A simple guide to COMPOSTING in your backyard

Recycle your yard trimmings and food scraps into nutrient-rich compost.
A simple guide to
COMPOSTING
in your backyard

BACKYARD COMPOSTING
PAGES 3-11
By learning the basics of composting, you can recycle your yard trimmings and food scraps into a nutrient-rich soil amendment.

VERMICOMPOSTING
PAGE 12
Compost your kitchen scraps using an unlikely eating machine – worms!

REDUCE FOOD WASTE
PAGES 13-16
Save money and resources by following these handy tips.

JUST MOW IT
PAGE 17
Put an end to the hassles and costs of bagging your grass clippings.
Composting decreases the amount of garbage going to the landfill while transforming old food scraps and yard trimmings into dark, nutrient-rich compost.

Compost:
- loosens soil for better root penetration
- improves soil’s capacity to hold water
- adds essential nutrients and microorganisms to the soil

By composting in your backyard, you reduce your household’s environmental impact and reduce how much waste you send to the landfill.
COMPOSTING IS EASY

Composting can be as simple as throwing organic materials into a pile and letting nature do its work. Start with a mix of brown and green sources, such as leaves and grass, then turn the pile once every month or two to keep the process going. This form of composting is simple and requires little effort, but it will take you a year or longer to produce compost.

For faster results, you just need to put in a little more effort. By building a bin, turning the pile every two to four weeks, and getting a good mix of carbon (browns) and nitrogen (greens), a compost pile can decompose very quickly. People who actively manage their piles can break down organic material into compost in three months or less.

PICK A GOOD SPOT

Choose a composting site with plenty of room that is comfortable to work around and won’t interfere with your family’s lawn and garden activities. If you locate your compost pile near a tree or large shrub, make sure to move the pile at least once a year so the roots cannot establish in the pile.
CONSIDER A COMPOST BIN

A compost bin is not required; however, many people use one to compost more quickly or to maintain a neater backyard. A compost bin can hold in moisture and heat, speeding up the decomposition process. Several models of plastic compost bins are available or you can easily build your own compost bin with some readily available materials. When constructing your own compost bin, leave the bottom open to the soil underneath to allow micro-invertebrates, fungus, and other decomposers easy access to your compost pile.

WOVEN WIRE BIN

These bins are economical and easy to make. All you need is a length of woven galvanized wire (14-gauge wire). To determine the length needed, multiply the diameter of the bin desired by 3.2. Fasten the ends of the woven wire with four small chain snaps or plastic zip ties to make a circle. The ideal diameter is three to five feet.

SNOW FENCE BIN

Bins made with snow fences are simple to make, move, and store. To build this bin, buy the appropriate length of prefabricated fencing and fasten two-by-fours as corner posts to form a square.
**BLOCK OR BRICK BIN**

Compost bins can be made with bricks, cement blocks, and even rocks. These types of bins are sturdy, durable, and easily accessible. Just lay the blocks without mortar, leaving spaces between each block to permit aeration. Stack them to form three sides of a square container.

**WOODEN BIN**

Construct a wooden bin with a removable front so materials can be easily turned. Old wooden pallets work well as the walls of the bin and fasten together easily with wood screws. Substitute wire mesh for wooden sides to increase the airflow in the compost pile. Covered wooden bins protect the pile from pests and heavy rain.

**TURNING BIN**

A turning bin is a series of two or three bins that allow you to make compost in a short time by turning the materials on a regular schedule. The first bin acts as a place to add new material. After a few weeks move the fresher material into the second bin and allow it to decompose while still adding new material to the first bin. This type of bin is perfect for people with lots of yard trimmings and kitchen scraps.

You can also turn material in your single compost bin by removing the bin from around the compost pile or organic material, setting the empty bin nearby, and shoveling the material back into the bin.
COMPOST RECIPE

Building a compost pile is similar to a pot of soup - collect a few ingredients, mix well, and allow it to simmer. When gathering materials to compost, remember that a good mix of carbon ("brown stuff") and nitrogen ("green stuff") is needed. Without a good mix, the pile will decompose slowly. For a typical backyard composter this means three times the amount of brown (by volume) than green.

For example, if a high-carbon material, like dry leaves, is being composted, you can add a high-nitrogen material like fruit and vegetable scraps to keep the pile decomposing quickly.

A properly made compost pile will reach a temperature of 90 – 140° F in four to five days after turning it. If you like, you can purchase a temperature probe or soil thermometer at a garden and hardware store or through the Internet. However, thermometers are not a necessity; you know it's heating up when your compost starts to settle.
WHAT CAN BE COMPOSTED?

Almost all natural, organic material will compost but not everything belongs in a backyard compost pile.

<table>
<thead>
<tr>
<th>BROWNS (CARBON)</th>
<th>GREENS (NITROGEN)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown Leaves &amp; Dry Grass</td>
<td>Fruit Scraps</td>
</tr>
<tr>
<td>Dead Plants &amp; Flowers</td>
<td>Vegetable Scraps</td>
</tr>
<tr>
<td>Corn Stalks</td>
<td>Coffee Grounds &amp; Tea Bags</td>
</tr>
<tr>
<td>Straw &amp; Pine Needles</td>
<td>Old Bread &amp; Pasta</td>
</tr>
<tr>
<td>Shredded Newspaper</td>
<td>Pizza Crusts</td>
</tr>
<tr>
<td>Old Brush, Shrub Trimmings, &amp; Prunings</td>
<td>Green Grass &amp; Green Plants</td>
</tr>
<tr>
<td>Sawdust &amp; Wood Chips</td>
<td>Bloodmeal</td>
</tr>
<tr>
<td></td>
<td>Manure From Animals</td>
</tr>
<tr>
<td></td>
<td>(Herbivores Only: Cows, Horses, Rabbits, etc.)</td>
</tr>
</tbody>
</table>

Other Items To Think About

<table>
<thead>
<tr>
<th>CAN COMPOST</th>
<th>CANNOT COMPOST</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Egg Shells</td>
<td>• Butter or Dairy Products</td>
</tr>
<tr>
<td>• Paper Egg Cartons</td>
<td>• Meat **</td>
</tr>
<tr>
<td>• Paper Bags &amp; Paper Plates</td>
<td>• Bones **</td>
</tr>
<tr>
<td>• Stale Crackers</td>
<td>• Diseased Plants</td>
</tr>
<tr>
<td>• Stale Baked Goods</td>
<td>• Weed Seeds</td>
</tr>
<tr>
<td>• Old Beer &amp; Wine</td>
<td>• Oil and Fats</td>
</tr>
<tr>
<td>• Spoiled Tofu</td>
<td>• Grease</td>
</tr>
<tr>
<td>• Corks &amp; Toothpicks</td>
<td>• Salad Dressing</td>
</tr>
<tr>
<td>• Tissues</td>
<td>• Dog or Cat Manure</td>
</tr>
<tr>
<td>• Hair &amp; Nail Clippings</td>
<td>• Briquettes Charcoal Ash</td>
</tr>
</tbody>
</table>

* Always place food waste in the middle of your compost pile covered with browns to avoid odors and pests. The District also recommends using a covered compost bin when composting food wastes to avoid pests.

** Meat and bones should not be composted. They can attract rodents and other pests and can cause odors in your compost pile. The manure of cats and dogs can contain harmful pathogens that are not always killed by the heat of the compost pile.
THE COMPOSTING BASICS: HERE’S WHAT YOU NEED

SPACE
A minimum of 3 ft. x 3 ft. x 3 ft. of space is needed to maintain the proper volume for an active compost pile.

BIN
Placing organic material in a bin is recommended but not essential. The bin provides a controlled environment to contain the material.

OXYGEN
Turn the pile and “fluff” to provide oxygen to the bacteria and other microorganisms doing the work.

WATER
The pile should be moist like a damp sponge. In an open bin, rain should keep the pile moist but during dry spells you may need to water the pile.

MATERIAL OR FOOD
The micro-organisms working to break down the pile need two types of food: carbon (for energy) and nitrogen (for reproduction).

HELPFUL TIPS!
1 - Add a few shovels of soil to further improve your compost pile’s effectiveness. This will introduce additional microorganisms into the pile. If you have a bin that is not open to the ground you should always add a few shovels of soil to get it started.

2 - The smaller the organics, the quicker they’ll breakdown into compost, so chop away!
HARVESTING & USING FINISHED COMPOST

Compost is ready to harvest when it is dark, crumbly, and earthy smelling. For best results, let the compost stabilize a few extra days and sift it through a one-half inch screen. If there are large fragments remaining, throw them back into your compost pile to continue decomposing.

There are a variety of uses for your finished compost. Annual use of compost will eventually reduce the need for fertilizer. Compost produced through the organic processes of a compost pile is ideal for gardens, flower beds, household plants, and trees. Gardeners recommend using compost as a mulch or mixing it into topsoil as a soil amendment.

BENEFITS OF MULCHING WITH COMPOST

- Reduces moisture loss from the soil surface
- Helps control weeds
- Helps maintain soil temperatures
- Reduces soil erosion on slopes
- Beautifies planting area with dark material
- Adds micronutrients
- Reduces plants need for water

BENEFITS OF MIXING COMPOST INTO SOIL

- Loosens heavy clay soils
- Aerates the rooting area
- Improves soil capacity to hold water and nutrients
- Attracts earthworms and microbes that benefit gardens and flower beds
- Provides valuable nutrients for plant growth
- Reduces soil compaction
COMMON PROBLEMS & SIMPLE SOLUTIONS

Anytime you try something new, problems can arise. Luckily, a compost pile is not too complicated and most problems can be easily remedied. Here are some of the usual trouble spots:

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>SITUATION</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pile has a bad odor</td>
<td>Not enough air</td>
<td>Turn it more frequently</td>
</tr>
<tr>
<td></td>
<td>Material too wet</td>
<td>Add dry material or leave off lid</td>
</tr>
<tr>
<td></td>
<td>Too much nitrogen</td>
<td>Add carbon (leaves, newspaper, etc.)</td>
</tr>
<tr>
<td>Pile isn’t decomposting quickly enough or isn’t producing</td>
<td>Too small</td>
<td>Mix new ingredients into the pile (min. volume is 3 ft. x 3 ft. x 3 ft.)</td>
</tr>
<tr>
<td></td>
<td>Material too dry</td>
<td>Moisten and turn the pile</td>
</tr>
<tr>
<td></td>
<td>Lack of nitrogen</td>
<td>Add nitrogen source (fresh grass clippings or food scraps)</td>
</tr>
<tr>
<td></td>
<td>Lack of oxygen</td>
<td>Turn the pile more frequently</td>
</tr>
</tbody>
</table>

* Like us, the microorganisms in your compost pile need winter shelter. Do not turn your pile in winter. Simply layer your food scraps and leaves until the spring thaw.

STILL HAVING PROBLEMS?
If problems persist, visit our website at HamiltonCountyRecycles.org or call the Recycling Hotline at 513-946-7766
VERMI-COMPOSTING:

WORMS IN MY KITCHEN

You may want to consider a special type of composting called vermicomposting or worm bin composting. With a worm bin you can compost kitchen scraps inside (many people keep them under the sink, in the basement, or in the garage). Worm castings, also known as vermicompost, are a super-charged, soil boosting nutrient.

Special worms, *Eisenia fetida*, also called red wigglers, are the best type of worms for vermicomposting because they are disease free, reproduce rapidly, and quickly process large amounts of organic matter. These red worms normally live among organic matter and tolerate temperatures from 50-80° F. Hamilton County Recycling and Solid Waste District holds worm bin workshops for interested residents. To sign up for an upcoming workshop or to learn more on vermicomposting visit our website: HamiltonCountyRecycles.org.

HELPFUL TIP!

Do not use night crawlers in a worm bin. They require a large amount of soil and their bed temperature cannot exceed 50° F.
REDUCE WASTED FOOD

The latest statistics tell us we waste nearly 40% of all food produced in the United States. Most food waste happens in the home where we throw out between 20 - 25 cents of every dollar we spend. In an effort to avoid wasting food and only compost inedible scraps such as peels and cores, we are providing some tips and tricks on food storage and meal planning. These tips will make your food dollars go further while saving the resources it took to grow and deliver the food to your home:

• Plan your menu for the week and shop your freezer, refrigerator, and pantry first. Stick to your list.

• Use your crisper drawers to separate your fruit (low humidity) and your vegetables (high humidity).

• Be sure to prepare foods soon after shopping. You and your family are more likely to eat food that is ready to go.

• Use clear containers for easy identification of food.

• The freezer is your friend. Cook double batches and freeze one for a busy night (date and label).

• Once a week, clean out your refrigerator by cooking and eating leftovers/other perishables before they are forgotten.

• Buy local and seasonal produce- it’s the freshest and best tasting.

• Highly perishable items, such as milk and meats, should be kept inside the refrigerator not the door.

• Designate a shelf or bin in your refrigerator for items that need to be eaten first.

• Have too much? Freeze, can, pickle, dehydrate, or share with family and friends.
DATE LABELING
Date labels are confusing and can lead to needlessly throwing away good food. With the exception of infant formula, product dating is set by manufacturers to indicate peak quality, not safety. Even if the date is past, a product should be safe, wholesome and of good quality if stored and handled properly. USDA’s Food Safety Inspection Service describes date labeling as:

“Best if Used By/Before” date indicates when a product will be of best flavor or quality. It is not a purchase or safety date.

“Sell By” date tells the store how long to display the product for sale for inventory management. It is not a safety date.

“Best-By” date is the last recommended for the use of the product while at peak quality. It is not a safety date (except for infant formula).

“Freeze By” date indicates when a product should be frozen to maintain peak quality. It is not a purchase or safety date.
<table>
<thead>
<tr>
<th>FRUIT/VEGGIE</th>
<th>HOW TO STORE IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td>Fridge - Separate from other produce and store in breathable bag.</td>
</tr>
<tr>
<td>Asparagus</td>
<td>Fridge - Remove bands and ties. Store upright in a glass of water with a plastic bag over the top.</td>
</tr>
<tr>
<td>Avocados</td>
<td>Ripen on counter then store in fridge - Store loose.</td>
</tr>
<tr>
<td>Banana</td>
<td>Counter - Store away from other fruits and vegetables.</td>
</tr>
<tr>
<td>Berries</td>
<td>Fridge - Store in original container and wash just before eating to avoid mold.</td>
</tr>
<tr>
<td>Broccoli, Broccolini</td>
<td>Fridge - Crisper drawer - Wrap in original packaging or breathable bag.</td>
</tr>
<tr>
<td>Celery</td>
<td>Fridge - Store in a breathable bag.</td>
</tr>
<tr>
<td>Garlic</td>
<td>Pantry - Store loose.</td>
</tr>
<tr>
<td>FRUIT/VEGGIE</td>
<td>HOW TO STORE IT</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Leafy Greens</td>
<td>Fridge - Remove bands and ties. Store in a sealed container lined with a damp towel.</td>
</tr>
<tr>
<td>Mushrooms</td>
<td>Fridge - Store in original packaging or a paper bag.</td>
</tr>
<tr>
<td>Onions</td>
<td>Pantry - Store loose or in a mesh bag separate from potatoes.</td>
</tr>
<tr>
<td>Pears</td>
<td>Ripen on counter, then store in fridge - Store loose.</td>
</tr>
<tr>
<td>Peppers</td>
<td>Fridge - crisper drawer - Store in a breathable bag.</td>
</tr>
<tr>
<td>Potatoes</td>
<td>Pantry - Store loose or in a paper bag separate from onions.</td>
</tr>
<tr>
<td>Squash - Summer</td>
<td>Fridge - Store in a breathable bag.</td>
</tr>
<tr>
<td>Stone Fruits (peaches, plums)</td>
<td>Ripen on counter, then store in fridge - Store loose.</td>
</tr>
</tbody>
</table>
Tired of bagging your grass clippings? Then Just Mow It!
Just Mow It! is the simple practice of leaving your grass clippings on the lawn. It’s easy, fast, and good for your lawn.

**BENEFITS OF JUST MOWING IT!**

- Reduces work so you don’t have to bag or rake and dispose of your grass clippings.
- Reduces waste going to landfills.
- Feeds your lawn. Grass clippings contain nutrients that can generate up to ONE THIRD of your lawn’s total fertilizer needs, so you have the potential to reduce fertilizer costs.
- Enhance soil microbe activity.

**LEAVING GRASS CLIPPINGS ON THE LAWN DOES NOT CREATE THATCH.**

Thatch is a tightly intermingled layer of living and dead stems, leaves and grass roots that develops between the green grass and the soil surface. Grass clippings are 75 to 85 percent water and decompose rapidly. Thatch is formed from grass parts more resistant to decomposition like roots, stems, etc.

Content provided by Ohio State University Extension Fact Sheets: Lawn Care Plans and Mowers and Mowing and reviewed by Pamela J. Sherratt, Sports Turf Specialist, Department of Horticulture and Crop Science, The Ohio State University.
Hamilton County Recycling and Solid Waste District

250 William Howard Taft Road, Cincinnati, OH 45219
513-946-7766 | HamiltonCountyRecycles.org