



Compost is decomposed organic matter which is extremely rich in nutrients and energy. Composting offers a way to “recycle” energy that has been stored in things like food scraps, dried leaves, and even cardboard. Instead of throwing away food scrap which will end up in a landfill, we can compost these materials to create a nutrient-rich soil additive which can benefit the health of gardens, potted plants, and lawns. Composting offers a green way to limit our waste output and increase the health of our soil and plants by giving energy back to them.

Why Compost?

Composting is a helpful way to reduce the amount of organic materials that end up in landfills. These organic materials, such as food and yard waste, have energy and nutrients stored in them that can be released and reused

by composting. Composting limits landfill waste and provides a nutrient-rich soil additive that can be used to enrich soil and fertilize plants.

How to Compost

Starting and maintaining a compost pile or bin can be done simply and requires little time. The speed of composting can vary from several weeks up to several months. If you want your compost pile or bin to decompose quickly, controlling ratios of organic matter and other factors are necessary. If you are not motivated by the speed of composting and are looking for a helpful way to limit your food waste, composting can be done more casually. Decomposition happens naturally, so composting is difficult to mess up. There are precise and technical

ways to compost quickly, but do not let that overwhelm you because you can compost without much thought or time. The ingredients necessary for composting are organic matter, oxygen, water, and microorganisms.

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What Can I Compost?



The organic materials you can add to a composting bin/pile are broken into two categories: greens and browns. “Greens” consist of nitrogen-rich organic matter. “Browns” consist of carbon-rich organic matter.

✓ Greens

Any green or fresh plant matter, plus other nitrogen-rich products.

Examples:

- vegetables
- fruits
- flowers
- plant clippings
- grass clippings
- coffee grinds
- eggshells
- herbivore manure
- almond/soy milk
- old wine/beer
- etc.



✓ Browns

Any plant matter that is dead and has turned brown, plus other carbon-rich products.

Examples:

- dead leaves
- twigs
- wood/bark chips
- cardboard (non-glossy)
- shredded paper
- pine needles
- cotton fabric
- straw
- sawdust
- corn stalks
- nut shells
- tissues
- paper towels/napkins
- etc.



✗ Things You Should Not Compost

Certain materials will cause more harm than good when attempting to compost. These materials can attract flies and rodents, create waste odors, or even propagate harmful bacteria. **Products to avoid adding to your compost pile include:** meat and dairy products (excluding eggshells), fish or fish parts, oil or fatty foods, bones, cat, dog or human manure, diseased or insect-ridden plants, invasive weeds, ashes from coal or charcoal, whole tree branches, and yard trimmings treated with pesticides.



Starting to Compost

Before deciding which compost method is best for you, consider what your intentions and motivations are:

- Are you hoping to generate large amounts of compost in order to fertilize a garden or improve soil quality?
- Do you care mostly about reducing your personal food waste or living in a greener manner?
- How much space and time do you want to dedicate to composting?
- Do you want to compost discreetly?

If you are interested in composting to generate as much compost as possible, the best method is starting an outdoor pile or using a rain barrel-sized bin. If you want to recycle the energy of your food scraps and prefer a smaller scale or more discreet setup, starting a compost bin in a 5-gallon bucket or similar sized opaque container will work great. Besides DIY options, composting bins of various sizes can be found online and in certain stores.



The first decision to be made is whether you want to start a composting pile or bin. If you choose a pile, find an area outside that is level, well-draining, in a partially sunny spot, and protected from wind. Construct a chicken wire, brick, or wood pallet structure that consists of four sides, with an open top and bottom to help contain your pile. The base of your pile should contain sticks or wood planks to slightly elevate the pile above the ground. An ideal pile size is between 3'x3'x3' and no larger than 5'x5'x5'. A tarp can be laid overtop your compost pile, but this can limit airflow and lead to sludgy/moldy decomposition. If you want to contain your pile with a tarp instead of a built structure, ensure that you lift off the tarp at least weekly and stir the pile to prevent this.

If you choose to compost in a bin instead of a pile, you can purchase a composting bin, 5-gallon bucket, barrel, garbage bin, or non-transparent storage bin. Whatever bin you choose, you will need to drill or cut holes in the bottom of the container to allow water drainage and air exchange. A bin can be placed outside or inside at any convenient location. The lid should be kept on your bin and lifted at least weekly for fresh air exchange. Air holes should also be added to the lid of your container to allow more oxygen exposure.



Adding Materials

When it comes to starting a new compost pile, proper layering is essential. It promotes proper air circulation, cuts down on smelly odors, and can even keep outdoor critters away from your compost. Follow the steps below to start off on the right foot.

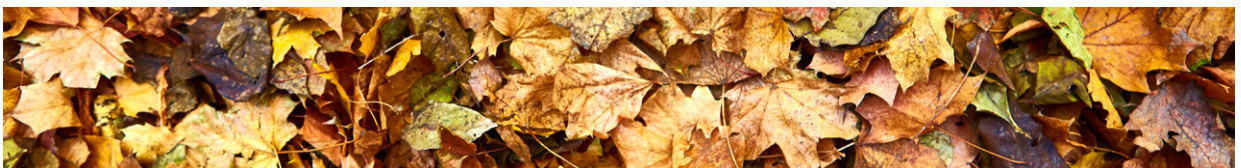
Layer 1: Whether you have decided to compost in a pile or bin, the first material you should add is several inches of twigs, chopped brush, or wood chips to ensure air circulation around the base of the pile.

Layer 2: After this base layer has been created, you can start adding alternating layers of greens and browns. Collect food scraps in a small accessible container in your house, and once it is full, dump it in your composting bin or pile.

Layer 3: After the layer of greens has been added, cover with some browns such as broken up pieces of cardboard, shredded paper, dead leaves, wood chips, etc.

In order to compost most effectively, try to maintain a ratio of 1 part green to 3 parts brown. Composting will happen efficiently if you shred, cut, or break your materials into smaller pieces before adding them to your pile. Adding more greens than browns will quicken decomposition, but having too many greens can lead to sludgy/stinky compost. If your compost bin starts to smell or look sludgy, add more browns. Adding a layer of browns on top of a layer of greens will also help keep animals and pests away from your compost.

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Micro and Macroorganisms

Micro and macroorganisms such as fungi, bacteria, worms, insects, arthropods, beetles, slug and snails are extremely helpful in the process of decomposing. In order to introduce micro and macroorganisms, add several shovels of aged compost or garden soil to your pile or bin. These should be added to your pile sometime after your first layer or two of greens and browns have been added. Adding herbivore manure, bone meal, or urea fertilizer will allow microorganisms to thrive and break down materials quickly. This is not necessary but can be done at any point in the composting process to give a boost in decomposition speed.



Water

Once the base layer has been added to the pile or bin followed by a layer of greens and browns and several shovels of garden soil or mature compost, it is time to stir up the pile and add water. The goal is to keep your pile moist, not too dry or wet. If your compost pile is too saturated with water, it will not decompose correctly, which is why drainage holes are necessary if using a bin to compost. Water will be added to your compost pile from the greens breaking down, but if your pile seems extra dry or gets direct sunlight, adding more water will be beneficial. A good rule of thumb is to try to maintain 50% moisture content, which should have your compost feeling like a damp wrung-out sponge.



Oxygen

It is important that you avoid compacting layers after you add them as oxygen is necessary for composting. Organic materials will still decompose without oxygen, but this process takes much longer and releases methane which is detrimental for our atmosphere. It is important to aerate your pile or bin once a week by turning the pile from outside to inside or top to bottom, stirring up the materials with a pitchfork or rolling your sealed bin on the ground.



How Long Does Composting Take?

Composting is a very rewarding process, but just how long does it take? In general, it can take anywhere from a few weeks to one year depending on how much is in your pile and other factors. In Northeast Ohio, it takes about six months or more. The tips in this guide can positively effect how efficiently your pile composts.



Compost Pile Maintenance

Once your composting pile has been started, maintenance is easy. Continue collecting kitchen scraps and other greens and adding them to your composting bin. After adding greens, you should always add 3 times more brown materials on top of your layer of greens. Keeping cardboard or a pile of dead leaves accessible may be an easy way to add browns.

Your pile or bin will need stirred up weekly in order to add oxygen, and this can be done before or after adding new materials. If you have an uncovered compost pile outside, it may be beneficial to stir your pile before adding new materials, so you can keep a layer of browns on top of the pile to hide food scraps from animals.

It is important to either add garden soil or aged compost to your bin to act as an activator and

establish a colony of microorganisms in your compost which speeds up the breaking down of materials. This should be done early on after your first layer or two of browns and greens. These microorganisms are responsible for breaking down most of your compost so do not skip this step.

Keeping the moisture content of your pile or bin near 50% will ensure the best results. Do not

over think this step, try to keep your pile from being saturated with water or from being dry to the touch. An outdoor pile that receives sunlight may need to have water

added periodically if there is a lack of rain. Composting in a bin will most likely require little to no addition of water but monitor the bin in case it feels dry. If the bin feels dry, add greens or a few cups of water and stir around. Excess water can flow through the drainage holes added to the bottom of your bucket.

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Troubleshooting Your Compost



Overly Dry

If your pile or bin is overly dry, add greens or water then stir in order to rehydrate.

Overly Wet

If your pile is overly wet, add sawdust, straw, or wood chips then stir. If your pile is perpetually wet, it may be necessary to add wood planks underneath in order to allow for better drainage.

Too Much Condensation

If your bin is holding too much water and always has condensation built up on the sides, ensure your drainage holes are not clogged and add air holes in the lid or upper sides of your container.

Lack of Decomposition

If materials do not seem to be decomposing, add more greens. Kitchen scraps and chicken or cow manure will be great additions.



Quick Decomposition

If your compost is decomposing too quickly, leading to a sludgy and smelly pile, add more browns like cardboard or dried leaves.

Speeding Up Decomposition

If adding extra greens does not speed up decomposition, you may need to add more activator like garden soil or aged compost. The microorganisms these contain will allow the materials to decompose as quickly as possible. You can also try cutting or shredding any materials into small pieces before adding to the pile or bin.



Rotten Odors

If your pile smells rotten and remains overly wet, there is a lack of oxygen. First try stirring or turning your pile/bin more often; if composting in a bin, you may need to add more drainage holes or open the lid more frequently; if composting in a pile, you may need to add wood planks underneath to allow for better air flow, or if your pile is contained by a tarp, you may need to uncover and stir the pile more frequently.



Using Finished Compost

In Northeast Ohio, the composting process will often take six months or longer. Your compost is ready to use once it becomes a rich, dark brown color with an earthy smell and a fine particle size which crumbles in your hand. You should no longer see large clumps or any recognizable food content.

Compost can be used as mulch, to enrich garden soil, to fertilize potted plants, to start seeds, or even to fertilize your lawn.

✓ If compost at the bottom of your bin is ready to use but the upper layers have yet to fully break down, you can remove the breaking down material, harvest the finished

compost, then re-add the finishing compost to the bin. Once your compost has finished, you can shovel or dump it from your bin or pile.

✓ Compost can be used as mulch, to enrich garden soil, to fertilize potted plants, to start seeds, or even to fertilize your lawn. Compost can be added to landscaping, just like mulch. Simply spread out a layer of compost around your desired area, leaving a few inches gap around trees or shrubs in order to increase the soil health and provide a beautiful aesthetic.

✓ To increase the health of your garden or raised beds, add clumps of compost on top of your soil and work/mix it in with a shovel. You should not exceed 2-4 inches of compost for every 6 inches of soil because this will burn the plants.

✓ To drastically boost the growth and health of potted plants, mix one part compost with two parts potting soil, mix thoroughly, and plant directly in.

✓ Using compost as a seed starter can be done by mixing one part compost with one to two parts soil.

✓ Adding clumps of compost into your yard and spreading it out with a rake will benefit grass health and growth.

