



OVERVIEW

This guide will cover:

What is compost?.....	2
The compost equation.....	3
Why compost.....	3
Getting started and setting up.....	4
Anatomy of a pile.....	5
Feeding your compost.....	6
What not to compost.....	7
Your management style.....	8
Troubleshooting.....	9
Winter composting.....	9
When your compost is ready.....	10
How to use compost.....	11
Frequently asked questions.....	12
Notes.....	13
Keep learning.....	14

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Created for educational purposes. The information in this how-to zine is free to share for learning and inspiration.

Illustration by Carye Bye

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WHAT IS COMPOST?

Compost is the organic material that results when biodegradable materials go through the process of aerobic, or oxygenated, biological decomposition.

While it only makes up a small fraction of our soil, compost is a vital ingredient we rely on to grow plants for food, medicine, building materials, and more.

With no compost, there's no us!

Backyard Composting is small-scale composting we can set up outside at our homes or community gardens. With just a few simple guidelines, you can successfully install and maintain a compost pile to create ready-to-use compost onsite.

As humans, our role in composting is to provide the right space and conditions for the bacteria, yeasts, fungi, and invertebrates that make the process happen. Composting units of all shapes and sizes can be purchased or built by hand to reach the same goal: abundant, organic compost made at home.

The Compost Equation

oxygen + water + yard/food waste

=

water + carbon dioxide + heat + compost

WHY COMPOST ???



People compost for many reasons!

Environmental

To keep food/lawn scraps out of the landfill

Food and leaves that end up a landfill do not get enough air to decompose, so they sit in the landfill taking up space.

Healthy Body & Home

To keep necessary nutrients in our ecosystem

Not only will you benefit your lawn and garden, but the nutrients we need will be preserved.

Economic

To save money

Creating your own compost means you will not have to purchase any.

Social Impact

To reduce harmful impacts of food waste

When you compost, you are being mindful of preventing food waste by transforming something unwanted into something useful. One third (1/3) of landfill waste is organic matter that could be composted!

SETTING UP TO COMPOST

There are as many ways to compost as there are people who compost. Choosing a container is the first step. You can purchase one premade or build your own.



Turning units like this one can get heavy with water content and become difficult to turn, so consider this when choosing a container.

WHERE should I put my bin?

Prioritize:

- Shade/Sun (you'll want 4-6 hours of sun per day)
- Drainage (you don't want your pile to be in a puddle)
- Access to water (sometimes you'll have to add some)
- Convenience (easy to work around and get to)

How Big?

Your pile should be no larger than a cubic yard. Any larger, and the pile may get too hot for decomposition to happen.

A well maintained compost bin will not have a bad smell!

ANATOMY OF THE PILE

COVER OF BROWNS



FEEDSTOCK
(greens and browns)



TWIGS / STRAW



**GROUND /
HARDWARE CLOTH**



Building your pile: bottom to top

1. FOUNDATION: THE GROUND

Install your bin directly onto level grass, packed earth, or another natural surface. This allows give and take between the organisms and natural environment and your unit. Adding a 1/4" or 1/2" grid hardware cloth (found at any hardware store) helps keep rodents out.

2. TWIGS/STRAW

Next, add a 3-4" layer of some twigs or straw. This provides air pockets to encourage decomposition.

3. FEEDSTOCK

The bulk of your compost pile will be the food scraps and yard waste you continually add.

4. COVER OF BROWNS

If your compost system has no lid, you will need to add a cover of browns over the feedstock such as leaves or straw. This layer helps keep the moisture in and the pests out.

FEEDING YOUR COMPOST

Just like us, compost piles need a balanced diet



GREENS

- nitrogen-rich
- fresh and wet
- provide protein for decomposers

Examples:

- fruit and vegetable scraps
- coffee grounds
- crushed egg shells
- lawn or plant trimmings
- brewing waste
- manure from vegan animals



BROWNS

- carbon-rich
- dry and burnable
- provide calories for decomposers
- structure provides air space

Examples:

- dry leaves
- untreated woodchips/sawdust
- nut shells
- straw or pine needles
- cardboard or paper strips

How to Feed

- Mix together an equal amount of **greens** and **browns** by volume then add to your compost pile.
- Collect **greens** in your kitchen in an air-tight container.
NOTE: Ventilated countertop bins with carbon filters seem useful, but they will begin to stink when the filters reach the end of their lifespan!

Changing the Ratios

Use your senses of sight and smell to guide you. A 50-50 ratio of **greens** and **browns** by volume is the simplest way to feed your compost bin, but different compostables have different levels of nitrogen and carbon. If you like, try experimenting with different ratios to maximize your compost output! You can find detailed charts and ratios online or from your local library and agriculture extension programs.

WHAT NOT TO COMPOST

For healthy backyard compost, some materials are best to avoid because of how they will impact the composting process or finished product.

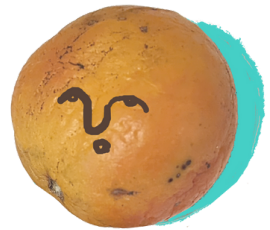
Anything organic can be composted,
but not everything can or should be
composted at home.

At home, **don't compost** things that attract pests

- meat and dairy
- pet/human waste (they also carry disease)

Things that can take over

- pernicious plants
- weeds that have gone to seed



Things that can prevent plant growth

- diseased plants
- any part of the black walnut tree

Things that can throw off the balance of the pile

- ash from wood, chemical, or charcoal fires
- garden lime

WATCH OUT *Keep your eye out for*
Plastic Hitchhikers we can't compost

- fruit stickers
- tea bags with synthetic glues
- tape on cardboard
- cigarette butt filters

Compostable "Plastics"

Compostable "plastic" cups and utensils (many are made of out corn but look like plastic) need very high temperatures to break down and need to go to a commercial compost.

Plastic-lined Paper Containers

Take-out cups and boxes and frozen food boxes are often plastic-lined. Look for a 'sheen' or try tearing it to see if you can uncover the plastic layer!

YOUR MANAGEMENT STYLE

With the right environment, composting will happen on its own. You can use the **management tips** below to promote best conditions and maximize your output.

Aerating



Composting requires oxygen! This is a huge factor in how long composting takes.

- Turning your pile creates more air pockets.
- Adding **browns** helps boost oxygen levels by making space for air.
- If your composting unit empties from the bottom, turning the pile could mix your feedstock into your finished compost and increase your wait time. To avoid overmixing, aerate by inserting a broom handle from the top of the unit until it reaches the bottom. Wiggle it gently to create a shaft of air and repeat.

Chopping or Shredding



Smaller items will break down more quickly in your compost.

- Don't over chop, as smaller materials leave less space for oxygen.
- Bark protects woody plants even in the compost pile. Help microbes break down woody material faster by chopping sticks into pieces.

Watering



Like your plants, your compost needs water too! Without it, decomposers can't access the nutrients in compostable materials for digestion.

- Ideally your compost pile contents should be lightly damp, like a wrung-out sponge.
- Do a "squeeze test." Take a handful of compost and squeeze it. If it's too dry to stick together, add more water. If water trickles out, add more dry materials.
- If the compost is completely dried out, it can not be saved. Start over.

TROUBLESHOOTING

Smells like ammonia or rotten eggs

- too many greens (add browns while turning)
- too much water (add browns while turning)
- not enough oxygen (turn pile)

Too hot

- pile too big (make smaller by splitting it into two)
- not enough ventilation (turn pile, add browns)

Too cold

- if winter, don't worry
- too little material (add material and insulate sides)
- lack of nitrogen (add greens while turning)
- lack of water (add water while turning)

Too dry

- add water while turning
- if completely dried out, throw out and start over

Attracting pests

- enclose the unit in quarter-inch hardware cloth
- mix thoroughly and cover exposed food scraps with a layer of browns or finished compost



WINTER COMPOSTING



- do not aerate (might dissipate the heat the pile needs)
- continue to feed
- water pile until just damp
- consider insulating (straw or hay on sides, close to a heated wall of a house, netting on top)
- after final thaw, the pile will have shrunk and be ready for springtime adds!

WHEN IS YOUR COMPOST READY?

Finished compost is dark brown and crumbly with an earthy smell. It looks a lot like dirt!



There should be no recognizable material left, with one exception: Woody plants take longer to decompose and can be sifted out and returned to the compost pile.

TESTING FOR DONENESS

METHOD 1: Seal and smell

1. Seal a few handfuls of compost in a jar or bag.
2. After several days, open the container and take a sniff.
3. If it smells fresh and earthy, it's done! If it has a really bad smell, it's not ready.

METHOD 2: Start some seeds

1. Fill a small plant container with compost.
2. Plant a few seeds as you would normally.
3. If your seeds germinate as expected, your compost is finished!

If your compost fails either test, return to the compost pile to keep cooking.



HOW TO USE COMPOST

As a soil amendment

Work no more than 2 inches of compost into the top 4 to 6 inches of the soil.

Helps loosen compact soils, retain moisture, and provide slow-release nutrients.

As a surface mulch

Starting 3 to 4 inches from the base, spread no more than 3 inches of compost around trees and shrubs.

Helps protect from extreme temperatures, retain moisture, and provide slow-release nutrients.

To top dress a lawn

Rake a quarter inch of finely screened compost over the lawn until evenly spread. Use only very mature compost.

Helps retain moisture, increase absorbency during storms to reduce runoff. Monoculture lawns often act like impervious surfaces that water will flood across instead of absorb.

In a potting mix

Mix up to 1/3 compost by volume into potting mixture.

Helps retain moisture and provide slow-release nutrients.

Note: You can germinate seeds in pure compost, but you will need to transplant them to a mix as they grow to provide other necessary ingredients from the soil.



FAQS

What's the difference between compost and soil?

Compost is only one ingredient in soil, and it's made of decayed organic matter that comes from plants, animals, and their wastes. Other components of soil include minerals like silt or sand, water, air, living creatures like microbes and yeasts, and organic material that hasn't finished decaying.

Will my compost pile attract pests?

A well-maintained compost pile won't have a foul odor, but even the faint scent of greasy or processed food like meats and cheeses might attract rodents. To deter rodent pests, avoid adding dairy and meat to your pile and use a hardware cloth between the ground and your unit. The bugs attracted to your compost are there to help, so let them keep working!

Should I use any compost starters, additives, etc.?

Everything you need to compost is naturally added by the surrounding environment and the greens and browns you use. There is no need to purchase any additional chemicals or materials. Some composters like to jumpstart an overwintered compost pile in early spring by pouring a beer into the bin, reintroducing moisture and nitrogen-rich yeast to the pile.

Can I safely compost pernicious weeds?

Adding weeds and other pernicious plants to your compost pile could result in those plants trying to take over! To reduce the chances of this happening, dry pernicious plants in the sun until crispy, then compost them as a brown. Some composters prefer to avoid adding pernicious plants to their piles entirely.

Will seeds from kitchen scraps or yard trimmings grow in my compost?

In a perfect world, every part of the compost pile gets hot enough to kill plant seeds. In reality, you might find some volunteer plants popping up. To discourage seed growth, aerate often to keep temperatures high, consider chopping up large pits, and avoid adding pernicious plants that have gone to seed.

CONGRATULATIONS

You did it! You're a backyard composter.

Share this how-to zine with your family and neighbors as we focus on building a world with less waste. Composting knowledge is a wonderful gift to give!

KEEP LEARNING

Take a conservation workshop from one of PRC's expert staff. To see current program offerings and sign up, **visit prc.org**.

BE AN ENVIRONMENTAL STEWARD

Learn more about Composting, Rain Barrels, Watershed Awareness, Rain Gardens, Stormwater, and Recycling & Waste Reduction



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