COMPOSTING GUIDE:

Reduce Organic Waste and Green Your Yard

4th edition

COMPOST

COMPOST

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If you already compost in your backyard, please add yourself to the compost survey list by emailing swdinfo@cuyahogacounty.us. Answering the survey will give a recycling credit to your city.

COMPOST IS

- A dark, crumbly soil amendment.
- A waste reduction strategy for yard and food waste.
- Nature's way of recycling.
- Natural mulch.
- Nutrient rich.
- A simple way to prevent methane gas production.

WHY COMPOST

Composting is a great way to keep organic material out of landfills. It is a good environmental practice, and an inexpensive way of adding nutrients back into the soil. Applying compost to soil improves its texture, structure, aeration ability and water holding capacity. It adds-up to improved soil fertility and root development. Trees, flowers or vegetables will grow healthier with less chemicals or fertilizers.

SUPPLIES NEEDED

- Compost bin or outdoor area to compost.
- Shovel.
- Aeration tool such as a pitch fork or compost aerator.
- Kitchen food scrap holding pail.
- Thermometer.
- Organic material such as yard waste, food scraps and shredded paper.
- A compost activator or accelerator including urea, manure, or bone meal to help the compost process start quickly and efficiently.

COMPOST BINS

Buy

The Solid Waste District is selling affordable bins during its "Compost Seminars and Bin Sales." Log onto www.cuyahogaswd.org to find out seminar dates and locations. The Wishing Well Composter, Ultimate Dirt Machine Digester and Sure-Close pail will be sold during these events. If you can't wait for the next scheduled event, then you can buy a bin directly from the District. Facility hours are Monday through Friday from 8:30 a.m to 4:30 p.m. Check and cash only and all sales are final.

Many garden, hardware stores and warehouse clubs carry compost bins seasonally. You can also find them online at www.planetnatural.com and www.cleanairgardening.com. Brand names include Earth Machine, Tumbleweed, EnviroCycle, Sun-Mar, ComposTumbler, Earth Engine, Prestro Hoop and Garden Gourmet.

We recommend bins that sit on the ground, but consider a rolling compost bin for more flexibility in placement, i.e. close to the house or in the garage. These bins are more expensive, but easily add oxygen to the pile. Also, small scale composting can be done indoors by either buying a kitchen composter or making one out of a plastic container.

If you are a member of garden club or other organization, please consider hosting a Composting Seminar and Bin Sale. Call for details at 216-443-3731.

-Or-

Build

Compost piles can be contained in chicken wire, bricks or wood pallets. Follow the proper pile size when building. The least expensive method is just creating a pile.

Pile Size

An effective compost pile must be large enough to hold the heat in the center while still allowing air to permeate the pile. When creating a pile, maintain the size between 3' x 3' x 3' to no larger than 5' x 5 x 5'. Adding the same volume of materials to a purchased bin will optimize decomposition.

Placement

- Look for a level, well-drained area.
- Keep it accessible.
- Keep the pile or bin in a sunny spot to trap solar heat. The compost may need water in the summer.
- Shelter it near a building or landscaping that blocks wind to protect the compost pile from freezing winds.
- Build a pile over permeable soil or lawn.
- Look for a spot that allows you to compost discretely, especially if you have neighboring yards close by.

START A COMPOST PILE

1. Place several inches of base material such as chopped brush, twigs or wood chips on the ground. This will allow air circulation around the base of pile. (Skip this step if using a compost mixing container).

2. Alternate green organic material containing nitrogen and brown organic material containing carbon as you build the pile. Keep a ratio of 1-part green and 2 to 3 parts brown. Do not compact layers to allow for air circulation.

3. Add several full shovels of an activator (aged compost or garden soil) as the pile is being built to introduce microorganisms. Activators such as manure, bone meal or urea fertilizer will provide nitrogen to encourage the reproduction of microorganisms.

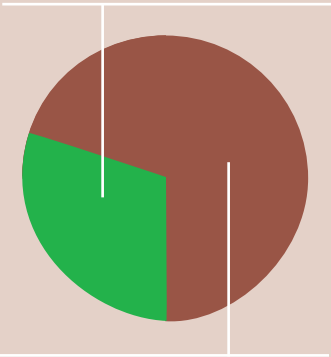
4. Stir pile.

5. Water the pile, so it's moist, but not wet.

ESSENTIAL ELEMENTS OF A COMPOST PILE

Pile Composition

30% green or nitrogen containing organic matter
Vegetables, fruits, flowers, plant clippings, grass clippings, coffee grinds, manure, etc.

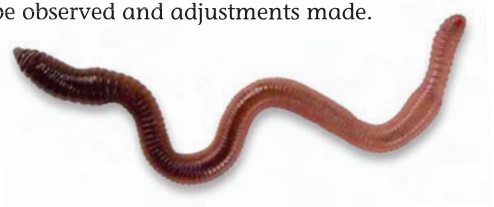


70% brown or carbon based organic matter
Dead leaves, straw, sawdust, wood chips, shredded newspaper, corn stalks, cotton rags, nut shells, pine needles, etc.

The correct mixture affects quality of the compost and the speed of decomposition. Another method is comparing C:N ratios of organic material. The optimal ratio is 30:1. Ratios of common organic material can be researched online.

MAINTAINING A COMPOST PILE

The instructions below will help you create compost within six months. Composting is like a science experiment; it needs to be observed and adjustments made.



Compost creatures:

- Micro-organisms.
- Bacteria and fungi.
- Macro organisms.
- Insects and arthropods like worms, centipedes, sow bugs, beetles, snails or slugs.

An initial source of compost creatures can be added through garden soil or aged compost. Also, the pile should be maintained to provide them appropriate food, water and oxygen. The creatures will help decompose the organics faster.

Moisture

The compost should have 50% moisture content and feel damp like a wrung-out sponge. Water can be added to the compost pile by either adding green material or sprinkling the pile with water.

Oxygen

The pile should be aerated about once a week by

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

Surface Area

Increase the surface area by shredding or cutting organic material into smaller pieces.

Proper size

Keep the volume around 3 feet cubed.

Proper Temperature

Most backyard compost piles only reach 90° – 120°. If you do not keep a consistent aeration schedule, then turn the pile when the temperature peaks. If the pile no longer heats up, it may be an indication that the compost is ready for application.

Hint: If you're consistently adding kitchen scraps to your compost pile, then keep a source of carbon next to your compost bin to maintain the proper ratio.

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.
- When the pile is too dry, turn it over, and add greens and water.
- If the pile is damp, sweet smelling and will not heat up, it needs nitrogen. Turn the pile and add grass clippings, coffee grounds, manure, blood meal or urea fertilizer.
- When the pile smells like ammonia, add brown leaves, sawdust, straw or wood chips.
- If the materials do not seem to be decomposing, then add nitrogen, turn the pile and maintain 50% moisture content.
- When unwanted creatures are interested in compost, bury the food waste close to the pile's center and avoid "compost don'ts."

For more information on problem solving, use the compost resources.

Compost Dos

Leaves

Grass clippings

Plants

Nut shells

Straw and hay

Fruits, vegetables and grains

Egg shells

Coffee grounds or tea leaves

Sawdust and wood chips

Dryer lint

Shredded paper and newspaper

Dead flowers

Certain manures

Compost Don'ts

Meats

Fish

Dairy products

Oil or fatty foods

Bones

Cat and 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

USING FINISHED COMPOST

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

- as a potting mix. Add soil and sand.
- as a starter for plant seedlings.
- as a seed starter. Add top soil or sterilized potting mix to prevent burning the seeds.
- to encourage healthy growth of trees by digging in a layer of compost around the trees' drip line.
- to mulch around plants.
- 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.

OTHER COMPOSTING METHODS

Vermicomposting
This composting uses red wiggler worms to decompose food scraps.

Passive Compost
It is similar to active composting, but it needs up to two years to finish decomposing because the pile is not managed. Basically, 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. Skip the maintenance section.

Trench or Pit Composting
Dig up to a 12" trench or 18" hole and deposit food and yard waste. Cover with several inches of soil. Let nature do the work. Trench composting is good for next season's garden rows. Plant a tree, shrub or other plant over the pit.

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. If large grass clumps are left on the lawn after mowing, allow them to dry and mow lawn again to disperse piles evenly.

Composting Toilet
Some people may 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. Also, a composting toilet can be placed in an area where plumbing is a challenge.

Pet Waste Composter
You may need to check into city regulations with this one. 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.

Digester
This bin allows for all yard and food waste, and it can be used for some pet waste. It 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.

Composting Benefits

- Reduces your ecological footprint by reducing garbage being landfilled.
- An inexpensive way to amend the soil and reduce fertilizer requirements.
- Conserves natural resources such as water, organic matter and nutrients.
- A sustainable way to improve soil health and the health of plants.
- Reduces garden chores by applying compost like a mulch to limit weeds and retain moisture.
- Saves city waste disposal fees.
- Combats climate change by decomposing organics with oxygen, preventing the release of methane gas, which happens when organics decompose in a landfill.
- Reduces water pollution by reducing the need for fertilizers, which prevent algae blooms and fish kills in streams and lakes.

Compost Resources

US Composting Council -
http://compostingcouncil.org

Compost Guide -
www.compostguide.com or www.ranchomondo.com/compost/compost.doc

Dog Waste Composting System -
http://homepage.mac.com/cityfarmer/PhotoAlbum22.html

How To Compost -
www.howtocompost.org or http://ohioline.osu.edu/hyg-fact/1000/1189.html

Composting Toilet -
www.compostingtoilet.org

Composting Video *Turning Your Spoils into Soil* -
http://www.ct.gov/dep/cwp/view.asp?a=2718&q=399598&depNav_GID=1645

Grasscycling -
www.wastediversion.org/grasscycling.htm or
www.turffiles.ncsu.edu/articles/tf0015.aspx

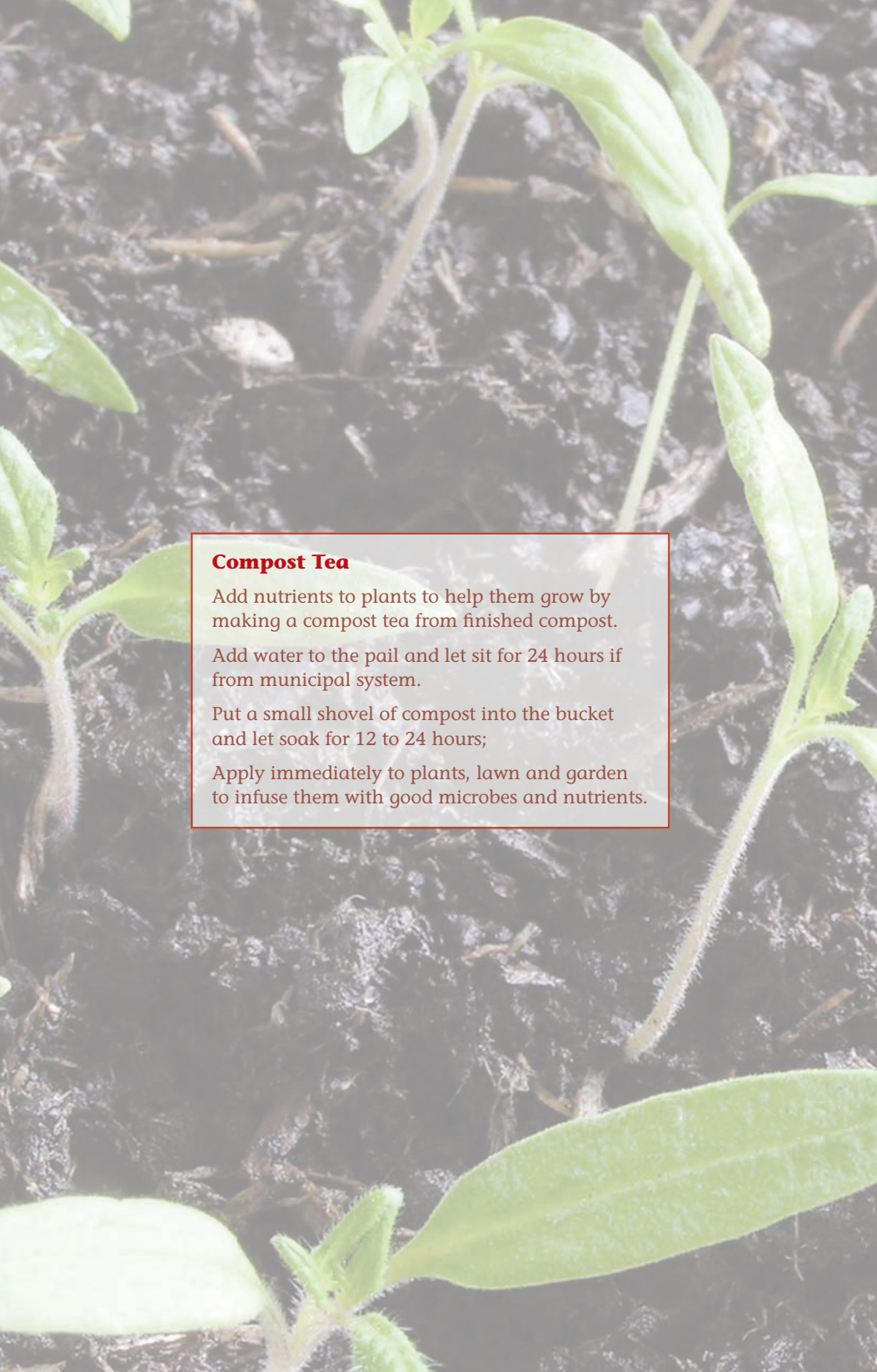
Master Composter - www.mastercomposter.com/

For Kids

Composting Coloring Book -
www.dnr.state.wi.us/org/caer/ce/eek/cool/natrec.htm

Compost for Schools -
http://compost.css.cornell.edu/schools.html

Adventures of Herman the Worm -
www.urbanext.uiuc.edu/worms/



Compost Tea

Add nutrients to plants to help them grow by making a compost tea from finished compost.

Add water to the pail and let sit for 24 hours if from municipal system.

Put a small shovel of compost into the bucket and let soak for 12 to 24 hours;

Apply immediately to plants, lawn and garden to infuse them with good microbes and nutrients.