



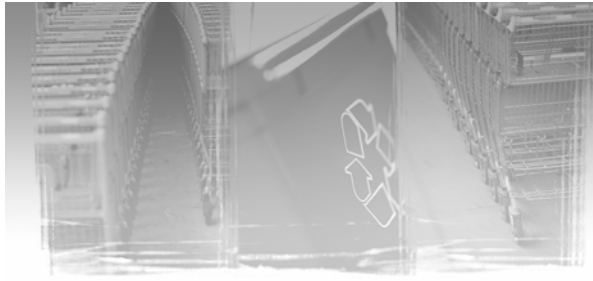
supermarket **Composting** Handbook



NATIONAL ORGANIC
PROGRAM
ENVIRONMENTAL
PROTECTION



CHINA
NATIONAL FOOD SAFETY
INSPECTION ADMINISTRATION



Introduction

As waste disposal costs rise and the need to help improve our environment becomes increasingly more important, supermarket operators are looking for alternatives to reduce disposal costs through recycling more of their waste. Seventy five percent (75%) of most supermarket waste, after recycling cardboard, paper and plastics, is comprised of non-recyclable biodegradable materials including discarded food, waxed and wet cardboard, paper, renderings, soil, and plants. **Recycling these wastes through composting can be a lower cost alternative to disposal and makes a lot of sense for supermarkets.**

The Supermarket Composting Handbook is a field-tested, step-by-step, resource guide designed to help supermarket managers implement and sustain an efficient and effective composting program. Composting is a form of recycling, whereby biodegradable materials are separated from trash and sent instead to a composting facility to be processed into a valuable soil-like product called: compost. Compost is used to enrich local soils.

Once your company has identified a point person for this program, this handbook will provide key information for developing, implementing, training, monitoring and publicizing your program. The point person will:

- Learn how to save money by recycling compostable wastes and other materials with minimal cost
- Understand where to find important resources and information on composting
- Improve your company image through sustainable business practices

The most successful supermarket composting programs are sustained through a fundamental cultural change in associate behavior. Learning to separate compostable materials from trash is critical to assuring maximum benefit from composting. Compostable materials are a renewable resource and if properly separated, can save your company money. The new culture of "separating compostable wastes" from "trash" requires constant reinforcement to achieve desired results.

Going hand-in-hand with the necessary culture change is the need for continual monitoring or quality control over your program by designated associates. Your company will be assured of maximum savings provided each store consistently delivers clean, quality material to local composting facilities.

This handbook is an update to the "Recycling Organics Initiative: Handbook for Supermarket Operators" which was produced by WasteCap of Massachusetts in 2003 through a grant from the Massachusetts Department of Environmental Protection (MassDEP).

The Supermarket Composting Handbook was updated by JFConnolly & Associates Hampton, NH, through funding from the Massachusetts Department of Environmental Protection and the United States Environmental Protection Agency New England.

Massachusetts Department of Environmental Protection

Bureau of Waste Prevention

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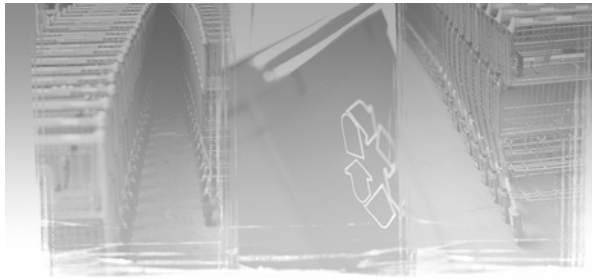
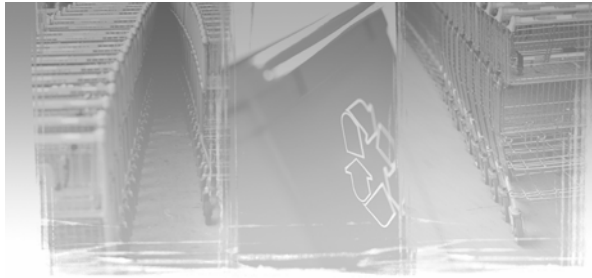


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Getting Started

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Getting Started Overview

There are many steps to implementing a successful composting program, but do not feel daunted! While you may have already completed some of the steps listed below, they have all been included here as a reference point. Steps may vary in scope and order from supermarket to supermarket, and please note that some tasks will need to occur simultaneously.

There are a few things you should know about using this handbook. Each chapter has been designed to walk the store manager through the process of implementing a composting program. There are sample forms, spreadsheets, and signs located on the CD that came with the handbook. Throughout the handbook you will see "Reference" which refers to the reference pages at the back of the handbook. In these cases you will find additional information on that particular topic or on the enclosed CD.

Steps to Implement a Composting Program

1. Appoint a program manager who will oversee the new composting program for all of your stores. The program manager will be responsible for monitoring all composting activities, training new associates, retraining associates, and regularly reporting the results of the composting program to all store associates. Supermarkets with a program manager who has passion and a genuine interest in recycling are more likely to have a successful program. It is also recommended that each store appoint a **recycling point person**, often the produce department manager, who will assist the program manager and conduct daily monitoring.

2. Compile current waste generation data using the enclosed Waste Audit Form. Completing this form will provide a baseline to measure your program's future improvements and calculate savings. To complete the form you may need to refer to your waste management contracts, invoices, or receipts. You will be looking for the amount of waste generated by your store in the previous year and the associated waste handling costs.

⇒ *Reference Page 4-3 & CD: Solid Waste Audit Form*

3. Conduct a site visit or tour of the store. Review your current waste management system and explore how best to incorporate composting and recycling of other materials. To expedite your initiative, it would be beneficial to engage an industry composting consultant to tour the store. There are many industry consultants that can assist you.

⇒ *Reference Page 8-3: Consultant Recommendations*

4. Complete a cost benefit analysis using the enclosed Cost Benefit Analysis Forms. The common systems for collection and storage of compostable wastes involve a compactor or individual toters, as well as dumpsters. For a general overview of the most common systems and their respective costs reference the Startup Costs & Cost Savings section. Completing this analysis will enable you to look at the cost of implementing either type of program and the potential operating expense savings that can be realized. You will use this data to determine if you want to pursue implementing a program.

⇒ *Reference Page 3-5: Startup Costs & Cost Savings Examples*

⇒ *Reference Pages 4-4 & 4-5 & CD: Cost Benefit Analysis of Toter System & Cost Benefit Analysis of Compactor System*

5. Locate a hauler. To transport compostable materials from your store to a composting facility you will need a hauler. It is important to find a hauler and facility that already work well together or are willing to establish a new working relationship. You should ask your current waste hauler if they have an interest in continuing to service you but delivering your compostable material to a composting facility. It is usually less expensive to "tip", or dispose of materials to a composting facility than a disposal facility. Compostables, however, can be more difficult to haul than

regular trash, and your existing hauler may not be interested. In some situations composting facilities offer hauling services; therefore ask potential composting facilities if they provide hauling services.

⇒ *Reference Page 9-8: Massachusetts Resources; Composting Facilities & Haulers*

6. Locate a composting facility. A composting facility is a processing facility that accepts source separated organic materials, blends them with other materials, and produces compost – a soil amendment that is sold as an alternative to fertilizers. These facilities could be farms, landscapers, or a commercial composting facility. Where applicable, you may want to contract directly with a composting facility if they provide hauling services.

⇒ *Reference Page 9-8: Massachusetts Resources; Composting Facilities & Haulers*

7. Select a compostables collection system. Decide on a toter vs. compactor collection system - the two most common and practical options. Dumpsters are sometimes used as well. Your decision will depend on: (1) what types of equipment are used by your hauler, (2) how compostables can be accepted by the composting facility, (3) ability to dedicate one store compactor to organics only or how much of a capital investment your company is willing to make (4) the operating cost savings calculated in your cost benefit analysis, and (5) acceptable storage space.

⇒ *Reference Page 3-5: Startup Costs & Cost Savings Examples*

8. Sign contracts with your hauler and composting facility.

⇒ *Reference Pages 5-8 & 5-10: Sample Language for Bid or Contract Scope*

9. Purchase necessary equipment and supplies – containers, compactor, etc. It is important to review the types of equipment that are available and serviced by your hauler. Work with your company purchasing agent or industry consultant to select the appropriate collection containers. You will also need to purchase bags to line the compost collection containers for sanitation purposes and possibly bands to hold the liners in place. It is recommended that you consider biodegradable bags, despite their increased cost, to minimize contamination and reduce waste.

⇒ *Reference Section 5: Collecting*

This is also the time to prepare laminated posters and waterproof, vinyl stickers to accompany the containers in their various locations around the store. You may want to alter the signs to personalize them for your company with a logo and any other directions for your system.

⇒ *Reference Page 6-15: Composting Guidelines & Signs*

10. Conduct staff training. Staff training resulting in a permanent cultural change is critical to program success. Thorough training must be completed before the program is started, when new associates are hired, and at least once a year as a refresher – similar to other company annual compliance training sessions. Ongoing training is critically important for new store associates as well as refreshing all staff to understand the fundamentals of your composting program. Quarterly refresher and feedback sessions are recommended.

⇒ *Reference Section 6: Training & Educational Tools*

11. Place equipment. Once the staff is prepared for the new program, and collection toters, compactor or dumpster are installed, distribute posters and fully labeled recycling containers to their proper locations. Compost collection containers should be as visible and accessible as trash containers. They should be placed at workstations in produce, bakery, deli, and florist departments; additional departments may be included depending on your program.

12. Start your recycling program off with a bang! Throw a kick-off composting party to generate excitement about the new program and to demonstrate top management support. Associates will respond better to the new program when management demonstrates that the program is important to the store and company. Use the sample program announcement letters to officially inform store associates and delivery vendors of the new program and when it will begin. The associate letter should be personalized for your program, printed on company letterhead, and enclosed with the employee paychecks to ensure that every associate is informed. The procurement manager or receiver at

each store should distribute the vendor letters, also printed on letterhead and personalized, to all direct store delivery vendors. You can even post information about the program for your customers to see. It is important to make sure that all members of the supermarket community are aware of the new program and the cultural change you are expecting. If possible, offer incentives to further involve store associates.

⇒ *Reference Pages 6-3 - 6-6: Program Announcement*

13. Continue to monitor and provide quality control of your composting program. A recycling program doesn't run by itself; it needs continual attention. Once your program is established, monitoring and quality control will become the single most important aspect to maintaining your program for maximized savings. A long-term commitment will be necessary to ensure that the cultural change at your supermarkets has occurred. The program manager will have to monitor the program and conduct quarterly audits to measure the benefits and progress of the new program, as you would with food safety programs, etc. Training new associates and providing reminders and refresher trainings will be necessary as well.

⇒ *Reference Section 7: Monitoring*

14. Report periodically to upper management about the success of the new program and cost savings being attained. As needed, discuss changes that should be implemented to improve the program.

15. Prepare a report about your program and experiences, once you have achieved success. This will greatly aid other company stores to implement composting programs of their own and serve as an excellent PR piece for your company. Community and public relations are important for all supermarkets and this report could be an excellent source of information.

16. Expand your recycling program to include materials such as plastic shrink wrap, stretch wrap, plastic bags, other plastics, cardboard, pallets, bottles and cans, and office paper – all these materials are easily recyclable and could lower your disposal costs further.

Startup Costs and Cost Savings Examples

Choosing the appropriate compost collection and storage equipment for each supermarket location is an important initial step in starting up your program. The type of collection and exterior storage containers you choose for each location will be initially determined by your hauler's trucking capability and compatibility with the store's receiving area, the compost processor's facility specifications, as well as initial overall costs compared to savings in tipping fees.

The following scenarios lay out options for two popular collection systems – Toters and Compactors. A third collection system involves the use of dumpsters, which has not been included in the analysis below. However, dumpsters may be a good option if there is easy access to the collection area by a hauler, and if space allows for a dumpster. Dumpsters have an advantage over the toter collection system in that waxed cardboard can be added for diversion if the composting facility accepts it, but also may be more difficult to keep clean and sanitary.

The following examples demonstrate the comparative savings, net of operating costs for each system, as related to training, supplies and collection equipment. The costs of a dumpster system may be similar to toters, in addition to the savings of being able to include waxed cardboard. Hauling costs are not included in either scenario, as they will vary depending on volume, pick up frequency, and various contractual arrangements.

Data used in the examples below are based on actual experiences in Northern New England.

Assumptions:

- An average 40,000 square foot supermarket employing 150 full and part time staff generates 500 tons of trash annually.
- 75% of most supermarket waste, (after recycling old corrugated containers (OCC), paper and plastics) is comprised of compostable materials including discarded food, waxed and wet cardboard, paper, renderings, soil, and plants.
- Trash disposal costs are averaging \$90 per ton and are continuing to rise.
- Composting is a less expensive disposal alternative, with "tipping" costs averaging \$50 per ton, or a savings of \$40/ton compared to trash disposal costs.
- Supermarkets using 64-gallon toters to collect strictly discarded food wastes and arrange to have the toters picked up by a specially equipped truck, can generate 2 tons of compostable material weekly, or approximately 100 tons of compostable waste a year.
- Supermarkets collecting discarded food wastes and waxed and wet cardboard, paper, renderings, soil and plants, and dumping into an on-site compactor, can generate 7 tons weekly, or approximately 350 tons of compostable waste a year.
- Hauling costs for totes and compactors will vary according to collection method, and are not included in the scenarios shown below.

Scenario 1: Compactor Collection System

Higher volumes of compostable materials may be recycled from the waste stream by dedicating a compactor to the collection of discarded food wastes **plus** waxed and wet cardboard, wood, paper and other compostable materials. In many cases, this option requires an additional dedicated compactor. Use of compostable bag liners are recommended in this scenario because a broader range of compostable materials may be collected within each participating department and the compostable liners allows for cleaner, more sanitary collection practices. The capital costs for the installation of this compactor are offset by the higher cost savings resulting from the diversion of greater volume of materials from the waste stream. If possible, this is the recommended collection system.

Composting Tipping Fee Savings (figures are rounded)	
7 tons x 52 weeks x \$40 /ton	\$14,500
First Year Operating Costs (*excludes the purchase cost of a compactor)	
(15) 20 gallon totes w/wheels & covers @ \$30.00 each	\$450
30-gallon compostable liner bags @ \$45.00 per case (1-year supply)	\$1,200
Printing of training/educational materials	\$200
Training expenses (30 employees x \$15 x 1 hour)	\$450
Annual compactor depreciation or rent ¹	\$2,700
Annual compactor maintenance	\$450
Incremental hauling costs for compostables	\$0
First Year Operating Cost Total	<u>\$5,450</u>
First Year Savings	<u>\$9,050</u>

- Average annual savings for years 2 through 7 are approximately \$10,000. (After the first year, ongoing operating costs include compostable liner bags, compactor rent or depreciation, and compactor maintenance).
- Compactor hauling costs are assumed to be equal to trash hauling costs per ton in operating expenses.
- Operating cost examples are not adjusted for inflation.

¹ Assumes a 7-year depreciation with annual cost of \$2700, which represents a cost of purchasing a compactor and hookup costs.

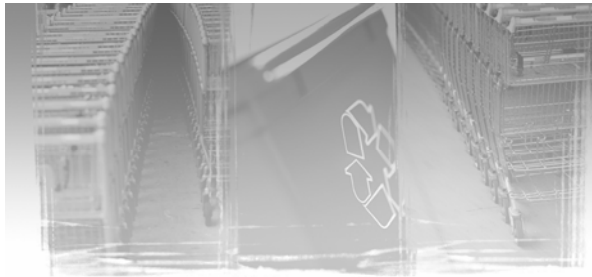
Scenario 2: Toter (wheeled cart) Collection System

In this scenario, toters are used to collect and store compostables. Toters can be lined with biodegradable bags to reduce cleaning costs and improve sanitation – however at an additional cost to the generator. Haulers dump these toters into collection trucks and transport the compostables to a processor. The toter collection system is limited to the recovery of discarded food wastes. Toters are not used for collection of waxed or wet cardboard, wood, or other bulky compostable materials.

Composting Tipping Fee Savings	(figures are rounded)
2 tons x 52 weeks x \$40/ton	\$4,200
First Year Operating Costs	
(8) 64-gallon toters w/ wheels & covers @ \$60 ea	\$500
64-gallon disposable plastic liner bags @ \$40/case (1 year supply)	\$200
Printing of training/educational materials	\$200
Training Expenses (30 employees x \$15 x 1 hour)	\$450
Incremental hauling cost for toter collection:	\$2,600
First Year Operating Costs Total	<u>\$3,950</u>
First Year Savings	<u>\$250</u>

- Annual average savings beyond the first year are approximately \$1,400. (After the first year, the only additional costs for collecting compostables in toters are liner bags and the differential in hauling rates per ton for toter collection vs. compactor pick-up).
- The average toter weighs 200 pounds.
- Toter collection and hauling costs are assumed to be \$45 per ton in operating expenses. These cost may vary depending on the volume of material collected by your hauler and the frequency of pickup
- Savings may be improved by maximizing diversion and the weight of toters.
- Operating cost examples are not adjusted for inflation.

*** A note regarding the Toter Collection System: average savings beyond the first year can increase to almost \$2,000 annually if the store is able to divert 3 tons per week to composting. In addition, alternative methods of handling waxed cardboard are in development, which holds promise for the cost-effective recycling of waxed cardboard in store utilizing the Toter Collection System.



Measuring

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Measuring Overview

A key component to the success of your new composting program will be establishing a baseline of your current waste management program and completing monthly and yearly reports so that you can document the cost savings and diversion rates you have achieved. These are very important numbers when providing feedback to management and store associates.

Tracking and Reporting Progress

Examples of these forms are provided in the following pages and on the included CD. You may find it necessary to alter them slightly to meet your store's specific program.

Solid Waste Audit Form

This form will be used to create a baseline for measuring your program's future improvements. You will be looking for the amount of waste generated by your store in the prior year, and associated waste handling costs. This form will help you calculate the savings you will reach through the new program. To complete the form you may need to refer to your waste management contracts, invoices and/or receipts.

⇒ *Reference Page 4-3 & CD: Solid Waste Audit Form*

Cost Benefit Analysis Forms

The information on the Cost Benefit Analysis form is derived from the Waste Audit Form to enable quick comparison of your store's current expenses and the change in costs that could be realized by implementing a composting program. This analysis includes a comparison of implementing a toter collection system versus a compactor system. This will allow you to look at the cost of implementing either type of program and the potential operating expense savings that can be realized.

⇒ *Reference Pages 4-4 & 4-5 & CD: Cost Benefit Analysis of Toter System & Cost Benefit Analysis of Compactor System*

Monthly Tracking Form

The supermarket program manager should use this form to track the progress of the program by entering in the tonnage amounts for recyclables and disposed materials each month. This data is usually available by reviewing receipts or tare sheets from your hauler. When developing new contracts, you can require in your request for bids that the hauler provide you this data monthly.

⇒ *Reference Page 4-6 & CD: Monthly Tracking Form*

Year End Waste Audit Form

This form is directly linked to the monthly tracking form and is used to demonstrate the current year operating costs for the new program. This offers the opportunity for easy comparison to the original waste audit form that displays the previous year operating expenses. The supermarket program manager should complete this form by referring to appropriate invoices and/or contracts.

⇒ *Reference Page 4-7 & CD: Year End Waste Audit*

Solid Waste Audit Form

Company: _____
 Store Location: _____
 Square Feet: _____
 # of Employees: _____

Date Completed: _____
 Program Manager: _____
 Phone: _____
 E-Mail: _____

Annual Hauling and Disposal Costs

	Tons/Year	Tip Dollar/Ton	Total Tip Cost	Hauls/Year	Haul Dollar/Haul	Total Haul Cost	Total Cost	Container Type & Size (compactor, dumpster, toter)	Service Provider
Solid Waste									
Organics									
Cardboard									
Waxed Cardboard									
Office Paper									
Bottles & Cans									
Fluorescent Lamps									
Pallets									
Hard Plastics (pails, etc.)									
Plastic Film									
Other									
TOTAL									

Additional Annual Operating Costs

	Organics Recycling Costs	Solid Waste Costs	Other Recyclable Costs	Total Cost	Notes/Description
Equipment Rental					
Collection Container Replacements					
Collection Bags					
Signs/Labeling					
Staff Training					
Other					
Other					
TOTAL					

Total Annual Operating Costs

Cost per Ton

Recycling Rate

Cost Benefit Analysis of Compactor System								
Company: _____					Square Feet: _____			
Store Location: _____					# of Employees: _____			
Operating Costs of Current Program (from the waste audit form)								
Commodities:	Actual % of Waste Stream	Total Tons/Year	Tip Dollars per Ton	Total Tip Cost	Hauls/Year	Dollars per Haul	Total Haul Cost	Total Hauling & Disposal Cost
Solid Waste								
Organics								
Cardboard								
Waxed Cardboard								
Office Paper								
Bottles & Cans								
Fluorescent Lamps								
Pallets								
Hard Plastics (pails, etc.)								
Plastic Film								
Other								
TOTAL - Hauling & Disposal								
Additional Operating Costs of Current Program (from the waste audit form):					Organics Recycling Costs	Solid Waste Costs	Other Recyclable Costs	Total Additional Operating Cost
Equipment Rental								
Collection Container Replacements								
Collection Bags								
Signs/Labeling								
Staff Training								
Other								
Other								
Additional Operating Costs								
Total Estimated Annual Operating Costs for Current Program								
Cost per Ton for Current Program								
Estimated New Hauling and Disposal Costs for Compactor Program								
	Estimated % of Waste Stream	Tons/Year	Tip Dollars per Ton	Total Tip Cost	Hauls/Year	Dollars per Haul	Total Haul Cost	Total Cost
Solid Waste								
Organics								
Cardboard								
Waxed Cardboard								
Office Paper								
Bottles & Cans								
Fluorescent Lamps								
Pallets								
Hard Plastics (pails, etc.)								
Plastic Film								
Other -								
TOTAL								
Estimated New Annual Operating Costs for Compactor Program								
	Notes/Description	Organics Recycling Costs	Solid Waste Costs	Other Recyclable Costs	Total Cost			
Equipment Rental								
Collection Container Replacements								
Collection Bags								
Signs/Labeling								
Staff Training								
Other								
Other								
TOTAL								
Total Estimated Annual Operating Costs for Compactor Program								
Estimated Annual Operating Cost Savings for Compactor Program								
Estimated Start-up Capital Costs for Compactor Program								
	Notes/Description	Cost						
Collection Containers								
Compactor								
Concrete pad								
Utilities								
Other								
TOTAL								
Total Estimated Annual Operating Costs for Compactor Program with Capital Depreciation (7 years)								
Estimated Annual Operating Cost Savings for Compactor Program with Capital Depreciation								
Estimated Annual Operating Cost Savings for Compactor Program Beginning Year 8								
Cost per Ton with Capital Depreciation								
Cost per Ton with Beginning Year 8								
Recycling Rate								

Cost Benefit Analysis of Toter System								
Company: _____					Square Feet: _____			
Store Location: _____					# of Employees: _____			
Operating Costs of Current Program (from the waste audit form)								
Commodities:	Actual % of Waste Stream	Total Tons/Year	Tip Dollars per Ton	Total Tip Cost	Hauls/Year	Dollars per Haul	Total Haul Cost	Total Hauling & Disposal Cost
Solid Waste								
Organics								
Cardboard								
Waxed Cardboard								
Office Paper								
Bottles & Cans								
Fluorescent Lamps								
Pallets								
Hard Plastics (pails, etc.)								
Plastic Film								
Other								
TOTAL - Hauling & Disposal								
Additional Operating Costs of Current Program (from the waste audit form):					Organics Recycling Costs	Solid Waste Costs	Other Recyclable Costs	Total Additional Operating Cost
Equipment Rental								
Collection Container Replacements								
Collection Bags								
Signs/Labeling								
Staff Training								
Other								
Other								
Additional Operating Costs								
Total Estimated Annual Operating Costs for Current Program								
Cost per Ton for Current Program								
Estimated New Hauling and Disposal Costs for Toter Program								
	Projected % of Waste Stream	Tons/Year	Tip Dollars per Ton	Total Tip Cost	Hauls/Year	Dollars per Haul	Total Haul Cost	Total Cost
Solid Waste								
Organics								
Cardboard								
Waxed Cardboard								
Office Paper								
Bottles & Cans								
Fluorescent Lamps								
Pallets								
Hard Plastics (pails, etc.)								
Plastic Film								
Other								
TOTAL - Hauling & Disposal								
Estimated New Annual Operating Costs for Toter Program								
	Notes/Description	Organics Recycling Costs	Solid Waste Costs	Other Recyclable Costs	Total Cost			
Equipment Rental								
Collection Container Replacements								
Collection Bags								
Signs/Labeling								
Staff Training								
Other								
Other								
TOTAL								
Total Estimated Annual Operating Costs for Toter Program								
Estimated Annual Operating Cost Savings for Toter Program								
Estimated Start-up Costs for Toter Program (Year One)								
	Notes/Description	Cost						
Collection Containers								
Other								
Other								
TOTAL (not reflected in annual line 62 or 64)								
Total Estimated Annual Operating Costs for Toter Program with Year One Start-up Costs								
Estimated Annual Operating Cost Savings for Compactor Program Year One								
Estimated Annual Operating Cost Savings for Compactor Program Beginning Year Two								
Cost per Ton Year One								
Cost per Ton Beginning Year Two								
Recycling rate								

Monthly Tracking Form

Company: _____ Project Manager: _____
 Store Location: _____ Phone: _____
 Year: _____ E-Mail: _____

Quantity in tons

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Total
Organics													
Cardboard													
Waxed Cardboard													
Office Paper													
Bottles & Cans													
Fluorescent Lamps													
Pallets													
Hard Plastics (pails, etc.)													
Plastic Film													
Other -													
Total Recyclables													
Solid Waste													
Total Waste													
Recycling Rate													

Year-End Waste Audit

Company: _____
 Store Location: _____
 Square Feet: _____
 # of Employees: _____

Date Completed: _____
 Program Manager: _____
 Phone: _____
 Email: _____

Annual Hauling and Disposal Costs

	Total Tons/Year	Tip Dollars per Ton	Total Tip Cost	Hauls/Year	Dollars per Haul	Total Haul Cost	Total Hauling & Disposal Cost	Container Type & Size (compactor, dumpster, toter)	Service Provider
Solid Waste									
Organics									
Cardboard									
Waxed Cardboard									
Office Paper									
Bottles & Cans									
Fluorescent Lamps									
Pallets									
Hard Plastics (pails, etc.)									
Plastic Film									
Other									
TOTAL									

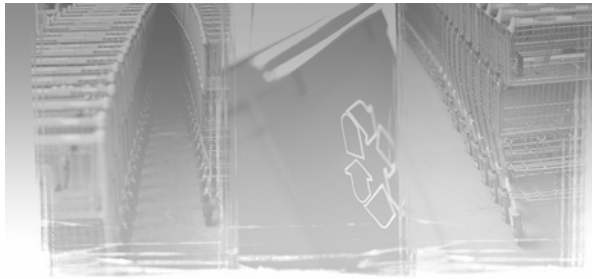
Additional Annual Operating Costs

	Organics Recycling Costs	Solid Waste Costs	Other Recyclable Costs	Total Cost	Notes/Description
Equipment Rental					
Collection Container Replacements					
Collection Bags					
Signs/Labeling					
Staff Training					
Other					
Other					
TOTAL					

Total Annual Operating Costs

Cost per Ton

Recycling Rate



Collecting

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Collecting Overview

This section provides a comprehensive overview of collection strategies including how to set up your collection system in the store, compost collection container options and vendors, liner bag considerations, sample language for hauler and composting facility contracts or bids.

In-Store Collection System

Your new compost collection system inside your store should mirror your current trash collection system in order to help make the transition easy for associates. Your new compost collection system will become a fundamental and permanent part of your store's new recycling initiative and a new waste minimization culture.

Seventy-five percent of an average supermarket's waste stream is compostable material. Therefore, anywhere there is currently a trash bin you should consider placing a compost container. This also shows why there is significant need for the compost collection containers to be much larger than the trash bins. Trash bins can actually be eliminated or a smaller trash bin can be used, which will also help to reinforce the idea that compostables are valued and more materials should be recycled than sent to trash.

On average, the produce department in a typical supermarket will generate 50 percent of the store's waste. For this reason, making composting easy and accessible for the produce department associates should be top priority. The departments you choose to include in your program will depend on your store size, the size of your containers, and the materials your hauler and composting facility accept.

Priority departments:

- Produce
- Floral
- Bakery
- Deli

Others may include:

- Seafood
- Meat
- Cheese
- Grocery/frozen foods/dairy
- Prepared foods
- Office

All participating departments should be supplied with workstation collection containers. These containers can range in size from a five-gallon pail to a 64-gallon toter. Larger capacity collection containers are not recommended due to safety considerations (i.e. food waste is very heavy.) You should walk through your departments and decide what size and type of containers would work best. It is recommended that you keep the type and color of compost collection containers uniform throughout the store so that store associates can easily identify them. If a particular department needs a special type of container, you should at least be sure to keep the compost containers color-coded throughout the store. Associates need to have easy and convenient access to the compostables containers from their workstations to ensure program success.

When full, workstation compost collection containers will need to be emptied by an associate, similar to your trash collection procedures. A designated compactor, dumpster, or area for the toters will need to be located at the back of the store for this purpose. Your compost hauler will then come to collect the materials from the container(s) on a predetermined schedule or on-call basis. It is important that this schedule is agreed upon before program start-up.

Special considerations for a toter collection systems: If space allows and your hauler is collecting toters, the toters can be placed directly in departments, filled with compostable materials, rolled to the back of the store for pick up, and exchanged for empty ones as needed. The hauler and program manager should decide on designated areas for

both empty toter storage and a convenient pick up location, such as the produce or receivers loading dock. Associate training is necessary to ensure that full toters will be available for pick up in the designated area and empty toters are easy to find. During the summer, toters should be emptied at least every other day. In the winter, two times a week is appropriate. When working with a hauler, you should confirm that the company has the flexibility of increasing pick-ups as needed.

Top 3 Collection Tips:

- 1) Keep containers the same color
- 2) Locate bins next to trash or eliminate some trash containers
- 3) Be sure to involve the produce department

Compostables Collection Container Options

There are a variety of containers being used to collect compostables inside supermarkets. Because each store is slightly different, you will have to review the store layout and decide which type of container will work best. We have included pictures on the next page of various containers that have proven to work well. It is highly recommended that you color-code your composting containers different from your trash containers and use matching educational materials throughout your store. Making the compost collection containers uniform will assist in consistent recycling techniques.

Aspects to consider when reviewing collection container options:

- Size
- Space
- Capital cost
- Diversion amounts desired
- Compatibility with trash containers
- Color-coding
- Mobility
- Desired features such as lids, handles, and wheels
- Use of liner bags
- Ergonomic considerations
- Types of containers that your hauler and composting facility can accommodate

Recommended container types:

- Self-contained compactor (not a break-away)
- 64 gallon toter
- Round 20 gallon bin on wheels
- "Slim Jim" with handles, 16 or 23 gallon
- 5 gallon pail with handle

Collection Container Tips:

- 1) Color-code your compost containers.
- 2) Create uniform signage.

Example Collection Containers



Toter



Composting recycling truck with toter lifter



Self-contained compactor



5 gallon pail



*Slim Jim with
handles and lid*



*20 gallon round
bin on wheels*

Liner Bags

Liner bags are usually a requirement in all in-store compost collection containers to reduce odor and improve sanitation and cleanliness. There are a variety of liner bag choices for compostables. The major categories are “certified compostable” bags that can be composted and plastic bags (virgin polyethylene) that must be disposed with trash.

To determine what type of bags to use you will need to:

- Communicate with your hauler and composting facility to verify if there are any restrictions on the types of bags used.
- Find bags to fit the dimensions of your new collection containers. Bags should be tall enough to drape over the sides of the container rim. Please note that it is important that the bags do not collapse into the container because this leads to wasted bags and dirty bins. Test a few types to make sure they work appropriately.
- Identify if a rubber band is necessary to secure the bag in place (recommended).

If you are using liner bags, here is what you need to know about various choices of bags and bands to hold them in place:

Certified Compostable Liner Bags

It is recommended that you check with your composting facility manager to seek approval for any liner bag you choose. Certified compostable liner bags are in compliance with the American Society for Testing and Materials (ASTM) specifications for compostable plastics D6400-99. They are designed to disintegrate or biodegrade quickly and safely when composted in a commercial facility. Many certified compostable bags look and feel like plastic, but often have a “starchy” texture. Usually they are manufactured from high concentrations of a corn-based polymer and some form of “degradable polyethylene,” and quickly breakdown (biodegrade) becoming absorbed into the soil.

The primary advantage of using certified compostable liner bags is reduced labor by haulers and composters, in that they do not need to manually or mechanically separate the bags from the collected compostable material. Regular plastic bags may not be allowed in hauler’s loads or accepted at compost facilities. For the store operator, appropriate bags help assure clean and sanitary conditions within collection containers and minimize the risk of contamination that may occur with the use of non-compostable (plastic) liner bags.

Important: When choosing certified compostable bags, look for a “certified biodegradable” label or approval symbol on each bag. The Biodegradable Product Institute has the most up-to-date information on approved products that have been properly certified but it is also recommended that you verify your choice of bags with your composting facility.

⇒ *Reference Page 8-6: Compost Collection Supplies*

Compostable Paper Liner Bags

Paper liner bags, manufactured from kraft paper, are available in limited sizes and quantities. Usually paper liner bags are used for smaller containers ranging in size from ½ to 5 gallons; however yard waste bags could be used as well. Paper liner bags may not hold liquids as well as other types of liner bags, and may be higher in cost.

⇒ *Reference Page 8-6: Compost Collection Supplies*

Plastic Bags

Plastic bags are a popular choice due to their low cost compared to certified compostable or paper bags. Check with your hauler and compost facility operator first to find out if non-biodegradable plastic bags are accepted. Additional fees may be applied if the hauler or compost facility needs to manually remove the bags. They also create more

solid waste. If you use plastic bags, it is recommended that you use clear bags or choose a color different from your trash bags. Make sure to select an appropriate size for your new collection containers and test them before program implementation. Contact your current supply vendor to see if they stock suitable bags for your program.

⇒ *Reference Pages 8-6: Compost Collection Supplies*

Bands to hold bags in place

As mentioned above, bands are a necessary tool for holding the bags (certified compostable or plastic) secure in the bins.

⇒ *Reference Page 8-6: Compost Collection Supplies*

Permitted Food Residual Composting Facilities

There may be different regulations applying to composting facilities that take in food residuals as opposed to just leaf and yard waste. It is recommended that you check with your local board of health or state agency that oversees the composting facility where your compostables are going.

Sample Language for Bid or Contract Scope- Compostables Hauling Services

Background

Bids are requested for the hauling of food residuals, waxed and wet cardboard, soil, and plants in a self-contained compactor, dumpster, or totes from [supermarket name] to a permitted composting facility. Range of materials collected will depend on collection method.

Contract Period

This contract will last for one year from the date of award with options to extend for up to two years.

Past Generation History

[Supermarket name] generates approximately [###] tons of compostable waste per year. No guarantees of actual volumes are made.

General Conditions

Bid price shall remain firm throughout the term of the contract. The [supermarket's name] reserves the right to reject any or all bids, wholly or in part, and to make the award in a manner deemed to be in [supermarket's name] best interest.

Awarded bidder must provide monthly detailed records of the tons of compostable material collected and a breakdown of all associated collection costs by the 15th day following the month's end.

Any occurrence of contamination must be recorded and reported to the [supermarket's name] in a timely manner to ensure rectification within two days. Digital photographs to document contamination are preferred. If contamination continues to be a problem after three notices, the awarded bidder can reserve the right to terminate the contract with thirty days notice.

Additional Bid Response Documentation Required

Bidders must provide the following information with their bid response:

1. Types of materials accepted for composting.
2. Types of materials not accepted.
3. Schedule (days of the week and time of day) and availability off-schedule for pick-up.
4. A description of the method used to provide the weight or volume of compostable materials collected each month.
5. Description and location of the composting facility that will be used.
6. Documentation of the composting facility as an approved composting facility or proof of registration with a state-licensing agency as an agricultural composting operation.
7. A description of the collection method (compactor, dumpster, or totes) hauler plans to use and any operational requirements, including container location, security provisions, and maintenance.

Bid Response Section

(Enter responses under one or both cost options below.)

Option 1:

Haul fee- \$_____ per haul
Tip fee- \$_____ per ton
Rental fee- \$_____ per month

Option 2: Alternative Fee Method (flat monthly fee, etc.)

Explain the method and cost in detail. Be sure to note how you will produce monthly detailed records of the weight or volume of organic material collected and a breakdown of costs.

Contract Renewal Option

(Requires a response from bidder.)

- A. Bidder agrees to renew this contract, subject to availability of funds and at the discretion of the [supermarket], for an additional one year period.
_____ Yes _____ No
- B. Bidder guarantees that any increase in rates for the optional, additional one year contract period will not exceed the lower of the percentage rate increase in the National Consumer Price Index for the Urban Consumers (CPI-U), under the expenditure category for all items, over the previous twelve month period, or the figure entered below by the bidder:

Increase in rates for the option year not to exceed _____%.

If the [supermarket name] elects to extend, the Successful Bidder will be so notified by the [supermarket name] at least 30 days prior to the expiration of the original term.

Bidder Contact Information

Company:	_____	Telephone:	_____
Address:	_____	Fax:	_____
	_____	E-mail:	_____
Signature:	_____	Print Name:	_____
Date:	_____	Title:	_____

Sample Language for Bid or Contract Scope- Composting Facility Services

(For use if contracting directly with a composting facility.)

Background

Bids are requested from a permitted facility for the composting of discarded food, waxed and wet cardboard, renderings, soil, and plants from the [supermarket name].

Contract Period

This contract will last for one year from the date of award with options to extend for up to two years.

Past Generation History

[Supermarket name] generates approximately [###] tons of compostable waste per year. No guarantees of actual volumes are made.

General Conditions

Bid price shall remain firm throughout the term of the contract. The [supermarket's name] reserves the right to reject any or all bids, wholly or in part, and to make the award in a manner deemed to be in [supermarket's name] best interest.

Awarded bidder must provide monthly detailed records of the tons of compostable material received and a breakdown of all associated collection costs by the 15th day following the month's end.

Any occurrence of contamination must be recorded and reported to the [supermarket's name] in a timely manner to ensure rectification within two days. Digital photographs to document contamination are preferred. If contamination continues to be a problem after three notices, the awarded bidder can reserve the right to terminate the contract with thirty days notice.

Additional Bid Response Documentation Required

Bidders must provide the following information with their bid response:

1. Description of the composting process used at their facility (windrows, in-vessel, etc.).
2. Types and quantities of permitted materials accepted for composting.
3. Types of materials not accepted.
4. Facility rules and regulations, if available.
5. Schedule of days and hours that their facility is open for deliveries.
6. Any restrictions on the types of collection vehicles accepted at their facility.
7. Documentation as an approved composting facility or proof of registration with the appropriate state-licensing agency as an agricultural composting operation.
8. A description of the method used to provide the weight or volume of organic materials collected each month.
9. A site map of the composting facility, if available.

Bid Response Section

(Enter responses under one or both cost options below.)

Option 1: Cost per ton

Compostables, F.O.B the bidder's facility - \$_____ per ton

Option 2: Alternative Fee Method (flat monthly fee, etc.)

Explain the method and cost in detail. Be sure to note how you will produce monthly detailed records of the weight or volume of organic material collected and a breakdown of costs.

Contract Renewal Option

(Requires a response from bidder.)

- A. Bidder agrees to renew this contract, subject to availability of funds and at the discretion of the [supermarket], for an additional one year period.

_____ Yes _____ No

- B. Bidder guarantees that any increase in rates for the optional, additional one year contract period will not exceed the lower of the percentage rate increase in the National Consumer Price Index for the Urban Consumers (CPI-U), under the expenditure category for all items, over the previous twelve month period, or the figure entered below by the bidder:

Increase in rates for the option year not to exceed _____%.

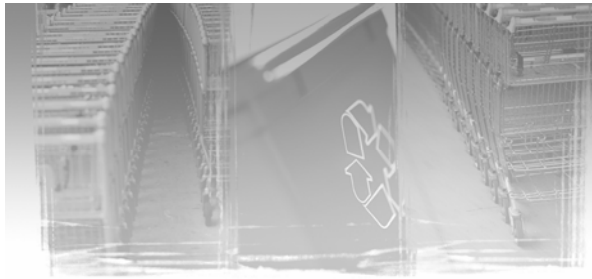
If the [supermarket name] elects to extend, the Successful Bidder will be so notified by the [supermarket name] at least 30 days prior to the expiration of the original term.

Composting Facility Location

Facility Name: _____
Address: _____
Telephone: _____

Bidder Contact Information

Company:	_____	Telephone:	_____
Address:	_____	Fax:	_____
	_____	E-mail:	_____
Signature:	_____	Print Name:	_____
Date:	_____	Title:	_____



Training and Educational Tools

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Training Overview

Proper education and training of all management and store associates is key to a successful composting program. It is also important to re-train and continually monitor the program in order to help ensure long-term success of the program, and to provide positive recognition for a well-run program. To help you prepare for training this section is divided into four parts, each describing the various elements you may use to make your educational program most effective:

Program Announcement

Included in this section are samples of announcements to store associates, vendors and customers about the new composting program.

Training and Tools

Included in this section is a sample agenda for training all store employees about the new composting program. Also included are training and tools for management and non-management associates, training manual information, sample overview of the Composting Guidelines handout, questions and answers and an example training exercise.

Composting Guidelines and Signs

Guidelines for collection of compostables in each department and examples of educational signs are provided in this section.

Samples of training resources are on the following pages and can be found on enclosed CD. You will want to tailor these sample training resources for your supermarket's program since materials and collection procedures that will be used for composting in your stores may differ from the examples provided. For example, if you have one store using a compactor system and a second store using a toter system, you will need to change your training materials to reflect these collection differences. Depending on the languages used by your store associates, you will also want to consider translating your training materials into other languages.

Should you need assistance with training, engage the services of an industry consultant.

⇒ *Reference Page 8-3: Consultant Recommendations*

All educational resources used throughout the supermarket should be:

- User Friendly
- Eye-catching
- Color-coded
- Uniform
- Visible
- Translated in all appropriate languages

Program Announcement

It is recommended that you announce your new composting program to all store associates and direct store delivery vendors prior to the actual start date. This will allow time for answering questions and providing important information in order to help assure a successful program. You should decide on the appropriate timing for announcing your program to your customers. For example, you may want to allow a few weeks to pass to assure all aspects of your new program are functioning well before you share your success with your customers.

Sample Letters and Signs

Letter to Associates

Official letter to store associates on company stationary from corporate and/or store management announcing the start of the new composting program and asking all associates to do their part. This letter may be included in all associate paychecks. Distributing information to all associates, even if the new program does not directly effect their department, will make sure they are aware of the cultural change you are expecting.

⇒ *Reference Page 6-4 & CD: Sample Program Announcement - Letter to Associates*

Letter to Vendors

Official letter to your direct store delivery vendors on company stationary from corporate and/or store management announcing the start of the new compostables recycling program and asking all vendors to do their part. The supermarket procurement manager and receiver should distribute these letters to all direct store delivery vendors, subcontractors, cleaning services, and repairs or construction contractors to make sure they are aware of the changes in their trash procedures.

⇒ *Reference Page 6-5 & CD: Sample Program Announcement - Letter to Vendors*

Sign for Customers

Sign to inform customers of the supermarket's new composting program. This is a good public relations tool and helps to demonstrate that your supermarket is invested in the community and concerned for the environment. You can also include information in this sign regarding your company's food donation program.

⇒ *Reference Page 6-6 & CD: Sample Program Announcement - Sign to Customers*

Sample Program Announcement - Letter to Associates

Dear Company Associates:

We are pleased to announce the start of a brand new program to compost biodegradable waste materials from our store. These compostable materials will be separated and hauled to a composting facility where they will be used to make a valuable soil-like product – compost, which is used to enrich local soils. Composting will save our store money while conserving valuable natural resources and scarce landfill space.

Composting is a new initiative for [OUR COMPANY], and we are proud to be leading this effort. Our store was chosen to participate in this program, and we will need your help and cooperation to make this a successful, cost-saving, and environmentally important endeavor in our store.

Starting in [MONTH], labeled composting containers will be placed in departments to collect compostable materials such as spoiled food, food preparation scraps, paper towels, and flowers. All other trash (styrofoam) and recyclables (plastic, glass, aluminum foil, metals) must be placed in the appropriate containers. Signs will be posted in each department that explain how to properly separate compostable materials. It is very important that plastics, glass, aluminum, styrofoam and metals of any kind are never mixed with compostable materials.

Remember to ask yourself: “Is it compostable, recyclable or trash?” We are asking every associate to make composting and recycling a part of your daily routine.

Staff training for the new program will be starting shortly. Please watch for the notices. Composting will officially begin on [DATE], and to commemorate the event we will be throwing a kick-off party. Be prepared to enjoy cake, win prizes, and start recycling!

We will be monitoring the composting, recycling, and trash bins, so pitch in and do your part! With everyone’s help, we will significantly lower our waste disposal costs, while doing something very positive for our environment.

Sincerely,

[COMPANY MANAGEMENT]

Any questions? Contact [NAME], the recycling program manager at [####] or [EMAIL].

Sample Program Announcement - Letter to Vendors

Dear Vendor:

We are pleased to announce the start of a brand new program to compost biodegradable materials from our store. These compostable materials will be separated and hauled to a composting facility where they will be used to make a valuable soil-like product – compost, which is used to enrich local soils. Composting will save our store money while conserving valuable natural resources and scarce landfill space.

But we need your help to make our new composting program successful!

Beginning on [DATE], we are asking your service representatives to cooperate with our associates by separating compostable materials from trash. All compostable materials (such as spoiled food, food preparation scraps, paper towels, and flowers) must be placed in labeled composting containers. Place all plastic, glass, and metal containers and aluminum foil in recycling bins. Place Styrofoam and other trash in collection containers marked trash. **Do not mix compostables, recyclables and trash in the same container!**

Please inform all of your service representatives about this important program, and remind them to think before they throw anything away by asking himself/herself, "Is this compostable, recyclable or is it trash?"

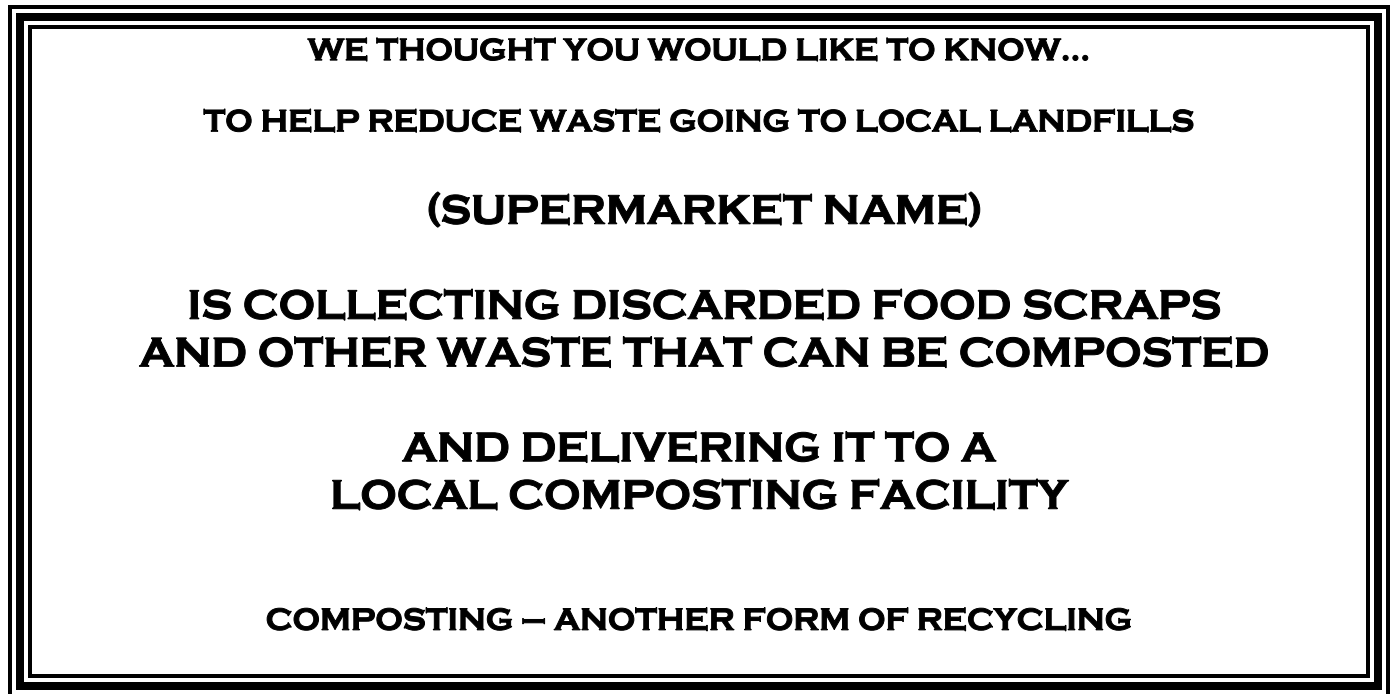
Your cooperation in helping our associates make this a successful composting program for compostable waste is much appreciated. If you have any questions or need additional information, please ask our recycling program manager, [NAME], at [####] or [EMAIL].

Thank you for helping [OUR COMPANY] dramatically reduce our waste stream and for making this important environmental commitment for the benefit of our community.

Sincerely,

[COMPANY MANAGEMENT]

Sample Program Announcement – Sign for Customers



Training and Tools

The following training and educational tools have been used and proven successful in setting up supermarket composting programs. These field-tested resources are key to establishing a clear understanding of the importance of composting and the new recycling culture in your store. These training tools have been designed to help you communicate your program's purpose and objective to managers, and train associates in each participating department.

Training Tools for Managers

This session, which should last up to an hour per store, should include the store manager and the department managers from the departments that will be participating in the composting program. Training should include visuals and hands-on activities.

Initial Training Session Agenda:

1. Introduction – include compost processor, hauler and other stakeholders
2. View Food Manufacturing Institute video: "Composting: It Makes Sense for the Supermarket Industry"
⇒ *Reference Page 8-3: Supermarket & Grocer Resources*
3. Explain why the company has decided to adopt a culture for composting and what this means (bring compost product sample)
4. Distribute training manuals (see next pages for sample manuals)
5. Review composting materials accepted in the program (bring visuals)
6. Review common contaminants (bring visuals)
7. Display new collection containers, stickers, and posters (bring the materials you will be distributing in the store)
8. Discuss collection procedures – where containers will be placed, what to do when they are full, where to get empty containers, hauling schedule, who to call if there is a problem
9. Conduct a training exercise in the respective departments
10. Question and answer period

Training Tools for Non-Management Associates

Store Associates Training and Tools

Hourly associates, working in departments that are involved in composting, should initially learn about their role in separating compostables through verbal training by their department manager and by regularly reading and referring to the composting guidelines posted at their workstation. Based on experience in other supermarket training initiatives, i.e., food safety, loss prevention, etc., associates will perform best with close supervision and attention to detail as outlined in department composting guidelines.

To further reinforce the key principles of separating compostables from trash, provide associates with frequent opportunities to ask questions and offer suggestions for improvement in your separation program.

⇒ *Reference Page 6-15: Composting Guidelines & Signs*

Quarterly Training or New Hire Training and Tools

Each quarter and/or when a new associate is hired, hourly-associates should receive verbal training by a department manager with special attention given to understanding department specific Composting Guidelines. Quarterly meetings for all associates should include feedback on your program successes, an opportunity to answer questions and initiate improvements to your compostables collection program.

Each new associate should receive verbal training by the department manager, using the training tools available in each department. New associates should be provided frequent opportunities to work along side other associates to learn the importance of separating compostables from trash, and receive answers to any question about your program.

⇒ *Reference Page 6-15: Composting Guidelines & Signs*

Training Manuals

Prior to training, handouts should be prepared as training and reference tools for store and department managers and non-management associates that will be involved in composting. These handouts should be prepared, using a combination of resource materials presented in the following pages and customized to fit the needs of your store. The handouts should be brought to the initial training sessions and kept updated as a reference guide in the department manager's office.

For the store and department manager training it is recommended to develop a training manual for each participant. These training manuals are intended to be a "hands-on" tool; it should be kept basic, brief and specific to each store's custom designed program, as designed by the program manager.

Manual for the Store Manager

This manual should include:

- An overview of the Composting Guidelines Handout
 - Questions and Answers
 - Example Training Exercise that they can use to train their department managers & associates
 - Individual department Composting Guidelines and Signs for all participating departments
 - Contacts: List associates involved with Composting Program
- ⇒ *Reference Pages 6-10 to 6-26 & 8-5: Manual for Store Manager*

Manuals for the Department Managers

Each department manager should receive an individualized manual for each participating department. This manual should mirror the supermarket manager's manual, except it should contain only the "Composting Guidelines" specific to each participating department.

Departments Involved:

- | | |
|-----------|------------------------------|
| ➤ Produce | ➤ Meat |
| ➤ Floral | ➤ Cheese |
| ➤ Bakery | ➤ Grocery/Dairy/Frozen Foods |
| ➤ Deli | ➤ Prepared Foods |
| ➤ Seafood | ➤ Administrative Office |

⇒ *Reference Pages 6-10 to 6-26 & 8-5: Manual for Department Manager*

Sample Overview of Composting Guidelines Handout

Why compost?

Composting of biodegradable materials saves supermarkets money while conserving valuable natural resources and scarce landfill space. Composting is less expensive than trash disposal. Compostable materials (such as fruits, vegetables, bread, and flower clippings) are used to make a valuable soil-like product – compost, which is used to enrich local soils. Composting also helps support local composting facilities by providing a consistent supply of material, which is processed for sale.

COMPOSTABLE

- Vegetable and fruit materials
- Spoiled food products
- Wet and waxed cardboard
- Paper towels, paper
- Wood pieces
- Flowers, plants, soil
- Coffee grounds and filters
- Renderings
- Meat, fish, and poultry
- Deli and bakery products
- Dairy products
- Food preparation scraps
- Grocery and frozen foods

Always **DE-PACKAGE** compostable materials before recycling!

Recycling

- Bottles, cans, metal and plastic containers
- Cardboard and paper
- Aluminum

Trash

- Food packaging/wrap
- Plastic gloves
- Styrofoam
- Twist ties
- Rubber bands
- Plastic tableware
- Candy wrappers
- Band-aids, tape
- Rope, twine
- Mixed trash

In-store Collection Procedures

Separate and place all compostable materials into labeled compostables containers. Remove all packaging before composting. Flatten waxed and wet cardboard before including in compost containers; if items are too large to include, place beside the containers. [Clarify your particular store procedures with program manager]

Keep trash and other recyclables separate...place all trash materials and recyclables in appropriately labeled containers.

Full collection containers must be taken to the loading dock and emptied or exchanged for empty containers. All compost containers should be lined with compostable bags, or plastic bags.

Contacts

To address problems or make adjustments to your composting program, contact your supermarket program manager.

Questions and Answers Handout

A new program brings many questions. Below are answers to many of the common questions associated with composting. As you customize your program, you will want to capture any new questions that arise and include them in your training guide.

What are compostables?

Compostables (in the supermarket environment) include produce, inedible food, wet and waxed cardboard, paper, plants and flowers. Compostable materials are biodegradable, meaning they can be naturally broken down and made into soil.

What is composting?

Composting is a process of consciously placing compostable waste in separate collection containers to minimize contamination and preserve the quality so the materials can be taken to a composting facility for processing. This process is also referred to as "source separation of organics" because the materials are separated at the point of discard so that they can be recycled.

What is contamination?

Contaminants are foreign materials that make a recyclable or compostable material impure; for example, pieces of plastic mixed with food scraps.

Why are we separating compostables?

Composting saves money and reduces waste, which helps save our environment, natural resources, and landfill space. Of all the waste we generate in our store, approximately 75% is compostable. Compostable wastes contain rich nutrients used in the making of soil-like material called compost. Recycling these valuable materials back into the earth as soil is better for our environment and is a lower cost alternative to landfill disposal.

What is a composting facility?

A composting facility is a processing facility that accepts source-separated biodegradable (organic) waste, blends it with other materials, and produces compost – a soil amendment that is sold as an alternative to fertilizers.

Compostables vs. trash... what's the difference?

Compostables are biodegradable materials including produce, inedible food, wet and waxed cardboard, paper, plants, flowers, and wood boxes.

"Trash" is any non-recyclable packaging or other non-organic waste material that must be disposed as trash, such as rubber bands, tape, rope, and Styrofoam.

Is the role of the store associate really as simple as sorting compostables from trash?

Yes. As simple as it sounds, the most important role of EVERY store associate is to consistently assure that ALL designated compostables in your store's program are recycled every day. Keeping the compostables separate from recyclables and trash will assure the making of the highest quality contaminate-free soil, which will be applied as a "soil amendment" in your community.

Can I add liquid or grease?

Liquids resulting from food preparation may be collected, provided all liquid is contained in a certified compostable bag. Keeping liquids stored in certified compostable bags will prevent dirtying the collection containers. Chemicals (floor wax and strippers, sanitizers, soap, etc.) must not be placed in compost collection containers.

Grease from fryers is acceptable only at composting facilities licensed to process meats and meat products. Check with your recycling program manager to see whether your program can accept liquid or grease from food preparation.

Why can't we add meat?

Unless your composting facility is licensed to process meats and meat by-products, you should refrain from collecting meats in your composting program. Licensed composting facilities, approved for meats, follow strict procedures to assure rapid processing of meats and have the proper facility design and equipment to handle the material appropriately. Check with your recycling program manager to determine the status of meat collection in your composting program.

What are renderings? Can they be included?

"Renderings" refer to grease, meats, and meat by-products. Renderings are often collected separately and converted into animal food, cosmetics, soap, and other products. They can also be included in some composting programs if the facility is licensed to process meats and meat products. Check with your recycling program manager to see whether your program can accept renderings.

Why does it smell?

Food products and by-products rapidly breed bacteria when left at room temperature. This decaying food emits an odor. Large amounts of concentrated decaying food can produce offensive odors until introduced into a composting process where the raw organic waste is blended with other materials. To eliminate or minimize odors, be sure to properly sanitize collection containers, replace liner bags, and empty collection containers on a regular schedule. Supermarkets following these procedures have infrequent problems with odor.

What happens to the compostables once they leave the store?

All compostables are quickly transported to an approved composting facility where the material is emptied on to a "pad," followed by immediate introduction into a carefully managed compost pile – which, once processed, looks, feels and smells like rich soil (also referred to as "soil amendment").

What do I do if something compostable spills?

The compostable material may be reintroduced to the compost collection container, being careful not to include any non-compostable material (plastic, glass, or metal). If a compostable material becomes contaminated with plastic, glass, metal or hazardous material, it should be placed in the trash.

Why do we have to use special bags?

Some composting programs require the use of compostable bags – especially if the bag is going to be directly placed in the compost pile at the composting facility. If your program specifies the use of such bags, it is most important to consistently use these bags in compost collection containers.

Why aren't more businesses composting?

The composting of organic waste materials is a relatively new concept. Most communities have resisted engaging in composting initiatives because traditional waste removal costs and practices have become more prevalent and more attractive to all waste generators. Also, most waste-generators simply find it "easier" to just "throw it away." We have become a wasteful society and most businesses have ignored alternative recycling initiatives – until now.

Why has composting become so important?

Composting is gaining support as a preferred waste disposal alternative because it costs less than landfilling or incinerating, is better for the environment, and results in the making of rich soil – a scarce commodity.

How can I help our company and lower costs?

Whenever you throw anything away,

STOP and THINK...

Is it **compostable** (food, paper, flowers or soil)?

- Place in separate collection containers marked "compostable"

Is it **recyclable** (cardboard; paper; bottles, cans and plastic and metal containers; and aluminum)?

- Place in appropriate collection containers

Is it **trash** (rubber bands, tape, rope, Styrofoam)?

- Place in separate "trash" containers.

How can I assure our store really adopts a new composting culture?

First and foremost understand why the company has chosen to compost biodegradable waste. Read the training manual and pay attention to the signs in each department. Watch others and remind them to practice proper separation of compostables from trash. If you have a question about the proper separation process or want to offer a suggestion for improving your store's composting program, check with your supervisor or composting program manager.

Example Training Exercise

SET UP

Place two sets of the following containers on one side of the room:

- Trash can
- Recycling bin
- Compostables bin
- Cardboard box

Place an assortment of clean waste materials (wash with soap and water if necessary) on a table on the opposite side of the room - see following list of examples. All materials should be free of sharp edges. Use only recyclables that are separated in your recycling program. Provide enough items for each participant to complete the exercise 2 or 3 times.

TRASH for trash can

- Food packaging/wrap
- Plastic gloves
- Styrofoam
- Twist ties, rubber bands
- Tape, rope
- Candy wrappers
- Plastic tableware

NOTE: Include items from the recyclables list if your recycling program does not separate these materials

RECYCLABLES for recycling bin

- Pallet wrap
- Stretch wrap
- NOTE: Show an example of a glass container, but do not use it in the exercise.

COMPOSTABLES for compost bin

- Fruits: apples, oranges, grapefruit, etc.
- Vegetables: carrots, onions, scrubbed potatoes, fresh green beans, etc.
- Unused paper towels, plates, cups
- Waxed cardboard
- Cereal boxes, frozen food boxes
- Flowers, plants

NOTE: Sturdy whole fruits & vegetables can represent peels/cores.

CARDBOARD for cardboard box

- Cardboard box pieces

PLAY THE GAMECOMPLETE THE EXERCISE

- Show examples of discarded items, and discuss the natural materials they were made from.
- Explain the concepts of recycling and composting, and how trash can be diverted from disposal by using these methods.
- The participants form two lines, one on each side of the table with waste on it.
- The first participant in each line picks up a piece of waste, walks or runs across the room, deposits it into the right container, and returns to the end of the line. (Teammates may coach them.)
- The next participant in line repeats this process, until all the waste is sorted.
- The team that properly separates their materials the best is deemed the winner. The instructor should review the correct and incorrect items that were placed in the bins with the participants.

NOTE: Exercise should be completed where participants may safely walk or run and noise is not a problem.

Composting Guidelines and Signs

The following pages provide examples of composting guidelines for each department in your store and sample sticker signs for trash and composting bins. These individual department guidelines and signs will allow you to differentiate “compostables” from “trash” and “recycling” by listing materials that will be separated within each department.

You will want to tailor these guidelines and signs for your supermarket's program since materials and collection procedures that will be used for composting in your stores may differ from the examples provided. For example, if you have one store using a compactor system and a second store using a toter system, you will need to change your training materials to reflect these collection differences.

Depending on the languages used by your store associates, you will also want to consider translating your training materials.

In the following pages and on the CD you will find sample signs for the following departments:

- Produce
- Floral
- Bakery
- Deli
- Seafood
- Meat
- Cheese
- Grocery/Dairy/Frozen Foods
- Prepared Foods
- Administrative Office

⇒ *Reference CD: Composting Guidelines & Signs*

Remember, all educational signs used throughout the supermarket should be:

- User Friendly
- Eye-catching
- Color-coded
- Uniform
- Visible
- Translated in all appropriate languages
- Laminated

All sign stickers should be waterproof and made of vinyl. Stickers should be applied to and maintained on all compost and trash collection containers in each participating department.

It is recommended to laminate educational guidelines that will be posted in each department in order to provide long-lasting service. All guidelines should be displayed at workstations in each participating department.

⇒ *Reference Pages 6-16 thru 6-26: Composting Guidelines & Signs*

Produce Department

COMPOSTING GUIDELINES

When throwing anything away, keep **COMPOSTABLES**, **RECYCLING** and **TRASH** separate.

COMPOST COLLECTION

ALWAYS **DE-PACKAGE** COMPOSTABLES BEFORE COMPOSTING
(Remove all plastic, metal, glass, styrofoam)

The following items are **COMPOSTABLE**:

- Fruit and vegetable cull and trim
- Spoiled food products
- Wet and waxed cardboard
- Wood pieces
- Paper towels, paper, waxed paper

Place **ALL COMPOSTABLE** materials in recycling containers marked **COMPOSTABLE**.

RECYCLING

RECYCLE cardboard boxes following store procedures.

Place **ALL PLASTIC, GLASS & METAL** containers in recycling bins marked **RECYCLING**.

TRASH COLLECTION

The following items are **TRASH**:

- Food packaging/wrap
- Plastic gloves
- Styrofoam
- Twist ties, rubber bands
- Wire
- Band-aids, tape, rope, twine

Place **ALL TRASH** materials in regular **TRASH** barrels to be unloaded into **TRASH Compactor**.

Floral Department

COMPOSTING GUIDELINES

When throwing anything away, keep **COMPOSTABLES**, **RECYCLING** and **TRASH** separate.

COMPOST COLLECTION

ALWAYS **DE-PACKAGE** COMPOSTABLES BEFORE COMPOSTING
(Remove all plastic, metal, glass, styrofoam)

The following items are **COMPOSTABLE**:

- Plants, cut flowers, potting soil
- Plant trim (i.e. stalks, leaves)
- Biodegradable plant pots
- Wet and waxed cardboard
- Wood pieces
- Paper towels, paper, waxed paper

Place **ALL COMPOSTABLE** materials in recycling containers marked **COMPOSTABLE**.

RECYCLING

Recycle cardboard boxes following store procedures.

Place **ALL PLASTIC, GLASS & METAL** containers in recycling bins marked **RECYCLING**.

TRASH COLLECTION

The following items are **TRASH**:

- Plastic packaging/wrap
- Plastic gloves
- Styrofoam
- Twist ties, rubber bands
- Wire
- Band-aids, tape, rope, twine

Place **ALL TRASH** materials in regular **TRASH** barrels to be unloaded into **TRASH Compactor**.

Bakery Department

COMPOSTING GUIDELINES

When throwing anything away, keep **COMPOSTABLES**, **RECYCLING** and **TRASH** separate.

COMPOST COLLECTION

ALWAYS **DE-PACKAGE** COMPOSTABLES BEFORE COMPOSTING
(Remove all plastic, metal, glass, styrofoam)

The following items are **COMPOSTABLE**:

- Breads, rolls
- Pastries, muffins, bagels
- Batter, dough
- Coffee grounds and filters
- Wet and waxed cardboard
- Wood pieces
- Paper towels, paper, waxed paper

Place **ALL COMPOSTABLE** materials in recycling containers marked **COMPOSTABLE**.

RECYCLING

RECYCLE cardboard boxes following store procedures.

Place **ALL PLASTIC, GLASS & METAL** containers in recycling bins marked **RECYCLING**.

TRASH COLLECTION

The following items are **TRASH**:

- Food packaging/wrap
- Plastic gloves
- Styrofoam
- Twist ties, rubber bands
- Wire
- Band-aids, tape, rope, twine

Place **ALL TRASH** materials in regular **TRASH** barrels to be unloaded into **TRASH Compactor**.

Deli Department

COMPOSTING GUIDELINES

When throwing anything away, keep **COMPOSTABLES**, **RECYCLING** and **TRASH** separate.

COMPOST COLLECTION

ALWAYS **DE-PACKAGE** COMPOSTABLES BEFORE COMPOSTING
(Remove all plastic, metal, glass, styrofoam)

The following items are **COMPOSTABLE**:

- Sandwiches
- Deli meat, cheese
- Salad bar discards
- Cull and trim from food preparation
- Spoiled and discarded food
- Wet and waxed cardboard
- Paper towels, paper, waxed paper

Place **ALL COMPOSTABLE** materials in recycling containers marked **COMPOSTABLE**.

RECYCLING

RECYCLE cardboard boxes following store procedures.

Place **ALL PLASTIC, GLASS & METAL** containers in recycling bins marked **RECYCLING**.

TRASH COLLECTION

The following items are **TRASH**:

- Food packaging/wrap
- Plastic gloves
- Styrofoam
- Twist ties, rubber bands
- Wire
- Band-aids, tape, rope, twine

Place **ALL TRASH** materials in regular **TRASH** barrels to be unloaded into **TRASH Compactor**.

Seafood Department

COMPOSTING GUIDELINES

When throwing anything away, keep **COMPOSTABLES**, **RECYCLING** and **TRASH** separate.

COMPOST COLLECTION

ALWAYS **DE-PACKAGE** COMPOSTABLES BEFORE COMPOSTING
(Remove all plastic, metal, glass, styrofoam)

The following items are recyclable **COMPOSTABLES**:

- Fish and seafood trim
- Spoiled food products
- Wet and waxed cardboard
- Wood pieces
- Paper towels, paper, waxed paper

Place **ALL COMPOSTABLE** materials in recycling containers marked **COMPOSTABLE**.

RECYCLING

RECYCLE cardboard boxes following store procedures.

Place **ALL PLASTIC, GLASS & METAL** containers in recycling bins marked **RECYCLING**.

TRASH COLLECTION

The following items are **TRASH**:

- Food packaging/wrap
- Plastic gloves
- Styrofoam
- Twist ties, rubber bands
- Wire
- Band-aids, tape, rope, twine

Place **ALL TRASH** materials in regular **TRASH** barrels to be unloaded into **TRASH Compactor**.

Meat Department

COMPOSTING GUIDELINES

When throwing anything away, keep **COMPOSTABLES**, **RECYCLING** and **TRASH** separate.

COMPOST COLLECTION

ALWAYS **DE-PACKAGE** COMPOSTABLES BEFORE COMPOSTING
(Remove all plastic, metal, glass, styrofoam)

The following items are **COMPOSTABLE**:

- Meat and poultry scraps and trim
- Spoiled food products
- Rendering
- Wet and waxed cardboard
- Wood pieces
- Paper towels, paper, waxed paper

Place **ALL COMPOSTABLE** materials in recycling containers marked **COMPOSTABLE**.

RECYCLING

RECYCLE cardboard boxes following store procedures.

Place **ALL PLASTIC, GLASS & METAL** containers in recycling bins marked **RECYCLING**.

TRASH COLLECTION

The following items are **TRASH**:

- Food packaging/wrap
- Plastic gloves
- Styrofoam
- Twist ties, rubber bands
- Wire
- Band-aids, tape, rope, twine

Place **ALL TRASH** materials in regular **TRASH** barrels to be unloaded into **TRASH Compactor**.

Cheese Department

COMPOSTING GUIDELINES

When throwing anything away, keep **COMPOSTABLES**, **RECYCLING** and **TRASH** separate.

COMPOST COLLECTION

ALWAYS **DE-PACKAGE** COMPOSTABLES BEFORE COMPOSTING
(Remove all plastic, metal, glass, styrofoam)

The following items are **COMPOSTABLE**:

- Cheese scraps and trim
- Outdated cheese
- Spoiled food products
- Wet and waxed cardboard
- Wood pieces
- Paper towels, paper, waxed paper

Place **ALL COMPOSTABLE** materials in recycling containers marked **COMPOSTABLE**.

RECYCLING

RECYCLE cardboard boxes following store procedures.

Place **ALL PLASTIC, GLASS & METAL** containers in recycling bins marked **RECYCLING**.

TRASH COLLECTION

The following items are **TRASH**:

- Food packaging/wrap
- Plastic gloves
- Styrofoam
- Twist ties, rubber bands
- Wire
- Band-aids, tape, rope, twine

Place **ALL TRASH** materials in regular **TRASH** barrels to be unloaded into **TRASH Compactor**.

Grocery/Dairy/Frozen Foods

COMPOSTING GUIDELINES

When throwing anything away, keep **COMPOSTABLES**, **RECYCLING** and **TRASH** separate.

COMPOST COLLECTION

ALWAYS **DE-PACKAGE** COMPOSTABLES BEFORE COMPOSTING
(Remove all plastic, metal, glass, styrofoam)

The following items are **COMPOSTABLE**:

- Outdated and inedible foods (de-packaged)
- Spoiled food products
- Milk, milk-products, juices (in paperboard cartons)
- Ice cream, yogurt, cottage cheese
- Eggs, **PAPER** egg cartons
- Wet and waxed cardboard
- Wood pieces
- Paper towels, paper, waxed paper

Place **ALL COMPOSTABLE** materials in recycling containers marked **COMPOSTABLE**.

RECYCLING

RECYCLE cardboard boxes following store procedures.

Place **ALL PLASTIC, GLASS & METAL** containers in recycling bins marked **RECYCLING**.

TRASH COLLECTION

The following items are **TRASH**:

- Food packaging/wrap
- Plastic gloves
- Styrofoam egg cartons, Styrofoam pieces
- Twist ties, rubber bands
- Wire
- Band-aids, tape, rope, twine

Place **ALL TRASH** materials in regular **TRASH** barrels to be unloaded into **TRASH Compactor**.

Prepared Foods Department

COMPOSTING GUIDELINES

When throwing anything away, keep **COMPOSTABLES**, **RECYCLING** and **TRASH** separate.

COMPOST COLLECTION

ALWAYS **DE-PACKAGE** COMPOSTABLES BEFORE COMPOSTING
(Remove all plastic, metal, glass, styrofoam)

The following items are **COMPOSTABLE**:

- Cull and trim from food preparation
- Unused food ingredients (i.e. flour, spices, batter, vegetable scraps)
- Outdated and spoiled foods
- Salad bar discards and scraps
- Meat, cheese
- Wet and waxed cardboard
- Wood pieces
- Paper towels, paper, waxed paper

Place **ALL COMPOSTABLE** materials in recycling containers marked **COMPOSTABLE**.

RECYCLING

RECYCLE cardboard boxes following store procedures.

Place **ALL PLASTIC, GLASS & METAL** containers in recycling bins marked **RECYCLING**.

TRASH COLLECTION

The following items are **TRASH**:

- Food packaging/wrap
- Plastic gloves
- Styrofoam
- Twist ties, rubber bands
- Wire
- Band-aids, tape, rope, twine

Place **ALL TRASH** materials in regular **TRASH** barrels to be unloaded into **TRASH Compactor**.

Administrative Offices

COMPOSTING GUIDELINES

When throwing anything away, keep **COMPOSTABLES**, **RECYCLING** and **TRASH** separate.

COMPOST COLLECTION

ALWAYS **DE-PACKAGE** COMPOSTABLES BEFORE COMPOSTING (remove all plastic, metal, glass, styrofoam)

The following items are **COMPOSTABLE**:

- Paper
- Wet and waxed cardboard
- Food discards (i.e. banana peels, apple cores, sandwiches)
- Dairy and frozen food (i.e. yogurt, ice cream)
- Deli meat, cheese
- Spoiled food (de-packaged)
- Paper towels, waxed paper

Place **ALL COMPOSTABLE** materials in recycling containers marked **COMPOSTABLE**.

RECYCLING

RECYCLE cardboard boxes following store procedures.

Place **ALL PLASTIC, GLASS & METAL** containers in recycling bins marked **RECYCLING**.

TRASH COLLECTION

The following items are **TRASH**:

- Food packaging/wrap
- Plastic gloves
- Styrofoam
- Twist ties, rubber bands
- Wire
- Band-aids, tape, rope, twine

Place **ALL TRASH** materials in regular **TRASH** barrels to be unloaded into **TRASH Compactor**.

Sample Sticker for Compostables Containers

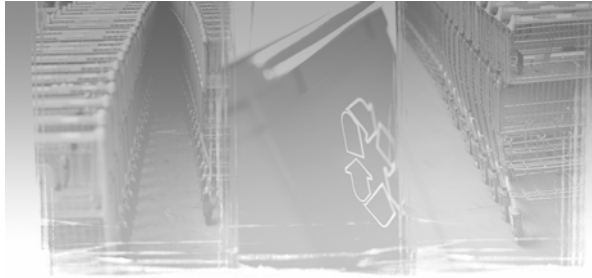


Sample Sticker for Trash Containers



Sample Sticker for Recyclable Containers





Monitoring

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Monitoring Overview

The long-term success of your composting program is primarily dependent on consistent source separation practices day to day and week after week. To realize the savings from composting, every store associate should faithfully practice the new culture of sorting compostable materials from trash. To ensure a long term successful program and quality material for the composting facilities, a commitment towards ongoing monitoring, quality control, and feedback to associates is very important.

Critical Feedback Mechanisms

Periodic reporting of your composting program progress to upper management is vital. Management should be kept well informed of the success of the new program and the cost savings being attained. Each stakeholder who is involved in the collection, hauling, and composting procedure should invite frequent feedback of any contamination found in this process.

The tasks for monitoring and quality control should fall to several people: the hauler, the composting facility, the supermarket program manager, and the composting point person at each store.

The Hauler and the Composting Facility:

The hauler and composting facility are responsible for examining the loads they receive and reporting any contamination they find to the program manager or store point person. Compost facilities should document any significant contamination identified at the time of delivery.

Important: Digital photos are the best tools for compost facilities or haulers to document types and sources of foreign materials or contaminants discovered in your compostable material. Digital photos should be quickly sent to responsible store associates following delivery of each load to the composting facility.

With the delivery of each load of compostables, the feedback process will be completed when the composter fills out a contamination report.

⇒ *Reference Page 7-7 & CD: Contamination Report*

The Supermarket Program Manager and Composting Point Person:

Once a problem is discovered and reported, it is the responsibility of the supermarket program manager to see that proper training is completed to rectify any contamination issues. The program manager and store point person should evaluate the thoroughness of composting activities in every store department. After the initial period of implementation, training, and trouble shooting a new program, it is recommended that the program manager/store point person plan to spend a few minutes each day monitoring and maintaining the composting program to assure desired results. Managers who have a passion and a genuine interest in recycling are more likely to have a successful program.

Monitoring Guidelines for Supermarkets

For a successful long-term program, it is recommended that all of the guidelines listed below be consistently followed to assure quality control. The following responsibilities can be divided as appropriate between the composting program manager and the point persons at each store:

Daily

- Inspect compost collection containers to assure only compostables are being recovered.
- Inspect trash containers to assure only trash is discarded.
- Take digital photographs of contamination whenever possible for use in staff training.

Weekly

- Assure every department has proper labels on each collection container and composting guidelines posted near workstations.
- Assure proper liner bags are being used in each collection container.
- Assure there are adequate quantities of collection containers in each department and that they are placed in strategic locations.
- Review contamination reports and coordinate with compost haulers and composting facilities to monitor quality of compostable materials being collected. Report problems to department managers and associates and take corrective actions.

Monthly

- Report the results of composting to all department managers and associates, or more frequently if necessary.
- Record composting, recycling and solid waste amounts in monthly tracking form.

Quarterly

- Conduct associate refresher training.
- Review program with upper management.

On a regular basis

- Take corrective action to improve compost separation activities as necessary.
- Arrange for training of new associates.
- Talk to associates about how the new program is working for them.
- Make necessary adjustments in collection practices to assure maximized recovery of compostables and optimized savings.
- Maintain updated training resources (manuals, stickers, posters, feedback sessions).
- Reward, congratulate, and recognize department managers and associates for their roles and successes in the program.

Examples of Using Digital Photos to Document Contaminated Composting Containers



Plastic bag mixed with compostables



Plastic and metal contamination



Plastic wrap included with compostables

Contaminated Loads of Compostables at the Composting Facility



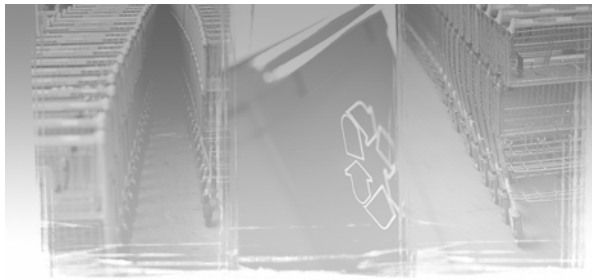
Loads of Clean Compost Material for Composting



Contamination Report

[illegible]

* Contamination Codes: PW- plastic wrap PB- plastic banding T- trash W- wood M- metal ** list % of the total load that is contaminated



Resources

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Resources Overview

As the infrastructure for composting of supermarket waste develops and matures, more and more information is becoming available on a national level to assist all stakeholders in program development, research and due diligence exercises.

Many very well developed strategies have been researched and documented by committed, creative industry professionals who are willing to share their findings with others. Each plays an important role in growth of composting as a preferred waste disposal alternative. This Resource section will help guide you to many of these valuable sources of knowledge, data and up-to-date information channels.

Composters and Haulers will find a wealth of information and assistance through many Federal Agency resources, the U.S. Composting Council, and numerous other sources, including universities, industry trade associations, colleges and private enterprises.

Supermarket operators may also turn to many of the same sources that are used by composters and haulers for answers to questions and assistance to help grow their composting programs. Supermarket operators may also rely on food-related trade organizations, including the Food Marketing Institute.

As with most state-based information sources, nationally focused organizations and associations can be accessed through the Internet. And, because this industry is constantly innovating and changing in focus, breadth and depth, you are strongly encouraged to look for links and conduct searches for the latest data and technology to enhance your program.

Here's what you'll find in this General Resources section:

- Federal Agency Resources
- Supermarket and Grocer Resources
- Consultant Recommendations
- Other Resources of Interest
- Manuals for Store Manager and Department Mangers
- Compost Collection Supplies

Federal Agency Resources

United States Environmental Protection Agency

The U.S. EPA is the federal agency that leads the nation's environmental science, research, education and assessment efforts. They develop and enforce regulations, perform environmental research, offer financial assistance, further environmental education and publish information. The US EPA has funded a number of composting infrastructure building projects including assistance for the Supermarket Organics Recycling Network and is in the process of developing a website devoted to food waste issues.

⇒ *Reference Online:* www.epa.gov/

Specific US EPA web pages of interest:

- Information on Food Recovery: www.epa.gov/epaoswer/osw/community.htm#compost
- Composting website: www.epa.gov/compost
- Jobs Thru Recycling (JTR) website: www.epa.gov/jtr
- WasteWise website: www.epa.gov/wastewise

United States Department of Agriculture's Natural Resources Conservation Service

The U.S. Department of Agriculture is the federal agency that leads the nation's assistance to farmers and ranchers. The USDA has a number of missions but one in particular where there is composting assistance is through the Natural Resources Conservation Service (NRCS). The NRCS provides technical assistance and additional resources to help farmers' compost.

⇒ *Reference Online:* www.nrcs.usda.gov

Supermarket and Grocer Resources

Food Marketing Institute

The Food Marketing Institute (FMI) is the leading trade association representing food retail and wholesale industries. FMI is committed to providing the resources and services that members require achieving their strategic goals, improving operations and expanding markets. The organization offers a variety of membership benefits and resources available only through FMI.

The FMI communications department has a training video for supermarkets entitled: "Composting It Makes Sense for the Supermarket Industry". To obtain a copy contact the Food Marketing Institute.

⇒ *Reference Online:* www.fmi.org

Consultant Recommendations

Contact your state Supermarket and Grocer's Association for recommendations on consultants that can assist your business in developing a composting program.

Other Resources of Interest

U. S. Composting Council

The U.S. Composting Council (USCC) is a trade and professional organization promoting compost and providing a unified voice for the composting industry. The USCC is involved in research, public education, composting and compost standards, expansion of compost markets and the enlistment of public support.

⇒ *Reference Online:* www.compostingcouncil.org

Solid Waste Association of North America (SWANA)

SWANA is a professional association in the solid waste field and serves over 7,200 members throughout North America, and thousands more with conferences, certifications, publications, and technical training courses. SWANA's mission is to educate, innovate, and communicate on solid waste issues.

⇒ *Reference Online:* www.swana.org

Earth 911

Earth 911 or Cleanup.org is a national website dedicated to providing consumers and businesses with community specific resources on the environment. This includes tools, tips, and information about recycling in your area. The business resources section can help you locate a business recycling service provider near you.

⇒ *Reference Online:* www.earth911.org or www.cleanup.org

Cornell Waste Management Institute/Cooperative Extension

This institution offers extensive resources on composting for businesses and institutions, including a number of tool kits, manuals, tip sheets, and videos.

⇒ *Reference Online:* www.compost.css.cornell.edu/composting_homepage.html

California Integrated Waste Management Board

The Organics Material Management web page provides information on compost, mulch, grasscycling, and other topics relating to the management and use of organic resources.

⇒ *Reference Online:* www.ciwmb.ca.gov/organics/default.htm

Maine Composting School

The objective of the Maine Composting School is to provide training to people interested and/or involved with medium and large-scale composting operations. This course is offered as a certificate program by University of Maine Cooperative Extension and will train personnel to be qualified compost site operators.

⇒ *Reference Online:* www.composting.org

BioCycle, Journal of Composting and Recycling

This monthly magazine is one of the leading publications on composting and recycling. It showcases examples of how to launch and expand composting and organics recycling programs.

⇒ *Reference Online:* www.jgpress.com/biocycle.htm

Biodegradable Products Institute

The Biodegradable Products Institute is a multi-stakeholder association of key individuals and groups from government, industry and academia, which promotes the use, and recycling of biodegradable polymeric materials (via composting). The BPI is open to any materials and products that demonstrate that they meet the requirements in ASTM D6499 or D6868, based on testing in an approved laboratory.

⇒ *Reference Online:* www.bpiworld.org

Business Food Waste Briefing Paper: Options for Grocers, Restaurants, and Food Processors

Published by WasteCap of Wisconsin, reviews the many options available for reducing food residuals.

⇒ *Reference Online:* www.wastecapwi.org/documents/foodwaste.pdf

Manuals for Store Manager and Department Managers

Training manuals for the store manager and department managers should be developed from resource materials presented in the Training section. Each manual should include the following elements:

Manual for the Store Manager

- An Overview of the Composting Guidelines Handout
⇒ *Reference Page 6-10 & CD: Sample Overview of Composting Guidelines Handout*
- Questions and Answers
⇒ *Reference Page 6-11 & CD: Questions and Answers*
- Example Training Exercise that they can use to train their department managers & associates
⇒ *Reference Page 6-14 & CD: Example Training Exercise*
- Composting Guidelines and Signs for all participating departments
⇒ *Reference Page 6-15 & CD: Composting Guidelines & Signs*
- Contacts: List associates involved with the Composting Program

Department Manager's Manual

Each department manager should receive an individualized manual for each participating department. This manual should mirror the supermarket manager's manual, except it should contain only the "Composting Guidelines" specific to each participating department.

Departments Involved:

- | | |
|-----------|------------------------------|
| ➤ Produce | ➤ Meat |
| ➤ Floral | ➤ Cheese |
| ➤ Bakery | ➤ Grocery/Dairy/Frozen Foods |
| ➤ Deli | ➤ Prepared Foods |
| ➤ Seafood | ➤ Administrative Office |

⇒ *Reference Manual for the Store Manager (above) & CD*

Compost Collection Supplies

The following are examples of other types of collection supplies that could be important for your composting program.

Compostable Liner Bags

Compostable bags and films are designed to disintegrate and biodegrade quickly and safely, when composted in a commercial or municipal facility. Approved products meet stringent, scientifically based specifications: ASTM D6400 or D6868.

For current supply sources, reference: The Biodegradable Products Institute

⇒ *Reference Online:* www.bpiworld.org/BPI-Public/Approved/1.html

Plastic Liner Bags

Polyethylene ("plastic") liner bags, although not compostable, are less expensive to use and require removal prior to introducing compostables into compost processing. Plastic bags are more commonly available through supermarket store supplies vendors. Refer to vendors in your area to learn about current offerings.

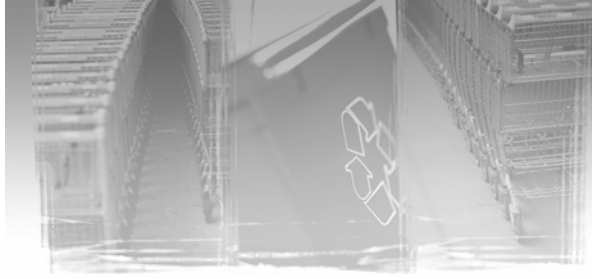
Paper Liner Bags

Paper liner bags (without polyethylene liners) are compostable and offer another solution for the collection of biodegradable wastes where smaller quantities are generated. Paper liner bags are commonly available through supermarket store supplies vendors. Refer to vendors in your area to learn about current offerings.

Rubber Bands

Rubber bands are a necessary tool for holding compostable and plastic liner bags secure in collection containers. A current supply-source is Aero Rubber Company, Inc.

⇒ *Reference Online:* www.aerorubber.com



Massachusetts Resources

(For Massachusetts Only Supermarkets)

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Massachusetts Resources Overview

In our ever-changing world of innovation and technology, accessing current information to aid in customizing your composting system requires research. Use this Resource section to begin your search for knowledge about composting in Massachusetts. Much of the information found in this section can be located through the Internet. Every attempt has been made to build timelessness into this Handbook, however, given the speed of change, new exciting solutions and opportunities will arise. You are encouraged to conduct searches, using suggested links found in this section and from your own sources, to gather the most up-to-date data for your program, and expand upon information referred to in the body of this manual.

Developing a sustainable infrastructure for composting in Massachusetts involves many entities working together, including the Massachusetts Department of Environmental Protection (MassDEP), Massachusetts Food Association (MFA), non-profit organizations, composting industry, farms, hauling industry, Department of Agricultural Resources (DAR), and the United States Environmental Protection Agency New England Regional office (EPA), to name a few.

Through the MassDEP, MFA and EPA, you should find answers to many of your questions. As composting continues to emerge as a practical and cost effective alternative to traditional waste disposal practices, stay in touch with each organization to learn of progress and new discoveries in the Commonwealth of Massachusetts.

Here's what you'll find in this Massachusetts-specific Resources section:

- Supermarket Composting Accomplishments in Massachusetts
- State Agency Resources (role, goal, regulations, resources)
- Consultant Recommendations
- Other Resources of Interest
- Composting Equipment Vendors
- Composting Facilities and Haulers
- Case Studies and Articles

Supermarket Composting Accomplishments in Massachusetts

Building a state-wide sustainable culture for composting as a preferred waste recovery alternative requires long term commitments on the part of the agricultural and waste disposal communities, and large generators of biodegradable waste materials, especially supermarkets. Massachusetts has made great strides in developing an infrastructure for composting, and has worked closely with the supermarket industry to develop a cost effective and efficient composting network.

⇒ *Reference Online:* www.mass.gov/dep/recycle/reduce/composti.htm

Supermarket Industry Voluntary Strategy

In the spring of 2005, a partnership between the MassDEP and the MFA resulted in a voluntary strategy for increased diversion of compostable materials from supermarkets. Both entities have signed a Memorandum of Understanding, which solidifies mutual commitments to further composting in the supermarket industry. Some of the elements of this plan include:

- 1) Providing tools, information, and technical assistance to help supermarkets set up or expand programs
- 2) Developing a voluntary certification program that will provide regulatory relief to supermarkets of certain waste banned materials
- 3) Provide public recognition to participants for their efforts

It is anticipated that this voluntary partnership will assist in accelerating diversion of compostable materials from supermarkets in Massachusetts.

Supermarket Organics Recycling Network (SORN)

Beginning in 2002 and continuing through 2006, several Massachusetts supermarkets participated in growing composting as a preferred alternative to landfilling biodegradable wastes. Starting with a three-store pilot at Roche Bros. Supermarkets in early 2002, composting food discards and other compostable materials grew to more than 62 supermarket locations in five chains, including Roche Bros., Big Y, Shaw's, Stop & Shop, and Whole Foods supermarkets.

Massachusetts WasteWise Supermarket Recycling Leadership Award

In the fall of 2004, five Massachusetts supermarket chains received Massachusetts WasteWise Supermarket Leadership Awards. The award was given to supermarkets that demonstrated leadership, sustainability and innovation in reducing waste, including efforts in developing composting programs in Massachusetts.

Technical Assistance to Supermarkets in Western Massachusetts and Cape Cod

Between 1998 and 2000 the MassDEP provided technical assistance to thirteen Stop & Shop stores on Cape Cod and 4 Big Y stores in Western Massachusetts to pilot composting programs.

State Agency Resources

The Massachusetts Department of Environmental Protection and the Massachusetts Department of Agricultural Resources are the two state agencies that play a primary role in either oversight of composting sites or have provided valuable technical and other assistance to assist the supermarket industry in developing composting programs.

Massachusetts Department of Environmental Protection

⇒ Reference Online: www.mass.gov/dep

State Role

The Massachusetts Department of Environmental Protection (MassDEP) is responsible for protecting human health and the environment by ensuring clean air and water, the safe management and disposal of solid and hazardous wastes, the timely cleanup of hazardous waste sites and spills, and the preservation of wetlands and coastal resources

MassDEP's Waste Reduction Goal

The MassDEP has adopted the *Beyond 2000 Solid Waste Master Plan*. The goal of the Plan is to reduce “the waste we produce by 70% through recycling and source reduction by 2010.” Reducing food waste disposal is one of several significant strategies for achieving that goal.

A 2002 analysis conducted for MassDEP indicated that in order to meet the 70 percent target, an additional 300,000 tons of food waste would need to be diverted to composting or reduced at the source. MassDEP is taking a number of steps toward that objective through:

- Evaluating barriers to composting and, where necessary, make changes aimed at fostering a positive climate for composting operations;
- Exploring expanding the state's role in locating sites for new composting operations;
- Implementing a Composting Education Campaign; and,
- Providing Grants and Technical Assistance

⇒ Reference Online: www.mass.gov/eea/agencies/massdep/recycle/reports/solid-waste-master-plan.html

Regulations: Massachusetts Waste Bans

Since 1990, Massachusetts has phased in solid waste regulations (the “waste bans”) that restrict the disposal or transfer for disposal of recyclable and hazardous materials at solid waste facilities in Massachusetts and are located in the state's solid waste facility management regulations, 310 CMR 19.017. These materials include recyclable paper (including cardboard), glass containers, plastic containers, leaves and yard waste, batteries, white goods, whole tires, and cathode ray tubes and beginning July 1, 2006, asphalt pavement, brick, concrete, wood and metal.

The waste bans apply to any solid waste destined for a Massachusetts landfill, combustion facility or transfer station, including all residential and commercial wastes. It is the responsibility of all facility operators to ensure that only allowable quantities of restricted materials are disposed of at their sites.

The waste bans are designed to: 1) conserve capacity at existing disposal facilities, 2) minimize the need for new facility construction, and 3) signal recyclables markets that large volumes of material are available on a consistent basis. They also restrict certain toxic substances or materials that may adversely affect our environment when landfilled or incinerated.

Solid waste facility operators must monitor incoming waste loads for recoverable restricted materials and perform random and comprehensive inspections of refuse trucks tipping at their sites. If a waste load exceeds the acceptable level of restricted material, it is considered to have “failed.” Failed loads are either: 1) rejected or reloaded when

containing significant quantities of recoverable materials; 2) accepted and separated for recycling; 3) accepted for disposal or transferred for disposal if materials are not recoverable. Once a waste load has been rejected, the waste generator or hauler may incur added costs in the form of a reloading charge at the original disposal facility or a charge for culling recyclables from the mixed waste, and may be subject to enforcement by the MassDEP.

If a business does not recycle, the waste hauler may incorporate the risk of possible rejection into his or her service charges. There are no current disposal bans on food residuals. However, MassDEP proposed banning this material from landfills by 2010 in the *Beyond 2000 Master Plan* beginning with a waste ban for the commercial sector.

⇒ *Reference Online:* www.mass.gov/dep/recycle/regs.htm

Composting Facility Requirements

Regulatory requirements for composting facilities vary depending on facility type. MassDEP has two sets of regulations addressing composting of food and other organic materials:

- 310 CMR 16.00: Site Assignment Regulations for Solid Waste Facilities. This reviews siting criteria and conditional exemptions for municipal, commercial and agricultural composting facilities.

⇒ *Reference Online:* www.mass.gov/eea/agencies/massdep/recycle/regulations/310-cmr-16-000.html

- 310 CMR 19.00: Solid Waste Management. These are regulations for design, construction, and operation of all solid waste facilities including compost facilities.

⇒ *Reference Online:* www.mass.gov/eea/agencies/massdep/recycle/regulations/310-cmr-19-00.html

Resources and Technical Assistance

The MassDEP website has many of tools, manuals, links and other information available on their website for those that generate, haul, and process food waste.

⇒ *Reference Online:* www.mass.gov/eea/agencies/massdep/recycle/reduce/composting-and-organics.html

Massachusetts Department of Agricultural Resources

⇒ *Reference Online:* www.mass.gov/agr

State Role

The Massachusetts Department of Agricultural Resources' (DAR) mission is to support, promote and enhance the long-term viability of Massachusetts agriculture with the aim of helping this state's agricultural businesses become as economically and environmentally sound as possible.

Composting Assistance at DAR

Many farms already compost as part of their daily operations. This provides farms with valuable soil amendment for their crops. Some farms in MA accept materials that are generated off-site. In order for a farm to accept materials from an off-site generator they are required to register with DAR. See below for additional information on the regulations.

Regulations

Under the conditions of a Memorandum of Agreement between MassDEP and DAR, farmers are conditionally exempt from MassDEP regulations to compost food residuals when registered with the Department of Food and Agriculture (DFA) in accordance with 330 CMR 25.03: Agricultural Composting Program. Visit online resources for additional information on DAR registration and permits.

⇒ *Reference Online:* www.mass.gov/agr/legal/regs/farmprod_2500%7E1_composting.pdf

Resources and Technical Assistance

DAR provides regulatory and composting technical assistance to farmers and assists farmers in identifying other agencies that can provide resources and additional technical assistance (i.e., NRCS or the MA Division of Conservation Services).

Consultant Recommendations

In Massachusetts please refer to the Massachusetts Food Association listed below for recommendations on industry consultants.

Other Resources of Interest

Massachusetts Food Association

The Massachusetts Food Association (MFA) is a membership organization that represents the interests of the supermarket industry in the Commonwealth of Massachusetts. As composting of supermarket waste becomes more commonplace, and in many cases a preferred waste disposal alternative, a growing number of supermarket operators rely on the MFA for information to help with starting up new composting programs, and other recycling initiatives.

Demonstrating endorsement of the MassDEP *Beyond 2000 Solid Waste Master Plan*, the MFA, through its membership, encourages and supports recycling and composting as a preferred waste disposal option.

⇒ *Reference Online:* www.mafood.com

The Center for Ecological Technology (CET)

CET is a non-profit organization that assists in government and private efforts to increase organic waste recycling by designing, implementing, troubleshooting and/or evaluating studies, plans and projects.

⇒ *Reference Online:* www.cetonline.org/FarmBusiness/farm%20composting.htm

Composting Equipment & Supplies Vendors

The contents in this section do not necessarily reflect the views and policies of the MassDEP, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.

Massachusetts Vendors for Composting Collection Containers

The following vendors offer containers that can be used for collecting compostable materials in supermarkets.

Barco Products

www.barcoproducts.com

Busch Systems International, Inc.

www.buschsystems.com

IPL

www.ipl-plastics.com/ec-environ.html

Otto Industries

www.otto-usa.com/en

Recycling Products, Inc.

www.recyclingproducts.com

Rehrig-Pacific

www.rehrigpacific.com

Ro-Vic, Inc.

Manchester, CT
1-800-832-1013

Rubbermaid Commercial Products

www.rubbermaidcommercial.com

Schaefer

www.ssi.schaefer.us.com

Sofco, Inc.

Scotia, NY
1-518-374-8437

The Fibrex Group, Inc.

www.fibrexgroup.com

The Plastic Lumber Co., Inc.

www.plasticlumber.com

T.M. Fitzgerald & Associates

www.tmfitzgerald.com

Toter, Inc.

www.toter.com

Windsor Barrel Works

www.windsorbarrel.com

Massachusetts Vendors for Roll-off and Dumpsters

The following vendors offer roll-off containers and dumpsters for the collection of compostable waste or trash. You can also check with your existing hauler who may have competitive prices as well.

AJ Equipment Repair, Inc.

306 North Avenue
Abington, MA
800-354-5623

Atlantic Leasing TST Mgmt.

P.O. Box 339
Dover, NH 03821
603-868-2840

BME Engineering Company

Carleton Drive
P.O. Box 849
800-22-TRASH

BSE Recycling Works Corp.

5 Gigante Drive
Hampstead, NH 03841
603-329-5520
www.bserecycle.com

International Container Co., LLC

43 Clubhouse Rd., Tolland, MA 01034
Telephone: 413-538-9200 Fax: 413-258-4682

Composting Facilities and Haulers

The following are locations where your supermarket can find composting facilities that are permitted to take food residuals in Massachusetts and haulers who have said they haul food wastes to composting.

Compost Facilities

For a listing of composting sites that accept food residuals in Massachusetts:

⇒ *Reference Online:* www.mass.gov/dep/recycle/reduce/composti.htm and scroll down to “Large Scale Food Waste Composting” section.

Haulers

To find haulers who will haul compostables:

⇒ *Reference Online:* www.earth911.org and select the “business resources” category in the left column. Then select “locate a business recycling company near you” and select the organics/compostables category.

Case Studies & Articles

On the following pages you will find case studies and articles of recent supermarket composting success stories:

- WasteCap of Massachusetts *Stop & Shop Supermarkets Pioneer the Way to 15-25% Savings!* (Feb '03)
- WasteCap of Massachusetts: *Roche Brothers Supermarkets Recycle Organics & Cut Waste Costs Up To 40%* (Feb '03)

Other articles of interest not included in this manual:

- Biocycle, *Massachusetts Makes Strides with Commercial Organics Composting* (Dec '02)
- Biocycle, *Trucks with and Appetite* (Jan '03)
- Biocycle, *Watts Family Farm Sets Trends in Bio Waste Management* (Jan '03)
- Biocycle, *Supermarkets Boost composting in MA*, (Oct '05)