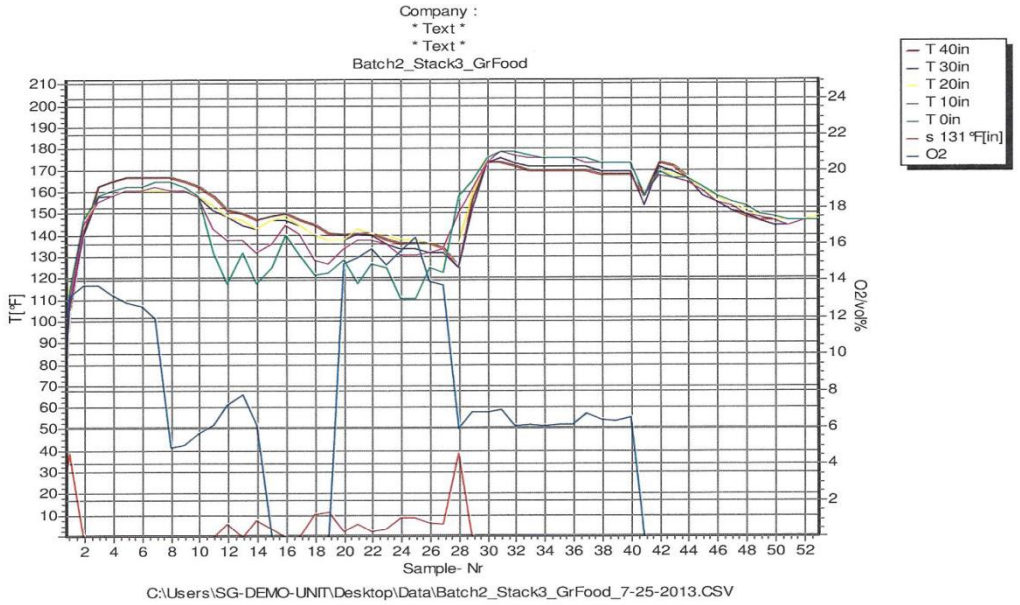
Nr.:	Date/time	Temperature T1[°F]	T2[°F]	T3[°F]	T4[°F]	T5[°F]	O2[vol%	Blower On-time/min	Cycles	Depth s 131°F[in]
1	7/15/2013 23:59	114	114	113	113	111	15.5	109	38	39
2	7/16/2013 23:59	125	125	122	122	122	13.3	145	34	39
3	7/17/2013 23:59	147	147	145	145	141	9.5	438	145	0
4	7/18/2013 23:59	163	163	163	163	163	9.3	483	155	0
5	7/19/2013 23:59	161	163	165	167	165	8.7	574	99	0
6	7/20/2013 23:59	163	163	165	167	165	9.2	469	98	0
7	7/21/2013 23:59	165	165	167	168	167	9.2	541	76	0
8	7/22/2013 23:59	163	165	165	167	165	9.4	491	76	0
9	7/23/2013 23:59	167	167	167	167	163	9.5	427	53	0
10	7/24/2013 23:59	165	167	167	167	165	10.0	429	47	0
11	7/25/2013 23:59	165	165	167	167	163	8.9	341	45	0
12	7/26/2013 23:59	165	165	165	165	163	9.4	369	37	0
13	7/27/2013 23:59	165	165	165	165	163	10.4	311	45	0
14	7/28/2013 23:59	165	165	165	165	163	9.2	308	40	0
15	7/29/2013 23:59	165	165	165	165	159	9.1	294	46	0
16	7/30/2013 23:59	165	165	165	165	159	9.0	274	57	0
17	7/31/2013 23:59	163	163	165	165	159	9.5	274	60	0
18	8/1/2013 23:59	163	163	163	165	161	9.1	282	52	0
19	8/2/2013 23:59	163	163	163	165	159	9.1	249	65	0
20	8/3/2013 23:59	163	163	165	165	161	9.8	239	62	0
21	8/4/2013 23:59	163	163	163	165	161	10.9	246	58	0
22	8/5/2013 23:59	161	161	163	165	161	11.7	256	54	0
23	8/6/2013 23:59	159	159	161	163	159	9.8	239	86	0
24	8/7/2013 23:59	161	161	161	163	161	9.7	206	103	0
25	8/8/2013 23:59	163	163	163	163	161	9.5	206	103	0
26	8/9/2013 23:59	165	163	165	167	163	9.2	219	81	0
27	8/10/2013 23:59	163	163	165	167	165	9.1	211	64	0
28	8/11/2013 23:59	163	163	165	167	165	9.3	200	61	0
29	8/12/2013 23:59	163	163	165	167	165	9.2	171	62	0
30	8/13/2013 08:02	159	159	165	167	163	12.9	83	20	0

KOMPMASTER protocol

Company :
* Text *
* Text *

Stack- name : Batch2_Stack3_GrFood
File- name : C:\Users\SG-DEMO-UNIT\Desktop\Data\Batch2_Stack3_GrFood_7-25-2013.CSV
Greenwaste/ Foodwaste 1:1 + 8 tons Food waste
First data download at: 7/25/2013

Nr.:	Date/time	Temperature T1[°F]	T2[°F]	T3[°F]	T4[°F]	T5[°F]	O2[vol%	Blower On-time/min	Cycles	Depth s 131°F[in]



KOMPMASTER protocol

Company :

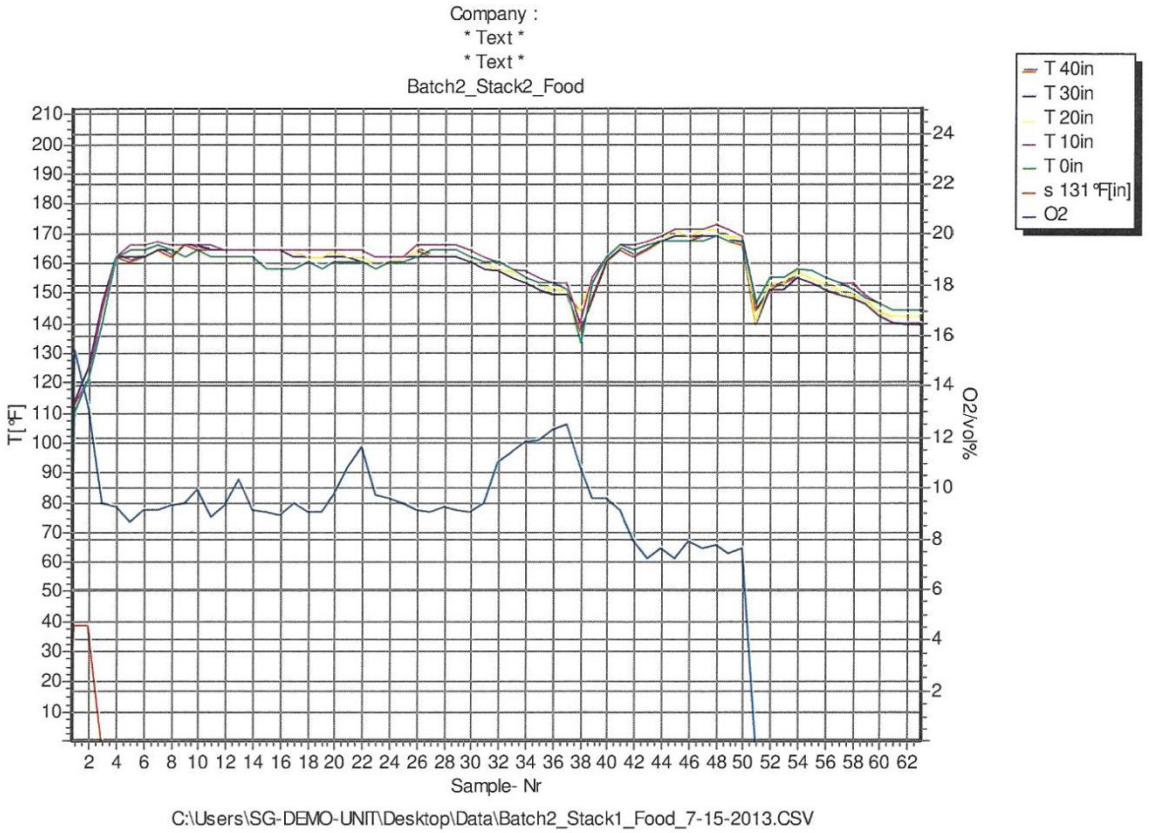
* Text *
* Text *

Stack- name : Batch2_Stack2_Food
File- name : C:\Users\SG-DEMO-UNIT\Desktop\Data\Batch2_Stack1_Food_7-15-2013.CSV

Food / Leaf & Mulch_10% food

First data download at: 7/15/2013

Nr.:	Date/time	Temperature T1[°F]	T2[°F]	T3[°F]	T4[°F]	T5[°F]	O2[vol%	Blower On-time/min	Cycles	Depth s 131 °F[in]



Ribbon Cutting Ceremony
October 23, 2013 – 10 a.m.

Prince George's County Yard Waste Composting Facility
6601 S.E. Crain Highway
Upper Marlboro, Maryland
(Turn on Maude Savoy Brown Road – Follow signs to Visitors Center)

You are invited!
Hope to see you!

What's Next?

Potential Future

Prince George's County **Organic** Composting Facility

Organic Collection Carts

Residential Curbside Collection Program for Food Scraps mixed with Yard Waste

PRINCE GEORGE'S COUNTY
Department of Environmental Resources
Adam Ortiz
Director

Contact Information:
Marilyn Rybak (301) 883-3635
Denice Curry (301) 883-6110
Steven Birchfield (301) 627-6487