

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

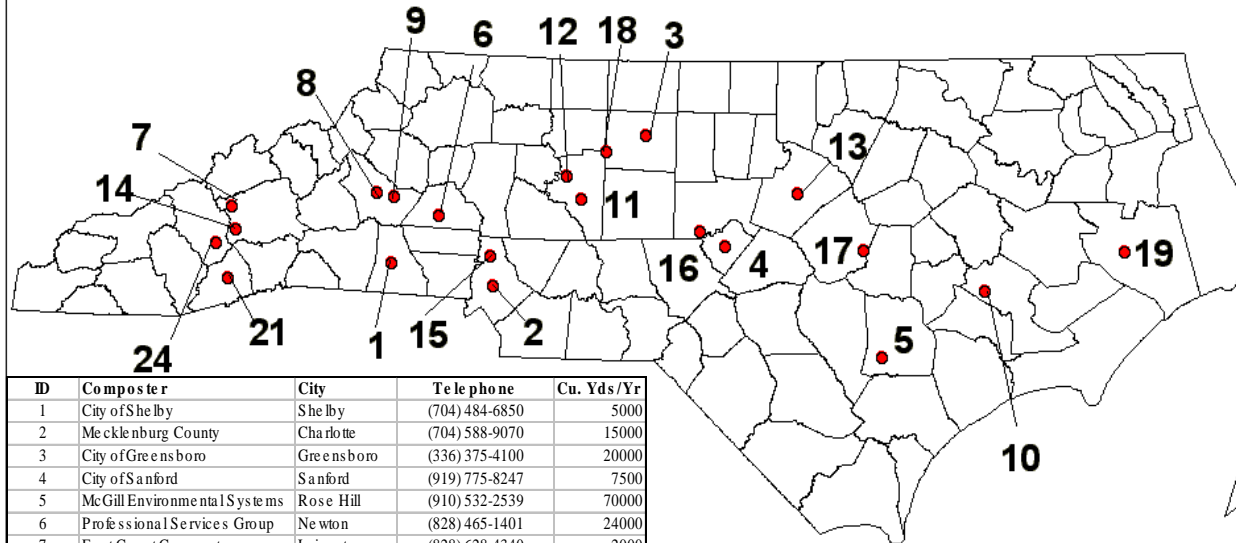
Organics Recycling in NC

- ✦ 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

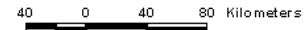
Organics Recycling in NC, cont.

- ✿ 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)

NORTH CAROLINA COMPOSTERS



ID	Composter	City	Telephone	Cu. Yds/Yr
1	City of Shelby	Shelby	(704) 484-6850	5000
2	Mecklenburg County	Charlotte	(704) 588-9070	15000
3	City of Greensboro	Greensboro	(336) 375-4100	20000
4	City of Sanford	Sanford	(919) 775-8247	7500
5	McGill Environmental Systems	Rose Hill	(910) 532-2539	70000
6	Professional Services Group	Newton	(828) 465-1401	24000
7	East Coast Compost	Leicester	(828) 628-4340	2000
8	City of Morganton	Morganton	(828) 438-5376	1200
9	Town of Valdese	Valdese	(828) 879-2131	9000
10	Coastal Partnership	Cove City	(252) 633-1564	6000
11	City of Lexington	Lexington	(336) 243-2489	2000
12	Progressive Soil Farm	Lexington	(336) 731-3418	20000
13	City of Raleigh	Raleigh	(919) 250-2728	35000
14	Mountain Organic Materials	Candler	(828) 665-9899	2400
15	Wallace Farms	Huntersville	(704) 875-2975	25000
16	Brooks Contractor	Goldston	(919) 837-5914	40000
17	Smith Farms/Rondeli Corp.	Princeton	(919) 736-4336	200
18	City of High Point	High Point	(336) 883-8514	5000
19	Mattamuskeet Seafood	Swan Quarter	(252) 926-2431	200
20	Parker's Products, Inc.	Rose Hill	(910) 289-3672	200
21	East Coast Growers	Brevard	(828) 862-4070	200
22	Jennings Trout Farm	Canton	(828) 648-3012	200



Datum: NAD 83
Projection: State Plane



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

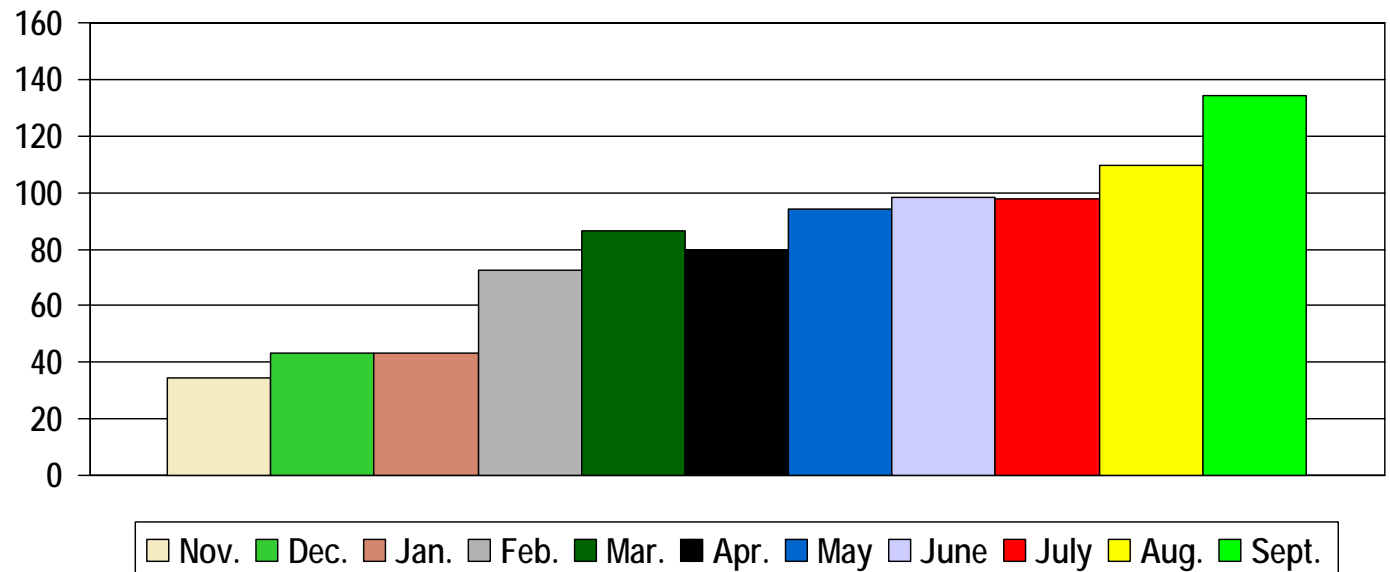
Market Demand Stimulation

- NC Compost Promotional Initiative
- Compost use in watermelon, canteloupe & sweet potato production agriculture



Quantities Diverted

✂ 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

