



New Jersey Agricultural Experiment Station
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Top Ten Tips for Producing Excellent Compost!

The best approach to garden-wide disease prevention is to follow some general gardening practices that help prevent *all* disease. Building healthy soil with compost is NOT simply extra effort...it expends less energy than trying to combat a disease once it has taken hold in the garden. A healthy garden is your strongest ally in soil nutrition and disease prevention!

Soil that has a minimum content of 5% organic matter (more than 10% is better), has a pH of around 6.5 (good), contains at least five earthworms per cubic foot (good), and gets an annual 1" topdressing of compost (good), will prevent diseases as effectively as any other disease-fighting tool or technique.

Compost benefits the garden in many ways, and one of the benefits it offers is some disease control. Research has shown that compost... yes, the kind that you can make by simply piling compost materials and leaving them to decompose, suppresses harmful root-invading fungi, which can cause such diseases as root rot and damping-off.

The quality of your soil...its structure, pH, nutrient-and water-holding capacity, are ALL improved with the use of compost. Humus helps hold nutrients in the soil and release them to plants as they need them. It also contains beneficial microorganisms that enhance plant growth.

Compost is made from many different types of organic matter, including grass clippings, leaves, sawdust, wood chips, manure, and vegetable parings from your kitchen (fruit & vegetable skins and leaves for example).The easiest way is to make a pile of organic matter in a corner of your yard, but if you prefer something a bit neater you may consider one of the commercially available compost bins, or make your own from lumber, chicken wire, bricks, blocks...whatever is handy.

Feed your pile with nearly anything that was once alive - even egg shells, plant remains, dried seaweed - JUST DON'T ADD FATS AND MEAT SCRAPS! They decompose very slowly and invite rodents. Also, do not compost cat or dog waste, as that can transmit parasites.

GET THE RIGHT MIX

In order for compost to really heat up and decompose at an accelerated rate, a proper ratio of carbon to nitrogen needs to be present. A mix of 30 parts carbon (or "brown") materials to 1 part nitrogen (or "green") materials is ideal....

Don't know your greens from your browns??? That's ok...just read on!

Too much carbon means the pile never heats up. Too much nitrogen means an awful ammonia odor. If your pile's not hot, add nitrogen sources, if it smells of ammonia/urine, add carbon sources. **THIS IS THE #1 SOURCE OF MOST COMPOST PILE PROBLEMS**, lack of heat due to an improper compost mixture.

KNOW YOUR BROWNS AND GREENS

In order to keep the correct nitrogen/carbon ratio, you need to know what's considered brown and green.

Nitrogen/"green" sources include grass clippings, weeds, vegetation, seaweed, manure, human/animal hair, and most non-meat table scraps.

Carbon/"brown" sources include dead leaves, sawdust/wood chips, newspaper, and straw/hay.

Many people don't compost newspapers because they fear paper inks contain hazardous chemicals. In fact, nearly all U.S. papers now use soy-based inks (so do shred and compost your newspapers!).

BREAK UP YOUR MATERIAL

In order to maximize decomposition, it is helpful to shred or break up materials going into your compost pile. This can be accomplished by using a chipper/shredder on lawn debris and leaves before adding, blending/processing food scraps (not meat or dairy) from the table before adding to pile, frequently moving/turning pile to expose larger portions of materials to the hot core of the inner pile, utilizing several separate piles and moving contents of one pile onto another once it has reached a certain level of decomposition. Many people utilize a "3 pile method" in order to produce a fine, humus-like finished compost, and layering brown/green materials as they are added to the compost pile to help ensure the correct nitrogen/carbon ratio and increase pile heat.

KEEP THE PILE AERATED

While all compost piles eventually decompose the materials added to them, aeration (accomplished by turning on preferably a weekly basis) greatly speeds up decomposition within a compost pile. This is the key beneficial feature of compost tumbling systems.

Aeration can be accomplished even in the most basic compost pile simply by turning the pile with a pitchfork each time products are added. Remember to always cover food products and table scraps with clippings, leaves, sawdust to prevent attracting animals or insects.

KEEP THE PILE MOIST

Too much or too little moisture can both be problems. Too much and the materials will rot and attract insects. Too little and the decomposition process grinds to a halt.

Materials in the pile should form a loose ball when squeezed. If liquid squeezes out, its too wet. If it doesn't hold together at all, its too dry.

In most areas, watering your pile is unnecessary, but if you live in a drier climate, you will need to water it. Covering an open pile with a plastic tarp can also keep it moist, as well as contribute to heating of the pile itself.

AVOID "TROUBLE MATERIALS"

Acceptable additions to your compost pile are numerous, but you should **STAY AWAY FROM** animal and dairy products (they attract rodents, animals, and insects), food products with high salt contents, grass or weeds which have been treated with pesticides/herbicides, diseased lawn/garden vegetation, and cat and dog waste/litter. Although an ideal compost pile produces enough heat to kill most weed seeds and plant diseases, adding large quantities of such materials to your compost places you at risk for weed/disease spread wherever you use the compost.

CHOOSE THE RIGHT SYSTEM

You don't need an expensive compost tumbler or container system, many people do just as well with an open pile. Mixed correctly, open compost piles don't have an odor, and produce excellent results within months of formation.

Many gardeners utilize "trench composting", simply digging a trench in an unoccupied area of their garden, adding and burying organic materials and non-meat table scraps to the trench, which then break down by the next growing season and add needed nutrients to the soil.

Compost bins are also effective (although often expensive), and are believed by some to be more convenient/less attractive to insects/animals than other systems. Compost tumblers do produce compost in a shorter amount of time due to ease of aeration and mixing of compost contents, but are frequently prohibitively expensive. Many innovative composters make their own holding bins with pallets, chicken wire or other materials. Frequently turned and correctly mixed, these piles work just as well as any commercial system.

Compost Activators are absolutely unnecessary to the home composter. A shovelful of dirt, or vegetation from the garden, supplies all the bacteria necessary for good compost breakdown. If you want to jump start your pile, throw in a handful of chicken manure or alfalfa meal (which new research shows may contain plant growth hormones!).

Keep in mind, in order to produce enough heat to maintain decomposition (a hot pile core), compost systems or piles need to be fairly large, so avoid extremely compact bins, tumblers, or piles if you want usable compost any time soon!

KNOW WHEN ITS READY

Compost is ready when your materials have reached a brown, crumbly, loamy state. You should not be able to recognize any of the original ingredients you added to the mix in finished compost.

There are a number of **EXCELLENT USES FOR COMPOST** including adding it to your garden areas as a soil amendment, using it as a mulch around vegetable plants, fruit trees, flowers, or shrubs, or using it to make "compost tea". For more on this, see below.

USE YOUR IMAGINATION!

Almost any organic materials can be added to your compost pile! Many gardeners have arrangements with local groceries, barber shops, and coffee houses to save spoiled produce, hair clippings, and coffee grounds for collection and use in compost piles.

Collection of grass clippings from local neighborhoods, and animal manures from local stables/farms is also a free alternative. Even if you start a **BEGINNER COMPOSTING PILE** to handle non-meat table

scraps, you can produce some excellent low-cost fertilizer for home use!

SO REMEMBER THE BASICS!

The most important composting principles are,

- a 30:1 brown to green (carbon to nitrogen) ratio,
- keep the pile aerated by turning weekly,
- keep your pile moist,
- maximize breakdown of your pile additions by shredding/chipping,
- keep the pile "hot",
- maximize the mixture of ingredients in the pile by layering,
- if the pile is cold, add some nitrogen/green materials and turn the pile!
- if the pile is "rotting" or smells of ammonia/urine, add carbon/brown materials & turn.

TEA TIME ANYONE?

COMPOST TEA is made by soaking compost in water for 1-2 weeks, then using this nutrient-rich liquid as a liquid fertilizer. Use of compost tea has been associated with disease resistance and recovery in botanical research.

The very greenness of our world is testament to the effectiveness of the decomposition (humidification) process, and its ability to reduce dead organisms to a state that can be absorbed back into the food chain by plants causing the cycle of life and death to begin anew.

Compost (humus) is the end result of this process!

So pile it up and make your own Garden Gold!

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