

# BACKYARD COMPOSTING

## What is Compost?

Compost is a mixture of soil and decayed organic matter or humus that is used to improve garden and potting soil. Properly prepared compost is free from weed seeds and odors and is rich in nutrients needed by plants. It may be used as a thin “top dressing” for lawns, as a mulch around shrubs or young trees, or mixed into the soil in vegetable or flower gardens. Compost is produced in piles or “pits,” from waste materials such as leaves, grass clippings, manures, straw, kitchen waste, or garden refuse.



## Getting Started

Locate the compost “heap” in an area where water will not stand. Decide if you would like your pile contained— this is not necessary, but helps keep it from spreading. For fast, efficient composting, a pile must be large enough to hold heat and moisture, yet small enough to admit air to the center. A good size is 1 cubic yard, or 3 ft. by 3ft. by 3ft.

## Recipe for Good Compost

Providing a home for composting microbes involves...

### 1) **BROWN STUFF** 50-70% OF VOLUME

(leaves, hay, woody dry matter) “Browns” are rich in carbon and carbohydrates, giving energy to composting microorganisms. It is good to moisten browns as you add them, or use browns to absorb excess moisture.

### 2) **GREEN STUFF** 30-50% OF VOLUME

(grass, garbage, manure) “Greens” are fresh, damp materials that quickly decompose on their own. Their nitrogen is key in protein for the microbes. “Greens” are also the source of most odors. They should be mixed in completely or in layers with “browns” (always cover food scraps!) Otherwise, greens can collapse in volume, lose air, and putrefy.

### 3) **BLACK STUFF** 0-5% OF VOLUME

“Blacks” are the inoculant, like yeast in bread, which starts the process. Dark soil or compost contains millions of soil organisms that can jump-start the pile.

### 4) **WATER (DAMP SPONGE CONSISTENCY)**

Moisture is very important to the health of composting microbes. If you do NOTHING else, water the pile. Create a dip in the top of the pile to collect rainwater. Tarps can be used to trap in or keep out moisture.

### 5) **AIR (OPEN SIDED BIN, TURN PILE)**

Most microbes that break down compost are aerobic, meaning they need air. Without air, anaerobic bacterium can grow and smell like putrefying garbage! “Toss” your pile like a salad to ensure air flow.

## Compost Benefits

- Recycles waste— Resources are used in the most efficient manner
- Builds good soil structure, improves aeration
- Holds moisture, protecting against drought
- Encourages soil fertility and resists erosion
- Grows more nutritious food
- Neutralizes soil toxins, helps balance PH
- Removes or lessens the need for costly and poisonous chemicals

## The Chemistry of Compost

All living organisms need relatively large amounts of the element carbon (C) and smaller amounts of nitrogen (N). The balance of these elements in a material is called the carbon-to-nitrogen ratio (C:N) and is important for successful composting. Given this steady diet, microorganisms can decompose organic material very quickly. It helps to think of materials high in nitrogen as “greens,” and woody, carbon-rich materials as “browns.”

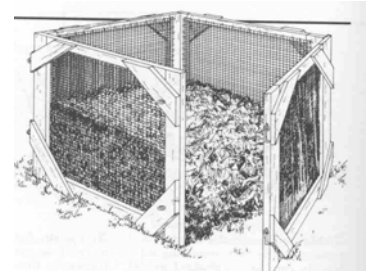
Successful composting also involves maintaining the optimum levels of water, temperature, and air to keep the biological and chemical processes functioning. The compost pile should be about as moist as a wrung out sponge and the materials in the pile should be turned weekly to evenly expose them to air. (Piles will also decompose without turning, but will take much longer)



## Compost Holding Units

These range from old trash cans with holes to stacks of hay bales.

- Woven wire or wood slat fence – Covering the compost pile with a layer of plastic will speed the compost decomposition.
- Cement blocks or bricks – Mortar is not necessary since the weight of the blocks will hold the pile in place.
- Boards of scrap lumber – Don't use good lumber since the damp compost may ruin the boards unless it is desired to build a permanent enclosure of redwood or cypress. Old wooden pallets are an excellent size for a compost holding unit.



Wire and wood bin: inexpensive and portable

## What to Compost:

Some things belong in a compost pile and some things don't. In general, do not compost anything containing animal fats.



### **DO COMPOST:**

- Vegetable scraps
- Citrus rinds
- Grass clippings
- Leaves
- Weeds
- Bark, wood ashes
- Horse manure
- Small garden clippings
- Small stalks, stems, and vines

### **DON'T COMPOST:**

- Meat/Poultry/Fish
- Fat/Vegetable oils
- Bones
- Dairy products
- Plastics or synthetics

## Troubleshooting

### SYMPTOMS

The heap is wet and smells like rotten eggs.

The center is dry and contains tough, woody wastes.

The heap is damp and warm right in the middle, but nowhere else.

The heap is damp and sweet-smelling, but will not heat up.

### PROBLEMS

–Not enough air; pile too wet.

–Not enough water in pile.  
–Too woody.

–Pile is too small, or too dry.

–Lack of nitrogen in pile.  
–Compost is done!

### SOLUTIONS

Turn it; add coarse, dry wastes such as straw or corn stalks.

Turn and moisten; add fresh green wastes; chop or shred.

Collect more material and mix into a new pile; moisten.

Mix in fresh grass clippings or nitrogen fertilizer.

Additional lawn care fact sheets from the office of Waste Reduction and Recycling (on our website, [www.LawrenceRecycles.org](http://www.LawrenceRecycles.org)): The Rookie's Guide to Fertilizing, Our Garden, Low Maintenance Landscaping, Xeriscaping, Grasscycling, Vermicomposting (Digger Downunder), and Worm Composting Bins Made Easy.

(SOURCES: Mo. Dept. of Natural Resources, Kansas State University, Texas Natural Resource Conservation Commission, Harmonious Technologies, The Rodale Book of Composting, The Composters Project)