

# WORKPLACE COMPOSTING TOOLKIT



The Greater Cincinnati Green Business Council has issued this Workplace Composting Toolkit to support Greater Cincinnati business participation in sustainability efforts, waste reduction efforts, operational cost savings and to help support and develop a business model for composting in the Greater Cincinnati Area.







Welcome to  
Your **Toolkit** For  
Waste Reduction  
and **Zero Waste!**



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# WORKPLACE COMPOSTING

Waste reduction efforts and zero waste goals can be a challenge to realize because most large employers have some form of cafeteria, dining operation or even break areas which create or collect large volumes of food waste and related organic materials. Contaminated food containers, drinks and the food waste itself has traditionally been sent to landfill. Most people and employees gladly participate in recycling, waste stream separation and waste reduction efforts, but it must be convenient and ideally cover the majority of the waste individuals produce in the workplace.

It is not hard to make composting, in addition to recycling and waste reduction programs, part of the way you do business. If your workplace produces a significant amount of organic waste, adding composting to your waste management strategy could provide financial benefits as well as supporting your company's waste reduction and zero waste goals.

There are several ways workplaces can participate in composting. The best choice for your workplace will depend on:

- The amount and type of organic waste generated
- The amount of space you have available for on-site composting
- The amount of effort your workplace is willing to dedicate to maintaining the composting system
- The investment you are willing to make in on-site composting equipment
- Annual fluctuations in your organic waste stream, if there are any

Smaller employers, offices and workplaces that produce low volumes of compostable organics, could choose to have [vermicomposting](#), using red worms to compost organic waste, while others might set up outdoor bins on the property. Partnering with organizations interested in composting such as community gardens can also be an option. Larger producers of organics need to consider commercial composting services that pick-up the materials and compost them off-site. The majority of this guideline addresses larger producers of food waste and organic materials in the workplace. Low Cost and Small Employer Options are addressed briefly at the end of the guideline.





# COMPOSTING BASICS





## COMPOSTING BASICS

Composting is controlled decomposition where aerobic (oxygen requiring) microorganisms break down leaves, grass clippings, food, paper products, and other organic materials into soil amendments. The microorganisms that break down the raw materials need oxygen, a moist environment, carbon and nitrogen for energy and protein synthesis, temperatures, and pH conditions that sustain microbial growth and activity. With proper conditions, the microorganisms – primarily bacteria and fungi – colonize on the organic matter, metabolize it, and release energy in the form of heat as a by-product.

Materials considered Organic and Compostable Food Scraps (anything that used to be alive)

- Bread, grains and pasta
- Coffee grounds, tea and tea bags
- Dairy (not liquid)
- Eggshells and eggs
- Fruits and vegetables
- Leftovers and spoiled food
- Meat (including bones)
- Seafood

Paper (clean and soiled accepted)

- Coffee filters
- Greasy pizza boxes
- Paper cups and plates
- Paper ice cream containers

- Paper bags, napkins, tissues and towels
- Waxy paper milk and juice containers
- Disposable cutlery clearly labeled “compostable”
- Wooden chop sticks

Note: a residential or backyard composting bin generally cannot take seafood, meat, poultry, bones, dairy products, oils, fats or grease. The section for low cost solutions for small businesses and smaller employees base is included at the end of this guideline.

Material that cannot be composted, but are part of recycling programs

- Glass
- Plastic
- Metal
- Confidential paper and printed material
- Cardboard
- Construction waste
- E-waste (cell phones, computers, batteries...)





Program Outline:

# GETTING STARTED





## GETTING STARTED

1. See what opportunities you have.
  - a. Document the current state of your waste stream through an evaluation of your current bills, receipts and contracts. Evaluate the current landfill waste stream (dumpster dive) with your cleaning crew or through your waste supplier. (Your current supplier may be willing to dump a common load at their facility for an evaluation.)
  - b. Collect your current waste and recycling volumes.
  - c. Collect and understand your current waste and recycling costs \$/ton.
2. Contact transportation and composting suppliers for pricing services, options and pick up schedules (a list of possible vendors is attached for your convenience).
3. Determine recycling station locations along with the number and types of recycling waste streams you can include such as; single stream recycling (bottles, cans, paper, cardboard and plastic bottles and jugs), compostable, confidential material (for shredding) and waste (for landfill or incineration). This will determine the number and type of bins you place in your facility. Consider outdoor bins for use indoors in cafeterias as they can take the abuse and wear and tear of use. Source supplies and start up costs. Balance current landfill waste costs reductions against the future costs of composting.
4. Set waste management and workplace composting program goals and measures.
5. Seek approval and support for the program from your leadership. Explain that up front costs can be offset by the sociological and environmental impact the initiative will have along with waste reduction and long term savings.
6. Create a plan and schedule to launch your program including employee education and training.
  - a. Start your program in the food preparation area for a month or two to work through any issues with dumping material, compost pick up or dumpster location.
  - b. Provide site training and education or simply educate employees at the recycling stations during the first week of deployment.
7. Create a team to work solutions and cost effective options for all stakeholders.
  - a. Include site leadership in the program launch and communication.
8. Track results and make program adjustments based upon results and employee engagement.
  - b. Team with your communications department to help get the word out via various sources. NOTE: You cannot over communicate your plan, strategy and expected outcome!
    - i. Launch the Workplace Compost program with an employee education and onsite training program.
    - ii. Create the signage at the recycling stations with a list of materials, pictures or samples of the actual materials above each bin. A visual example is important for employee education and to drive behavior changes.
  - c. Engage your facility manager for help with finding locations for collection areas and dumpster locations. Also, gather waste collection information and work with suppliers and vendors they may partner with them.
  - d. Collaborate with your dining vendor to evaluate your dining containers, supplies and current operations. The addition of a composting program provides the opportunity to reduce costs related to food prep, a dish wash operations and other labor related operations. Look for opportunities to reduce costs when you add composting to your recycling and waste programs.
  - e. Partner with your janitorial staff for the best method of collection. Evaluate compostable trash bags and have these reviewed with your composting supplier.
  - f. Engage any site or company green teams, sustainability owners and advocates to help bring support and manage employee awareness and engagement.





Program Outline:

# MATERIALS AND SUPPLIERS





## MATERIALS AND SUPPLIERS

Materials and supplies are an important part of the composting program. Some companies choose to minimize waste as a top priority and continue to encourage the use of reusable plates, utensils and dishes. However, you can choose to make your cafeteria disposable containers compostable. This eliminates the need for employees to separate waste at your recycling stations and minimizes employee effort. Whatever your choice, it is important to evaluate your materials and costs as part of your up-front planning.

### Workplace Recycling Station Options

Recycling station bins may be secondary in your process if you decide to start your program in the food prep area as suggested. Regardless, the stations should still be factored into your overall costs and planning. There are many viable and cost effective choices in the marketplace. Generally, it is more effective to line these with compostable trash bags to make emptying them easy supporting a clean workplace. Differing from the containers, compostable bags are continuing costs that increase your spend over typical plastic bags so include this in any cost evaluation. Partnering with your janitorial staff may help find ways to minimize these increases. You may find you can transport, dump and clean the bins without using liners. Either way, bins should be emptied daily so sizing bins properly for your needs, while maximizing bag use type, is important.

[Clean River](#)  
[The Cambridge](#)

### Dining Supplies, Disposable Containers and Compostable Bags

Choices depend upon whether you keep a dish wash process on-site, the extent of your cafeteria and catering programs and of course the cost. Polystyrene (Styrofoam) containers can often be replaced with paper cups and take out containers at the same or lower cost if thermal protection from hot foods or liquids is not a concern. Corn based compostable containers and compostable utensils can be a premium cost, but may be a smart financial choice if you can reduce dish wash operations and labor costs. Corn based compostable containers can replicate many of the features and appearance of polystyrene (Styrofoam), but performance may not be as good. You should test and evaluate your choices before deployment. Compostable trash bags are more expensive, but overall are a small expense in your overall waste program.

### Compostable Trash Bags

#### Pine Poly Bags

[Eastern Bag & Paper Co.](#)

Specs: Liner 40" X 48" 16mic "Go Green" Pine Poly  
Price: \$39.95 per case

### Biodegradable Containers and Dining Supplies

[Biodegradable Products Institute](#)

[Cedar Grove Composting](#)





## Dumpsters and Transportation Services

Contract with a transportation supplier for the pickup of compostable materials. Your on-site dumpster is also provided by your transportation supplier and has a locking lid to control pest, rodent and odor concerns. Odor and pest concerns are not an issue with the appropriate dumpster and the appropriate location typically 20 to 30 feet or more from dock doors, air intakes or employee entrances. A larger dumpster minimizes pick up frequency and costs, but of course size and location may be a barrier at your site. Transportation is a significant portion (60 to 70% or more) of your waste and recycling cost so minimizing pick up frequency of all of your waste and recycling streams can reduce your ongoing expenses.

### [Rumpke Recycling](#)

800.582.3107

Future Organics Inc.

7244 Pleasant Plain Rd.

Clayton, OH 45315-9718

Phone: 973.836.6818

## Composting Facilities and Services in the Greater Cincinnati Area

You work with the compost pick up service for services including billing and actual tipping fees. If you do have unique needs, please consult with your composting facility of choice on material choices and acceptable waste streams. They are an excellent resource for planning your program and as part of an employee education program.

### [Marvin's Organic Gardens](#)

2055 U.S. Route 42 South

Lebanon, OH 45036

Phone: 513.932.3319

### [Brausch Farms](#)

8389 State Route 350

Clarksville, OH 45113

Phone: 937.313.3955





Program Outline:

# LOW COST OPTIONS





## LOW COST OPTIONS FOR SMALL OFFICE SPACE AND EMPLOYEE BASE

Vermicomposting with Red Wiggler worms is a great way for smaller workplaces to take up composting. The resulting compost is very rich and can be used for a multitude of uses. Here are a few things you should know when considering vermicomposting:

- Vermicomposting allows for smaller volumes of organics to be composted in an easy and contained manner.
- Red Wiggler worms are vegetarians and enjoy eating fruit, vegetable scraps, peels, cores, plain breads or pasta, coffee grounds, tea bags, and even ground up egg shells.
- Vermicompost bins do require basic upkeep: worms have to be fed on a regular basis and have their habitat checked for moisture levels. In addition, the worm castings have to be removed every so often.
- A properly maintained bin will be relatively odor-free, as long as the worms are not overfed.
- Vermicompost bins may not be able to take all of a workplace's food waste. Extra waste can be frozen, but must be thawed before it is placed in the bin.
- Alternatively, people can be encouraged to take their extra organics home to compost in their own backyard systems.
- If for some reason you can no longer maintain your vermicompost bin, do not release the red wiggler worms in your yard. They are not native to this area, and have had changing effects on ecosystems by being

released. Instead, contact [Gwen Roth](#) with the Hamilton County Soil and Water Conservation District, and she will take your red worms, no questions asked.



Outdoor compost bins, such as one you might use at home, can take a higher volume of organics than vermicomposting. However, it takes a little more organization and if large enough, may require local or EPA permits. Here are a few things you need to consider when choosing an outdoor composting system:

- It is important to identify a source of “brown” materials such as dried leaves to cover the greens or organic materials that you add to your pile. Both types of materials are necessary for successful composting.
- An outdoor composting bin cannot accept meats, grease oil, seafood, dairy products, cheese, deli meats or sandwiches. If your composting operation is a large enough to accept these materials, you likely should have an EPA permit.

- Individuals need to be identified to take responsibility for adding the organics and brown materials to the pile.
- To be effective, the moisture level in the pile needs to be monitored and the materials aerated or turned from time to time. Please be careful turning composting piles as awkward lifting and turning can result in shoulder and back injuries.
- Outdoor composting can allow the whole workplace to be involved.
- Grass clippings and other “green” garden waste can also be composted outdoors.
- The finished compost can be used in planters, gardens, spread on grass areas, or offered to employees for their home use.
- There are lots of compost bin options that your workplace can either build or purchase.
- You can compost all winter.

### Resources

[Hamilton County Recycling and Solid Waste District](#)  
[Organics Recycling Association of Ohio](#)  
[Ohio Grocers Foundation](#)  
[Ohio Food Scraps Recovery Initiative](#)  
[Vermi-Composting.Net](#)





# FREQUENTLY ASKED QUESTIONS







## FREQUENTLY ASKED WORKPLACE COMPOSTING QUESTIONS

- 1. What kind of odor or pest issues can I expect within my facility and with the composting dumpster at my site?** Compost bins located inside your facility should be emptied daily or at least as often as your normal waste removal process. Compostable trash bags are effective way to keep bins clean and facilitate removal of compostable material. Compost dumpsters should have a locking lid to control pests and minimize odors. While the odors are surprisingly not an issue, dumpsters should be located away from air intakes and employee entrances.
- 2. How does the cost of composting compare with the cost of landfill or other recycling programs?** The cost of composting from the pick up at your

dock to the tipping at the composting operator is cost competitive and can be lower than the cost of landfill. However, the total cost depends upon your internal costs of removing waste, your space to locate a composting dumpster, the frequency of your picks ups and the distance of your facility to the compost center. Transportation can be 70 to 80% of the cost of waste and this is true of composting as well. Depending upon your location, this could be more or less than the cost of waste pickup for a similar quantity of material. Composting does produce a product with value in the end making business sense for the composting center operator and lowering the cost for customers.

- 3. Are there any government incentives or rebates available?** Incentives and funding are generally available for the commercial compost operators. Interested businesses should contact

[Organics Recycling Association of Ohio](#) or Hamilton County Solid Waste.

The [Ohio Department of Natural Resources's Division of Recycling and Litter Prevention](#) also has competitive grants available to support qualifying projects.

- 4. What materials can go in to a workplace composting program?** A properly run and permitted composting operation can generally accept the materials listed below. Please work with your supplier to get approval for your waste stream or any unique materials, needs or large volumes you might have in your operations.
  - Vegetable and fruit materials
  - Spoiled food products
  - Paper towels, paper
  - Flowers, plants, soil





- Coffee grounds and filters
- Raw seafood
- Breads and bakery products
- Deli meats, sandwiches
- Cheese and dairy products
- Food preparation scraps
- Inedible grocery and frozen foods
- Wood boxes and wood pieces
- Wet and waxed cardboard
- Raw meat and poultry (including bones)
- Meat trimmings and renderings
- Fats, oils, and grease
- Disposable cutlery clearly labeled “compostable”
- Wooden chop sticks

**5. What materials are not acceptable for a composting program?**

- Glass
- Restroom waste and paper products
- Plastic
- Metal
- Confidential paper and printed material
- Cardboard
- Construction waste
- Wood and plastic pallets

**6. How is compostable waste separated from other waste streams or materials?** Waste is separated by your employees as they dispose of their personal food waste or the cafeteria operations personnel as they prepare food. If you use disposable and compostable containers, employees may be able to simply dispose of all of their dining waste in to the compost

bins. If you continue to use reusable dishes and silverware, employees will need to scrap food and separate paper and other compostable materials at your recycling station.

**7. Do employees need to be trained to sort waste and participate in a composting program?**

You need to provide some basic training and education for your employees as well as your cafeteria and cleaning personnel. Adding composting to your recycling stream does require different behavior and separation of material. Signage and examples above the specific recycling and composting bins helps with employee behavior, but we recommend staffing your compost operation for the initial 3 to 5 days to assist and train employees.

**8. Can we operate a compost process at our facility or site?** This is an option that does reduce transportation costs and is ideal if you have use for material on-site or a use for the material





locally. This option generally requires permits and capital investment unless you are a very small employer or operation. The operation of a composting facility requires OEPA permits which address, ground water impact and materials being licensed for the composting process. Another option is the use of an in-vessel that takes less space and can even be located indoors, but they do require up-front capital investment and likely require other operating permits based upon local building code requirements. In-vessel systems are generally self contained operations that are either mechanically activated or may use forced air to expedite the metabolism process. You may want to consider starting a composting operation with an outside service provider and then investigate site composting options as a long term alternative.

**9. Do I need to change the types of disposable containers we use in our dining operations or break area?** You do want to look at your disposable materials and containers as part of your cafeteria, dining or catering programs. If you have a dish wash process, you can still focus on the reduction of waste. Otherwise, paper containers, waxed coated paper containers, paper towels and paper napkins are all excellent materials to mix with the food waste. There are alternatives available for polystyrene (Styrofoam) containers that are corn based or based upon other compostable materials. Generally, these are more expensive than traditional materials and likely do not insulate and perform as well as polystyrene. Finally, disposable silverware, generally corn based, is an option if you want to make your entire dining process compostable, but these are a premium

cost (3X to 4X plastic cutlery). However, these costs could be offset through labor savings and the dish washing process. You will want to evaluate options based upon your sites logistics and employee habits.

**10. How do you get food scraps and other compostable materials in to the dumpster?** You can dump directly from your interior compost bins from a dock to the compost dumpster. Generally, you will find the additional cost of compostable trash bags allow for the easy removal and disposal of the compost material. This eliminates or minimizes the need to clean compost bins and the process is similar to your current waste removal process for cleaning personnel.





**11. What size dumpster do I need for my facility?**

Work with your compost supplier and evaluate your current waste stream to understand your volume. Rumpke and Future Organics are providing either 3-yard dumpsters or 64-gallon carts. A 3 Yard dumpster can hold up to 3 tons of material. With a weekly pick up, the 3-yard dumpster should be sufficient for a large cafeteria or dining option. A local company supported a 2,600 employee site dining operation with a 3-yard dumpster collected weekly.

**12. Who is typically responsible for managing and implementing a workplace composting program?** Generally, whoever is managing your current waste and recycling programs would also manage the workplace composting program. However when planning your program and eventual launch, you should heavily engage your cleaning supplier, dining operator and your

environmental health and safety resources. Many larger corporations often have to approve and even certify waste receivers such as any landfill or location your waste could go to. You also want to engage human resources, employee relations or whoever may be responsible for employee communication at your site or operation.

**13. Why collect compostable materials?**

To save money, reduce our environmental impact, and improve our communities.

**14. Can this really save money?** Yes. Landfills can be one of the most expensive ways to get rid of waste because they are designed to contain and manage the waste forever. In contrast, a composting facility continuously turns organic material into a valuable agricultural product.

**15. How does this help the environment and our communities?** At a landfill, the organic material primarily decomposes into methane and nitrous oxide which can negatively affect local air quality and greenhouse gas (GHG) emissions. By aerating the material, composting primarily produces carbon dioxide which has less impact on local air pollution and GHG emissions. Using compost also reduces the need for chemical fertilizers, reduces water run-off, restores habitat, and creates more beautiful landscapes.



# Good Luck!



# GCGBC

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[www.gcgbc.org](http://www.gcgbc.org)