

BACKYARD Composting PROGRAM

The Department of Solid Waste & Environmental Program Management's Backyard Composting Program is a waste reduction, soil enrichment and water saving initiative. This program provides backyard composting bins and education for proper use to eligible residential customers. Participants will learn how to compost and the benefits of composting as they repurpose select organic waste.

What is Composting?

Composting is the managed, expedited, natural breakdown (decomposition) process of select organic waste. Kitchen and yard waste make up around 50% of our residential municipal solid waste. Microorganisms break down select materials into compost with the presence of carbon, nitrogen, air, and water.

Why Compost?

Successful composting diverts organic waste from the Waste-to-Energy process and reuses it. Composting allows select kitchen and yard waste material to be used as soil amendment, mulch around trees and shrubs, or you can create your own potting soil mix. Compost also returns essential nutrients back to the Earth. The use of compost in backyard spaces also reduces water use. Active composters maintain a small bin/container in the kitchen to collect certain food remnants.

Uses for Compost

- Mulch and Lawn Feed: Spread 2-3 inches around plants, trees, shrubs to help retain moisture or sprinkle over lawn.
- Soil amendment: Mix finished compost with other soil mixes, your flowers and plants will thrive. For potting mix, combine 1 part compost with 2 parts potting soil.
- Compost Tea: Create a nutrient-rich elixir of compost tea for watering plants by placing compost in a filter bag/cheesecloth and placing in a bucket of water overnight.

Where to Compost?

Place bin within reach of water/hose access. Select a convenient, accessible, and leveled 3ft by 3ft area where water does not pool on the ground when it rains. The bin needs soil access for bugs (do not place over cement or gravel). Do not place under roof driplines as this will contribute excess moisture. Use the provided plastic screws to secure it into place.

Tools (Not included in the program)

- Watering can or hose (required)
- Hand gardening tool, pitchfork, or aerator (required)
- Kitchen bucket (highly recommended)
- Compost thermometer (recommended)
- Soil sifter (recommended)



PLEASE NOTE: Use only finished and cured compost. Unfinished compost is not good for plants & can spread garden diseases.



Department Solid Waste &
Environmental Program Management

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What to Compost?

While many products are labeled as 'compostable', they may not be suitable for this composting process and will not break down. Only place the listed materials below in your bin for successful backyard composting.

| BROWNS (Carbon Rich - Energy Source) | GREENS (Nitrogen Rich - Protein Source) |
|---|--|
| Branches & Twigs (chopped) | Citrus Peels & Rinds (add sparingly) |
| Brown Paper Bags (shredded) | Coffee Grounds |
| Cork (natural only) | Feathers & Fur |
| Egg Cartons (cardboard) | Fruits & Vegetables (moldy is ok, remove stickers) |
| Eggshells (crushed & rinsed) | Grains & Hops |
| Hay, Leaves, & Straw (dry) | Hair (no dye, extensions, or petroleum products) |
| Pet Bedding (healthy gerbil, guinea pig, hamster, & rabbit) | House Plants (no pesticides) |
| Newspaper (shredded) | Manure (healthy herbivore waste) |
| Paper & Cardboard (shredded, uncoated, adhesive free) | Nail Clippings (no acrylics or polish) |
| Paper Coffee Filters | Non-Woody Pruning |
| Paper Towel & Toilet Paper Rolls | Nut shells (except walnuts) |
| Sawdust (untreated wood) | Spent Flowers |
| Shrub Pruning | Tea Grounds & Leaves (no staples) |
| Wood Ash (untreated wood, add sparingly) | Weeds without mature seeds (only non-invasive) |

The Compost Recipe

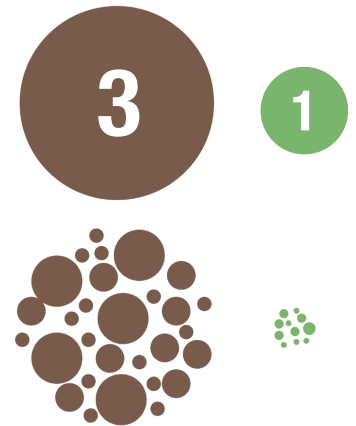


Add in materials using this visual proportion:

3 Browns to 1 Greens

Browns help absorb excess moisture and provide balance to the pile. Imbalance in material can lead to odors.

Shred or chop up your items to speed up the decomposition process.



| ITEMS TO AVOID IN BACKYARD COMPOSTING | | |
|---------------------------------------|-------------------------|----------------------------------|
| Bioplastics | Dryer & Vacuum Lint | Glossy and Coated Paper Products |
| Bones & Meat | Eggs & Dairy Products | Particle Board |
| Cat Litter & Dog Feces | Fat, Grease, Lard & Oil | Plants Treated with Pesticides |
| Cigarettes | Glass, Metal, & Plastic | Stickers & Tape |
| Coal & Charcoal Ash | Grass Clippings* | Weeds with Mature Seeds |
| Diseased or Insect-Infested Plants | Medications | Wood (painted, treated) |

*Grass clippings can be left on the lawn after mowing for a process called *Grasscycling*. Grass consists of 80% water, which is too much moisture for composting. Grasscycling increases fertility by adding water, nitrogen, and other valuable nutrients back to the soil. Spend less time maintaining the yard and save money by using less fertilizer and water.



Composting 1-2-3

1. PREPARATION

Make sure you remove all stickers, tape, or labels from boxes or produce. Chop, shred, or tear materials into smaller pieces to help speed up the decomposition process.

If you use a bucket for your scraps in the kitchen, line it with newspaper to soak up liquids which can be tossed in.

2. MAINTENANCE

As you toss in your items, cover greens with browns to avoid pests and odors. Add water as needed to resemble a wrung-out sponge.

Mix/turn compost at least once a week to aerate and encourage decomposition. The most effective temperature range is 122°F - 131°F.

3. HARVEST

Compost can be harvested after about 4 to 6 months depending on your activity level. Dark brown, crumbly, moist texture with an earthy aroma is ready material.

You can access material using the harvest door at the base of the bin or unscrew the container and remove all material if needed.

Temperature Check

Temperatures should be taken using a compost thermometer from the center of the pile where it is hottest. Keep a record to compare different stages based on ingredients and methods. Heating your compost to temperatures above 150°F for more than a few hours is not recommended as it inhibits most microorganisms and shuts down the decomposition process. If your pile isn't hot enough or you need to take a break from composting, you can start right back up as you introduce more material and restart the process with what is already in your bin.



Stages of Compost



1. MESOPHILIC STAGE

Fresh, raw material available for microbes and macroorganisms to eat and replicate. As microbial activity increases, metabolic energy raises the pile temperature. Food scraps and aeration are essential to get this stage started. Layer your browns and greens like a compost lasagna. This stage is also important in breaking down odorous compounds as they form.

2. THERMOPHILIC STAGE

Heat loving microbes remain active as the temperature stays at 113°F or higher. Chances of odorous compounds decrease as hungry microbes consume any remaining material. These hot temperatures are needed to kill pathogens and other harmful microbes. Towards the end of this stage, temperatures begin to fall below 115°F.

3. MATURING/CURING STATE

By this point, little management is required. Particles are reduced to crumb size or smaller with no recognizable components. Sift out any large pieces and add them back to the top of the pile if needed. Your finished compost should smell like rich forest soil. Scoop finished compost and let it sit in a bucket or bin on its own for about a month before use.



Troubleshooting Your Compost

| What If? | Nothing is happening | Rotten Odor (rotten egg smell) | Ammonia Odor | Pests | Low Pile Temperature (Below 100° F) | High Pile Temperature (Above 150° F) |
|-----------------|--|--|---|---|---|---|
| Possible Causes | <ul style="list-style-type: none"> • Too much or not enough moisture • Not enough material | <ul style="list-style-type: none"> • Too much water • Too compacted • Food remains on top of pile | <ul style="list-style-type: none"> • Too much green material | <ul style="list-style-type: none"> • Meat and fatty foods • Too many fly larvae in pile | <ul style="list-style-type: none"> • Not enough air or moisture • Not enough green material | <ul style="list-style-type: none"> • Not enough air or moisture • Too much green material |
| What Can You Do | <ul style="list-style-type: none"> • Turn pile to aerate, add dry browns material • Add small amounts of water | <ul style="list-style-type: none"> • Turn pile to aerate, add more dry browns material to absorb moisture • Bury food remains 8-12" into the compost | <ul style="list-style-type: none"> • Mix in brown material to balance out the nitrogen in greens | <ul style="list-style-type: none"> • Bury all food scraps 8-12" into the compost • Turn pile frequently to increase temperature and kill larvae • Avoid meat scraps or fatty foods | <ul style="list-style-type: none"> • Turn pile more frequently • Mix in green material and small amounts of water | <ul style="list-style-type: none"> • Turn pile to aerate and cool off • Add more brown material to balance out nitrogen |

Leaf It Alone

Did you know that leaves and other yard debris account for approximately more than 13% of the U.S. municipal solid waste? Composting is a great alternative to common disposal but leaves present many benefits if left on your yard.

Decomposing leaves return beneficial nutrients to the soil, provide a safe habitat for native Florida species, and can increase moisture retention in soil when used as a natural mulch.



Oil Disposal Tip

Do not include oils or greasy paper products in your compost, and more importantly, **do not pour them down the drain.** Cooking oil gels and solidifies inside pipes, sewage lines, and sewage lift stations constricting water flow. This will back up home plumbing and also cause equipment to malfunction leading to sewage spills, overflows onto streets, and foul odors in homes and neighborhoods. Once cooled, pour and collect your oil in an old plastic container and dispose of it in the trash.

Resources

- Composting At Home. (2022). US EPA. <https://www.epa.gov/recycle/composting-home>
- Hillsborough County - UF/IFAS Extension. (2017) University of Florida - Institute of Food and Agricultural Sciences. <https://sfyl.ifas.ufl.edu/hillsborough/>
- Kruesi, G. (2022). The Phases of Composting. Chelsea Green Publishing. <https://www.chelseagreen.com/2022/the-phases-of-composting/>
- Why You Should Leave the Leaves. (2015). National Wildlife Federation. <https://www.nwf.org/Magazines/National-Wildlife/2015/OctNov/Gardening/Leave-the-Leaves>

