

Food Scrap Management

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Northeast Recycling Council

www.NERC.org

Rwaste
Rescue
Reduction
food Composting
scraps

The background is a solid orange color with several light orange butterfly silhouettes scattered across it. A central green rectangular box contains the text.

Food Scrap Collection

From What Sources?



← Households

Supermarkets →



← Institutions

Restaurants →



Commercial Collection



Commercial Containers



In-Vessel High Technology, Moderate-High Initial Cost



Commercial Food Scraps Load



Bob Spenser, WSWMD

BW Organics Rotary Drum For Food Scraps Mass Natural Fertilizer, Westminster, MA



Bob Spenser, WSWMD

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Beyond Yard Waste: Residential Food Scrap Composting

Residential Organics Collection

- Options
 - Drop-off (transfer stations, recycling centers)
 - Door-to-door service (“curbside”)
 - Modified curbside
 - Standalone options or in combination
- Arrange for processing— mulching/composting
 - Municipal, farm-based, or commercial operations
 - Prior to establishing collection system

**Starting a yard trimmings
composting program &
then adding food scraps
allows for more extensive
diversion with relatively
minimal additional costs.**

Drop-off System

- Works effectively in areas where residents already deliver their household discards to landfills or transfer stations
- Lower community participation when compared with curbside collection systems
- If properly incentivized & promoted, can achieve relatively high diversion

Drop-off System, cont.

- Staffed site is essential
 - Monitor materials & reduce contamination
 - Controlled access
 - Answer resident questions about acceptable materials
- Placement of collection containers
 - Transfer stations
 - Public works yards
 - Landfill or recycling center
 - Other location(s) in a community (e.g., retail store)

Drop-off System, cont.

- Store & transfer to off-site organics processing site
- Collect food scraps for onsite processing
- Containers
 - 30-40 cubic yard roll-off dumpsters—mixed yard waste/food scraps
 - Dumpsters or carts—food scraps

Private contractors

- Provide rental containers
- Transportation to a processing site/contract processing onsite

Municipal/Public

- Existing municipal vehicles & equipment
- Existing containers; used containers

Drop-Off Food Scrap Collection

- Can supplement residential curbside collection &/or allow multi-family residents, schools, & small business generators to participate
- Option as a food scrap collection pilot
- Issues to address if accepting food scraps:
 - Keeping bears & other critters out
 - Bins should remain locked & secure at night & when unattended
 - Completely cover scraps with a thin layer of sawdust

Action Tips

- Simple, concisely worded fliers
 - Distributed to residents at start of the collection program; periodically
- Signage at the point of collection
- Website & social media

Transfer Station Drop-off



Bear-Resistant Containers



Cart Label



Who's Doing it?

Franklin County Solid Waste District, Massachusetts

- Manages municipal organics drop-off programs at 4 transfer stations
- Food scraps & soiled paper
- Technical assistance for schools & special events



Who's Doing it?

Chittenden Solid Waste District

- Carts at its 7 drop-off centers
- No charge to drop off food scraps
- Residents provided with a free 4-gallon bucket with a lid to use in their kitchen

Who's Doing it?

Northeast Kingdom, Vermont

- 12 drop-off locations
 - 23 schools
- NEKWMD provides collection
- Transported to local farm for processing

Residential Curbside



Curbside Organics Collection

- Organic materials placed at curb separate from other household waste & recyclables
 - Collected the same day as trash, alternate weeks, or special days
 - Weekly pick-up is most effective
- High participation rate due to convenience
- Low population density in rural and small town areas makes hauling more costly & inefficient

Collection Options

- Municipal collection
- Contracted to hauler or processor
 - Know where and/or how the material is to be processed
- Modified curbside – “neighborhood” collections
 - Bins placed in designated neighborhood sites, roadway cut-outs, etc.
- Program model impacts design & costs
 - Container & collection vehicle requirements
 - Route allocation & frequency

Opportunities and Action

- Program goals
 - Materials
 - Diversion rate goal
 - Anticipated participation rates
- Conduct a needs assessment
 - Existing equipment available & equipment needed
- Municipal or contracted services?

Opportunities & Action, cont.

- Designing of collection routes
 - Meet the needs of residents
 - Address the seasonal nature of leaf & yard trimmings generation (if co-collected)
 - Conserve costs through route efficiencies
 - Pilot on route basis
 - Consider dual collection vehicles

Container Choice

- Impacts staffing & equipment requirements
- Costs
- Resident participation rates
- Roll-out plan

Curbside Collection Options



Split-Body Collection



Who's Doing it?

Mr. Fox, Portsmouth, NH

- Residential curbside collection
 - Schools & businesses
- 10 communities
- \$32/month for weekly & \$16/month for bi-weekly

Who's Doing it?

Brattleboro, Vermont

- Curbside food scrap collection
 - Weekly, same day
- Split-body truck—Triple T Trucking
- Pay as You Throw garbage
- Trash \$100/ton; food scraps - \$45/ton
- Windham Solid Waste Management District's composting facility
- Averages 10 to 12 lbs/household/week



Who's Doing it?

Bridgewater Connecticut

- Offered to all 1,100 households in the town
 - Pilot program in April 2014 - about 140 households have signed up
 - Food scraps & soiled paper; currently no cost to residents
 - Kitchen container, roll of compostable bags, curbside cart, & program brochure
- Average of 9.65 lbs./household/week, under one percent contamination
- Collected by All American Waste; composted at New Milford Farm
 - Tip fees - \$20 to \$30/ton less than disposal
- Trash & recycling is subscription based
 - All American Waste is developing operational efficiencies for the new service

Who's Doing it?

Hamilton & Wenham, Massachusetts

- Citizen-led initiative
- Hiltz Disposal collects organics & recyclables with a split body truck
- Weekly collection
- Bricks End Farm processes the organics
- Hamilton switched trash collection to every other week

Who's Doing it?

Cambridge, Massachusetts

- Pilot curbside collection
- Weekly pickup to 5600 households
- No charge



Who's Doing it?

Princeton, New Jersey

- Piloted food scrap collection in 2010
- Now offered to all 9,500 households
- Subscriptions are \$65/year for weekly collection of all food scraps, soiled paper & yard trimmings
- Participants receive a 32-gallon cart, kitchen collector, & a supply of compostable liners

Who's Doing it?

Huron, Ohio

- Food Scraps are placed in an “organic container”
 - Paper bag, newspaper, cardboard boxes
 - Placed in the yard waste cart
- Residents charged \$50/quarter for waste, recycling, & compost
- Contracted collection service
- Hauled to Barnes Nursery & Compost Facility

Who's Doing it?


Wayzata, Minnesota

- Food scraps & soiled paper are placed into a Blue Bag Organics compostable bag
- Blue Bag goes inside the regular garbage cart
- Transported to a transfer station where the Blue Bag is removed for transportation to a compost facility

Who's Doing it

Earthgirl Composting

- Curbside collection of food scraps & soiled paper for households, small businesses, & special events in two counties in Vermont
- Participants provided a 5-gallon bucket
- Organics are delivered to Grow Compost or Green Mountain Compost
- Participants are charged based on collection frequency

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Food Scrap/Organics Processing

Processing Options

- Small vs. Regional
- Municipal, farm, private operations
- Range of processing technologies—from very simple to complex technology systems
- Each system has its advantages
- Can be combined to better serve communities & for cost efficiencies

On-Farm Composting

- Provides opportunity to divert organics
 - Without public investment in space, equipment, & staffing
 - Farm operations may have more flexibility in permitting requirements
- Helps farms diversify their operation
 - Manufacturing a valued added product
 - Soil amendment for farm fields
 - Sold to bring in additional revenues

Opportunities and Action

- Outreach to area farms to determine interest
- Hauling – municipal? Farm? Private sector?
- Work with state regulators & the farm to ensure compliance with regulations & permits
- Provide household/business education
- Foster market development by purchasing compost for town use & promoting the product to local businesses & residents

Who's Doing it?

Always Something Farm

- Croydon, NH
- Leaf, grass clippings, yard waste manure, & food scraps (no meat or dairy) accepted at no cost

Grow Compost of Vermont

- Started as a small farm operation in Moretown, Vermont
- Farm waste & food scraps from restaurants, schools, households

Who's Doing It?

Bear Path Farm

- Whately, Massachusetts
- Food scraps from town transfer station to mix with local horse bedding, leaves, & produce waste
- Town employee hauls the food scraps to the compost operation

Holiday Brook Farm

- Dalton, Massachusetts
- Leaves, brush, horse manure, bedding, & produce scraps & wet cardboard supermarkets

Private Sector Composting

- Partnerships to promote resident & commercial customers
 - Reduced tipping fees
 - Flexibility in accepting loads (e.g., resident drop-off)
- Economies of scale—multiple community, county or solid waste district jurisdictions—more economically appealing for larger scale private composting operations
- May profit from locating in rural, agricultural areas & servicing more populated area

Private Sector Cont.

- Publicly owned & operated facilities
 - Typically land, equipment, & other necessary infrastructure would be available at such a location
 - Landfill, MRF, nurseries
 - Private haulers to provide collection services

Opportunities and Action

- Explore potential private-sector businesses, landscapers, garden centers, etc. to establish composting operations
- Publically owned & privately managed operations present a model
 - Public land can be used to establish a compost facility that is operated by a private company
- Promote compost product sales

Opportunities and Action, cont.

- Provide training/outreach to businesses
- Provide outreach to households

Who's Doing It?

Clear View Composting, Orange, Massachusetts

- Food scraps from town transfer stations, schools, & events
- Built special “bear proof” enclosure for collection carts

Sonoma Compost

- Operates the Organic Recycling Program on behalf of the Sonoma County Waste Management Agency
- Yard trimmings & vegetative food discards collected curbside from residents of Sebastopol
- Food scraps from restaurants in Sonoma

Regional Organics Management

- Developing concept in the management of trash and recyclables for rural, low population density areas or geographically isolated communities
- Materials are collected & consolidated to reduce transportation costs & promote waste diversion
- Regional operation of central composting facilities would allow for cost efficiencies for capital investment of land & equipment
- Private-public partnership

Opportunities and Action

New Mexico's Rural Recycling initiative

- “Hub and spoke” model for rural collection and processing infrastructure
- Regional recycling processing centers within larger communities known as “hubs.”
- Smaller communities or “spokes” are encouraged to provide collection containers for recyclables & arrange for transportation of the collected materials to these hubs
- Presents a replicable model for regional organics processing facilities.
 - “Spokes,” rural and small towns act as the collection point for organics
 - Organic materials are transported to a regional facility
 - Cost efficiencies in processing & allow for development of more marketable compost

Community Composting



CR: David Hurd,
GrowNYC

Containment - In-Building



Bruce Fulford

Windrows





**Cedar Grove Composting
Seattle, WA region
Gore Cover systems
Aerated static piles**

Bruce Fulford

Quasar Food Scrap AD Facility Collinwood, Ohio



Bob Spenser, WSWMD

Green Mountain Technologies, Inc. (GMT) CONTAINERIZED COMPOST SYSTEM™ (CCS)



Bio-Solids Composting in Wilmington, VT