

Compost Guide:

Reduce Your Organic Waste



**How and
why you
should be
composting**



Helping to keep Perry County
Clean & Green!

740-342-7881

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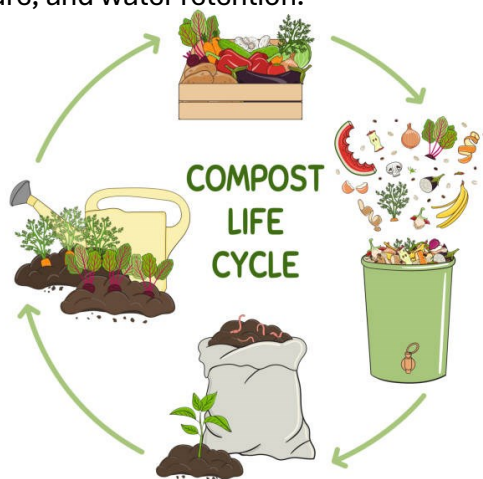
COMPOST IS

- Nature's way of recycling.
- A waste reduction strategy for food & yard waste.
- Rich in nutrients.
- Act as fertilizer .
- A dark, crumbly soil amendment.



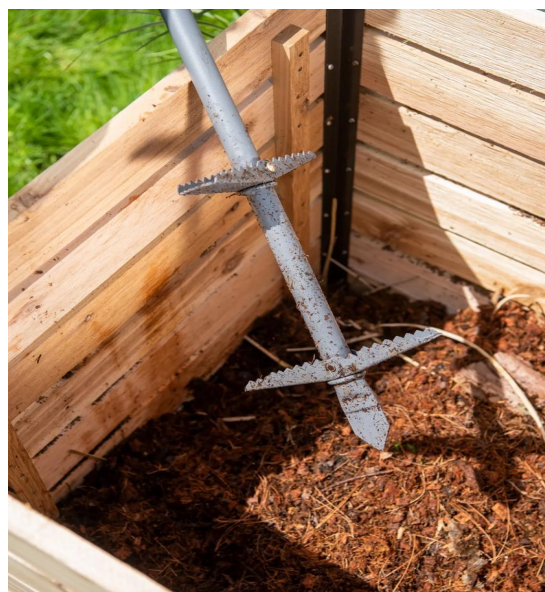
WHY COMPOST?

- Composting is a great way to keep organic material out of landfills. It's a great way to dispose of your food scraps and add nutrients back into the soil. Applying compost to soil will improve texture, aeration ability, structure, and water retention.



SUPPLIES NEEDED

- Container to collect kitchen scraps.
- Organic material: yard waste, food scraps, shredded paper.
- Aeration tool: pitch fork or compost aerator.
- Shovel
- Area to compost or compost bin.



Compost Bins

BUY

Many garden and warehouse stores carry compost bins during Spring and Summer. Compost bins are also available online. Brand names include Earth Machine, Tumbleweed, EnviroCycle, Sun-Mar, ComposTumbler, Earth Engine, Prestro Hoop and Garden Gourmet.



Build

DIY (Do It Yourself) your compost bin using available materials. Chicken wire, bricks, or wood pallets, tires, trash cans with holes are great for building your own compost bin. The least expensive method is creating a pile on the ground. Check with your city before creating a pile compost, some require enclosed piles.



Pile Size

The size of your compost will play a role in how effective it is. An effective compost must be large enough to hold heat in the center while air is permeating the pile. When creating a pile, maintain a size between 3' x 3' x 3' to no longer than 5' x 5' x 5'. Adding the same volume of materials to a purchased bin will optimize decomposition.

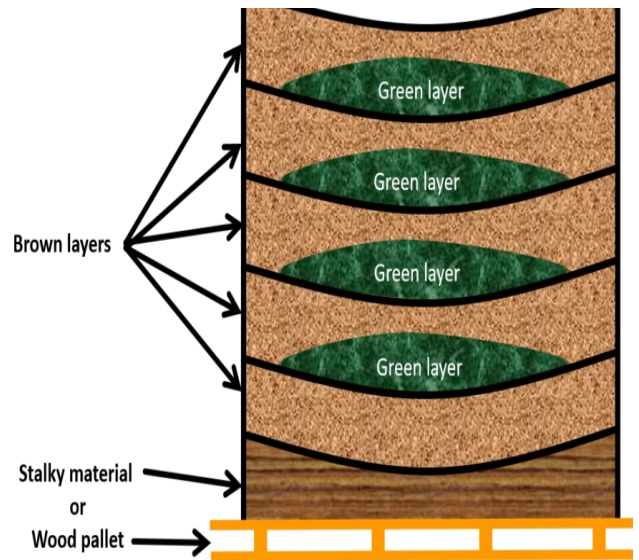


Placement

- Keep it accessible year round (you won't want to walk through a lot of snow to compost).
- Look for a level, well-drained area.
- Shelter it near a building or landscaping to block freezing winds.
- Place where it will get sun to heat up pile (will need water when hot).

Starting a Compost Bin

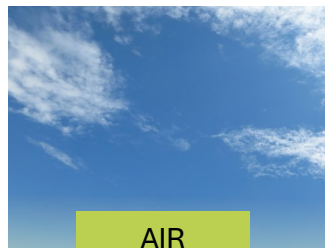
1. Place several inches of base materials (chopped brush, twigs or wood chips) on the ground. This allows air circulation around the base of the pile. (Skip if using a compost mixer container).
2. Alternate green organic material & brown organic material as you build your pile. Green material contains carbon while brown materials contain nitrogen. Keep the ratio of 1-part green and 2 to 3 parts brown. Do not compact layers to allow for air circulation. Collect and store leaves in the fall to have a supply year round.
3. Add several full shovels of an activator (aged compost or garden soil) while building the pile to introduce microorganisms. Activators such as manure, bone meal or urea fertilizer will provide nitrogen to encourage microorganisms reproduction.
4. Stir pile
5. Water the pile, so its moist, but not soaked.



ESSENTIAL ELEMENTS OF A COMPOST PILE



ORGANIC MATERIAL



AIR



WATER



DECOMPOSERS
MICROORGANISMS

Pile Composition

30% green or nitrogen containing organic matter: Vegetables, fruits, flowers, plant clippings, grass clippings, coffee grounds.

70% brown or carbon based organic matter: Dead leaves, straw, sawdust, wood chips, shredded newspaper, corn stalks, cotton rags, nut shells, pine needles.

The mixture affects quality of the compost and the speed of decomposition. The optimal ratio of carbon to nitrogen is

30:1

A LOOK INSIDE THE COMPOST BIN

DECOMPOSERS

Decomposers are the organisms that help decompose organic material.

Chemical Decomposers: Use chemicals in their bodies to break down organic matter.

Includes: Bacteria, Protozoa, and Fungi.

Bacteria makes up 80%-90% of the microorganisms found in the bin. Bacteria does a large portion of decomposition and heat generation. Fungi including molds and yeasts, break down tough debris.



Physical Decomposers: Feed on the organic material by chewing, grinding, and squeezing material into smaller pieces and excreting waste products.

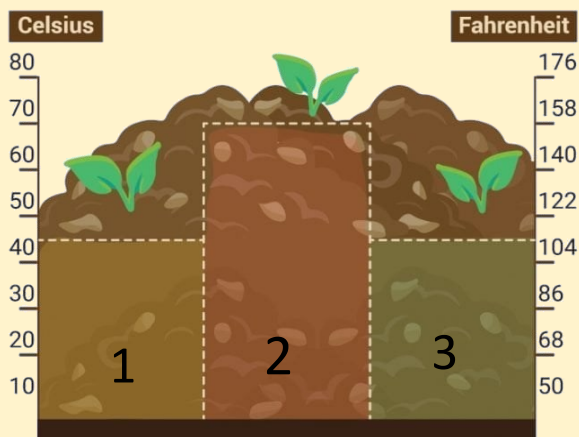
Includes: worms, Mites, Flies, and Snails.

Physical decomposers help with aeration as they dig and burrow in the bin.

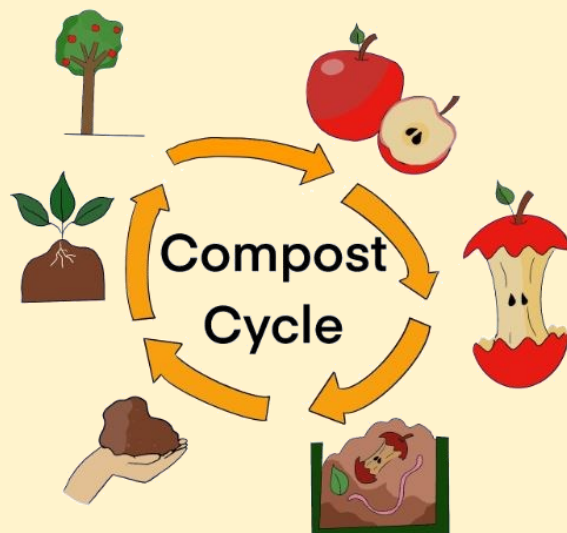


3 PHASES OF AEROBIC COMPOSTING

Each phase has different decomposers that are dominate. Temperature determines which decomposer are doing the majority of the work. Compost that is too cold will work slowly while compost that gets too hot can kill decomposers.



1. Mesophilic Phase (50-115°F)
2. Thermophilic Phase (115-158°F)
3. Maturation Phase (50-115°F)



MAINTAINING A COMPOST PILE

Compost should be observed and adjustments made when necessary

COMPOST CREATURES

- Macro-Organisms: Insects and arthropods like worms, centipedes, sow bugs, beetles, snails, or slugs.
- Micro-Organisms: bacteria, actinomycetes and fungi

Decomposers can be added in the beginning of composting by adding garden soil or aged compost. The compost pile needs maintain to keep decomposers healthy & happy by providing the appropriate food, water, and oxygen. They will help break down organic material and encourage decomposition at a faster rate.

OXYGEN

The pile will need to be aerated by:

- Turning the Pile outside to inside or top to bottom
- Stirring the pile
- Rotating a tumbler compost bin
- Using an air stack or aerator tool to bring air into the center of the pile

MOISTURE

Compost piles should feel damp like a wrung out sponge. Water can be added to the compost by adding green material or sprinkling the pile with water. If compost is in a container leave open when it rains to allow rainwater to get in your compost.

SURFACE AREA

Increase the surface area by shredding or cutting organic material into smaller pieces/. This will help decomposers break organic material down faster.

PROPER TEMPERATURE

Most backyard compost piles only reach 90-120. Turn the pile when the temperature peaks if you don't consistently aerate the pile. If a pile is no longer heating up it may be time to harvest finished compost. If you are continuously adding to your compost it may not heat up as quickly. Don't get too hung up on temperature.



PROBLEM SOLVING

- To help dry an over watered pile, add sawdust, straw or wood chips or place wood planks underneath the pile to ensure good drainage.
- If the pile is damp, smells sweet and will not heat up, its needs nitrogen. Turn the pile and add grass clippings, coffee grounds, manure, blood meal, or urea fertilizer.
- When the pile is too dry, turn it over, and add greens and water.
- If the pile smells like ammonia, add brown leaves, sawdust, straw or wood chips.
- If materials do not seem to be decomposing, then add nitrogen, turn the pile and maintain 50% moisture content.
- If unwanted creatures are interested in compost, bury the food waste close to the pile's center and avoid "compost don'ts."
- Do not add diseased or insect ridden plants to compost. The compost may not get hot enough to kill off the disease and can be spread to new plants when using finished compost.

Compost Dos

Leaves
Grass Clippings
Plants
Nut Shells
Straw and Hay
Fruits, vegetables & grains
Egg Shells
Coffee grounds or tea leaves
Sawdust & wood chips
Dryer lint- natural fibers only
Shredded paper & newspaper
Dead Flowers
Certain Manures

Compost Don'ts

Meats
Fish
Dairy Products
Oil or Fatty Foods
Bones
Cat & dog droppings
Cat Litter
Diseased or Insect ridden plants
Noxious or invasive weeds
Ashes from coal or charcoal
Branches or Limbs
Yard trimmings treated with chemical pesticides

Freeze food scraps until you've collected enough to add to compost bin. Freezing scraps until you're ready to add will prevent any smells in your home and will become mushy when thawed making them easier for decomposers to breakdown.

USING FINISHED COMPOST

The compost process will take six months or longer before compost is ready to be used. Compost is ready when it has decomposed into small, crumbly, dark brown soil-like particles. Remove fresher yard debris from the top of pile and start a new pile. Use compost:

- As a starter for plant seedlings.
- As a potting mix, add soil and sand.
- As mulch around plants.
- To encourage healthy growth of trees.
- As a seed start, add top soil or sterilized potting mix to prevent burning the seeds.
- As fertilizer on grass, indoor plants, landscaping, around trees and in the garden.
- As a top dressing for the lawn: add 3 parts sand and loam to 1 part compost.

Compost Tea: Add more nutrients to plants by making compost tea from finished compost tea. Add water to a container, put a small shovel of compost (use more if making a lot) to the water and let soak for 12 to 24 hours. Apply to plants, lawns, and garden immediately to infuse them with good microbes and nutrients.

OTHER WAYS TO COMPOST

TRENCH OR PIT COMPOSTING



Dig a trench up to 12” or a hole 18” and deposit food and yard waste. Cover with several inches of soil. Trench composting is good for next season’s garden rows. Plant shrubs, trees or other plants over the pit.

VERMICOMPOSTING

This composting uses red wiggler worms to breakdown food scraps.

DIGESTER

This bin allows for all yard and food waste, and can be used for some pet waste. Follows the passive method of composting and only produces a small amount of soil amendment. A septic starter could be added to speed up decomposition.

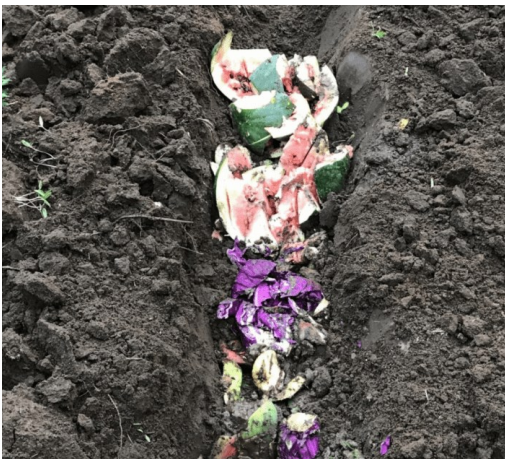
PASSIVE COMPOSTING

It is similar to active composting but it will need up to two years to finish decomposing because the pile is not managed. Deposit organic yard waste in an open pile, bin or a wire cage and let nature take its course. For better results, follow instructions to start a compost pile and skip the maintenance.



GRASSCYCLING

Leave grass clippings on the lawn to return the nutrients to the soil. Use a mulching mower or cut dry grass more frequently with sharp blades to encourage grass to decompose quickly. For large grass clumps that are left after mowing, allow them to dry and mow again to disperse piles.



PET WASTE COMPOSTER

You may need to check into city regulations to compost pet waste. It's been a suggested method in cities that do not allow dog waste in the garbage. A pet waste composter works like a small septic system. It involves digging a hole, cutting out a plastic bin and adding a septic starter (enzyme-active biological compound formulated to increase the digestion rate of sewage) and dog waste.

COMPOSTING TOILET

Some people find a composting toilet a good environmental idea, especially for cabins or remote areas. It decomposes human waste into usable compost. The finished product should only be applied around trees and landscaping. It prevents the loss of nutrients and decreases waste going into an already taxed sewer or septic system. Composting toilets can be placed in areas where plumbing is a challenge.



Composting Resources

US Composting Council :

<http://compostingcouncil.org>

Dog Waste Composting System:

<http://cityfarmer.org/petwaste.html>

Compost Guide:

www.compostguide.com or <http://www.ranchomondo.com/compost.htm>

How to Compost:

www.howtocompost.org or <http://ohioline.osu.edu/hyg-fact/1000/1189.html>

Composting Toilet:

<https://www.pickatoilet.com/best-composting-toilet-reviews/>

Grasscycling:

www.turffiles.ncsu.edu, type grasscycling in keywords and click on pub and factsheet tab

Composting Video Turning your spoils into soils:

www.ct.gov/dep/cwp/view.asp?a=2718&q=399598&depNav_GID=1645

Master Composter:



740-342-7881

2235 State Route 13, New Lexington
Ohio 43764

www.perryrecycling.com