Food Waste
Composting
Why Compost Food Waste

• Food Waste comprises 14% of the Waste Stream (EPA) figure
• Significant increases in recycling rates are dependent upon reducing food waste in the waste stream.
• Properly performed composting produces a marketable beneficial product returning nutrients to the soil.
GreenCycle Demonstration Project

• DEP approval for a Demonstration Project
  – Issued October 2008
  – Construction & local approvals completed
    November 2009
  – Ground and surface water monitoring
  – Recently extended to November 2012
  – Up to 4,000 Cubic yards annually
GreenCycle Ellington
14 Acres Yard Waste Processing
2500 ft to nearest neighbor
Transfer station next door
Site Preparation

• Up and Down Gradient Berms
• Compost Pad Grading
• Receiving Building
• Monitoring Wells
Up gradient Berms
Filter Soxx& Blanket
Soxx and Blanket Installed
So this wasn’t such a great idea
Installed a Berm
Compost Pad
Receiving Building

Five Year Warranty
Except for Wind
Monitoring Wells
Equipment – Previously in Place

- Payloaders
- Windrow Turner
• Material Separator
Acceptable Material

- Food processing waste
- Table scraps
- Dairy products
- Meat
- Soiled or waxed cardboard
- Paper
Unacceptable Material

- Plastic bags
- Plastic ties
- Plastic cutlery
- Plastic film
- "Biodegradable" plastic?
- Other inorganic materials
Receiving

Inclusion of waxed cardboard is important to some generators.
Material from Whole Foods

Material quality is key. Contamination can effect finished product quality, processing costs and overall project economics.
Mixing to Adjust

- Carbon : Nitrogen Ratio
- Moisture Content
- Porosity

- Goals
  - No Odor
  - Minimize Nutrient Run-off

- Adequate supply of bulking agents is essential
What we’re trying to avoid

Cedar Grove Composting fined $119K for odors
Cedar Grove Composting, the region's largest processor of yard waste and food scraps, must pay $119,000 in fines for odors from its Maple Valley and Everett composting facilities, a state hearing board has ruled.

By Keith Ervin
Seattle Times staff reporter
Cedar Grove Composting, the region's largest processor of yard waste and food scraps, must pay $119,000 in fines for odors from its Maple Valley and Everett composting facilities, a state hearing board has ruled.

The Pollution Control Hearings Board upheld 17 violation notices issued by the Puget Sound Clean Air Agency in response to complaints by neighbors who said the smells forced them indoors and in some cases nauseated them.

But, noting the company has invested $6.5 million in equipment and processes aimed at controlling the stench, the pollution board knocked $50,000 off the original $169,000 fine for those violations in 2009 and 2010.

"Although Cedar Grove expressed reservations about whether it was really the source of many of these odors, it still has moved forward in good faith to address these odor concerns," the three-member
Mixing in Ellington
Windrows
Final turn with payloader
Screening
Topdressing with finished Compost
Project Results to Date

• No odor issues
• No vector issues
• Ground and surface water
  • Data thus far indicates minimal or no impact
Small Volume Windrow Composting

Benefits

• Limited capital costs if incorporated into an existing facility.
  • Receiving building
  • Monitoring wells
  • Erosion control
  • Pad construction

• Economically viable as an add-on
• Easily scalable to a point
• Food waste accelerates the composting process
• Potential for creating higher value compost
Small Volume Windrow Composting

Drawbacks

• Probably not economically viable as stand alone project
  • Payloader
  • Windrow Turner
  • Plastic Separator
  • Screening Plant

• Limits to scalability
  – Odor potential especially when receiving and mixing
  – To increase volumes material needs to sourced from a larger area, which increases hauling costs and impacts project economics.

• Proper siting is critical. The more food waste the bigger buffer that is required

• Future availability of bulking agents

• Contaminants