

Composting in Restaurants and Schools



A Municipal
Tool-Kit

May 2003

A c k n o w l e d g e m e n t s

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Introduction

The Purpose of This Toolkit

This toolkit is designed to help in establishing and maintaining a food waste diversion program for schools or restaurants. It includes a step-by-step description of how to set up a program, from the first meeting to making sure the program is sustainable in the future. Estimates on time and money requirements are also included, based on projects that have been completed and are now running successfully. There are also case studies of successful participants and sample documents that can be adapted for your use.

The Massachusetts Department of Environmental Protection (DEP) has highlighted food waste recycling as a major area of focus in waste management over the next ten years. This toolkit can help your municipality meet the State's goals, increase the life of existing landfills, save money on disposal, support local business and farms, and create a valuable product for use in gardens, lawns and farms.

Project Summary

A total of 30 restaurants and 5 schools are composting foodwaste, non-recyclable paper and waxed cardboard in two western Massachusetts municipalities. Total diversion averages over 8.5 tons per week for the entire program.

In Amherst there are 16 restaurants participating in the program, averaging over 4 tons total diversion per week. Participating haulers plan to add more establishments to the program in the coming months. The hard cost (not including project staff labor) for implementing the Amherst restaurant program was \$3,500 for the construction of a shed. Fourteen of the sixteen participating businesses are experiencing a 20% cost avoidance in their trash bill due to composting.

In Northampton, there are five schools and 14 restaurants participating in composting, averaging 4.5 tons per week in total diversion. 21 more restaurants are due to be added to the

Where This Toolkit Starts

The food waste composting projects for Northampton and Amherst had the advantage of some pre-existing infrastructure necessary to make composting possible. Through other projects started in the early nineties, several area farms have been composting commercial food waste transported by a number of haulers. This tool-kit documents project activities after this infrastructure was in place. If your municipality does not have a nearby compost site, see the CET publication "Building a Market Based System of Farm Composting of Commercial Food Waste" for ideas on how to develop one (see CET in Appendix M).

How to Use This Toolkit

The tasks outlined in this toolkit are organized as a step-by-step procedure for the sake of readability and simplicity. It is important to note that you may not need to do every step, and that you will certainly need to overlap tasks as you are establishing your program. In addition, you will need to work with many stakeholders simultaneously in order to get commitments to support or participate in the program. There will also be waiting times in between parts of each step along the way, during which you can start another step. We wrote this toolkit based on our experience in Northampton and Amherst, and your program may require other actions not highlighted in this toolkit. Finally, the roles of various stakeholders may be different in your municipality than is described here.

program by April 2003. The hard cost (not including project staff labor) of developing the composting program in the five schools was approximately \$1,065 for container and sign purchases. The restaurant program hard costs totaled \$7,500 for the construction of two sheds. The schools are saving approximately \$1,000 annually and 6 of the restaurants have a 20% cost avoidance in their trash bill. In addition, the Northampton landfill is saving the space associated with over 230 tons of food waste per year.

The future of the programs is bright. The Amherst landfill closed in the fall of 2002, increasing the cost of trash disposal and the attractiveness of composting programs. The Town supports composting and the local

haulers are motivated to increase diversion to minimize costs. The high level of environmental awareness in Amherst, combined with financial incentives to compost, should help ensure a sustainable program.

Northampton's future in composting is also very positive. There is a well-established compost site available to haulers and 4 waste haulers provide composting services in the City. The City has continued a very active role in promoting, maintaining and expanding the program through a variety of mechanisms, including the cooperative procurement of trash and food waste collection services and offering equipment as well as training to interested food waste generators.

Step-by-Step Methodology and Lessons Learned

Restaurants

The following is a description of the process used to set up restaurant organic waste separation and collection systems in Amherst and Northampton.

Program Development

1. Hold initial meetings with key municipal stakeholders

The first step is to coordinate with the necessary municipal officials. The following is a list of potential stakeholders, time requirements for approaching them, their importance to the project and their motivation to be involved. Please note that the time estimates provided do not account for potential overlap in preparation requirements, so overall preparation time may be less than the sum of the numbers presented here.

Health Department *1 hour meeting, 1-3 hours preparation*

Because they have a direct role in permitting and inspecting food establishments, it is essential for the Health Department to support the program. An unsupportive sanitarian can shut down any composting program very quickly. Also, they have a complete list of the businesses you will want to talk to, and are in regular communication with them.

Lessons Learned

Sanitation concerns. You will need to demonstrate that organics diversion will not create any new waste or public health problems. It is merely putting some of the existing waste into a different container. Compostables may even be picked up more often than the rest of the trash. You will need to convince the sanitarian that composting can make a kitchen operation even more sanitary. Because kitchen collection buckets are small, they are easier to clean and may get more regular cleaning than garbage cans.

Mayor or Town Manager 30 minute meeting, 1-2 hours preparation

The buck stops at the Mayor or Town Manager. This is probably not the first person you want to talk to, but their support can go a long way. The meeting will probably be brief and concise. They will want to know costs to the municipality (equipment costs, container costs, labor, etc.), considerations for the citizens like potential odors or vermin, and how much support there is for the program.

Lessons Learned

Building support. The Mayor will most likely be motivated by costs and cost savings, and/or environmental benefits if their constituents are environmentally-minded. This type of project can be seen as a way to support local businesses by lowering or stabilizing their trash costs. A composting project can also support local farms and compost sites by providing income to them.

Parking Commission 30 minute meeting, 1-2 hours preparation

The Parking Commission will need to be involved in situations where collection containers will be sited in parking lots. Many downtown areas have severe problems with limited parking, so any plan should avoid using parking spots unless there is no alternative. Another important consideration is that metered spots are a source of revenue for a municipality. If negotiations regarding parking are necessary, a 30-minute meeting will not suffice.

Lessons Learned

Capitalizing on existing problems. In Northampton, there had historically been problems in several alleys with too many trash containers in a limited space, lack of access to the containers, illegal dumping, spilled or overflowing containers, etc. The Parking Commission saw this as a recurring problem and was often the first office to get complaints from constituents. Therefore, they had an interest in reorganizing trash removal, even if some spaces were lost.

Town Planner 30 minute-1hour initial meeting, 1-4 hours preparation

The Planner can provide detailed maps of the properties involved in the project, with information on owners and abutters. Land owners may need to be contacted in cases where landlord and business tenant cooperation is needed. The Planner can also be instrumental in finding plots to site a common area for collection containers used by a group of businesses.

Lessons Learned

The big picture. There may be other municipal projects that affect the composting program. For example, Amherst was in the process of building a parking garage adjacent to many of the restaurants, so the Town Planner needed to have input into the placement of containers.

Department of Public Works (DPW) 1 hour meeting, 1-3 hours preparation

The DPW may maintain the access roads and parking areas, so at a minimum, they should be made aware of the program. In Amherst, the DPW paid for and set up a shed to house totes for several restaurants.

Lessons Learned

Traffic logistics. The DPW of Amherst is involved with the program on an ongoing basis with regards to traffic logistics and collection of materials. Collection trucks access the composting containers all around the new parking garage, an area that is regulated by the DPW.

Chamber of Commerce 30-minute meeting, 1 hour preparation

Chamber involvement can help by adding credibility when approaching local businesses and reinforcing their participation. In the Amherst project, the Chamber signed the initial letter to restaurants (see Appendix B) and then recognized participants with a certificate (see Appendix C). In Northampton, the Chamber used its newsletter to promote the program.

Lessons Learned

Tapping a resource. The Chamber in Amherst saw their involvement as a way to help support the program and serve the business community. The Chamber president had a personal interest in composting and made himself available for questions and comments throughout the project.

Recycling Coordinator *Regular meetings, times will vary*

The municipal recycling coordinator may be the one implementing the program described in this tool-kit. If an outside agency is hired to do the work, regular coordination between the two will be needed. This person will be one of the program's biggest allies and may end up having some long-term responsibilities once the program is in place.

Lessons Learned

Inside connection. The recycling coordinator may have insight into local politics, and connections that can help bring the project past stumbling blocks. Where there are costs for supplies or equipment, consulting the recycling coordinator may help determine likely sources of funding.

2. Contact haulers *15-20 minutes phone call per hauler, 1 hour preparation*

The haulers' cooperation will be perhaps the most essential factor in the success of the program. Start communicating with local haulers at the same time you contact municipal officials. Let them know your plans and assess their level of interest. Give them information about tip fee savings or any other incentives your municipality may be able to offer, such as building sheds to house collection containers, or providing training for businesses. You can also stress that this may create a niche market for their business by offering a new service to the area. If positive incentives are unavailable, you can investigate what if any adjustments can be made to the permitting process for trash hauling within your municipality that might provide some leverage with haulers.

Lessons Learned

The bottom-line. Bottom-line thinking can have a big influence on haulers. Tip fees at a compost site can be much less than at a disposal site (in Northampton and Amherst, for example, as low as \$25/ton compared to \$70/ton). Remind haulers that food is the heaviest component of waste at a restaurant and that according to EPA, 60-80% of a typical sit-down style restaurant's waste is food. This argument could work well for haulers offering dumpster and tote service, where customers' fees are based on volume, not weight. This may not be a good argument for haulers who have customers on a weight-based fee for compactor service, since haulers typically pass along the tip fee with a mark-up to their customers.

Ask questions. Find out what would work best for each hauler, including how many participating locations would be needed to make a cost-effective route, what type of equipment (dumpsters, totes, etc.) they would use, which customers or potential customers they would like to pursue, how often they could pick up, etc.

Customers motivate. Calls from interested customers can have a big impact on haulers' responsiveness. Project staff's phone calls to haulers often went unreturned, whereas calls from a business owner that pays the trash and recycling bills were typically returned in a timely manner. Ask restaurants that show an interest to call their hauler to inquire about compost hauling.

Build trust. Have a strict policy of encouraging businesses to contact their current hauler first. This helps build trust with the haulers and removes you from the constant competition among them. If after several attempts the hauler is unresponsive or says they won't provide the service at a cost that makes sense for the business, then you and the business can pursue other options with less concern for potential complaints of favoring one hauler over another. Advise businesses to check the fine print on their hauling contracts and/or to gauge the likely response of the current hauler before canceling contracts or adding another

hauler for organics only. Some contracts prohibit customers from doing this, but even then the hauler may choose to not enforce the contract.

Consider subcontracting. Even if a hauler does not want to provide the service, they may subcontract organics collection to another hauler. For example, Amherst Trucking subcontracted organics hauling of over a dozen restaurants to Duseau Trucking (see case studies on page 30.)

Large vs. small haulers. Our experience showed that some of the larger waste haulers may not be interested in this type of program (especially with smaller customers like restaurants) even if they are interested for large customers with more purchasing power (e.g. a supermarket chain or food processor). Because the smaller haulers often see organics as a niche market and a way to get more business, they may be more aggressive in offering the service.

Creative thinking. Be creative in your thinking of who is a hauler. Some compost sites may also be interested in providing hauling services. This can be risky if they do not have experience, but may be an option to consider.

3. Perform initial outreach to businesses 15-30 hours

The Health Department can provide a mailing list of all businesses permitted to handle and serve food. Once officials agree on pursuing the project, send a mailing to restaurants on municipal letterhead explaining the program goals and urging participation. Included a brief survey with a postage-paid return envelope or mailer, as well as some publicity about existing composting programs in the area (see Appendices A and B for samples of the Northampton and Amherst mailings).

Lessons Learned

Official envelopes. The envelope should also be from the municipality. The municipal emblem, preferably from the Health Department, will help make sure the mailing gets opened and may even move it to the top of the pile.

Color signatures. Sign each letter in blue ink to show that personal attention was given to the mailing. Survey industry professionals indicate this causes a higher rate of return.

Good timing. Time the distribution of a press release (see Appendices E and F for examples) so that coverage happens as businesses receive the letter. This may help increase receptivity among businesses.

Developing a Relationship

1. Perform survey follow-up work 15-minute phone calls to each restaurant, 2-10 hours survey preparation and analysis

Compile a list of business that responded positively to the survey. The survey is the first tool available to begin developing a relationship with the restaurant (see appendices A and B for sample surveys). A positive response to the survey will give you valuable information about the establishment. Negative responses will save you the time of soliciting unreceptive businesses, or indicate where more intense work will be needed.

Set up meetings with interested restaurants. This first call is a very important step in developing your relationship with the restaurant owner or manager. They are busy people and they are not necessarily seeking this program. Use the contact name provided, and thank them for filling out the survey. They get many solicitations for products and services, so you will need to distinguish your call from those. Mention that you are working with the municipality, especially the Health Department. You could also mention examples of other local restaurants successfully composting or cite the Amherst/Northampton restaurants.

Lessons Learned

Low return rate? Do not be discouraged by what may seem like a low rate of return. Amherst had a total return rate (positive and negative responses) of just under 25% and Northampton 18%. Positive responses were 21% and 13% in Amherst and Northampton respectively. For comparison purposes, typical “junk mail” return rates can be in the 1-2% range.

Restaurant hours. Keep busy times in mind for your call and suggestions for visits. Avoid the hours of 11:30-2:00 and after 4pm. Also, early in the week is generally a little slower and the time when owners and managers most often take meetings.

Be brief. Keep the conversation short and tell them you only want a couple minutes of their time to inform them about the upcoming program.

Get organized. Keep yourself organized by creating a separate folder to track activity for

What to Expect

There are a few questions that may arise during your initial meeting. Here are some examples, and techniques for answering them.

1. What does this cost?

Most likely, this will be the first question. The answer will depend on the hauler who will be providing the service, so make sure you have good information from them. You may not be able to get an exact price from the hauler, especially since it is common for haulers to quote different prices to different establishments for a variety of reasons, including trash volume. It may also be difficult to get pricing if the hauler does not have experience with collecting organic wastes separately. Make every attempt to get a good estimate from the hauler, even if the answer is as simple as “a nominal increase”, “decrease”, or “no extra charge”.

A price cut will obviously be a great incentive, but there may still be motivations for participation with costs staying the same or even rising. Participating in an organics diversion program now might lead to steadier pricing in the future. Or, the attitude of the community could also play a role. If there is a high level of environmental awareness in the area, composting could provide a competitive advantage to participants.

Be aware that some restaurants put food wastes down the sink through a garbage grinder. In these cases, separating food waste for composting may not result in less trash out the back door. However, there can be maintenance hassles associ-

ated with grinders, and that may be enough incentive to participate. Nationally, some sewer districts have experimented with variable rates for food establishments depending on their waste practices, as an incentive to participate.

2. Is it going to smell?

If pricing wasn't the first question, this one will be. The best answer is that when a composting program is done the right way, odors should not be an issue. Point out that there is no new waste (the same material was going in the trash). In fact, since the food waste is in separate containers that receive periodic cleaning, many managers could notice an improvement in the trash area.

Food waste will produce an odor over time, whether it is mixed in with trash or collected separately. The key will be removing it from the site before the odor builds up. Consistent and frequent pickups are essential, and the hauler may need to plan for additional pickups in the warmer months. Placing wood chips in the bottom of the tote or dumpster can help scrape the majority of the food out when it dumps. Some restaurants line the bottom of a tote with waxed cardboard, a common restaurant waste that is not recyclable but is compostable. Some haulers use sprays or perform periodic bleaching of the containers.

During the maintenance phase of the project highlighted on page 11, make sure you monitor odors and address them before they reach unacceptable levels.

each restaurant. You will likely be working with many restaurants at the same time, each at a different stage in this process.

2. Visit the restaurants *15-30 minutes per restaurant, 1 hour total preparation*

The main purpose of this visit is to inform them of the program, assess their level of interest, educate them on the benefits of composting and to give a general idea of how the program will work. Bring the returned survey and additional copies of the rest of the mailing. Be positive and emphasize the benefits of the program. When possible, reference benefits to other local restaurants that are participating, or use the Case Studies (see page 24). Point out any economic benefits, but do not make false promises.

While you are in a neighborhood of restaurants, also visit those that did not return surveys. Ask if it's a good time and present the mailing again. Tell them that some of their neighbors are interested in the program and then give them the same information as above.

Lessons Learned

Be brief. Unless the owner is asking a lot of questions and extending the meeting themselves, keep it short.

Strength in numbers. Point out the other restaurants showing interest in the area. This could lead to a cooperative hauling situation or good old-fashioned competition. The more businesses that take part in an area, the higher likelihood of success.

Hang-ups happen. Don't get discouraged if they do not have time to talk. Even with an appointment, things come up. Ask for a better time to meet or suggest a phone conversation. Building a relationship may take some persistence.

Get your foot in the door. If you still are not getting anywhere with a manager, seek other contacts. Haulers can help get their attention if they can say that trash fees will increase if the restaurant does not participate. Sometimes a call from a municipal official or the Chamber of Commerce will help get your foot in the door.

3. Explore the options for developing group waste management systems *The amount of work required here will depend entirely on the local situation but could be dozens of hours.*

Combining the collection of waste from neighboring restaurants into a single system (physically and/or contractually) may provide extra incentives to participate. This is especially true if the municipality can provide all or some of the funds to build or site shared waste storage equipment like sheds or enclosures. It may also help solve trash problems that already exist or that may be created through source separated organics collection.

The Massachusetts DEP is available to help generate GIS-type maps that can detail food waste generators and composting sites in a given area. See Appendix M for DEP contact information.

Work with any interested parties to explore these options, each of which was used in various combinations during this project:

Group contract (with or without centralized collection). A group of restaurants that are in the same or nearby buildings can collectively contract for organics collection or complete waste management services. One entity (a cooperative, landlord, or lead restaurant) contracts with one hauler to provide service to all the participants in the group. The group may or may not share dumpsters, compactors or tote storage sheds. Participating businesses need to determine how they will divide up the waste management costs.

Separate contracts with voluntary centralized collection. A group of restaurants that are in the same or nearby buildings can voluntarily share the physical collection system but have separate contracts with haulers. If a compactor or dumpster is shared, all the participants will use the same hauler. If totes are used, several haulers could serve businesses from a group storage shed. This arrangement would cover all waste, or haulers could subcontract the organics collection from the whole group of restaurants to one hauler and still collect trash and/or recyclables separately.

Franchising to encourage centralized collection. Another possibility exists to foster centralized collection when no private entity will represent a group of restaurants and they cannot come to an agreement on how to cooperate. If the municipality owns the property that the restaurants' trash containers are placed on, it can use a competitive bid process to contract the right to provide services on that property to one hauler (with guaranteed pricing to protect restaurants and reasonable caveats to that guarantee, to protect the hauler). Restaurants will have to use that hauler and the collective system or store their trash on their own property and provide the municipality with a plan on how trash is going to be managed. The City of Northampton used this approach for two groups of restaurants (download Northampton's RFP for free at www.cetonline.org/publications.htm).

Lessons Learned

Be flexible. Support participants' efforts to form one type of group solution, but recognize when things are not moving forward and try a new approach. In Northampton, the City was successful in setting up two self-managed centralized collection systems within 6 months. Repeated attempts over two years to set up two other self-managed group systems were

unsuccessful. In these cases, the City had to use franchising to enact a lasting solution.

In Amherst, over one year was spent attempting to locate and secure three areas for centralized collection. In the end, only one area was developed. Most participating restaurants are on one hauling route, but with collection individually at each participating restaurant.

The best use of space. Work closely with haulers and the appropriate municipal agencies to develop plans to best use the space available. Haulers are very familiar with space constraints and may provide creative solutions. Be sure to have good maps that identify who owns each area in question.

Keep it locked. At the onset of the program, get help in keeping the enclosures locked at all times in order to train restaurant employees to bring their key and relock when done. Northampton enlisted parking police and City maintenance staff to lock the enclosures any time they passed by and saw it unlocked.

Shed protection. Protect sheds or enclosures from damage using protective berms, balusters, etc. Parking lots and alleys have high traffic and poor visibility and maneuverability. If

The Benefits of Working Together

Here are some of the benefits of group waste management systems:

Improved space usage and aesthetics – The space problems associated with multiple collection containers jammed into limited alley or lot space (e.g. traffic jams, disrupted hauler access) can be eliminated with centralized collection. The area can also become much more visually attractive through the use of a nicely designed shed or enclosure to hide the collection container(s), and by formalizing shared responsibility for mess and spills (see Appendix L for photos of sheds used in Northampton and Amherst).

Reduce illegal dumping and contamination – A more controlled trash system with restricted access to the area and locked enclosures can reduce illegal dumping into the restaurants' trash containers as well as contamination of the compostables.

Economies of scale – Collection is more cost-effective for the hauler when greater volumes of waste can be collected together or in a compact route. The cost of sheds, other enclosures, or other shared equipment can be shared by all the participants. The increased purchasing power of a group of restaurants can lower hauling costs for group members, and also increase the likelihood that a hauler will provide the desired service.

possible, site your shed in an area inaccessible to traffic.

Building restrictions? If building restrictions or requirements make it difficult or impossible to build a permanent structure on a location desired for a collective enclosure, consider building a “movable” shed that stays there indefinitely.

Liability considerations. Liability issues can complicate the siting of collective sheds and enclosures. Check with the municipality’s legal department. In Northampton, the City leases the space that is occupied by collection equipment and enclosures to a legal entity capable of being sued. A sample lease agreement is included in Appendix G.

Minimize business costs. Providing free or low-cost equipment can provide an extra incentive for businesses to participate in group solutions. Municipal funds covered most of the shed costs in both municipalities and, in Northampton, helped pay for totes. A DEP equipment grant to the City also provided some of the totes needed. Northampton also established a mini-grant program to encourage business recycling. Each business was eligible for up to \$250 in equipment used for recycling or composting. If the municipality chooses to purchase totes or related equipment, make sure to check the State Contract through the Operational Services Division (OSD) for pricing that may be better than what they can get on their own for a relatively small order (go to www.state.ma.us/osd/enviro/products/setoutcontainers.htm for information on totes and links to other products).

Training and Implementation

1. Work with the hauler to design the collection system *1 hour with a hauler that is currently hauling source separated organics, possibly much more with a hauler new to this type of business*

Before revisiting the restaurants, call the hauler. Make sure you know the pick-up schedule and any other details about removing the foodwaste from the site including the type,

quantity and location of the collection containers (see box on page 10). Whatever the container type, it should be placed in a convenient location for the restaurant staff, while being accessible for the hauler. You should also have a good idea when the first collection will take place. Try to schedule restaurant training a week or two in advance of the first food waste pickups. While you are looking at the collection route with the hauler, it may be a good idea to introduce him or her to the business owners if they do not know each other.

Lessons Learned

Hauler commitment. Good coordination with the hauler cannot be overemphasized. While it can be difficult to pin the hauler down if you are not a customer, some commitment is crucial. The last thing you want is to have food waste sitting around because there is no one to pick it up. You can pose this scenario to the hauler as motivation to follow through so as to not lose or upset their customers.

Location, location, location. Placement of containers is key. If restaurant staff have to walk far for composting, but the trash is right outside the door, it is not likely to work. Remember, many restaurants and especially bars do their cleaning after all the customers leave, sometimes very late at night. If its dark and the weather is bad, the long walk to compost containers probably will not happen.

2. Work with the restaurant to design the in-house separation system *15-30 minutes at each restaurant, 1-4 hours total preparation*

Go to the restaurant and work with the management to develop a system that works for the layout of the kitchen and trash areas. Try to keep it simple and let the manager come up with a layout, then provide some feedback. In this project, restaurants typically used a few 5-6 gallon buckets placed at the prep areas and plate scrapings stations. In the Case Studies on pages 24-34, there are some photos demonstrating container and sign placement that may help you give suggestions.

Lessons Learned

Use a light touch. The managers know their business best. Going in with an attitude of “this is how you do it” can backfire. Your role is to describe what needs to happen in terms of material types collected and minimization of contamination. At the next visit, you will provide the signs and possibly containers.

Plate scrapings. In sit-down style restaurants, plate scrapings can be a large part of the waste stream. Garnish, paper napkins, and uneaten food can all be composted together. This was one area that met some resistance, because the wait staff usually scrapes plates. Most managers thought there would not be enough time to separate straws, creamer packets etc. Encourage them to try it, then be sure to monitor the food waste for contamination. Also see “Judie’s” Case Study on page 26 for a testimonial on plate scraping.

Advise against collecting plate scrapings in situations where customers bus their own tables. Even with good signs, there will be high

levels of contamination, which will be a big problem for the composting site. It is better to collect less food waste and keep it clean.

3. Develop training materials 1-4 hours

You will need to develop your training materials, including signs for the trash and compostable materials. Make sure you have checked with the hauler or composting site to determine acceptable and unacceptable materials. See Appendix D for examples of signs used in this program.

Lessons Learned

Foreign languages. The kitchen staff may not speak English so you may need to have signs translated into other languages (see Appendix D for signs in Spanish and Chinese).

Lamination lasts. If your budget allows, laminating the signs will make them last much longer. Some of the participating restaurants were willing to take care of the lamination, or

Collection Containers

The type of container used depends on many things including the space requirements, accessibility of the collection site, capabilities of the hauler’s trucks, the amount of waste to be collected and the required frequency of collection. There are advantages and disadvantages to any type of container. Discuss the pros and cons with the haulers and see what choices are available.

A compactor is usually very cost-effective for collecting large amounts of waste, but siting it can require significantly more up-front costs than other types of containers. Also, compactors are too big to fit in many locations and, unless swapped when emptied, a business can’t throw away trash until it returns.

A dumpster can hold a lot of material and can be dumped from the truck, but can be difficult to clean and doesn’t work in

spaces that are difficult to access by truck. Dumpsters come in a variety of sizes so are somewhat flexible for adjusting collection capacity. Also, one truck can easily pick up from businesses that have a wide variety of capacity needs.

Totes are very mobile and versatile, but the 96-gallon size can be too heavy when full of food waste, so a 64-gallon size is recommended. They may be easier to keep clean, and adding or subtracting collection capacity is simple. In group collection systems, each restaurant can have its own totes, so they are accurately charged for their waste and it is easier to determine sources of contamination or low participation. Totes can create clutter if there are many of them together in an unenclosed space. Totes are also more labor-intensive for the hauler and may be more expensive than other options, depending on the situation.

they needed to keep copies on hand for when they got wet and damaged.

4. Distribute the educational materials and kitchen buckets and conduct staff training 15-30 minutes plus 15 minutes preparation - per restaurant

Set up a time to drop off signs and buckets and review the system with the manager. The management may want you to come to a staff meeting and conduct a brief training. Spend some time getting to know the general procedures at the restaurant and find out exactly what the manager would like you to cover. The training should be short (5 –10 minutes) and emphasize that the staff will just be putting the same waste materials in different containers. Show everyone the signs and buckets and answer any questions that come up.

Contact the hauler to have the outdoor containers delivered and let them know that

the restaurant is trained and has the separation system in place so they can be added to the route.

Lessons Learned

Training will vary. Most managers were interested in the signs and buckets, but wanted to do staff training themselves. One restaurant requested a presentation to the staff covering the environmental reasons to compost. The manager felt this would help motivate the staff but still elected to do the separation training himself.

Train the manager. It is very important to make sure the manager is well trained. Especially if they do not want you to train their staff, make sure they know what is acceptable material. Turnover in restaurant staff is high and you cannot be expected to retrain each new employee. A manager who really understands what is compostable is essential to the longevity of the composting program.

Collection Buckets

The type of buckets used for separation in the kitchen are very important, and can make it easy for staff to handle food waste while helping to minimize concerns from the Department of Health. A 5-6 gallon bucket with a handle and sealing lid is ideal. They are big enough to handle a good volume of food, while not getting too heavy to carry when full. They can be stacked two high to get to a good height in the work area. They can be closed and set aside until dumped, without concern about contaminating raw food, and fit through most dishwashing systems. In some places, this system is actually cleaner than the traditional trash because of the closed lid and easy cleaning. Extra or empty buckets nest and therefore take up little storage space. Inexpensive (e.g. 50 cents each) used buckets can be obtained from local food processing/manufacturing companies, or restaurants may have food delivered in buckets that they can reuse.

Program Maintenance

1. Do follow-up visits 5-45 minutes per restaurant, several weeks of 1-2 visits per week, minimal prep time

In the first few weeks of the program, regular follow-up visits to avoid contamination are absolutely essential. In all likelihood, there will be questions about the procedure no matter how thorough the training was. The follow-up visits are a good time to answer these questions and assess if they are actually participating and what if any contamination exists. Your continued presence and encouragement will help the slow starters get on board and help ensure that all the hard work up to now is not wasted.

Ongoing serious contamination of the separated compostable waste will make it difficult if not impossible for the program to succeed. If the compost site continues accepting bad materials, it may eventually shut down due to excessive screening and disposal costs and/or an inability to sell a finished product of poor quality. Or, if the compost site constantly rejects the loads or charges a surcharge due to

their poor quality, the hauler and restaurant will likely drop out.

Lessons Learned

Keep trying. The visits can be discouraging if you thought a restaurant was going to participate but you find they are doing very little or nothing. You may need to offer more training, remind them of the benefits, or ask for back-up support from the haulers. Polite persistence can pay off.

Container assessment. As restaurants get started, they may realize they underestimated the volume of food waste they produce. The follow up visits should include a quick assessment of the number of kitchen buckets needed or the suitability of the hauler's container(s). Offering more buckets or signs is also a good "excuse" for a second or third follow-up visit to the establishment.

Inspect for contamination. Especially at the start of the program, take some time to look in the containers set out for the hauler. Look for plastic, glass, or other contamination in the food waste. When you find contamination, tell the restaurant manager. Let them know you are going to be looking at the separated food waste and set up a method of communication for them to ask you questions and for you to provide feedback on contamination.

Use your nose. Check as frequently as possible to catch odor problems early and address them immediately. If it's a case of missed pick-ups or any other hauler issues, contact the hauler immediately. You may also recommend putting down waxed cardboard, having the hauler throw wood chips in the container, or periodically bleaching the container.

Encouragement and criticism. Encourage good work, while providing careful criticism of contamination. Everyone likes to hear they are doing a good job. This encouragement can help to increase diversion even more. On the flip side, be tactful but very clear and firm with criticism of contamination. In all likelihood, they were trying to do it right. Show the manager the materials that did not belong and keep

an eye on things. It can help to let them know that you are coming back and when, so they keep working on it.

Continuous contamination? Some people just might not "get it" and think the compost container is another trash container. Here you need to redouble your efforts. If there is a way to make composting the food easier than trashing it, you may find more success. Look at the kitchen set-up to start. If the compost container is right next to the trash, and/or there are no clear signs, it could be an easy fix. Have another conversation with management to assess their commitment. Remind them of the motivations to participate and keep up the polite persistence.

2. Provide recognition through press releases, or the Chamber of Commerce 2 or more hours

A composting program is good local news. It is good business for farms and haulers and could be saving money for local businesses. In municipalities where landfill space is an issue, composting could extend the life of the local landfill. Another positive aspect for a story is the environmental benefits. See Appendices E and F for examples of press releases used in Northampton and Amherst.

Lessons Learned

The power of publicity. Free publicity can make a big difference for restaurants. It is worth mentioning your intention to do a press release in your initial meetings with restaurant managers and haulers. The promise of free publicity was enough to make one restaurant that was on the fence about participation decide to join the program.

The bandwagon. The press release will increase interest in the project and may provide opportunities to add more restaurants. When some of the businesses that were on the fence see their neighbor in the paper, it may encourage them to decide to take part too.

Chamber support. Backing from an active Chamber of Commerce can also go a long way. In Amherst, all participating restaurants re-

ceived a certificate to display in their restaurant. See Appendix C for a copy of the certificate.

3. Wrap-up the program and hand-off continuing responsibilities *5-15 minutes per restaurant, plus a one-hour meeting with the municipality, 2-4 hours preparation*

At each participating restaurant, make sure management knows whom to contact if there are any questions or problems. This could be a different person depending on how the program is set up. In most cases, the hauler is the best contact person for the long term. They have the most direct involvement and are being paid to provide the service. The recycling coordinator can be a second contact, and should stay in touch with the hauler. The most important point here is to be sure the restaurant managers know whom to call with a problem.

It is essential to ensure that someone takes responsibility for solving contamination problems over the long term. Ideally the composter will be vigilant and immediately bring contamination issues to the restaurant through the hauler or even directly. Without a quick and unending feedback loop addressing contamination, it is almost guaranteed that it will become

a major problem over time.

At this point in the program, haulers should be able to add new customers to the collection route without outside assistance. Make sure the hauler has copies of all the signs and knows how and where to get the buckets.

Lessons Learned

Continued program management. Be prepared to need to step back into the program if a major problem occurs. Examples of events that could jeopardize the program without outside intervention include the purchase of the hauling company and the new management doesn't want to continue providing the service, or regulatory or operational problems at the compost site.

Results

Northampton has a total of 14 restaurants participating in the composting program. The chart below lists the participants, includes roughly estimated individual weekly collection amounts, and projects annual totals. Some restaurants have formed groups that share dumpsters or tote areas.

Participation of Northampton Restaurants

Restaurant	Pounds of Food per week	Total Weekly Organics	Projected Tons per year
Vermont Country Deli	240	240	6.25
Northampton Brewery	1400	1400	36.40
Serio's Market	240	240	6.25
Thorne's Market (group of 3)	1030	1030	26.80
Kirkland Alley (group of 3)	1545	1545	40.20
India Palace	240	240	6.25
Green St. Café	240	240	6.25
Cooper's Corner	515	515	13.40
State Street Market	515	515	13.40
Dominic's	240	240	6.25
Total		6,205	161.3

Amherst has a total of 16 restaurants participating in the composting program. The chart below lists the participants, weekly collection amounts, and projects annual totals.

Costs/Savings

Sheds in Northampton were paid for through a City fund dedicated to increasing recycling. Total costs to the City for building sheds in Northampton were \$7500 for two. Businesses also helped pay for the sheds in order to enhance their appearance.

In Amherst, the Department of Public Works paid for the construction of a shed as part of the grant agreement with DEP. Total costs for the Amherst shed were approximately \$3,500.

Participation in the composting program for Northampton restaurants was cost neutral for most. Six restaurants experienced a 20% cost-avoidance. In Amherst, Duseau and Amherst Trucking customers avoided a cost increase by participating in composting. Due to the closing of the Amherst landfill, customers served by these haulers were to experience a price increase of approximately 20%. Participating in organics diversion kept their trash bill at the same level as before the landfill closing. Amherst restaurants participating in the composting program through other haulers have a cost neutral arrangement.

Participation of Amherst Restaurants

Restaurants	Pounds of Food per week	Pounds of Waxed Cardboard per week	Total weekly Organics	Projected Tons per year
Rao's	996	0	996	25.9
Thai Corner	113	0	113	2.9
Amherst Chinese	270	15	285	7.4
Atlantis	25	0	25	0.6
Amherst Brewing Co.	667	15	682	17.7
China Inn	360	50	410	10.7
Bueno Y Sano	282	54	336	8.7
Judie's	768	0	768	20.0
La Cucina di Pinocchio's	944	87	1031	26.8
PortobellaCatering	53	0	53	1.4
Black Sheep Group (3 restaurants)	124	88	212	5.5
BananaRama	25	0	25	0.7
Atkins Farms	3000	0	3000	78.0
Maplewood Farms Restaurant and Brewery	450	0	450	11.7
Total	8,077	309	8,386	218

Schools

The following is a description of the process used to set up organic waste separation and collection systems at 5 elementary and middle schools in the City of Northampton.

Program Development and Approval

1. Prepare cost projections *10 or more hours*

Municipal governments and school systems are under increasing budget pressures, so having accurate cost information may be essential to obtain support/permission from decision-makers. Develop a spreadsheet to represent trash costs before the program and projected savings through organics diversion. The Recycling Coordinator may have cost figures. If not, try the Superintendent's office or the Business Manager. This information will help with upper-level administrative meetings, and costs on dumpster pulls, compactor rentals, bag costs, etc. should be included. You may need to estimate future costs until a new hauling contract with source separated organics collection is awarded.

Lessons Learned

Know your target audience. There are many different ways that school systems account and pay for waste management, so you will need to target your financial argument towards whoever is incurring the cost. In Northampton, the City paid for school trash hauling and, since it owned the landfill, did not charge a tip fee to the schools. The City also arranged for no tip fee for school food waste brought to a well-established foodwaste composting site at the vocational high school. The major source of savings was to come through reduced trash dumpster pulls.

Try to show savings. The projected savings in dumpster pulls for Northampton schools were approximately \$1000 annually. This is a relatively small amount, but it was critical to show that the program would not raise costs and would at least reduce them slightly.

Unexpected savings. Don't forget to look at container and bag costs as well. Northampton minimized the Schools' initial capital outlay needed for containers by purchasing them with City funds from the Recycling Coordinator. The School Maintenance Director determined there was potential savings by using fewer plastic trash bags in the cafeteria.

2. Meet with the Mayor or Town Administrator *1 hour meeting, applied preparation from step 1 above*

Meet with the Mayor to talk about the concept of the program and potential cost savings if any. Support from the Mayor could help immensely when speaking with other municipal decision-makers. Also, there may be other municipal agencies that are appropriate to contact now, including the Health Department. See the Restaurants section, page 2, for a description of other municipal departments.

3. Meet with the Superintendent (or Assistant) of Schools and Schools Maintenance Director *1 hour meeting, applied preparation from step 1 above*

Be prepared to present cost estimates for materials, labor, hauling and any other particulars that may apply. Include any potential cost avoidance or savings. Mention the educational opportunities, potential positive publicity and community support for the program. Plan to hold this meeting during the summer when school administrators are less busy.

Lessons Learned

Anticipate staffing concerns. Be prepared to address concerns about demands on already overworked custodial and cafeteria staff and teachers. Being able to offer the "people power" needed to start the program may address this concern. But, be careful to set up a system that does not need much of your ongoing help once it is in place.

Get support. The Maintenance Director can be key at this meeting. In Northampton, the Maintenance Director oversees all custodial services in an otherwise very decentralized system. Because the project required a signifi-

cant change in custodians' lunchtime routines, solid support from their direct supervisor was required.

4. Develop and Issue New Waste Management IFB and Award Contract 10 or more hours

With input from appropriate City and School officials, develop an Invitation for Bid (IFB) for waste management services that includes source separated organics collection and composting (download Northampton's IFB for free at www.cetonline.org/publications.htm).

Lessons Learned

Maintain flexibility. In school systems where no recycling programs exist at all, it may make more sense to start with traditional recycling and add organic waste collection after that. In addition, without experience in such programs, language must be included in the contract to allow for adjustments in the hauling setup. It was the City's clear intent to periodically adjust container sizes and pickup frequencies as needed. The structure of the price proposal was designed for this purpose by requiring prices for various size containers and pick up schedules, and reserving the right to adjust these as needed.

Continued negotiation. The 30B exemption for waste management contracts was helpful, because the City was able to continue negotiating with the haulers in order to get the best contract for the Schools.

5. Meet with the Principals 30 minutes to 1-hour meetings with each principal and 4 hours total preparation

After getting approval from the school administrators, plan meetings with the Principals of all the schools that will participate in the program. The goal is to gain support for individual school programs. Stress the educational benefits (see the "Education and Outreach" section, page 19 for examples), any potential cost savings, publicity opportunities and the excitement the students will have about the environmental aspects of the program.

Lessons Learned

Principals are educators too. The Principals identified most with the educational side of the program and supported its implementation.

Involve the Maintenance Director. The Maintenance Director also attended these meetings and expressed his support for custodial staff participation. However, he did say that if there were any problems with the program, it would have to stop. This was both an assurance to the Principal, and a message to make sure the program was done right the first time.

6. Meet with the School Board 3-hour School Board Meeting, 1 hour of preparation

A presentation to the School Board may also be required. In Northampton, the support gained through the Mayor, Assistant Superintendent, Maintenance Director and Principals made the School Board meeting fairly simple. They wanted to hear the plans and costs of the project and approved the project at the meeting.

Lessons Learned

Top down support. Some school recycling projects in other municipalities have started due to interest from the public that was expressed at School Board meetings. The Board requested that the Superintendent begin a recycling program.

Assessment and Set-up

1. Conduct site visits and design the collection system(s) At least 2-3 hours per school

Lunchroom

Conduct lunchroom site visits during lunch periods with the Maintenance Director to discuss collection system design, assess container needs, and determine custodial responsibilities in kitchens and cafeterias. Observe student flow, tray bussing timing and habits, and lunchroom set up. Find the hauler's collection containers on site and ask the general procedure for trash removal. Ask the Maintenance Director to introduce you to the custo-

dial staff for each school and keep a record of their names for your future visits.

While the lunchroom systems varied slightly at each Northampton school, most followed a basic design. A series of 3 containers were put out in a row: one for trash, another for food waste only and then a third for milk cartons. Some schools added a fourth barrel for trash at the end of the series to collect any remaining trash students had missed earlier. This fourth barrel helped to address a traffic problem when younger students went back and forth between the trash and composting barrels. After the last barrel, there was usually a window for students to drop their tray and dishes (see photos in the Case Studies on page 30 for an example layout).

Only food waste was put in the food waste barrel. Milk cartons were included in the program because they were accepted at the composting site, but they were still collected separately from the food waste to help avoid confusion and keep the many contaminants (plastic, etc) out of the compostables. Napkins and other theoretically compostable paper products were put in the trash for the same reason.

Northampton used 23-gallon Rubbermaid Slim-Jim Waste Containers (\$35.59 each) for milk cartons and 40-gallon Rubbermaid Square Brute Dollies (\$36.78 each) for food waste. “Compost Only” stickers were ordered to put on all the containers and dumpsters at \$1.32 each. The original trash cans were kept for trash.

Many factors went into the decision to use a wheeled container for food and a smaller container for compostable milk cartons. Measurements were taken in the kitchens to ensure new containers would fit in areas where food waste was produced. Another important consideration was the transportation of full containers. They needed to be an appropriate size that would be easy to dump when full and would also need to fit on the carts the custodians used to bring materials to the dumpsters. The other major factor was container height - the containers chosen were accessible by young students.

Lessons Learned

Consistency and customization. While a consistent system throughout the district is desirable, be prepared to customize the program at each location as needed. Each school has its own layout, equipment, cleaning schedule, staffing, head custodian, etc.

Custodial help. The custodial staff gets called upon to answer requests and complaints from everyone in the school system, which can lead to a cautious attitude toward changes to the system. It helps to mention to staff that the Mayor, Superintendent, Principal and students are all behind the program. Include them in the excitement of the new program. If they do not want to participate, they will come up with reasons that the program won’t work. Gently offer suggestions to address concerns about labor, equipment and health codes and let them help design the system.

Dismissal procedures. Student traffic flow is an issue, especially in some smaller lunchrooms. Some schools dismissed one complete table at a time to go to the separation line, which caused longer lines than in schools that allowed students to separate as they each finished lunch. Training students to pull their straw out of the milk carton and separate trash and food on their tray before they get up can also speed things up and minimize spilling.

Kitchen

Conduct kitchen site visits with the schools’ Food Services Director and discuss the collection system and how to integrate the program into the food service staff’s routine. Consider the layout of the kitchen and concentrate on the preparation areas, where the majority of compostable waste will be produced. Remind the Director that there is no new waste, and the staff will just be putting the waste in a different container. The kitchen separation and collection set-ups were similar to those in restaurants (see Case Studies on pages 24-34).

Lessons Learned

Use a light touch. The Director knows their staff and kitchens best. Going in with an attitude of “this is how you do it” can backfire. Your role is to describe what needs to happen

in terms of material types collected and minimization of contamination. Work with the Director to figure out the particulars of the layout, and be prepared to offer creative suggestions if necessary.

Outside

Talk to the hauler about the siting and size of the outside containers, materials the composting facility can handle and their collection schedule. In addition to the information gathered during site visits, the hauler's plans may affect the type and size of the collection containers you choose to use.

Lessons Learned

Container placement. Full collection containers from the kitchen and cafeteria are heavy, so convenient placement of the composting dumpster is important. Make composting easy for the custodians and kitchen staff by placing the outside containers as close to the kitchen door as possible.

Minimize odors. Talk to your hauler about putting some wood chips at the bottom of the outside containers periodically. This helps absorb some of the liquid from the food. Also, a solution of bleach mixed with water or dry bleach powder thrown in the dumpster will help control odors and will not adversely effect the composting process.

After all the systems are finalized, coordinate the purchase and distribution of equipment and supplies. Collection containers and kitchen collection buckets must be purchased and sited. Signs for the outside containers, the kitchen, and cafeteria also need to be created and put up (see Appendix H for examples of kitchen guidelines and Appendix D for signs).

Staff Training

1. Train custodial staff 30 minute meeting, 1-3 hours preparation

Conduct a training session with the entire custodial staff for the school system. Buy-in from the custodians is essential to the success of the schools' program. They will be the ones

moving the containers in the cafeteria and putting trash in the trash dumpster, and food in the composting dumpster. The message that this is not new waste is important.

Lessons Learned

Use the hierarchy. The Maintenance Director's influence was essential to convey to the staff that this would now be part of their job. He should be at the training to make it clear that custodian's questions and problems should be addressed directly to him.

Allow individuality. Different custodians had different opinions about what was the easiest and best way to deal with the food waste. They will likely do whatever is most efficient for them, so our approach was to allow the custodians to use any technique they preferred as long as it achieved a high level of participation and a low level of contamination.

Foreign languages? Find out in advance if some of the custodial staff do not speak English. There may be a need for an interpreter.

Empower the custodians. Be sure to emphasize the environmental and community good they are helping to achieve. They can take pride in helping reduce waste, supporting local farms and generally doing the "right thing." One custodian took it upon himself to go to the library, research worms, and make photocopies for the cafeteria. He gained great satisfaction from participating in composting and became one of the program's greatest allies.

2. Train kitchen staff 30 minute meeting, 1-3 hours preparation

Conduct training sessions for the kitchen staff. Part of the message should be that there is no new waste, just a different container. Be sure to create clear, easy to read signs and place them in the key areas identified in your site visits with the Food Services Director. See Appendix D for examples of kitchen signs used in the schools. Have some examples of common materials they will encounter and explain if they are compostable, recyclable, or trash.

Lessons Learned

Foreign languages? Find out in advance if some of the kitchen staff does not speak English. There are examples of signs in Spanish and Chinese included in Appendix D and there may be a need for other languages. There may also be a need for an interpreter for the training session.

Kitchen buy-in. The kitchen staff needs to buy into the program for its success. In schools where meals are prepared on site, they will be the ones to separate much of the food waste to be composted. They need to know how to do it correctly and why. Emphasis on the environmental good they are doing can go a long way with this group as well.

Outreach and Education— Student Training

1. Develop and conduct outreach campaigns at each school *Count on a minimum of 15 minutes of organics separation training to happen in each class, and much more time if any associated environmental education is planned*

Educating the students is a critical part of establishing a composting program in a school. At a minimum, they will need to be shown exactly how to separate waste in order to avoid contamination problems. As resources and

interest allow, the educational component of the program can be expanded.

Items in the education campaign can include posters, announcements, classroom presentations, assemblies and school newsletter articles. The information you provide will vary with grade level and the overall purpose. No matter how old the student is, teach them what is compostable and what is not. The younger children will need simple, clear information and the higher grade-levels can get more details.

Try to identify and work with one to three “lead” classes for each school. A lead class can have a teacher who has a personal interest in composting, curriculum that would relate to composting, a garden project, or recently been on an environmental field trip. These “lead” classes will be your help on the inside to spread the word and create enthusiasm for the program. They can do most of the legwork of designing and implementing the campaign. Use the “lead” classes whenever possible for making and posting signs, brainstorming for program slogans, and anything else the teacher and students are able/willing to do.

Lessons Learned

Varied format helps. Remember, different people learn in different ways. Planning to present the information in different forms (e.g. posters, announcements, newsletters) will get the attention of more children.

Resources for Waste Management Education

Here are some helpful resources to consult if you plan on providing in-depth environmental education as part of your program. Or you can pass this along to teachers interested in integrating the program into the curriculum.

Solid Waste Management Resource Guide for Massachusetts Schools, Grades K-6 Activities Grades 7-12 Activities

<http://www.state.ma.us/dep/recycle/schools.htm>

“Recycling goes back to school” Recyclers’ reference links from Roger M. Guttentag in Resource Recycling

<http://www.resource-recycling.com/links.html#September 2002>

School Composting...The Next Step in Recycling A Manual for Connecticut Schools

<http://www.dep.state.ct.us/wst/compost/schmanual.htm>

The education commitment. Student involvement and environmental education can create excellent learning opportunities for students and great buy-in for the program among teachers and administrators. It can also be a serious time investment for the program coordinator. Be sure to have the time resources needed for whatever level of education is planned.

Be patient and persistent. Patience and persistence are needed to establish a program. Teachers are very busy with existing curriculum and may not have time for new programs. It was surprisingly difficult to get teachers to participate or even to arrange a time for project staff to briefly train the students. The teachers were almost always in class, so we had to rely on faxing and leaving messages to get in touch with them. To avoid phone tag, try to find out when they have free periods and contact them at that time. Ask the principle to post a sign-up sheet for simple logistics like scheduling training presentation slots.

Lead Class Compost Skit

At one school, project staff made regular visits with two lead classes (5th grade) to develop a skit they could perform for the other classes in the school. The students put together a script, practiced, and then performed the skit for most of the lower grade levels.

The skit took project staff time to develop with the students, but paid off. These students developed a real sense of ownership of the program. The younger students also seemed to be engaged by the skit and composting became the “cool” thing to do because the oldest kids in the school were taking the lead. The 5th grade teacher now has a script that can be used each year to help re-educate the younger grades and give each incoming kindergarten class their first exposure to composting. See Appendix K for a sample script.

Time the training. Education for the youngest students should happen as close as possible to the program kick-off, when they are most likely to remember what to do and to help maintain their enthusiasm. A week can seem like an eternity to a five-year old.

2. Perform local media outreach 3-5 hours

This would be a good time to put out a press release to the local media. Let them know what is going to happen in the schools, the projected environmental benefits, and when the program will start. Positive publicity can be effective in reinforcing the motivation of administrators, staff, teachers and students. See Appendix I for the press release used in the Northampton project.

Lessons Learned

Double check. Check with the Superintendent of Schools before putting out the press release. They may have concerns about publicity or angles to include in the release.

Dealing with the press. Be ready to answer questions from reporters. Give honest answers about the status of the project and be as clear as possible in your answers. News coverage is often slightly inaccurate about the details, so do your best to think before you speak. Be sure to spread the credit around to all those involved.

Implementation

1. Start a pilot program at one school 10-25 hours

Start the program on a pilot basis at one school. The pilot can run for 3-4 weeks, with the goal of gathering information on quantities of waste generated and fine-tuning the separation and collection system logistics. Use this information to modify strategies for the full implementation of the composting program. The success of the pilot program can also add credibility when starting up at the other schools. It may even create a spirit of competition among schools that have not started yet but want to show that they are also participating.

Lessons Learned

Don't forget the hauler. Before starting the pilot, recheck the hauler's commitment and readiness. You need to make sure the material will be removed effectively, or any skeptics will have ammunition to shut down the program. Also keep in contact with the kitchen manager and custodians to make sure the collection containers are being cleaned so there are no sanitation issues.

This is not a test. Try to ensure that all the stakeholders view the pilot as a chance to work out any bugs in the system, not as a test of whether the program will happen. Once the program starts at the pilot school, it should continue uninterrupted - even during any needed readjustments.

2. Implement the program at the remaining schools 10-20 hours per school

Based on the information gathered from the pilot, make any needed modifications to the program and implement it at the remaining schools. You may need to go one school at a time if you have many schools and not enough staff time to do them all at once. Plan your timeline well and make sure containers are in place and staff members are prepared.

Lessons Learned

Good timing. Whenever possible, bring a school online when there will be a consistent school schedule for several weeks after start up. Try to avoid times when there will be testing, vacations, or other breaks that will effect lunch periods.

Hauler notification. Be sure to contact the haulers to notify them of your plan. They may have preferences on the order in which to bring schools online to help their route.

Program Maintenance

1. Perform follow-up visits and monitoring
Time will vary depending on how many schools and the type of monitoring. You can stop in to check outside containers, which will take 5 minutes each school, or stay for entire lunch periods- depending on the objective of the follow-up visit

Each school will need to be monitored intensively at the start of the program, with a gradual decrease in adult presence at the trash/composting station over the next several weeks. Some important things to look for are contamination levels at the plate scrapings stations and the traffic flow in the lunchroom. Bunching up of students can be a big problem in the lunchroom. Adjustments to the bussing station or the way in which students are dismissed from lunch may be necessary to reduce crowding.

In addition to monitoring the cafeteria, periodic checks at the outside containers are important. Check on the days that pick-ups are scheduled to make sure the material has been removed. Also, check the condition of the dumpster and its location. Some adjustments to the location and collection schedule may be necessary.

Lessons Learned

Cafeteria monitors. When students are doing their own separation, the potential for contamination is high. The students tended to do a great job of putting wastes into the appropriate container when an adult was standing there. The adult presence reminds students to think at the trash area and gives them an opportunity to ask a question if they forget the procedure. An adult at each station all the time may not be possible, but some ongoing help from lunch monitors or cafeteria helpers will be necessary. Older students (especially from a lead class) can also make good monitors.

Persistence (still!). Be persistent if you encounter signs of passive resistance to the program among staff. For example, at one school, program staff showed up on the second day of the program to find the separation system gone and the old trash system in its place. Repeated follow-up visits will reinforce that the program is not a passing fad but is here to stay.

Plan ahead. Additional monitoring and re-education will be absolutely necessary at the start of each school year to avoid an eventual breakdown of the program.

2. Collect weights of diverted organic materials from all the participating schools
30 minutes to 2 hours per school

This information can form the basis for another press release to update the community on the progress of the program, or to help keep administrators aware of its success. If possible, document the decrease in the quantity of trash generated by the school. This would also be valuable information in pricing negotiations or a future bid process.

Lessons Learned

Weighing logistics. If totes are used, they can be individually weighed on a heavy-duty portable scale. If materials are collected in dumpsters, it may be difficult to get weights for individual schools unless the hauler has an on-truck scale. You can always ask your hauler to weigh the truck after all the schools are collected, and then form an average from this number.

Think ahead. It may be helpful to ask the hauler to weigh the trash from the school system before the program starts, so you have a good baseline average to compare after the program is up and running. If it is not possible to get an accurate weight of compostable materials, you may be able to deduce the weight from before and after weights of the trash.

3. Wrap-up the program and hand-off continuing responsibilities *15 minutes per meeting, 1 hour preparation*

Hold final meetings with individual custodians at each school to assess condition of the equipment, signs, or other supplies. Answer any questions and make sure they have contact information for the person in charge of longterm maintenance of the program. This would be a good time to thank them for their participation and encourage them to keep up the good work.

Hold final meetings with the principals to discuss program results. Also discuss planning for startup of the next school year. Some re-education will be necessary for students and staff.

Hold a final meeting with the Director of Maintenance. At this meeting, deliver the materials for the program continuation including all vendor and product information. The Director should also receive all the cost estimates and be made aware of the need for re-education in the fall of the following and subsequent years.

Lessons Learned

Lasting success. There are many examples of excellent school recycling or composting programs that die out after a few years. Continued commitment from a teacher, administrator, parent and/or municipal recycling coordinator will be required to make sure the program lasts.

Results

There are five schools in Northampton participating in the composting program. The following chart details the participating schools, estimated weekly food waste diversion weights, and projected annual tonnage.

The City of Northampton owns the landfill and has a cooperative relationship with the vocational school where food waste is hauled and composted. The City is saving the landfill space associated with 40 tons per year of food waste and incurs no cost for tipping at the composting site.

There is a cost savings for the schools through reduced trash pick-ups at participating schools. Before composting, trash dumpsters were emptied an average of three times per week. The composting program reduced trash pick-ups to two times per week for projected annual savings of \$1,000.

Participation of Northampton Schools

School	Number of students	Pounds per week	Projected tons per year
JFK Middle School	774	240	4.8
Jackson Street Elementary	320	450	9
Bridge Street Elementary	340	450	9
Ryan Road Elementary	289	450	9
Leeds Elementary	332	450	9
Total	2,055	2,040	40.8

Case Studies

Restaurants

Northampton Brewery

Establishment Description

The Northampton Brewery has been serving fresh food and home brew since 1987. They have a 90-seat indoor dining area and bar and an outdoor capacity for 140 more patrons in warm weather. The owners believe in providing a fine, fresh, handcrafted product using traditional brewing styles. Whenever possible, they buy local produce and feel they are involved on a community level.

The importance placed on community involvement is one of their greatest motivations for participating in composting. This is a defining point of their business - they have a recycling policy for the staff and they believe in being socially and environmentally conscious, so composting just makes sense. They estimate that 85% of their waste is recycled in one



Kitchen staff separates vegetable prep materials for composting.

way or another, and they know they are supporting a local farm by separating the food for composting. They also chose their hauler because he is a small, locally owned business that provides great service.

Materials Separated for Composting

All food preparation waste along with plate scrapings are collected for composting. They also have paper place settings that are bussed at the same time as the plates and collected with plate scrapings. All waxed cardboard and brewing waste like hops, barley and other grains are also separated for composting.

Materials Flow

All prep and plate scraping waste is collected in a standard 45-gallon plastic trashcan next to the prep counter. They have two of these containers next to each other, one for compost and one for trash. As the compost can fills, it is emptied into one of four 96-gallon totes provided by their hauler and stored outdoors. Waxed cardboard is flattened and piled next to these totes. Brew waste is collected in buckets ranging from 5-20 gallons and stored outside until the compostable waste is hauled away once a week (twice a week in warmer months).

Quantity Collected

The wet brew waste is especially heavy, contributing to a weekly average of approximately 1,400 pounds of compostable waste.

Economics

According to the hauler for the Northampton Brewery, there is no additional cost for composting. Participating in the composting program is a break-even program for both the restaurant and the hauler.

Interesting Points

One of the most interesting things about the Northampton Brewery is their dedication to recycling as a business philosophy. They have achieved a tremendous reduction in waste going to the landfill and they insist it's easy.

New staff are trained about the recycling and composting procedures and quickly understand that's just the way to do it at the Brewery. This dedication also makes for a very "clean"



Northampton Brewery has an enclosed area for trash, recycling, and composting totes.

mix going to the composter, free of plastics, metals, or other non-compostables.

Another highlight is their relationship with their hauler, Alternative Recycling. As a high volume business with a fairly unique waste stream, they value quality personal service. Early contracts with major haulers left them disappointed when they needed to reach an actual person on the phone or required fast service on a special request. Their move to Alternative Recycling brought them more in line with their business philosophy of supporting the local economy and also brought them the personal service they were looking for.

The owners of the Brewery feel that composting "costs what it costs." They are doing it because it's the right thing to do and because of the superior service of the hauler that handles their waste.

Contact Information

Chris O'Connor, Co-owner and Head Brewer
Janet Egelston, Co-owner and Business Manager
The Northampton Brewery
11 Brewster Ct.
Northampton, MA 01060
413-584-9903

Judie's

Establishment Description

Judie's is a 91-seat restaurant that has operated in downtown Amherst since 1977. They offer creative causal dining with food cooked to order. It is consistently voted the best place for area college students to go when their parents come to visit. They have a fast paced, high volume kitchen and think composting is important for their business. They used to send food scraps to a local pig farmer, but that option ceased several years ago. Management disliked seeing so much waste and has always looked to do the right thing environmentally. Judie's was excited about participating from the start, and the economic benefits they are experiencing make it that much more worthwhile.

Materials Separated for Composting

At Judie's, management takes great care to see that they achieve maximum diversion. All prep wastes are collected for composting, as well as plate scrapings and dirty napkins. Katie Eagan, the business manager, makes regular inspections of the trash and composting containers to make sure there is no contamination and that no food is going to the trash.



Stairs lead directly from Judie's kitchen to the composting totes, making organics separation very convenient for staff.



Judie's purchased a Slim Jim container that fit perfectly into their plate scraping station.

Materials Flow

In the prep areas, nearly 100% of the waste created is compostable. Judie's uses the six gallon buckets provided through the program at the prep stations to collect compostable waste. The plate scraping station needed some adjustment at the start of the program to handle the volume of material generated in this area. The six gallon buckets were filled too quickly, so Judie's purchased a 23-gallon Rubbermaid Slim Jim to collect plate scrapings. At 20" x 10" x 30", it was an ideal fit next to the sink and dishwashing area. There is now only a small trash container for non-compostables like straws, stirrers, and other inorganic material. Judie's has made it especially easy to compost by placing the composting totes directly outside the kitchen (see photo). Trash has to be carried around the corner, so composting is very convenient for the staff. Compost is currently picked up on Tuesdays and Fridays with a possible additional pick-up in the warmer months.

Quantity Diverted

The four 96-gallon totes allocated to Judie's are nearly full for each twice weekly pick up. They average over 750 pounds of total food waste diversion per week

Economics

Judie's realizes some real economic benefits by participating in the composting program. One of the first things Katie Eagan noticed was that they cut their trash bag use in half, with a savings of approximately \$500 annually. Judie's was going to incur approximately 20% increase in their trash bill due to the closing of the local landfill. Their trash hauler was able to keep their fees the same because of the diversion to the compost site.

Initially, Katie Eagan anticipated an increase in labor costs due to the separation of food waste. It did take some time to train the staff to put the materials in the right place, but she finds no additional labor costs due to composting. As she described it, composting just required a slight shift in labor allocation.

Interesting Points

Judie's is gaining the maximum benefit because of their enthusiasm about composting. They were anxious to get started and put a lot

of thought into ways to minimize their trash. Judie's sees composting as making great business sense from a cost savings and public relations perspective. The Amherst clientele is very environmentally aware and management feels participation in composting will further motivate people to patronize the establishment.

Because of the volume of material they divert, they have expressed some concern about odors in the warmer weather. Katie Eagan's proactive approach to composting has led to a good relationship with her hauler, and both parties feel confident they will be able to address the odor situation before it becomes a problem. More frequent pick-ups, combined with periodic tote washing, should minimize the potential for odor.

Overall, Judie's management and staff have a good feeling about composting. They are happy to be doing the right thing environmentally and it makes great sense for the business.

Contact Information

Katie Eagan, Business Manager
Judie's
43-51 North Pleasant St., Amherst
413-253-3491

Rao's Coffee Roasting Company

Establishment Description

Rao's Coffee Roasting Company is a locally owned specialty coffee shop established in 1994. Rao's prides itself on serving the best possible coffees and teas available. Beans are obtained from around the world and roasted on site, providing a "cool" atmosphere in a college town. A variety of pastries, muffins and other sweet treats are prepared and baked on site as well. There are about 50 seats inside, and in warm weather there are approximately 50 additional seats outside. Rao's has a steady Amherst client base, but enjoys a 20% increase in business when local colleges are in session.

Management's motivation to participate comes from avoiding increased trash hauling fees and the overwhelming support of their staff. Manager Rebecca Sim says it was her staff's enthusiasm that made her especially interested in giving composting a try.

Materials Separated for Composting

The overwhelming majority of the material collected for composting is spent coffee grounds. Filters are also compostable so they are tossed together into the compost totes. Eggshells, banana peels and other organic waste from the bakery are composted as well as unsold baked goods.



The coffee grounds and filters are collected in six gallon buckets directly in front of the coffee machines. Rao's diverts the most organic material of all the Amherst food establishments because of the wet and heavy grounds.

Materials Flow

Six-gallon compost buckets are placed next to the main coffee-making stations. The buckets are also located in the prep areas of the bakery. Full buckets are carried straight through the bakery and out the back door. Compost, trash and recycling totes are immediately outside the kitchen door and make for quick and convenient clean outs. Compost is picked up twice each week with a possible additional pick-up in the warmer months.

Quantity Diverted

Rao's produces approximately 1000 pounds of compostable organic waste per week.

Economics

Rao's management was initially concerned about the potential labor effects, especially on the efficiency of service they would be able to provide their customers. They have found composting to be extremely easy and have not experienced an increase in labor needed. With the Amherst landfill closing, Rao's was contacted by their hauler with the news that their next trash bill would reflect the increase in cost incurred by having to take the trash out of town, unless they participated in the composting program. The projected cost increase would have been approximately 20%. This was enough economic incentive to get on board, and their waste hauling bill has not increased since they joined the composting program. Rao's also noted a trash bag savings of approximately 60 bags per week.

Interesting Points

The two most interesting highlights about Rao's is the level of staff interest and support, and the role the hauler played in encouraging their participation. Program staff tried, on numerous occasions, to call or stop by the establishment to speak with management about joining the program, with no success. With each call or visit to the shop, the intentions of the program were explained to the given staff member and a call back from manage-

ment was requested. Each staff member contacted was eager to start composting, but there was no word from management. Program staff collaborated with the hauler, who agreed to make a call to the manager. Hearing of the potential cost increase, management took the idea to the staff, who were already in favor of participation and it made it an easy transition to composting. Management was happy to avoid a cost increase and the staff feels good about reducing waste and participating in an environmentally responsible program.

A lot of effort went into bringing Rao's into the program, but the contact from the hauler is what made it a reality.

Contact Information

Rebecca Sim, Manager
Rao's Coffee Roasting Co.
17 Kellogg Ave.
Amherst, MA 01002
413-253-9441

Schools

Jackson Street Elementary School

School Description

Jackson Street Elementary School has 380 students, preschool through fifth grade. All but the 60 preschoolers eat lunch at the school and cafeteria. The school serves an average of 140 prepared meals per full school day. This school also has a socio-economically diverse population.

The school once had a milk carton recycling program, and composting seemed to be a natural progression for the students. The head custodian believes in the program and the cafeteria staff feel composting is simple and the right thing to do.

Materials Separated for Composting

The schools are not permitted to serve leftover food, so any of this material is composted. All prep waste in the kitchen is also diverted to composting. Students compost their milk cartons and school lunch plate scrapings. Students that bring their own lunch have also been educated to put any uneaten food in the composting container.

Materials Flow

Food waste from the kitchen is collected in six-gallon buckets. Milk cartons are collected in 23-gallon Rubbermaid “Slim Jim” containers lined with a plastic bag. The uneaten food from the students is collected in 40-gallon Rubbermaid “Square Brutes” with plastic bag liners. The collection set up is depicted in the picture. At the end of the lunch period, the kitchen waste is emptied into one of two 96-gallon totes located immediately outside the kitchen. In the cafeteria, the plastic bags are removed from the collection containers and the contents are emptied into the composting totes. The hauler empties the totes twice a week.



Top: The series of containers from left to right: milk cartons, food waste, and trash. This allows for an efficient flow of students at dismissal time. Middle: Students separate their waste at the end of the lunch period. Bottom: Stacked buckets make it easy for kitchen staff to separate organics. The trash barrel located next to composting buckets minimizes potential for contaminating compostable waste.



Project staff gave in-class presentations to students in the weeks leading up to implementation of the composting program.



Presentations included a demonstration of the proper separation technique by one of the students in class.

Quantity Collected

Jackson Street School composts an average of 240 pounds of organic waste per week.

Interesting Points

Everyone at Jackson Street is “on board” with the composting program. Initially, the cafeteria staff thought the change would be difficult, but they quickly saw it was very easy. The head custodian believes in the program and says even the smallest children do a pretty good job. He does occasionally pick out contamination, and says more lunch aids would help the kids do an even better job. He also points out the need for re-education throughout the year to keep the students on track.

Jackson Street School principal Gwen Agna is a strong supporter of composting and points out the educational value for her students. She explained that participating in the composting

program gives the children a concrete way to actively help the environment in this environmentally conscious community. Composting is also a way for them to learn through participation, outside the classroom. The older students even go on a field trip to the farm where the food is composted to get a more complete picture of the environmental impact. Gwen says she is always looking for ways to help her students learn, and non-academic learning opportunities like the composting program often have the greatest personal impact.

Contact Information

Gwen Agna, Principal
 John Benoit, Head Custodian
 Jackson Street Elementary School
 120 Jackson Street
 Northampton, MA 01060
 413-587-1510

Haulers

Duseau Trucking and Amherst Trucking

Business Description

Duseau Trucking has been in business in the Pioneer Valley since 1947. They operate out of Hatfield with 15 trucks and 33 employees. Amherst Trucking also operates out of Hatfield and has been a family-owned business since 1985. They have 8 trucks and 9 employees.

The way these haulers see it, they would have to handle each ton of food waste no matter where it went, so gaining the tipping savings at a compost site makes business sense. Also, composting is the right thing to do environmentally, and the high level of environmental consciousness in the area means the program is good public relations for both companies.

Materials Hauled

Duseau and Amherst Trucking both have residential, commercial and institutional customers and handle all types of waste. They haul trash to local landfills, mixed containers, paper and corrugated cardboard for recycling, and leaf and yardwaste. Now they offer the service of hauling food waste, mixed with some waxed cardboard, for composting. Duseau provides food waste pick-ups to the Northampton schools and many of the restaurants in Northampton and Amherst.

Equipment/System Used for Compost Hauling

Duseau has a dedicated organics truck that is used strictly for materials going to composting sites. It is a 1991 Crane Carrier with a 23 cubic yard, compacting, rear dumping Truxmore body. The truck side loads and is equipped with a cart dumper rated at 500 + pounds, capable of handling up to 96-gallon totes. They pick up leaves in the fall and the food waste mixed with waxed cardboard year round.



A typical example of restaurant food waste in a tote.

Quantity Collected

Duseau serves 6 restaurants and 5 schools in Northampton for trash and composting. Duseau also provides trash and composting services to three Amherst restaurants and compost-only service for 10 other restaurants that use Amherst Trucking for trash. On average, just over 5.5 tons of food waste is collected weekly. Total projected annual weight is approximately 270 tons.

Economics and Lessons Learned

There are some unique circumstances that help make the economics work for Duseau and Amherst Trucking. Duseau won the contract to haul Northampton Schools' food waste, which provides an allowance to tip the waste at the Smith Vocational High School composting site at no charge. While Duseau's organics truck is in Northampton to collect from the schools, it also collects at its restaurant customers, creating an efficient route. At the start of the project, the hauler, City and compost site derived a mutually acceptable average weight for the Schools' organic material. Any additional weight is assumed to come from the restaurants and a tip fee is paid accordingly.

When the Amherst project was started, it made sense for the two companies to work together. Amherst Trucking serves the majority of restaurants in downtown Amherst with trash and recycling pick ups and subcontracts the compost pick up to Duseau. It did not make sense to Amherst Trucking to invest in a truck dedicated to food waste when Duseau already had such a truck and the experience of providing the service in Northampton for almost two years.

Duseau explains that some of the bigger waste haulers may be able to afford providing both services, but the Amherst arrangement is best for these two small companies. The haulers reduce the trash tonnage going to increasingly expensive landfills. This tip fee savings is becoming a greater reward as the Amherst landfill has closed. Both haulers now drive as much as 20 additional miles to dump trash at a much more expensive landfill, making composting that much more attractive.

Duseau serves a few of his own restaurant customers in downtown Amherst while picking up some additional business through this subcontract. Finally, the decision to cooperate

on the Amherst restaurants also allowed them to place a larger, more cost efficient order on totes.

Future Plans

Duseau is invested in composting and their role in the region may become even greater as time goes on. They will be working in conjunction with Amherst Trucking to maintain the Amherst program. Both haulers have received all the educational materials and will be responsible for bringing new businesses in line in the future. They will also be the contacts for future questions or problems.

There are also possibilities of increased service for composting customers. Additional participants may allow/cause Duseau to make more frequent pick-ups. There are also a few area composting facilities in the registration/permitting process right now. Some of these facilities are very close to downtown Amherst and will provide more tipping options for the organics waste stream. Duseau also has plans to provide more frequent pick-ups in the warmer weather when odor could become more of a concern.

Duseau is also aggressively trying to increase its Northampton restaurant route. As many as 15-20 more restaurants could start composting through reorganizations that are being facilitated by the City, and Duseau hopes to incorporate composting into their waste management plan.

Contact Information

Dave/Buddy Duseau
Duseau Trucking
413-586-4101

Rich Pitts
Amherst Trucking
413-247-5853



A Duseau truck and operator dump food waste from an Amherst Trucking customer.

Alternative Recycling Systems

Business Description

Alternative Recycling Systems (ARS) started in 1995 as a local recycling-only hauler targeting small to medium size businesses, and has since evolved into a full waste management service provider targeting residential and commercial accounts. ARS also provides services for management of special wastes in the Northeast region. Patrick Kennedy is the founder and now provides composting services to eight Northampton restaurants.

Materials Hauled

ARS collects food waste and waxed corrugated from restaurants, cotton and paper fiber byproducts, and brewery waste (hops) for composting. They also provide full trash and recycling hauling for their customers.

Equipment/System Used for Hauling Compost

ARS uses 65-gallon totes for food collection for most compost customers. In some areas where several customers share service, 2-4 cubic yard dumpsters are provided to collect food waste. ARS uses a 16-yard rear loader packer (a Peterbuilt truck with a Leach body) with a cart tipper to remove food waste once a week, twice a week in the warmer months. The food collection service is a dedicated route (compostables only) that is concentrated in the City of Northampton.

Quantity Collected

An average of 10 tons of food waste is collected per month from 8 restaurant clients.

Economics and Lessons Learned

The route right now is about a break-even service for ARS. The savings in tip fees are good, but there is a significant cost to running a dedicated route. Potential expansion of the route to include more stops will improve the economics. With landfill tip fees on the increase in the area, the ability to minimize future landfilling tonnage is very important. Also, the composting program allows ARS to provide a more diverse package of services than some of its competitors.

Kennedy has the roots of his company in recycling and believes composting is the right thing to do. He has found some challenges in working with restaurant managers on minimizing contamination. Educating the management of a restaurant and finding a dedicated manager is key to maximizing diversion and keeping the compost "clean."

Future Plans

ARS is always looking to expand the organics route. ARS targets any existing customers that are interested in composting, and new customers in Northampton and nearby towns, for expanding the composting route.

Contact Information

Patrick Kennedy, President
Alternative Recycling Systems
(413) 634-8000

Appendices

- A. Northampton Mailing and Survey
- B. Amherst Mailing and Survey
- C. Amherst Chamber of Commerce Certificate of Recognition
- D. Signs (English, Spanish, Chinese)
- E. Amherst Program Press Release
- F. Northampton Program Press Release
- G. Sample Lease Agreement for Land to House Collection Containers
- H. Northampton Schools Kitchen Guidelines
- I. Northampton Schools Press Release
- J. Sample Media Coverage
- K. Sample Skit Script
- L. Shed Photos
- M. Other Helpful Resources

Appendix A. Northampton Mailing and Survey

BOARD OF HEALTH MEMBERS

CYNTHIA DOURMASHKIN, R.N., Chair
ANNE BURES, M.D.
ROSEMARIE KARPAPIS, R.N., M.P.H.
PETER J. McERLAIN, Health Agent

(413) 587-1214
FAX (413) 587-1264

CITY OF NORTHAMPTON

MASSACHUSETTS 01060

OFFICE OF THE BOARD OF HEALTH



210 MAIN STREET
NORTHAMPTON, MA 01060

February 8, 2001

Dear Food Establishment Owner/Manager,

The Northampton Board of Health and the Center for Ecological Technology (CET) are working together on a grant-funded project to support the diversion of compostable materials from the waste stream. Organic materials (such as food wastes and non-recyclable paper) can be source separated by food establishments and transported by haulers to local farms for composting. In addition to extending the useful life of the Northampton landfill, composting produces a valuable agricultural resource.

Local restaurants, institutions and schools have shown that their waste disposal costs stabilize or decrease by participating in this type of program. To expand the development of composting as a sustainable waste management practice, CET and the City will provide free technical assistance and equipment to interested establishments.

Your response to this survey will help us to: 1) identify businesses and institutions interested in receiving further information about this program, and 2) gather information about your current waste management practices. What do you have to lose?

Name of business: _____

Contact name: _____ Title: _____

Phone: _____ E-mail: _____

Business address: _____

Are you interested in learning more about this project? Yes ____ No ____

Has your business participated in an organics collection/diversion program in the past? Yes ____ No ____

Who provides trash collection services for your establishment? _____

What kinds of containers are used? Dumpsters ____ Totes ____ Barrels ____ Other _____

How often is your trash picked up? _____

Are recycling services provided by your hauler? Yes ____ No ____ If yes, what recyclables are accepted?

- | | | |
|---|---|---|
| ☐ Newspaper | ☐ Mixed paper | ☐ Metal containers |
| ☐ Corrugated cardboard | ☐ Glass containers | ☐ Plastic containers |
| ☐ Other _____ | | |

How often are your recyclables picked up? _____

Please refold your completed survey so that the the City of Northampton address is on the outside, and drop it in the mail. You may also fax your survey to 586-7351. If you have any questions, contact Jim Desmond of CET at 586-7350 or jimd@cetonline.org. Thanks for your cooperation!



Compost and turn your spoils into soil!

Waste Management Coordinator
City Hall, Room 8
210 Main St.
Northampton, MA 01060

Appendix B. Amherst Mailing and Survey



July 11, 2002

Dear Food Establishment Owner/Manager,

The Town of Amherst is embarking on a grant-funded project to help increase composting of food wastes and non-recyclable paper from local food establishments. The Department of Public Works is working with the Center for Ecological Technology (CET) to provide assistance to local food establishments and their haulers in separating and collecting these wastes. The Amherst Chamber of Commerce also supports the program because, as one element of a food establishment's waste management program, composting makes business sense.

Composting also helps support local farms and the farm economy. The collected food waste is delivered to participating farms who obtain fees for accepting and composting the materials. From this food waste they can produce rich compost, for their own use and for sale to local farmers and gardeners. Composting also removes materials from our landfills and conserves resources, making this an important Amherst initiative for the environment.

Many local restaurants, institutions and schools have been able to participate in composting programs without increasing their waste management costs (see enclosed article). In the coming weeks, CET will begin contacting restaurant owners and managers to assist in finding appropriate collection system for each individual establishment. CET is providing this service at no cost to businesses or the Town thanks to a grant from the Massachusetts Department of Environmental Protection.

Please fill out the enclosed brief survey. Your response will help us develop a program that meets the needs of Amherst businesses. We know how important your time is and that there are many things that you may be dealing with in the Town Center. With the recent completion of the parking garage, this is the ideal time to institute a comprehensive waste management program for the Town's restaurants.

Thank you for your assistance, and if you have any questions about the project, please call Lorenzo Macaluso at CET at 586-7350.

Sincerely,

Nancy Maglione

Nancy Maglione,
Acting Town Manager
Town of Amherst

Carolyn Holstein

Carolyn Holstein
Recycling Coordinator
Town of Amherst

John Coull

John Coull
Executive Director
Amherst Area Chamber of Commerce

Lorenzo Macaluso

Lorenzo Macaluso
Waste Management Specialist
Center for Ecological Technology



Printed on Recycled Paper

EQUAL EMPLOYMENT OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

Town of Amherst Composting Project Survey

Business Name: _____
Contact person: _____
Title: _____
Business address: _____
Phone: _____ Email: _____

TRASH

Who provides your trash collection services? _____
What kinds of containers are used? Dumpsters _____ Totes _____ Barrels _____
Other _____
How often is your trash picked up? _____

RECYCLABLES

Are recycling services provided by your hauler? Yes ____ No ____
If yes, what recyclables are accepted? (please check ☐)
☐ Newspaper ☐ Corrugated cardboard ☐ Mixed paper
☐ Glass containers ☐ Metal containers ☐ Plastic containers
☐ Other _____
How often are your recyclables picked up? _____

COMPOSTING

Has your business participated in a composting program in the past?
Yes ____ No ____
If yes, who picked up your food waste? _____ - _____
Who received it? _____
Would you be interested in finding out more about Amherst's Composting Project?
Yes ____ No ____

Please put this completed survey in the enclosed envelope and drop it in the mail, or you can fax it to us at (413) 586-7351.

QUESTIONS? Contact Lorenzo Macaluso of CET at 586-7350.

THANK YOU!!

Appendix C. Amherst Chamber of Commerce Certificate of Recognition

*This restaurant participates
in Amherst's new Food
Composting Program*



*The Amherst Area Chamber of Commerce
applauds their commitment to recycling
and waste reduction!*

Compostables

- ✓ Any fruits and vegetables
- ✓ Salads, pasta, grains, beans
- ✓ Coffee grounds and filters
- ✓ Baked goods (unwrapped)
- ✓ Plate scrapings
- ✓ Waxed cardboard, paper towels, napkins

***NO PLASTIC, METAL,
OR RAW MEATS**

Compostables

- ✓ Todas frutas y verduras
- ✓ Ensalada, pasta, granos, frijoles
- ✓ Granos y Filtros de cafe
- ✓ Comidas Horneadas (sin envoltura)
- ✓ Comidas usadas del plato
- ✓ Carton de cera, toallas y servilletas de papel

***NO PLASTICOS, METALES,
CARNE CRUDA, O PESCADO CRUDO**

能用作堆肥的材料

- 1) 任何蔬菜或水果
- 2) 沙拉, 麵條, 穀物, 豆子
- 3) 磨碎的咖啡渣
- 4) 無包裹燒烤過的食品
- 5) 盤子上剩下的食物 (包括熟肉在內)
- 6) 帶蠟的紙板, 紙巾, 餐巾

Appendix E. Amherst Program Press Release

Date: September 10, 2002
Contact: Lorenzo Macaluso, CET
Phone: 586-7350
Email: lorenzom@cetonline.org

For Immediate Release

Amherst restaurants to compost, keep food out of landfill

With grant funding from the Massachusetts Department of Environmental Protection (DEP), The Town of Amherst and the Center for Ecological Technology (CET) are working with local restaurants and waste haulers to implement a composting program for food waste. Under the new effort, food scraps will be separated from the trash and hauled to a local farm for composting.

Some food establishments in Town have already started separating organic materials for composting. Atkins Farms has been composting for several years. This summer, CET was able to enhance their program by providing buckets for collection areas and signs to help educate staff. Harold Gould has been coordinating the recycling and composting efforts and is doing an exemplary job. He helps direct employees as to the proper procedure for separating materials and putting them in the right place. Organic materials like vegetable prep, bakery scraps, floral cuttings, spoiled produce, and non-recyclable waxed cardboard all go into a dumpster behind the store. Atkins is diverting a tremendous amount of materials from the landfill and Harold Gould says, "We're happy with what we are doing and still feel like we can do even better." Martin Farms of Greenfield then empties the materials and brings it to his farm for processing.

Maplewood Farms Restaurant and Brewery on Rt. 9 also has an existing program that CET is helping to enhance. They have a working farm associated with the establishment where they have been composting general farm waste like animal bedding, weeds, wood chips and leaves. They have also separated the prep waste from the kitchen for composting. CET is helping make plate scraping part of the composting mix by supplying 6 gallon buckets for collection, and signs to help staff understand correct procedures. Lorenzo Macaluso, Waste Management Specialist for CET, also met with the staff to explain the importance of composting and how it can help the environment, the business, and the farm.

There are many other restaurants in town who have committed to joining the composting effort. They are working with their current trash haulers and CET to develop a collection system that will work for their facility. Restaurants that have expressed interest in composting include:

La Cucina di Pinocchio
Judie's
Henion Bakery
Black Sheep
Amber Waves
Bueno Y Sano
Paradise of India
Amherst Brewing Company
Thai Corner
Bananarama Juice Bar

Bertucci's
Daisy's Restaurant
Atlantis Restaurant
Portabella Catering

Many Boltwood area restaurants will begin the program in October, upon arrival of the wheeled collection containers ordered by their hauler. "We are excited to be a part of composting. Its something we have been working on for 25 years and I think it will run smoothly," said David Duseau, owner of Duseau Trucking. Duseau and Amherst Trucking are partnering their efforts in this program to best serve their customers.

Composting food waste saves businesses money and provides income and a valuable soil amendment for farms. It also helps the environment by keeping materials out of landfills and incinerators and putting nutrients back into the soil. "As one element of a food establishment's waste management program, composting makes business sense," said John Coull, Executive Director of the Amherst Area Chamber of Commerce.

The Massachusetts Department of Environmental Protection (DEP) has identified food waste composting as a major priority for its waste reduction efforts over the coming years. According to the US Environmental Protection Agency (EPA), food establishments can reduce their waste by as much as 85% by composting.

A non-profit organization established in 1976, The Center for Ecological Technology (CET) works as a catalyst for changing solid waste and energy practices that adversely impact the natural ecology of the Earth. Working with local industry, government and residents, CET demonstrates and promotes practical applications of sustainable technologies, providing affordable solutions that serve the entire community.

Appendix F. Northampton Program Press Release

Date: March 5, 2001
Contact: Jim Desmond, CET
Jeremy Migner, Northampton Board of Health Intern
Phone: 413-586-7350
Fax: 413-586-7351
Email: jimd@cetonline.org

For Immediate Release

Local Restaurants' Composting Efforts Are Good For Business and Environment

More restaurants in the City of Northampton will soon be recycling another material that used to go into their trash: food waste. The Northampton Board of Health and the Center for Ecological Technology (CET) are working together to expand existing composting efforts in the city, and will offer technical and financial assistance to local restaurants, schools and institutions interested in diverting compostable materials from the waste stream. Organic materials such as food waste and non-recyclable paper and cardboard can be separated from non-compostable trash at the restaurant and transported by haulers to local farms for composting. In addition to extending the useful life of the Northampton landfill, composting food waste allows local farms to produce a valuable soil amendment, which can be sold to landscapers and gardeners or used on their own fields.

For restaurants interested in starting up a composting program, the first step is to request compost service from their current hauler, and discuss equipment and pickup needs. The City and CET are ready to provide assistance to interested businesses in setting up their program, training staff in the appropriate separation of materials, and providing educational materials and signs. The City of Northampton also has a mini-grant program that provides up to \$250 per food establishment to cover the cost of collection equipment and other items needed to begin a composting program.

Many local restaurants and institutions are already composting their food waste and have found that it makes both business and environmental sense. La Cazuela restaurant in Northampton has been composting their food waste for over 7 years, and according to co-owner Rosemary Schmidt, "Our compost program is a really positive aspect of our business. For starters, composting doesn't raise our disposal fees or labor costs, so it makes economic sense. But what's even more important to us is the ecological impact. Our food waste, weighing up to 900 lbs each week (varying by season), stays out of the landfill and replenishes local farm soils."

Most food establishments that are currently participating in a composting program do not incur any extra costs. Haulers pay less to dispose of food waste at a compost site than at a landfill, enabling them to provide food establishments with an additional service at no extra cost.

The Northampton Brewery has been composting food waste from its restaurant and brewery operations for 5 years. "Composting doesn't disrupt the staff's work in the back room. It easily fits in with the rest of our recycling efforts," says Jae McAuley, general manager. "Our employees appreciate that we do the right thing and it pays to be seen as a business that cares to do right by the environment."

Most of the food waste collected at area restaurants is delivered to one of two local farm compost sites in Northampton and Hadley. The Smith Vocational Agricultural School Farm handles about 60 tons of commercial compostables weekly. At the school's farm, food waste and waxed cardboard are mixed with manure, bedding and yard waste. Now one of the school's most popular products, finished compost is being sold by the yard to homeowners and landscapers.

The ground is now fertile to bring more restaurants and food establishments into local composting efforts. Local haulers are enthusiastic to provide compost-collection services to their customers, and farmers have the capacity to receive more food waste at their sites. Program coordinator Jeremy Migner reports, "The infrastructure is in place, and we're ready to meet with restaurants that would like to participate and provide start-up guidance and help."

Northampton food establishments who would like to learn more about starting up a compost program can contact Jim Desmond or Jeremy Migner at CET at (413) 586-7350, or send e-mail to jimd@cetonline.org

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Appendix G. Sample Lease Agreement for Land to House Collection Containers

This agreement is made this _____ day of _____, 2003 by and between the City of Northampton acting through its Parking Commission, duly authorized by vote of the City Council, hereinafter called the "City" and _____ hereinafter called the "Service Provider."

1. PREMISES

The City agrees to allow the Service Provider to use those parcels of land located in the Masonic Street Parking Lot as shown on Attachment C, attached hereto and made a part hereof.

2. TERM OF AGREEMENT

This agreement shall commence on April 1, 2003, and shall be for a period of five (5) years.

3. CONSIDERATION

In consideration of this agreement, the Service Provider shall pay to the City of Northampton, through its Parking Commission, the sum of two hundred dollars (\$200.00) per month for a total of two thousand four hundred dollars (\$2,400.00) per year.

4. PERMITTED EQUIPMENT

The Service Provider shall be allowed to place a compactor for refuse on a concrete pad, and a rolloff, dumpster or other appropriate container for OCC/mixed paper in a parking space on the premises OR a dual compactor for refuse/OCC/mixed paper on the concrete pad as shown on attachment C. The Service Provider shall be allowed to place totes for mixed containers and compostables in an enclosure as shown on Attachment C. The Service Provider will contract independently for this equipment and shall be responsible for all costs associated therewith. The Service Provider shall include in any contract for the equipment specified in Article 3, supra, a clause requiring the Service Provider to remove the equipment from the premises upon termination of this Agreement. No contract made by the Service Provider will be considered an obligation to the City.

5. SERVICE PROVIDER'S RESPONSIBILITY FOR MAINTENANCE

The Service Provider shall be required to provide collection services for all containers at sufficiently frequent intervals and on an "as-needed" basis to prevent accumulation of litter, debris, nuisance conditions, odors or vectors in the area of the equipment.

The Service Provider shall, at all times, keep the premises free of trash, debris, or any other dangerous, unhealthy, or unsightly accumulations. Upon notification by the Northampton Parking Division or the Board of Health that the area is unacceptable in terms of safety or cleanliness, the Service Provider shall, within eight (8) hours of said notice, abate the conditions giving rise to said notice. If the Service Provider fails to take action within the eight (8) hours, the City may abate the conditions and charge the cost of said work to the Service Provider.

6 SERVICE PROVIDER'S LIABILITY

The Service Provider shall be solely responsible for any personal injury or property damage which

may result from the location of the refuse container or enclosure for containers on the premises, the Service Provider shall hold harmless and indemnify the City, its officers, agents, and employees from any and all liability, damages, actions, causes of actions, and suits, whatsoever, arising out of the presence of the refuse containers or enclosure for containers on the premises and shall provide the City with a Certificate of Insurance naming the City as an additional insured at \$100,000 per individual and \$500,000 aggregate.

7. TERMINATION

This Agreement may be terminated by the City upon two (2) week's written notice if the Service Provider fails to adhere to any of the terms of this Agreement. Either party may terminate this Agreement as specified in Article 2, supra, or upon thirty (30) days written notice.

8. NOTICE

The Service Provider will designate an individual who will be responsible for manage services in the Masonic Street area, and shall provide this individual's contact information to the City and to all customers.

Any notices under this agreement shall be sent, certified mail, return receipt requested:

To the City: Parking Commission
 c/o Director, Parking Commission
 212 Main Street
 Northampton, MA 01060

To the Service Provider:

If any party wishes to designate a different person to whom notice should be directed, that party shall notify the other party of said change by certified mail return receipt requested.

In witness thereof, the parties have executed this Agreement on the day and year first above written.

SERVICE PROVIDER

NORTHAMPTON PARKING COMMISSION

Chair, Parking Commission

CITY OF NORTHAMPTON

APPROVED AS TO FORM:

Mary Clare Higgins, Mayor

Joe Cook, City Solicitor

Appendix H. Northampton Schools Kitchen Guidelines

FOOD WASTE COMPOSTING PROGRAM

Beginning in the 2002 school year, The Northampton Public Schools will be participating in a composting program for paper milk cartons, and in most schools, food wastes. The food waste and cartons collected at Northampton schools, restaurants and markets is brought to local farms for composting.

PURPOSE OF THIS PROGRAM

Composting can provide cost savings to institutions and businesses that participate in this program. Composting provides farmers with a supplementary income source and a product to sell or use on their own land. Diverting food wastes to composting also conserves landfill space and natural resources.

COMPOSTABLE MATERIALS

1. Any vegetables or fruit
2. Bread, pasta, grains, beans
3. Plate scrapings (includes cooked meat)
4. Paper milk cartons

DO NOT INCLUDE:

1. All plastic:
 - Styrofoam or plastic lunch trays
 - Plastic cups for desert and applesauce
 - Straws, stirrers, bags
2. Juice cartons, juice packs and juice containers (can be recycled with bottles & cans)
2. Uncooked meat
3. Fryer fats, oils

Note: It is very important to keep trash out of the compost.

KITCHEN STAFF PROCEDURE

Place food waste (and plate scrapings, if applicable) into color-coded 5-gallon compost buckets. Custodial staff will empty the buckets as needed. In most schools, kitchen staff will wash emptied compost buckets in dishwashing machine, or with the dish sprayer to limit odors and pests.

CAFETERIA PROCEDURE

Students will be responsible for placing milk cartons and food wastes into color-coded containers, located next to trash containers in cafeteria.

CUSTODIAL STAFF PROCEDURE

Kitchen: Collect filled compost buckets from kitchen and replace with a clean, empty bucket. Empty buckets into the designated compost dumpster located next to your school's trash dumpster. Replace the dumpster lock and bring compost bucket to dishroom for washing by kitchen staff.

Cafeteria: Empty narrow milk carton containers (unlined) directly into the compost dumpster. After final lunch, rinse narrow containers in utility/slop sink or at outdoor spigot. Use plastic liners in brutes for food waste, turning down bag as it fills and placing a second bag on top if needed. Empty food waste into compost dumpster and dispose of liner in trash. If food waste or cartons are noticeably contaminated with trash (more than 5% by volume), then put it in the trash. Custodians are not responsible for picking trash out of compost containers. The compost dumpster will be emptied regularly by Duseau Trucking.

WHO TO CONTACT WITH QUESTIONS

Contact Jim Desmond or Jeremy Migner at the Center for Ecological Technology (CET) at 586-7350, with any composting program questions. For issues related to the Northampton Board of Health, contact Karen Bouquillon at 587-1284. For problems with dumpster pickup, contact Mike Diemand at 587-1305.

Appendix I. Northampton Schools Press Release

Date: May 14, 2002
Contact: Jim Desmond, Center for Ecological Technology (CET)
Jeremy Migner, Northampton Board of Health Intern
Phone: 586-7350
Email: jimd@cetonline.org

For Immediate Release

Northampton Schools begin composting, keep food out of landfill

Northampton's Public Schools are doing some recycling in their cafeterias of an often-overlooked item: food waste. The Northampton Board of Health and the Center for Ecological Technology (CET) are working with the Public Schools as well as local institutions to set up composting programs that remove food and other organic materials from the waste stream. The school compost project follows the success of composting programs already in place at many of the city's restaurants and markets.

Organic materials such as food waste, milk cartons and non-recyclable paper and cardboard are now being separated from the non-compostable trash in school cafeterias and kitchens and transported by haulers to a local farm for composting. In addition to extending the useful life of the Northampton landfill, composting food waste allows farms to produce a valuable soil amendment, which can be sold to landscapers and gardeners or used on their own fields.

Jackson Street School was the first school to begin composting in mid-March. Students now separate their waste into three new containers: food, trash, and milk cartons. After a few days, the students had learned how to use the new system and were soon composting more than 50% of the cafeteria's waste stream by weight.

"Our students are really behind this program, and in the process, they've been learning about the science of composting and worms," relates Gwen Agna, Principal of the school. "The project has also provided a valuable lesson in understanding where our trash goes and why recycling and composting are important. All in all, the faculty and students have been proud to be reducing waste and helping the environment," she continued.

Students in classes at the school came up with slogans, made posters, made morning announcements over the intercom, and performed instructive plays to other classes to help explain the program to other students at the school.

"Taking out the compost every day, you see how much we used to throw away," reports John Benoit, Custodian for Jackson Street School. "It's encouraging to see how much waste we're keeping out of the landfill."

In addition to the food scraping and milk cartons collected in the cafeteria, vegetable peelings and unserved food from the kitchen are also collected. Food and milk cartons are put into a composting dumpster by custodial staff, and then delivered to the composting site at Smith Vocational and Agricultural High School on Burts Pit Road in Northampton.

All four Northampton elementary schools are now up and running, and the remaining schools will be added on shortly.

“This progressive program will provide a model for other communities to consider” says Karen Bouquillon, the Northampton’s Integrated Waste Management Coordinator. “Food waste and milk cartons account for large proportion of a schools’ trash, yet very few school systems have looked at composting their organic wastes. As disposal capacity becomes increasingly scarce and expensive in Massachusetts, I expect that commercial and institutional composting programs like we have in Northampton will multiply.”

The schools are also expected to find some cost savings through the new program, thanks to a waste hauling contract that saves the schools money when they recycle and compost. Given the schools’ current tight budget, that was a welcome development. “Besides being good environmental programs, composting and recycling can help save the schools money in this tight budget year, so we’re glad to be participating”, said Mike Diemand, Director of Maintenance.

Food waste and cartons from the schools is delivered to the Smith Vocational Agricultural School Farm, where they are mixed with manure, animal bedding and yard waste. This mixture produces a high quality finished compost, which is being sold by the cubic yard to local home gardeners and landscapers.

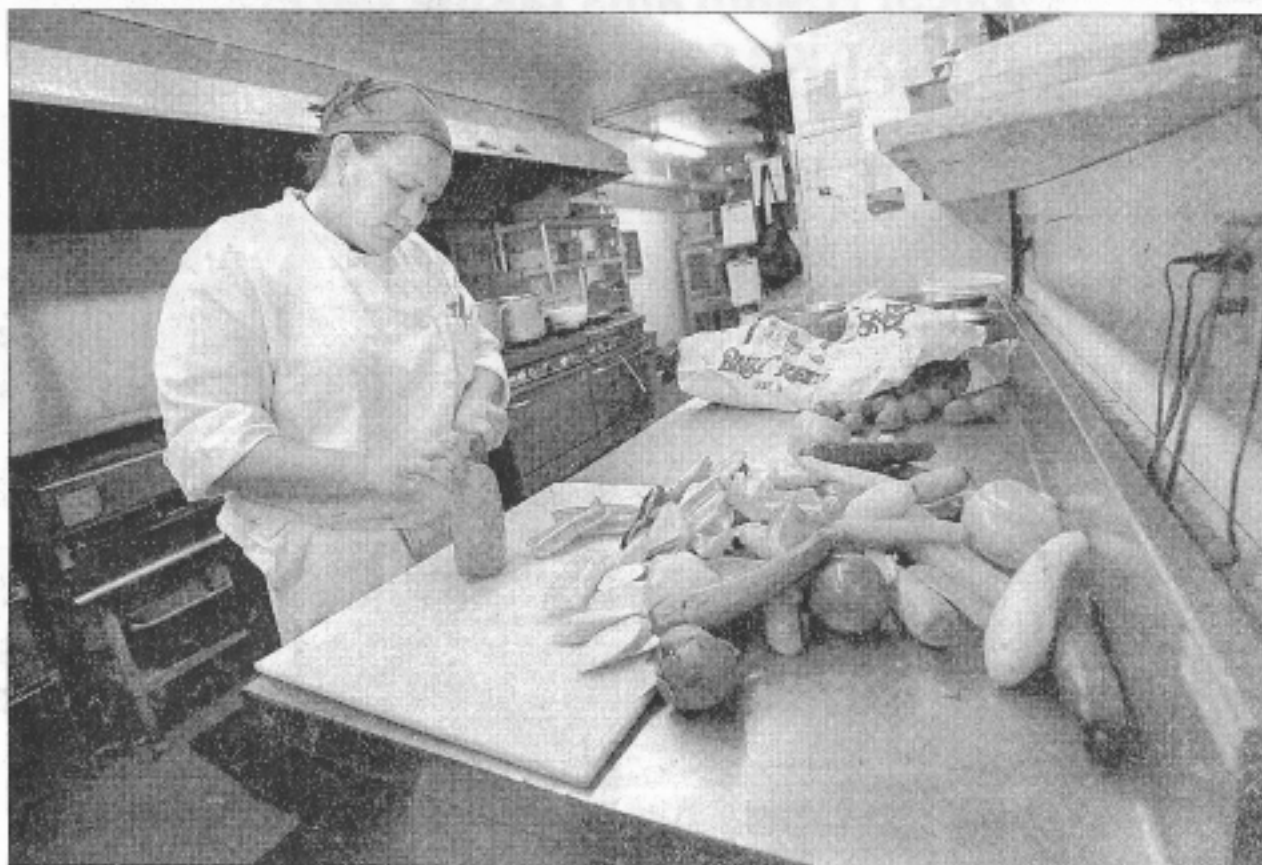
The City and CET are interested in starting similar programs in other Northampton institutions in the coming months. “The infrastructure is already in place, so we’re ready and able to assist any private school or institution that would like to participate,” says Jim Desmond, Waste Management Specialist at CET.

The program is funded by a grant from the Massachusetts Department of Environmental Protection. Schools and institutions that would like to learn more about starting up a compost program can contact Jim Desmond at CET at (413) 586-7350 or send e-mail to jimd@cetonline.org.

Appendix J. Sample Media Coverage

SERVING THE BEST

Union-News, Thursday, March 8, 2001



Staff photo by BOB STERN

Chef Celena A. Kalp, works in the kitchen at the Vermont Country Deli & Cafe in Northampton, which has been composting its food waste for about two months. Mini-grants are being offered to encourage restaurants to compost their waste.

Composting catching on at eateries

By ANGELA CARBONE

Staff writer

NORTHAMPTON — La Cazuela co-owner Rosemary Schmidt figures that the restaurant stops an average of 900 pounds of food waste each week from heading to the landfill.

Considering that the eatery has been composting the bulk of its waste for more than seven years, that's a lot of garbage.

The city's Board of Health and the Center for Ecological Technology, a local energy conservation group, are hoping more restaurants will follow the lead of La Cazuela and other places like the Northampton Brewery, which has been composting waste for about five years.

To help other restaurants begin composting, the city has set up a mini-grant program that provides up to \$250 to any food establishment to cover the cost of collection

equipment and other items. The Center for Ecological Technology is adding its expertise to the mix. By promoting composting as an alternative, the center and the city hope to make Northampton a prime example.

"Northampton has such a density of restaurants, it would be an ideal place for this," James M. Desmond, Center for Ecological Technology waste management specialist, said yesterday.

The program will help restaurants learn how to set up a successful composting system, what can and can not be composted, and how to train staff to carry out the program. Composting involves separating from the waste stream organic materials, such as vegetable waste and sometimes paper, that will ultimately be broken down in the environment. Compost is used as fertilizer.

The Board of Health and the center recently sent out surveys to restaurants to determine if there is

an interest. Dozens were returned, Desmond said.

Questions many ask about such a proposal is whether setting up and running a composting program is complicated and whether the compost bins will create a problem with odors or pests.

"There's not a huge difference in managing trash or compost," Desmond said. "Most of the containers are sealed and many are locked. In terms of the odors in the summer, the regular trash Dumpsters smell."

Celena A. Kalp, head chef at the Vermont Country Deli & Cafe, said yesterday that the deli has been composting its food waste for about two months.

"It actually shows us what we're wasting," she said. "It cuts down on the trash."

Composting is a lot easier than she thought it would be.

"I thought it would be more difficult than it is. We have a small kitchen, and I thought that would

make it difficult," Kalp said. "It's really simple to do."

Like Kalp, Schmidt said composting is good for the environment, but also for the restaurant because it cuts down on the amount of trash to be hauled away.

"We have five buckets for trash, and only one of them is non-compostable," she said.

La Cazuela began composting through an earlier grant program from the city. The compost was hauled to Smith Vocational and Agricultural High School to be used at the farm. The restaurant, the school and the trash hauler benefited, she said. The hauler found it cheaper because the school was closer than the landfill and it cut down on the cost of disposal.

Kalp said she's glad the deli is now composting its food waste.

"I think it's an awesome thing that we're doing," Kalp said.

Local restaurants taking part in citywide composting effort

By PHOEBE MITCHELL
Staff Writer

NORTHAMPTON — Discarded lettuce leaves, coffee grounds and potato peels will get a new lease on life — enriching the soil at area farms and gardens — under a citywide effort that seeks to encourage local restaurants to turn their recyclable food waste into compost.

The joint effort, by the Northampton Board of Health and the Center for Ecological Technology (CET) on Market Street, seeks to expand the city's composting efforts by offering technical and financial assistance to restaurants.

James Desmond of CET said the composting effort will benefit the environment by reducing the amount of trash headed to the city landfill, while transforming what was once thrown away into valuable compost.

"We want to get (food waste) out of the trash and turn it into soil," said Desmond.

Because food waste makes up an estimated 12 percent of the trash generated in the city, the program will reduce the waste headed to the city's regional landfill, extending the length of time it can stay open.

Cutting the amount of organic waste in the landfill also will reduce the release of gases, especially methane, which is generated by organic waste as it decomposes, he said. Some scientists believe such gases contribute to global warming.

Haulers will deliver the food waste to two local farm compost sites in Northampton and Hadley.

The Smith Vocational and Agricultural High School already handles about 60 tons of commercial compostables collected weekly from restaurants and supermarkets at its site on Burts Pit Road. Desmond estimated the program will generate 25 to 30 additional tons of food waste each month.

The farm mixes food waste, waxed cardboard with manure, bedding and other organic material, producing a rich, compost the school sells to area farms and gardeners.

A second composting site is in the works on farmland off Route 9 in Hadley, said Desmond.

Karen Bouquillon, the city's waste management coordinator, said the

project, under way since October, has sent surveys to gauge interest to 150-some city restaurants, of which 24 have said they'd like to participate in the mini-grant program.

Funded by \$20,000 from the state Department of Environmental Protection, the program offers grants of up to \$250 to eateries to cover the cost of collection equipment and training for the composting program.

Though the cost of composting depends in part on what haulers charge, Bouquillon said the program is not expected to increase disposal costs because tipping fees at compost sites are less than at the landfill.

The city charges haulers \$65 per ton to dispose of trash at the landfill, compared to \$25 per ton at compost sites, she said.

The program also seeks to keep costs down by having restaurants share compost disposal sites. Several areas have been established downtown, including one on the first level of Thornes Marketplace and another off Masonic Street.

By increasing the percentage of waste it recycles, the city also can improve its state recycling rating, she said, making it eligible for grants through the state Municipal Recycling Incentive Program. Last year the city received about \$40,000 in Incentive grants, she said.

At least two local restaurants, La Cazuela on Old South Street and The Brewery on Brewster Court, have been composting food waste for several years, said Desmond, as have area Stop & Shop and Big Y supermarkets.

At the Brewery and La Cazuela, which composts about 900 pounds of food waste each week, staff dispose of food waste in a special bins which are picked up by their hauler and transported to Smith Vocational's composting site on Burts Pit Road.

Jae McAuley, general manager of the Brewery, said the restaurant has been composting its garbage for four years, as part of an overall effort that recycles close to 90 percent of the restaurant's paper, cardboard and other waste.

Those who would like to learn more about the composting program can contact James Desmond or Jeremy Migner at CET at 586-7350.

Appendix J, Continued.

Amherst eateries join compost effort

By NICK GRABBE
Staff Writer

AMHERST — Restaurants that have been putting their food waste into the trash will be able to send it to a farm for composting starting this month.

Restaurant managers and waste haulers have been working with the Center for Ecological Technology in Northampton on a plan to separate food scraps from trash. Thirteen Amherst restaurants have expressed an interest in the program, said Lorenzo Macaluso, the Center's waste management specialist.

Next month, waste haulers expect to acquire wheeled barrels with 96 gallons of capacity, he said. Using money from a state grant, the center will provide the restaurants with six-gallon buckets, which employees will use for food waste and then empty into the wheeled barrels,

he said.

Haulers will then take the food scraps to local farms, where they can be mixed with leaves, grass clippings and manure to create a valuable fertilizer. Whereas haulers pay \$65 a ton to dump food waste in the landfill, farms typically charge about \$20 a ton to receive it, Macaluso said.

The center will also provide signs to help restaurant workers understand the procedure, and Macaluso will meet with them to explain the importance of composting, he said. "This will conserve landfill space," he said. "And composting turns what would have been waste into a useful and marketable product."

Up to 80 percent of a restaurant's waste typically consists of food scraps, he said.

The program is modeled after a similar one in Northampton, where between five and 10 restaurants are

composting food waste, he said.

Judie's Restaurant at 51 North Pleasant St. is enthusiastic about the program, said Catherine Eagan, a partner in the business.

"It's great feeling that food is not going to the landfill," she said.

"It will save space in the landfill and generate something useful. We're really behind the program."

Similar food waste composting programs already exist at Atkins Farms Country Market, Maplewood Farms, and Not Bread Alone, the free-meal site at First Congregational Church.

The center has provided Atkins Farms and Maplewood Farms with buckets for collection areas and signs to help educate employees, Macaluso said. A volunteer at Not Bread Alone has been composting food waste for several years. Nick Grabbe can be reached at ngrabbe@gazettenet.com.

From the Hampshire Gazette, November 21, 2001

Union-News (Springfield, MA)

Union-News (Springfield, MA) September 14, 2002

Amherst eateries reduce dump loads

AMHERST - Two Amherst restaurants have begun composting waste food, and more are expected to begin doing so in the next few weeks. The program here and in Northampton is being paid for with a \$63,350 two-year grant from the state Department of Environmental Protection, said John E. Majercak, director of waste management programs for the Center for Ecological Technology, the consulting agency which helped Northampton and is now assisting Amherst restaurants in setting up the program. The Amherst program was delayed because of the building of the Boltwood Walk Parking Garage, said Lorenzo Macaluso, a waste management specialist who is working with Amherst eateries. Many restaurants abut the garage. So far, Maplewood Farms Restaurant and Brewery and Atkins Farms are composting, he said, and at least 11 others are interested and will likely be composting in a few weeks, as soon as trash haulers are ready, he said. Maplewood Farms has been composting for as long as the restaurant has been open, said Daniel P. Kramer, co-owner of the farm and restaurant. But, he said, with Macaluso's help they have become more efficient. "They've re-energized us a little bit," he said. "I think it's a great idea. It helps reduce solid waste in the landfill. It's a win-win (situation). We're fortunate to have our own farm; we compost on site." Macaluso has come in and talked to staff and put up signs letting staff know what can be composted and what can't. He provided smaller buckets that Kramer said work better. "It's an exciting thing to see happening. A lot of restaurant owners are really excited about it," Macaluso said. Sometimes 50 percent of the trash generated is food, he said, and sometimes an even higher percentage, depending on the kind of restaurant. Composting takes the food out of the waste stream. "With the Amherst landfill closing, this is going to be helpful to extend the life of the existing landfill. . . . It's useful material rather than just sitting in the landfill creating methane." Trash haulers will take the compost to farms. The grant helps pay for the composting buckets, for training and for bringing the trash haulers together with the restaurants, he said. "I think it's very exciting," said Carolyn M. Holstein, the town's recycling coordinator. "I hope we will be able to enhance the recycling that happens at restaurants. It could even save them some money in terms of their refuse (costs)." And she said, "it will provide wonderful compost." Diane Lederman can be reached at dlederman@union-news.com. Copyright, 2002, The Republican Company, Springfield, MA. All Rights Reserved

Appendix K. Sample Skit Script

Leeds School Composting Skit

- 1st Narrator: Leeds School will be doing things differently in the cafeteria starting next week. Instead of putting all our waste into those big grey trash cans, we're going help the environment by composting. Composting means letting natural, organic things decompose and turn back into soil.
- 2nd Narrator: That's right– starting at lunch next _____, we'll be composting our leftover food and milk cartons by putting them into their own, new containers. Instead of going to a landfill, our leftover food will be brought to Smith Vocational School where they will mix them with leaves and make rich soil for gardening! Worms help make this happen by eating and breaking down the food and leaves.
- 1st Narrator: Danny just finished his lunch in the cafeteria. Let's watch how it uses these new containers:
- Danny: Oh, here are those new containers I've heard about. My straw, plastic and paper all go into the grey trash can, my milk carton with milk can go in the narrow milk carton container, and then I bang out my food waste into the yellow food container. Easy!
- 1st Narrator: Danny did everything right. Here comes Craig. Let's see how he does.
- Craig: Hey, what are all these containers doing here? Well, I don't know, and who cares? (He puts his tray contents in the wrong place)
- 2nd Narrator: (to Craig) Wait! You did that all wrong! Compost can't have plastic in it– plastic doesn't break down, and it ruins the compost!
- 1st Narrator: And you put food waste in the trash, so it will never have a chance to turn back into good soil for growing plants!
- Craig: Oops– sorry. I didn't listen very well when they made the announcements I guess. I didn't realize composting was such a good thing for the earth!
- 2nd Narrator: Here comes one last person: Beth. Let's see if she cares about composting and feeding the worms.
- Beth: Okay, I know how this works. All my paper and plastic things like cups and trays go in the grey trash can. But what about my orange juice carton? It looks like a milk carton, but the sign says "Milk cartons". Hmm.... I guess I'd better put my juice container in the trash. Then, all my food waste goes in the yellow container.
- 1st Narrator: Beth was on top of it, too. She noticed that only milk cartons can go in tan container. No juice boxes or cartons are allowed because many of them have plastic built into them.

2nd Narrator: So there you have it, kids. Make sure the right things go in the right containers, and everyone wins.

Danny: Composting is one way that we here at Leeds School can show that we care about the environment.

Beth: We send less to the landfill, and we compost our food and cartons to make good, rich soil.

Craig: And remember that when you put your leftover food into the food container, you're also feeding some very hungry little worms! So do the right thing, and...

All (unison): Feed the worms!

(Applause...?)

1st Narrator: Does anybody have any questions about how this new program will work?

Appendix L. Shed Photos



Amherst shed located next to the parking garage was designed to match the look of the garage area.



The shed serving Thornes Market in Northampton.



The shed serving Kirkland Alley in Northampton.



Restaurants and the hauler keep the inside of the sheds clean and organized.

Appendix M. Other Helpful Resources

Center for Ecological Technology (CET)

A non-profit (501c3) organization established in 1976, CET works as a catalyst for changing practices that adversely impact the natural ecology of the Earth. Working with local industry, government and residents, CET demonstrates and promotes practical applications of sustainable technologies, providing affordable solutions that serve the entire community. Over the past 27 years, CET has directly served thousands of residents throughout Western Massachusetts and New England and has worked closely with local and state governments, non-profit organizations, businesses and farms. Several related documents referenced in this toolkit are available for downloading through CET's site.

26 Market Street
Northampton, MA 01060
Phone: (413) 586-7350
Fax: (413) 586-7351

112 Elm Street
Pittsfield, MA 01201
Phone: (413) 445-4556
Fax: (413) 443-8123

Email: cet@cetonline.org
Web: www.cetonline.org

Appropriate Technology Transfer for Rural Areas (ATTRA)

P.O. Box 3657
Fayetteville, AR 72702
Phone: 1-800-346-9140 FAX: (501) 442-9842
Farm-Scale Composting Resource List - an excellent, extensive list (from which most of the information below is derived).
http://www.attra.org/attra_pub/farmcompost.html

The US Composting Council Home Page

<http://CompostingCouncil.org/>

Cornell University Composting Home Page

<http://www.cals.cornell.edu/dept/compost/>

EPA Solid Waste Management: Composting Resources

http://www.epa.gov/epaoswer/non_hw/compost/

California Integrated Waste Management Board Publications on Compost & Yard Waste

<http://www.ciwmb.ca.gov/publications/default.asp?cat=2>

BioCycle Magazine
419 State Ave.
Emmaus, PA 18049
(610) 967-4135
(610) 967-1345
biocycle@jgpress.com
<http://www.jgpress.com/>
\$69/12 issues a year

BioCycle is the leading trade magazine — published since 1960 — on farm, municipal, and industrial composting. Some of the nice features to BioCycle include: profiles and articles on compost operations and businesses, compost methods, compost uses, literature reviews, research reports, industry trends, economics and marketing, and equipment and supplies. BioCycle covers all aspects of the compost industry whether MSW, livestock manures, yard trimmings, woody materials, food residuals or biosolids.

Massachusetts Department of Environmental Protection
Web resources - Municipal composting guidance documents, and Composting Technical Assistance- A list of publications and visual aids for composting
<http://www.magnet.state.ma.us/dep/recycle/recycle.htm>
Sumner Martinson, Director, Composting Program
1 Winter Street, 9th floor
Boston, MA 02108
(617) 292-5969
sumner.martinson@state.ma.us

Composting in Restaurants and Schools



A Municipal Tool-Kit