Fostering Food Recycling

Southeast Recycling Market Development Roundtable and Workshop

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Why Recycle Food Wastes?

- Over 9.5 million tons of solid waste were landfilled in NC in 1999.
- Inedible food waste makes up almost 11% of all solid waste landfilled in NC.
- NC has a legislatively-mandated goal to reduce waste 40% per capita by 2001 (now at 28%).
- Food waste in landfills contributes to methane and carbon dioxide formation and provides moisture for leachate formation in landfills.
Organics Recycling Program

Program started in March, 1998 to stimulate infrastructure development in both private and public sector

Focus on changing perceptions – organics recycling is a manufacturing process producing a value-added product

De-emphasize concept of “waste management”

Elements of Program

– Technology development and transfer
– Market demand stimulation
– Pilot Projects
Organics Recycling in NC

- Nine public sector, thirteen private sector “commercial” composting facilities
- Annual compost production estimated at 150,000 tons per year
  - Most facilities produce less than 20,000 tons/year
- Estimated compost demand (excluding agriculture) = 225,000 tons/yr (1995 est.)
- Two anaerobic digesters (excluding on-farm biogas) - food waste & yard waste
- 12 edible food recycling programs – food banks and perishable food rescue programs
Institutional Food Waste Recycling

- UNC Campuses
  - Three Onsite (2 Earth Tubs, 1 Greendrum)
  - One Offsite (main campus)
- 3 Correctional Facilities (aerated bin, vermicomposting, rotary drum)
- Cafeterias (IBM, Glaxo-Wellcome)
- Nat’l. Institute of Env. Health Sciences (vermicomposting)
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<td>Jennings Town Farm</td>
<td>Lamon</td>
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Coordinator Responsibilities

- Provide technical, non-regulatory advice to businesses, industries, communities and citizens on organics recycling
  - Facility siting and permitting
  - Facility and process design
  - Facility operations and training
  - Feedstocks acquisition
  - Product marketing and sales
- Administer portion of Solid Waste Trust Fund dedicated to organics recycling program
Solid Waste Management Trust Fund

Created in 1989

Funded by Advance Disposal Fees
- New tires, white goods (appliances) and virgin newsprint
- Approx. $800K/yr available for waste reduction

Purpose of Fund – Help State meet 40% waste reduction goal by 2001
- R&D projects
- Educational activities
- Market development activities
- Technology development
Organics Recycling Grants

- Intent - provide seed money
- Grantee provides 25% cash match
- Focus on diverting landfilled organic solid wastes and/or stimulating market demand for composts
  - Biosolids considered, but second priority
  - Animal wastes becoming higher priority
- 1999 – funded 11 projects with $183,543
- 2000 – funded 8 projects with $180,237
- 2001 – funded 8 projects with $140,000
- Diversion (to date) - 32,000 TPY
1999 Organics Grants

Technology Development
- Food Waste vermicomposting at Sampson Correctional
- Rotary Drum In-Vessel composting of food wastes at Brown Creek Correctional
- Mechanical compost bins for dining hall wastes at UNC-Asheville
- Expansion of culled tomato composting facility in Macon Co. to handle grocery store residuals
- Mobile edible food distribution truck in Charlotte

Pilot Projects
- Special Olympics Food Waste Composting

Market Demand Stimulation
- Effects of biosolids compost on Christmas Tree farm
- Manure compost vs. methyl bromide in plasticulture strawberries
Prison Vermicomposting System
Prison Rotary Drum System
UNC-Asheville Earth Tub
Macon Co. Composting Site
Special Olympics Food Waste Composting Pilot Project

- Eleven tons of food waste diverted during 12-day international sporting event
- 62 volunteers staffed dining halls 12 hrs/day
2000 Organics Grants

Technology Development
- Mechanical compost bins for dining hall food wastes at UNC-Charlotte
- Anaerobic digestion of grocery/restaurant food wastes at chicken farm
- Dedicated ICI food waste collection vehicle

Pilot Projects
- Grocery store (Food Lion) food waste collection and composting

Market Demand Stimulation
- NC Compost Promotional Initiative
- Compost use in watermelon, cantaloupe & sweet potato production agriculture
Program began in Nov. 1999 (816 tons diverted so far, through 9/30/00)
Truck Unloading
2001 Organics Grants

Technology Development
- Expansion of brewery composting facility to handle food scraps
- Investigation of biodegradable textile waste wraps to improve compostability

Pilot Projects
- Residential and commercial food scraps diversion and composting at organic farms in western NC
- Diversion of correctional facility food scraps to research farm for windrow composting

Market Demand Stimulation
- NC Compost Promotional Initiative – Phase II
- Demonstration projects for compost use in erosion and sedimentation control
Challenges to Overcome

- Finding composting facilities willing and permitted to take food wastes
- Getting generators to pay separate tip fees for organics diversion
- Coordination with Environmental Health
- Training food service employees in source separation
- Providing useable signage
Overcoming Challenges

- Sponsor demonstration projects at composting facilities
- Provide Resource Management Analysis for generators
  - Can smaller collection containers be used for non-organic solid waste?
  - Can containers be pulled less often?
- Repeat training often to offset employee turnover
  - Check separation quality frequently
Paving the Way

Environmental Sustainability

– Government initiatives can help create food recycling in state and local agencies

– NC Governor Executive Order #156
  • Signed July 21, 1999
  • Calls for “recovery and recycling of leftover food from agency food service operations”

– Correctional Institutions, agency building cafeterias – good recycling opportunities
Tools Available

- Solid Waste Management Trust Fund
- Self-Help Bank
- Sustainable Jobs Fund
- Tax Credits for Recycling Operations
- Community Development Block Grants
- Industrial Development Fund
- Business Energy Loans
- Industrial Road Access Fund
- Rail Industrial Access Program
- Industrial Revenue Bonds
NC Special Tax Provision

- Applies to recycling & resource recovery land, facilities, equipment
- Exempted from real and personal property taxes
- Accelerated depreciation (5 years) deduction on Corporate State Income Taxes
- Costs can be deducted from basis when computing NC Franchise Tax on domestic and foreign corporations
- Can be disincentive to local economic development officials when siting new composting facilities
Developing An Infrastructure

- Learn how private sector companies operate
- Know the tools available from economic development officials
- Create an information library on organics recycling technologies, costs, and compost/product utilization data
- Actively promote state and national composting associations
- Visit facilities, make presentations, build working relationships
- Create/conduct pilot projects