Why these new regulations exist and how they were developed

Brenda Platt
Director, Composting Makes $en$e Project
Institute for Local Self-Reliance
December 3rd, 2015

On-Farm Composting in Montgomery County: Opportunities, Resources, and Challenges
Environmental Impact Working Group Public Meeting
Montgomery County Food Council
Overview

- Why compost?
- Challenges
- MD HB 817 led to statewide compost work group
- Many systems and sizes!
- Importance of diverse composting infrastructure
- What we can do
Compost = Organic Matter = Soil Health
Erosion Exceeding the Soil Loss Tolerance Rate on Cropland, 2007

Legend
- Federal land

Each red dot represents 100,000 tons of erosion above the soil loss tolerance rate on highly erodable cropland (a total of 595.1 million tons per year on 53.6 million acres).

Each green dot represents 100,000 tons of erosion above the soil loss tolerance rate on non-highly erodable cropland (a total of 199.3 million tons per year on 45.6 million acres).

Map ID: 10981
Data Source: 2007 National Resources Inventory
U.S. Department of Agriculture, Natural Resources Conservation Service

Map Source:
U.S. Department of Agriculture, Natural Resources Conservation Service
Resource Assessment Division, Washington, DC December 2009

Dots are distributed randomly within each area – defined in this map as the combination of state boundaries and 10-by-10 mile cells. Note that dots do not represent actual feature locations or points.
Compost = Climate Protection Strategy

- Prevents landfill methane emissions
- Stores carbon
- Improves soils ability to store carbon
- Substitutes for energy-intensive fertilizers, pesticides, fungicides
- Improves plant growth, and thus carbon sequestration
- Reduces energy use for irrigation

Credit: Marin Carbon Project
# Composting = Jobs

## Potential New Jobs by Composting 1 Million Tons of Organics

<table>
<thead>
<tr>
<th>Option</th>
<th>FTE Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burning</td>
<td>120</td>
</tr>
<tr>
<td>Landfilling</td>
<td>220</td>
</tr>
<tr>
<td>Composting</td>
<td>740</td>
</tr>
<tr>
<td>Compost Use</td>
<td>620</td>
</tr>
<tr>
<td><strong>Total Composting</strong></td>
<td><strong>1,360</strong></td>
</tr>
</tbody>
</table>

FTE = full-time equivalent


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MCS Inc. worker installing growing media made from compost on green roof. [www.mcsnjinc.com](http://www.mcsnjinc.com)
The Compost-Powered Water Heater
Gaelan Brown

Composting to Recover Heat, Build Soil and Grow Food

agrilab TECHNOLOGIES

INSTITUTE FOR Local Self-Reliance
Challenges to Expanding Composting

- Lack of policies prioritizing composting and a diversified infrastructure
- Perception that starting composting is too costly
- Lack of collection infrastructure
- Lack of composting capacity
- Siting difficulties
- Lack of regs/permitting to facilitate responsible compost operations
- Poorly operated compost facilities that ultimately give a bad name to composting
- Contaminants (e.g., persistent herbicides)
- Zoning regulations
- Competition with cheap disposal
- “Free” unlimited set-out of residential trash
- Landfill and incinerator industry vested interests
- Lack of training programs for onsite composting
- Lack of leadership and political will

Palm Beach Post, 5-19-15

Latest trash burner in Florida needs yard trimmings to burn ($672 million project!)
AN ACT concerning

Environment – Composting

FOR the purpose of requiring the Department of the Environment to maintain certain information on its Web site related to composting for certain purposes; requiring the Department, in consultation with the Department of Agriculture and the Maryland Environmental Service, to study certain matters related to composting and to make certain recommendations related to the promotion of composting, including certain information; requiring the Department, on or before a certain date, to report its findings and recommendations under the study to the General Assembly including a certain summary; and generally relating to composting.
MD Statewide compost study group: recommendations (select)

- Update and streamline regulations/permitting
- Adopt performance-based permitting regs
- Promote on-farm composting
- Build and maintain comprehensive web site
- Share best practices
- Characterize how much organics generated
- Build markets for compost
- Promote compost and compost-related products as best management practices for controlling stormwater run-off and erosion
- Target large generators by providing resources and technical assistance
- Share sample zoning ordinance language
Trend to rely on large-scale far-away compost sites
Failure of the Wilmington Compost Facility Underscores Need for a Locally Based and Diverse Composting Infrastructure

Neil Sedman | 0 Comments | Dec 10, 2014

The rapid increase in community-scale composting in the Mid-Atlantic region has created a need for a distributed and diverse composting infrastructure. In recent years, several community-based composting facilities have been established in the region. One of these facilities is the Wilmington Compost Facility. The facility was designed to provide a centralized collection point for organics, including food waste, yard waste, and compostable materials. It has been in operation since 2009 and has played a significant role in promoting composting in the community.

However, the facility has faced several challenges in recent years. In 2014, the facility was forced to cease operations due to financial difficulties. The closure of the facility has raised concerns about the future of composting in the region. The failure of the Wilmington Compost Facility underscores the need for a more diverse and locally based composting infrastructure.

In addition to the Wilmington Compost Facility, other composting facilities in the region have also faced challenges. The Peninsula Compost Facility, located in New Castle, Delaware, was forced to close in October 2014 due to financial problems. The company that operated the facility was unable to meet the financial obligations of the project, and the facility was forced to close.

The closure of these facilities highlights the importance of developing a more diverse and locally based composting infrastructure. A diverse composting infrastructure would provide greater resilience to financial and operational challenges, and would ensure that the benefits of composting are realized by local communities.

In conclusion, the failure of the Wilmington Compost Facility and the Peninsula Compost Facility underscores the need for a more diverse and locally based composting infrastructure. The development of such an infrastructure would ensure that the benefits of composting are realized by local communities, and would provide greater resilience to financial and operational challenges.
ILSR’s Hierarchy

Hierarchy For Reducing & Recycling Food Scraps And Other Organic Discards

- Source Reduction
- Edible Food Rescue
- Residential Backyard Composting
- Small-scale, Decentralized Composting
- Centralized Composting or Anaerobic Digestion
- Mechanical Biological Mixed Waste Treatment
- Landfill & Incinerator

Source: Institute for Local Self-Reliance, 2014
Composting, lots of ways
Windrows turned with straddle turner

Montgomery County yard waste composting site at Dickerson.
Photos: Institute for Local Self-Reliance
Static pile composting bins

Photo: USDA Natural Resources Conservation Service
Aerated Compost Bins

Small-scale Aerated Compost Bins in Fairfax, VA (Photo: O2 Compost)
Modified Silage Bag Aerated Static Pile

Ag-Bag EcoPOD®

Oakland Zoo
University of Maine (Orono). Finished compost is used on campus as a soil amendment, for landscaping, farming, and for horticultural classes. Goal is to produce 10 lbs of salad mix per day for one of the cafeterias.
Close the Loop!
North East Kingdom, VT

Rural Regions
Micro Programs
Residential Drop Offs
On-Site Composting

Food Scrap Dense Regions
Dedicated Collection Routes
On-Farm Composters
Residential Drop Offs
Residential Food Scrap Drop-Off
Farms in our Area
Support Distributed Composting

• Resources recovered
• Locally based and closed loop
• Organic materials returned to soils
• Community-scaled and diverse
• Community engaged, empowered, and educated
• Community supported

Joint project of ILSR’s Composting for Community Project and Highfield’s Close the Loop program

Supported by a grant by the Utilities Programs, USDA
“...decentralized composting processes can reduce the carbon footprint of collection and transportation while consuming organics in more localized situations that do not require large organized collection programs.”

“The Department recognizes that, in addition to helping the City achieve its Zero Waste goals, composting also addresses the community’s interest in enriching the region’s soil, strengthening sustainable food production and completing the food cycle.”

East Austin Compost Pedallers
~30 Decentralized Compost Sites
Included in this map are all community compost sites affiliated with the NYC Compost Project.

Community Compost Sites Affiliated with the NYC Compost Project

<table>
<thead>
<tr>
<th>Borough</th>
<th>Total per Borough</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brooklyn</td>
<td>68</td>
</tr>
<tr>
<td>Bronx</td>
<td>37</td>
</tr>
<tr>
<td>Manhattan</td>
<td>48</td>
</tr>
<tr>
<td>Queens</td>
<td>52</td>
</tr>
<tr>
<td>Staten Island</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>225</strong></td>
</tr>
</tbody>
</table>

The NYC Compost Project works to rebuild NYC’s soils by providing free resources, workshops, and opportunities to produce and use compost locally.

This project is funded and managed by the NYC Department of Sanitation’s Bureau of Waste Prevention, Reuse and Recycling. Learn more at nyc.gov/compostproject.
Battery Park Community Farm (NYC)
Prospect Heights Community Farm (Brooklyn)
ECO City Farms (MD)
Wangari Garden (DC) 3-bin system

DC Dept. of Rec and Parks
Farmers Need Particular Support
Austria: The Country of Decentralized Composting

The decentralised integrated approach in Austria

8.35 mio inhabitants

<table>
<thead>
<tr>
<th></th>
<th>Composting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>454</td>
</tr>
<tr>
<td>Total capac.</td>
<td>976,000</td>
</tr>
<tr>
<td>Average capac.</td>
<td>2,800 t</td>
</tr>
</tbody>
</table>

16,000 Inh per composting plant

Agricultural or municipal composting plant
What does a farmer-centric composting infrastructure look like?

**Farmer’s Services & Cooperation Models**

- Collection campaigns from Gardens
- G&P waste from BRING-SITES
- Food waste (Brown-Bin/ BIO Bucket)
- *Municipality* *County*
  - 1 Compost farm per municipality
  - 2 to 3 farmers run 1 composting plant
  - Several farmers distributed over the county
  - Several farmers mature pre-composted material from an urbanised area
  - Several farmers compost pre-mixed material from an urbanised area
What can you do? Some ideas

- Policy (at all levels!)
- No more new incinerators / zero waste to refuse disposal facilities
- Access to land & financing
- Technical assistance and tools for locally based systems
- Model locally based systems
- Master Composter Training Programs
- Farmer Assistance
- R&D
- Spur equipment for small-scale systems
- Fight persistent herbicides
- Make connections to sustainable ag, climate protection, watershed issues, job creation, soil health, food policy, food security
## MD Zero Waste Plan!

### Objective 3 – Increase Diversion of Organics

<table>
<thead>
<tr>
<th>Objective</th>
<th>Description</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Finalize and implement new composting regulations</td>
<td>Underway</td>
</tr>
<tr>
<td>3.2</td>
<td>Publish composting facility guidance</td>
<td>2015 – 2020</td>
</tr>
<tr>
<td>3.3</td>
<td>Encourage food donation</td>
<td>2015 – 2020</td>
</tr>
<tr>
<td>3.4</td>
<td>Launch an education and outreach campaign targeted to organics</td>
<td>2015 – 2020</td>
</tr>
<tr>
<td>3.5</td>
<td>Promote compost use in a wide variety of applications</td>
<td>2015 - 2020</td>
</tr>
<tr>
<td>3.6</td>
<td>Phase in a disposal ban on commercial and institutional organics</td>
<td>2015 – 2020</td>
</tr>
<tr>
<td>3.7</td>
<td>Encourage anaerobic digestion</td>
<td>2015 – 2020</td>
</tr>
<tr>
<td>3.8</td>
<td>Decrease plastic bag usage for organics collection</td>
<td>2015 – 2020</td>
</tr>
<tr>
<td>3.9</td>
<td>Decrease disposal of sewage sludge</td>
<td>2015 – 2020</td>
</tr>
<tr>
<td>3.10</td>
<td>Institute universal organics diversion</td>
<td>2026 – 2030</td>
</tr>
</tbody>
</table>

### Table ES-1: Maryland’s Zero Waste Goals

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Waste Diversion Goal</td>
<td>54%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>85%</td>
</tr>
<tr>
<td>Overall Recycling Goal</td>
<td>50%</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
<td>80%</td>
</tr>
<tr>
<td>Recycling Goal, Food Scraps</td>
<td>15%</td>
<td>35%</td>
<td>60%</td>
<td>70%</td>
<td>90%</td>
</tr>
<tr>
<td>Recycling Goal, Yard Trimmings</td>
<td>73%</td>
<td>76%</td>
<td>80%</td>
<td>83%</td>
<td>90%</td>
</tr>
<tr>
<td>Water Reuse</td>
<td>2%</td>
<td>7%</td>
<td>15%</td>
<td>25%</td>
<td>40%</td>
</tr>
</tbody>
</table>
Contact

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bplatt@ilsr.org