Incorporating Food Scraps into Prince George’s County’s Yard Waste Compost Facility

6601 S.E. Crain Highway
Upper Marlboro, Maryland 20772
For more than 23 years Prince George’s County has owned and managed the Western Branch Composting Facility.

The facility is operated by the Maryland Environmental Service (MES), through an intergovernmental agreement with Prince George’s County.

MES turns yard waste, including grass clippings, leaves, brush, small branches and Christmas trees into a trademarked product called Leafgro®.
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

2,000 tons of food scraps have now been received and processed as of May 2013
Incoming yard waste is processed through a horizontal grinder and placed into windrows.

Windrows are turned using a Scarab windrow turner and watered as needed.

Compost is spread out on the pad for drying until ready to be screened.

Final screened compost is marketed as Leafgro®.

The process takes roughly 6 to 9 months depending on weather conditions.
Food Scrap Composting Demonstration Project
This system of composting has obvious benefits:
- It allows the County to accept food scraps for composting.
- Prevents outside weather conditions to be factored out.
- Uses less space than open windrowing.
- Takes less time to produce finished compost product.
- The covers eliminate 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.
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
<table>
<thead>
<tr>
<th>Batch</th>
<th>Start Date</th>
<th>End Date</th>
<th>Heap 1</th>
<th>Heap 2</th>
<th>Heap 3</th>
<th>Food Waste</th>
<th>Green Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>May 15</td>
<td>July 10</td>
<td>Green Waste</td>
<td>Green Waste</td>
<td>Green Waste</td>
<td>0 tons</td>
<td>750 tons</td>
</tr>
<tr>
<td>2</td>
<td>Jul 15</td>
<td>Sept 11</td>
<td>Green Waste</td>
<td>Food Waste 10%</td>
<td>Food Waste 10%</td>
<td>50 tons</td>
<td>700 tons</td>
</tr>
<tr>
<td>3</td>
<td>Sept 17</td>
<td>Nov 13</td>
<td>Green Waste</td>
<td>Food Waste 25%</td>
<td>Food Waste 25%</td>
<td>125 tons</td>
<td>625 tons</td>
</tr>
<tr>
<td>4</td>
<td>Nov 19</td>
<td>Jan 15</td>
<td>Green Waste</td>
<td>Food Waste 50%</td>
<td>Food Waste 50%</td>
<td>250 tons</td>
<td>500 tons</td>
</tr>
<tr>
<td>5</td>
<td>Jan 20</td>
<td>Mar 13</td>
<td>25%/25%/50%</td>
<td>25/25/50%</td>
<td>25/25/50%</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>6</td>
<td>Mar 17</td>
<td>Apr 21</td>
<td>Leafgro GOLD Blend</td>
<td>Leafgro GOLD Blend</td>
<td>Leafgro GOLD Blend</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
Food Scrap Demonstration Pilot Project Customers

- University of Maryland
- University Park
- Apple Valley
- Progressive Waste Solutions
- Compost Crew
- City of Takoma Park

Partnerships:
Maryland Environmental Service (MES)
Sustainable Solutions
GORE™
University of Maryland
University Park
EPA - potentially

Permitting:
Maryland Department of the Environment (MDE)
Getting the Good stuff!!!

- Quality Compost starts with quality ingredients.
- Less contaminates per load was encouraged and is now enforced.
- Plastic?? Yes, only to compostable bagging products.
Contaminates are removed by hand and any remaining minor contaminates are ground via the horizontal grinder and removed during the screening process.
Build it and it will Compost!
Placing the Gore® Cover over a heap
GORE® Cover and Perimeter Weighting System
Covered Heaps

The heaps are monitored for temperature and moisture daily using a computerized system.
Blower/Aeration and Control Box
Example of Phase #1 (4 weeks)

34 day > 131° F → PFRP & VAR are met!
Example of Complete Process
Uncontrollable Factors

- Weather...

No problem!
Uncontrollable Factors

- Weather...

No problem!
Controlling Moisture Over Time

100% GW - Moisture Reduction in the GORE Cover Process compared to open windrow

Moisture holding capacity [%]

0 10 20 30 40 50 60

Initial after Phase 1 after Phase 2 after Phase 3 after 12 weeks-screened MES - after 12 weeks MES - after 24 weeks

Process Time

Reine1

MES

Prince George’s County
DEPARTMENT OF THE ENVIRONMENT
And then there are “those days”...
Accidents...or lessons?
Green is the New Brown is the New Green!
What’s Next?
Potential Future

Prince George’s County Organic Composting Facility
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