

Best Management Practices in Food Scraps Programs

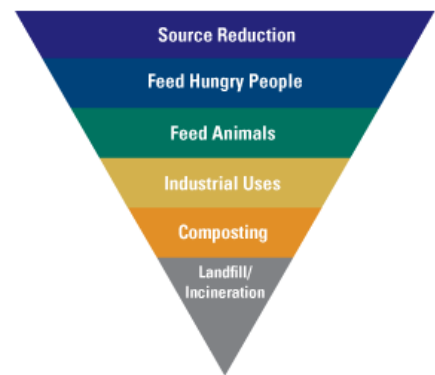
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EXECUTIVE SUMMARY

Data indicate that 12.5% of the US waste stream is food scraps, and only 3% of that is recovered¹. In EPA Region 5, that means only 141,000 tons are recovered out of a total 5.4 million tons generated.

Although food waste collection and composting is not the “highest use” for food scraps, it is a much “higher use” than landfilling this potentially valuable material. This project’s goals are to help communities in Region 5 and beyond recover more tons by:

- Providing in-depth research on leading food scraps programs;
- Providing analysis of best management practices (BMPs) for design, implementation, and collection to guide communities; and
- Conducting webinars, presentations, and other outreach to disseminate the research and BMPs about food scraps collection.



Source: US EPA

Survey Results:

The project identified more than 180 commercial and residential food scraps collection programs across the US, in communities with populations less than 200 and more than 600,000. The majority of current programs are located in EPA Region 10 but Region 5 is a close second, followed by Region 9. We collected data on the program designs, materials, cost and payments, enrollment practices, collection frequency, containerization, incentives and pricing to identify patterns and best management practices (BMPs) or lessons for success that vary based on the type of program and situation.

The report describes examples of programs across the US that include drop-off and curbside versions, variations in materials accepted, and different material and generator targets. We find programs operate in areas in which tip fees for MSW disposal are higher than organics fees, and communities in which the economics are less favorable. Success factors vary, depending on the program, locale, and goals.

These materials are high methane emitters, a material that is 21 times more potent a greenhouse gas than carbon dioxide. According to US Composting Council figures, in Region 5, composting this material would be the equivalent of taking 1.7 million passenger vehicles off the road

¹ U.S. EPA Office of Solid Waste, Municipal Solid Waste in the United States, 2007 Facts and Figures

The “average” or a “typical” version of residential and commercial programs – and curbside happens to be the most common – is provided in Table 1. The table also includes figures on costs and participation averages. More detail is provided in this report.

Table 1: “Average” or “Typical” Food Scraps Program in the US

Residential Programs	Commercial Programs
<ul style="list-style-type: none"> • Commingles yard waste and food scraps • Collects weekly in 32, 64, or 96 gallon poly carts² • Includes soiled paper, meat, and dairy • Is voluntary, and charges an additional fee • Is conducted in a community in conjunction with PAYT • Operates year round • Average costs for organics programs were about \$5.40 per household (median \$7.50), and organics collection rates average about 1/3 of trash costs. • Average organics pounds collected per participating household: 25-30 lbs per/hh/week. Food waste component only 7-9 lbs • Average participation rate in surveyed communities 35-40%. 	<ul style="list-style-type: none"> • Focuses on “targeted” high-food businesses • Collects in 64 gallon poly carts • Provides options for collection at least 3 times per week • Is voluntary and charges extra rates that are lower than MSW • Includes staff and outreach (often by hauler) • 53% of commercial programs were found in suburban communities, 25% in rural areas, and 18% in urban communities; the remainder were in college, tourist, or isolated communities.

Barriers and Best Management Practices:

Interviews showed key barriers included political will, facility issues (a big topic of discussion in interviews), costs, contamination, and the “yuck” factor. The report provides guidance on Best Management Practices to address barriers, concerns, and alternatives, in a number of key areas outlined in Table 2.

Table 2: Best Management Practices Topics for Residential and Commercial Programs

Aspect	BMPS / Alternatives - Residential	BMPS / Alternatives - Commercial
Start-up – getting interest	<ul style="list-style-type: none"> • Summit with stakeholders / face-to-face, match needs with resources, identify and work on barriers • <i>Alternative:</i> Universities as incubators (access to grants, etc.) 	<ul style="list-style-type: none"> • Same
Pilot or no pilot?	<ul style="list-style-type: none"> • Pilot helps especially in areas without many programs; it can address barriers, tweak processing, familiarize, build support, examine efficiencies; use random assignment or selected neighborhood for design, not opt-in for transferability of results • Pilot is not needed in all cases; Less needed if facilities tested or lots of programs in surrounding areas; use literature & neighbors as alternatives; allows for quicker implementation 	<ul style="list-style-type: none"> • Same
Eligible materials	<ul style="list-style-type: none"> • Add food – AND soiled paper to yard waste program if possible – quick & cheap (paper~50%!; “gateway” to greater participation) • <i>Alternative:</i> Food scraps only is an option – 	<ul style="list-style-type: none"> • Often pre-consumer first for lower contamination, education issues. Include soiled paper if possible. Compostable serving ware ONLY if processing can really handle

² Most often households were allowed choice. 96-gallons was not too heavy because most programs co-collect with yard waste.

Aspect	BMPS / Alternatives - Residential	BMPS / Alternatives - Commercial
	consider 12 gallon or smaller container at drop-offs.	<ul style="list-style-type: none"> OR pre- and post- consumer for higher tons (but more contamination)
Collection Frequency – Curbside	<ul style="list-style-type: none"> Weekly; some change to every-other-week (EOW) during winter Some EOW year-round in north – alternate organics with recycling collection for efficiencies. <i>Best:</i> EOW trash, weekly organics <i>Alternative:</i> in-sink garbage disposal option 	<ul style="list-style-type: none"> At least as often as trash Weekly not sufficient unless small generators <i>Alternative:</i> in-sink disposal increasing
Collection Frequency – Drop-off	<ul style="list-style-type: none"> Varies – examples include every other day, daily, other 	<ul style="list-style-type: none"> Same
Rates – Collection	<ul style="list-style-type: none"> <i>Best:</i> small container embedded in trash (best use, economies); pay extra for additional service (often with yard waste) <i>Alternative:</i> fee for service PAYT-style <i>Avoid:</i> fully embedded (esp. if collected with YW) because it discourages composting <i>Avoid:</i> computing costs assuming end-product sales – plan for \$0 revenues to be safe 	<ul style="list-style-type: none"> Usually added fee; typically 40% cheaper / discount compared to MSW <i>Alternative:</i> a few embed costs in trash <i>Alternative:</i> if no rate discount; 3 months fee, subsidy (adjusting trash)
Rates - Tipping	<ul style="list-style-type: none"> Organics lower than trash for incentive (however- some programs are still successful when organic tip fees are greater than MSW) 	<ul style="list-style-type: none"> Same
Kitchen or in-building containers	<ul style="list-style-type: none"> Costly – sending to all residents expensive / not sending reduces use Consider inexpensive plastic pitchers (2 if possible) – cheap, 1 can be in dishwasher at any time <i>Alternative:</i> coupons to redeem for container at local vendor (cheaper) <i>Alternative:</i> compostable bags/liners– allow but don't promote (Yuck factor) 	<ul style="list-style-type: none"> Offer free or discounted containers to employees; typically 23-gal slims; larger too heavy. <i>Key:</i> signage and convenient placement <i>Alternative:</i> waxed cardboard for grocery (free!) Some vented /slit for air
Outdoor containers	<ul style="list-style-type: none"> Generally no larger than 64-gallons for weight issues, wheeled, lidded (can offer multiples); 96 gal. can be ok if MOSTLY yard waste <i>Alternative:</i> Compostable bags – typical is to allow but not promote <i>Alternative:</i> Bags (paper with YW ok / clear plastic poor). Plastic bags contaminate, hard to remove 	<ul style="list-style-type: none"> 64 gallon cart (no larger) because weight Multiple 64-gallon carts ok Wash carts (to diminish “yuck”) <i>Alternative:</i> Compactors (10 CY) in some communities; some dehydrators reported <i>Alternative:</i> in-sink, in-ground
Education	<ul style="list-style-type: none"> Consistent, clear, quarterly for new Define food scraps clearly! Electronic, social marketing helps 	<ul style="list-style-type: none"> <i>Key:</i> On-site training (conducted hauler, city, or both); multi-lingual signs, flyers
Yuck Factor	<ul style="list-style-type: none"> Educate / remind it is not new materials – just a different container Suggest layering materials, freeze, or wrap 	<p>In addition to residential suggestions...</p> <ul style="list-style-type: none"> Washing containers (1-2/yr; some every time) Lining with compostable bags, cardboard, paper

Aspect	BMPS / Alternatives - Residential	BMPS / Alternatives - Commercial
	“yucky” items <ul style="list-style-type: none"> Free compostable bags, pictures of clean organics streams help 	towels <ul style="list-style-type: none"> Empty before full Vented or slit containers for air
Vermin fears	<ul style="list-style-type: none"> Educate / remind not new materials – just different container 	<ul style="list-style-type: none"> Same
“Selling” / Political support	<ul style="list-style-type: none"> Identify motivators for stakeholder at local level (GHG, jobs, Landfill, public) Waste audit to demonstrate Champions, talking notes to elected officials 	<ul style="list-style-type: none"> Highlight potential savings if possible Fits in with some businesses “green” image

Project Resources:

The project includes a website (www.foodscrapsrecovery.com), this report – which includes the topics listed in this executive summary as well as extensive case studies, and several webinars, which were provided in late 2010 and early 2011. More information about the project can be found on the website or by contacting info@econservationinstitute.org.

The tools available on the website for free to all communities include:

- 1) **Best Management Practices Report-** This report is available in downloadable form on the website.
- 2) **Free webinars and presentations-** Visitors to the web site were able to register for a series of free webinars in 2010 and early 2011 covering the results of the project. All project webinar and state conference PowerPoint presentations are posted on the website www.foodscrapsrecovery.com . The first conference presentation was on August 2010 at the California Resource Recovery Association conference; more are expected through 2011 (watch for updates on the website).
- 3) **Interactive community-** A page of the website is dedicated to creating an interactive community of like minded individuals. The “community page” gives visitors a chance to share their successes, questions, advice, and other information.
- 4) **On-line library and bibliography-** In order to complete the BMP report EI researchers conducted an exhaustive literature review. The review included on-line sources, published reports from jurisdictions across the US, and trade journal sources. The results of the literature review and the reports uncovered during this research are available for all visitors to the web site.