

# Backyard Composting

Turn over an old leaf: compost!

Composting is a means of using natural decomposing processes to turn plant materials into a nutrient-rich soil supplement. If proper composting techniques are followed, composting can require very little work and be odor and rodent free.

## What can you put in a backyard composting pile?

- Weeds
- Grass clippings
- Prunings
- Hay/Straw
- Sawdust/wood chips
- Small amounts of food scraps\*



*\*Food scraps must be buried deep in a compost pile to avoid pests. A compost pile should never have more than 10% of its volume be food scraps or it may attract pests. Visit [DavisRecycling.org](http://DavisRecycling.org) for other methods to compost food scraps via worm bins, in-ground composting and homemade food digesters.*

## Not everything can go in your compost pile.

These items should never be placed in a backyard compost pile:

- ⊗ Meat, fish and bones
- ⊗ Dairy products
- ⊗ Fats, oils and grease
- ⊗ Pet waste (from dogs and cats)
- ⊗ Invasive weeds and diseased plants

## Essentials of Composting

There are four essential factors for maintaining a healthy backyard compost pile:

**Aeration:** A compost pile should be turned every one or two weeks so that it remains aerobic. Piles that are not turned regularly can become anaerobic (lacking oxygen) and begin to emit foul-smelling odors as decomposition slows. When turning your pile, check the moisture and add water if the material looks dry.

**Temperature:** Microorganisms in the pile produce metabolic heat as they actively decompose materials in the compost pile. This heat can be substantial (up to 131°F), causing steam to rise from a compost pile on a cold day, killing weed seeds and plant pathogens. The higher the temperature of the pile, the more rapid the decomposition rates.

**Moisture Content:** The pile should be kept moist but not soggy. If the pile is too wet, water will fill up the air spaces and the pile will become anaerobic. If material in your pile is dry, decomposition will occur very slowly. Material in a pile should clump in your hand when you squeeze it and leave a drop or two of moisture on your fingers.

**Carbon-Nitrogen Balance:** Wet or “green” materials, such as fresh grass clippings, chicken manure and freshly pulled weeds, tend to be high in nitrogen, while dry or “brown” materials, such as leaves and dried yard materials, provide the carbon balance for the compost pile. A compost pile should maintain a balance of 50% “brown” materials and 50% “green” materials for faster composting.

**Size:** Both the size of the pile and the size of the materials in the pile is important in composting. Piles should be at least 3'x3'x3' in order to thermally insulate the interior of the pile and retain a high temperature. To speed decomposition, material should be chopped up before being added to the pile.



## Building Your Pile

It's not necessary to purchase a compost bin. Compost bins can be constructed from wood, wire, plastic, concrete and other materials you may already have on hand. You can even forgo a bin entirely and stack your materials into a pile to make compost. Listed below are two simple compost bin styles. Choose a design and materials to suit your needs and taste.

**Hoop Bin**—One of the simplest options, these bins can be made from 10 feet of chicken wire, hardware cloth or similar material. Fasten the ends together with wire or hooks to make a cylinder and place your materials inside. To turn the materials in your pile, pull the cylinder up, place it next to your materials and move the materials back into the bin.

**Wooden Pallet Bin**—Attach three wooden pallets together to make an easy-to-turn compost bin. To make composting even easier, if you have room, add two more pallets so that you have two open compost bins. This way when you turn your compost pile, you can just move the material from one side to the other.



## Harvesting Your Compost

It will take 3-6 months for your pile to turn into compost. During this time, you can continue to add more material to the pile, just be aware that the material added later will not be ready at the same time as the first material you added. After ~3 months, the material will undergo a transformation, and instead of looking like the materials you incorporated into your backyard compost pile, the materials will take on a soil or humus-like appearance. You can use a seed-planting tray to screen out the unfinished bits from the finished compost.



Once you have removed the compost, spread it out and leave it exposed to the sun. Drying out the material will cure the compost and help to kill any remaining plant pathogens. It will also make this material easier to spread. Once the compost has been cured in the sun, it can be added to your garden: a home-made, natural fertilizer!

## Troubleshooting Guide

### Compost pile is not heating up

- Not enough water: add water and turn the pile
- The compost pile is too small: build the pile to at least 3 feet X 3 feet X 3 feet
- Lack of nitrogen-rich materials: mix in grass clippings, kitchen scraps or fresh manure
- The materials in the pile are too big: chop up the materials into smaller pieces

### Compost pile smells bad

- Not enough oxygen: add oxygen by turning the pile
- Too wet: add sawdust, dry leaves, etc. and turn the pile
- If it smells like ammonia there may be too much green material present: turn the pile and add dry-woody materials

### There are rodents in the compost pile

- The pile may contain problematic materials. Do not include dairy products, meat, or bones
- Food scraps are not covered: cover food scraps with yard materials
- The pile may contain too much food waste, fruits or vegetable scraps. Stop adding these materials, remove excess food waste, add more dry materials and turn the pile.

Updated 12/2022