

MAKING COMPOST!

The Art and Magic of Backyard Composting

Compost “happens”. In nature, over time, all organic material is broken down into topsoil. Making compost in your backyard is just a controlled or managed version of the natural process. By concentrating the activity in one place and balancing food, air and water, you can make composting happens faster than it does in nature.

Composting Systems

There is no one best system for managing compost. Instead, there are many ways, each offering advantages. Composting systems can range from mulching leaves on a path to gathering a batch of organic matter for a three-week hot compost. To determine which system is most appropriate for your situation, you should consider such factors as how much time you want to devote to composting, how much garden space is available, how much organic waste you have and how much money you want to spend to do it.

This section reviews practical applications of composting science information. It outlines what to compost and yard composting in a container.

The systems and instructions presented here are intended to be a guide. They may be followed more closely when you start out composting and less closely as you learn and do more composting yourself. It's important to always remember that compost happens. You can just make it happen faster!

MAKING COMPOST

A Simple Summary

1. Buy or build a rodent-resistant bin.
2. Locate it on well-drained, level soil.
3. Use coarse organic material such as straw or tree prunings on the bottom few inches of the bin.
4. Chop your organic material into small pieces (1 to 2 inches (25 to 50 mm))
5. Add alternate layers of green nitrogen-rich material (moist) and brown carbon-rich material (dry).
6. Dig food waste into the center; cover.
7. Aerate the material once a week.

BACKYARD COMPOSTING

What to Compost?

Almost anything organic can be composted but some materials are more appropriate for backyard composting than others. Organic material that would otherwise go out in your garbage, like most food waste and leaves, can (with some exceptions) go in the compost. The wider the variety of material the better. This variety increases the chances of achieving a balance of carbon and nitrogen and widens the range of elements that will be returned to the soil.

Balancing the Mixture

This balance of carbon and nitrogen is known as the carbon to nitrogen ratio or C:N ratio. The C:N ratio describes how much carbon a material contains in relation to nitrogen. The ideal C:N ratio is between approximately 20:1 to 30:1 (20 to 30 parts carbon to 1 part nitrogen). When bacteria are fed organic material in this ratio they grow and reproduce quickly. Too much carbon and material will break down very slowly. Too much nitrogen and the compost will smell of ammonia and may turn slimy. Your nose will tell you!!

Materials for Composting

There are a wide range of materials that are good for composting. These include:

- **Alfalfa** - good nitrogen source.
- **Apples** - source of phosphorous and potash (potassium).
- **Banana skins** - source of phosphorous (P) and major potassium (K), decay quickly.
- **Beet wastes** - source of magnesium, calcium and nitrogen
- **Blood meal** - good nitrogen source (12 %); helpful to add when material to be composted is carbon-rich.
- **Bone meal** - good nitrogen source (2% -12%), major phosphorous source (20%-25%)
- **Citrus waste** - minor P high in K, nutrient source.
- **Coffee grinds** - nutrient source for the compost or can be used as mulch.
- **Corn cobs** - will take a long time to break down unless finely shredded.
- **Food waste** - vegetable and fruit scraps: this is nitrogen-rich material; it will

decompose faster when chopped into smaller pieces. Dig the pieces into center of compost material and cover with carbon-rich material or soil.

- **Grapes** - stalks and leaves minor nutrient source, adds bulk promoting aeration, cut into smaller pieces.
- **Grass clippings** - best left on the lawn where they directly return the nutrients to the grass, excellent source of nitrogen in compost bins BUT be sure to mix them with brown materials like leaves so they do not turn smelly and mat. Caution: avoid the use of clippings from grass treated with pesticides until after three to four cuts. Compost treated grass for one year before using on a vegetable garden.
- **Hair** - good source of nitrogen, mix with other materials. Do not use if hair has been chemically treated.
- **Hay and straw** - high in carbon, chop or shred and wet for faster composting. Straw is better for air circulation since the stems are hollow and stiff.
- **Leaves** - an excellent free source of carbon material. Collect in the fall for use during the gardening season. Mix with nitrogen-rich material.
- **Manures** (horse, sheep, cow, chicken and guinea pigs) - good sources of nitrogen and other nutrients. Best to compost before use as some raw manures will “burn” plants.
- **Mushroom manure** - excellent soil builder, low in nutrient value. Possible source of pesticides. Check the source.
- **Newspaper** - usually best to recycle, contains no nutrients but shredded can serve as carbon material when there are no other alternatives.
- **Sawdust, wood shavings** - good carbon-rich material for composting. Takes longer to break down because of the cellulose content.
- **Weeds** - good nutrient source. Best to use when green and no seed heads. Pernicious or perennial weeds should be dried before adding to compost.

- **Wood ashes** - excellent source of potassium. Sprinkle directly into garden soil.
- **Rhubarb leaves** There are at least two points of view on the composting of rhubarb leaves. One suggests not to compost rhubarb leaves because they contain chemicals which may be toxic to organisms in the soil. The other point of view suggests that the oxalic acid released by decomposition will lower pH and inhibit microbial activity, but that as long as the rhubarb leaves are mixed with other materials and as long as not too many are added at any one time, they are an acceptable composting material.

Materials NOT for Composting

Barbecue ashes/coal - contain sulfur oxides; bad for garden. There is also concern with the chemicals applied to barbecue briquettes to assist ignition.

Cooked food waste - may contain fats which will attract animals.

Crab grass or other grasses with arhizomatous root system - require thorough drying before adding to compost bin or they will grow again.

Dairy products (butter, cheese, mayonnaise, salad dressing, milk, yogurt, sour cream).

Dishwater - most dishwashing soaps contain perfumes, greases, sodium.

Dog, cat faeces (*doggie/kitty "doo"*) - may contain disease organisms. Cat droppings may contain *Toxoplasma gondii* or *Toxocara cati*, a roundworm. Both can cause blindness, particularly in children.

Fats, grease, and oils - purify and smell bad as they break down - will attract animals

Fish scraps - attract animals, fish scrap contains a lot of fish oil and breaks down more slowly.

Grains -may contain fats which give off odor in their breakdown and attract rodents or other pests.

Kitty litter (used) - all types; likely to contain disease organisms (see above)

Meat, bones - attracts animals.

Peanut butter - attracts pests.

Weeds that have gone to seed - composting at home is unlikely to reach temperatures high enough to kill off the seeds

Weeds like morning glory and buttercups - may live on in the compost unless thoroughly dried

Backyard Composting

Backyard Composting in Containers

Backyard composting in containers has changed dramatically over the past 10 years. Previous generations used heaps or containers largely open to the elements and neighbourhood pests. Residents weren't concerned about rodents because the combination of people, composts and rodents in one area was not great enough to cause a problem.

To prevent rodents from turning your compost into a home and food source, use a rodent-resistant container. Existing plastic or wooden containers can be made rodent-resistant by lining top, bottom and sides with 1.3 cm. (or less) galvanized

wire mesh. This wire mesh is also called “hardware cloth” and is available at most building supplies stores. It is important that the compost bin have a secure base to prevent entry of rodent rodents and a secure full lid to prevent materials becoming saturated from the heavy rainfall in our Region. A lid that is secured with a latch or locking device will deter raccoons. Bears will not be deterred.

Composting Methods

The “No Fuss” Method:

This is the easiest way to do backyard composting. Drop yard wastes in the unit as they become available. Dig food waste into the center of existing materials and cover with a layer of soil or leaves. The compost bin stores yard and kitchen waste until the materials break down. Keep adding materials and decomposition will continue.

This method will take from one to two years to produce finished compost. The finished compost will be near the bottom. To harvest the compost, open the container, set aside the undecomposed material and remove the finished compost. Return the unfinished material to the container.

Two compost bins can handle more material. Use one bin for fresh wastes while the material in the other unit is maturing for use.

The "Some Fuss" Method:

This is the system that most composters will settle on. With the "Some Fuss" composting method, you spend more time composting in the spring, summer and fall when you are gardening. Your compost heats up intermittently, perhaps soon after adding a layer of fresh grass clippings. You turn the compost or aerate the material with an aerating tool to mix the material and make sure the composting organisms are getting enough air.

Your compost should be as moist as a wrung-out sponge. It's about right if you can form a ball with the material in your hand but not wring any water droplets out. If it's too wet, add dry material to absorb moisture. If it's too dry, add green, wet materials like food waste. Or, add water from the hose or watering can so that materials will be dampened gradually and thoroughly. Ideally, chop or shred everything into chunks of about two inches to increase the surface area for the organisms to work on.

The "More Fuss" Method:

This system is a fast, hot, active system and requires more management and careful control. The work is "turning" or mixing the organic material. Regular turning (once a week) ensures that bacteria get the air they need to do their work.

This composting method is most efficiently accomplished in batches. Stockpile organic material until there is enough to fill the compost bin - usually a cubic metre (approx. 3'x3'x3'). Kitchen waste can be saved and stored in a sealed

plastic garbage can with sawdust or soil to control odors and pests. Chop or shred all material to maximize surface area. Add the material in layers from two to three inches thick. Moisten layers as necessary. Alternate layers of carbon-rich material (browns) with nitrogen-rich material (greens). Fill the compost bin full with material.

Within 24 hours the temperature will rise to 60° C to 70° C. This is the hot composting system and you should monitor the process. These temperatures are maintained for four to seven days. When temperatures drop it is time to aerate the materials. This is done by turning the materials into the second bin. Try to get material from the top into the bottom of the unit to achieve complete destruction of weed seeds and pathogens. If you have only one composting bin, probe the material with an aeration tool getting the air into the mass of material.

The probing temporarily interrupts the heat cycle. However, the temperatures will quickly rise for another four to seven days. The material will then cool. Compost managed this way should be left to mature for three months.

Regardless of the composting method you choose, with the correct feed stock, your final mature compost will look, feel and smell just like a rich organic soil. You know what? It is!

HAPPY COMPOSTING!