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## COMPOSTING BASICS Workshop

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Article used with permission from an excellent composting website: [The-Compost-Gardener.com](http://The-Compost-Gardener.com)

### Composting Leaves - A Worthwhile Challenge

Composting leaves is an excellent way to give your compost and your garden a boost. However nearly everyone runs into a problem when trying to compost leaves. Here is a quick preview of what's ahead here.

- Tree Leaves are Great for Compost.
- Leaves are often Difficult to Compost
- Not all leaves are Alike
- Tips for Successful Leaf Composting
- The Leaf Mold Option

#### Tree Leaves are Great for Compost

Composting leaves, especially tree leaves is great for both your compost and your garden.

Most trees have long roots extending deep into the subsoil. They draw in the nutrients and trace minerals which have leached out of the upper soil layers.

Fifty to 80% of these nutrients end up in the leaves so you'll find **tree leaves rich in trace minerals**. They are nature's nutrient recyclers.

Most leaves provide a high carbon source or "browns" for your compost. In other words their C/N ratio is usually over 30, often around 50. Essentially this means they are low in Nitrogen. In a compost they'll need their nitrogen rich green counterparts.

#### Composting Leaves is Often Difficult

If you were to believe everything you read about composting I have to think you'd feel betrayed by the leaves in your compost. The word out there would have you believe that by mixing your leaves with a few greens, in a couple of weeks you'll be spreading a nicely rotted compost on your garden.

Not, I'm afraid. That huge pile of leaves you're coping with in the fall are tough cookies. They contain varying amounts of Nitrogen, Lignin and Calcium. A whole winter's time in the compost bin and there's a good chance your leaves will look exactly like they did when you added them.

#### Leaves have two problems in a compost:

- **Leaves have a tendency to mat**, especially when not shredded. When matted they will create an impenetrable barrier to air and water.
- **Leaves take a long time to break down**. They contain varying amounts of lignin which is extremely resistant to decomposing. Usually a year or two is needed to fully decompose leaves.

## Not All Leaves are Alike

Leaves are collectively categorized with a C/N ratio of around 60. This places them firmly in the 'browns' or high carbon category of the compost pile. Their actual C/N ratios range from around 20 to over 100.

It isn't just the C/N ratio that tells how your leaves will perform in a compost. Decomposition is linked to the relative amounts of nitrogen, lignin and calcium they contain.

According to **Ken Thompson, author of Compost** (whose book I love for its straight forward info and humor), these are useful categories to use when composting leaves.

- **Good Leaves** - those lower in lignin and higher is calcium and nitrogen - includes **ash, cherry, elm, linden, maple, poplar and willow**. Break down in about a year.
- **Bad Leaves** - those higher in lignin and lower in nitrogen and calcium - includes **beech, birch, hornbeam, oak, and sweet chestnut**. I would also add **magnolia and holly** to this list. Need two or more years usually to breakdown.

For those who don't know the names of your trees or whose trees are not on the list here is a rule of thumb that may work for you.

- **Green Leaves** - some trees shed green leaves. These can be added in moderate amounts.
- **Red or Yellow Leaves** - These can be used in small amounts.
- **Brown Leaves** - Should be avoided but are good for leaf mold.

**A last Caution- avoid the leaves of black walnut and eucalyptus tree leaves.** These plants have natural herbicides that prevent seed from germinating.

## Tips for Successful Leaf Composting

Okay - so your leaves are sometimes slow to breakdown and have a tendency to mat. These are the two problems you want to try to resolve in your compost and here's how.

- **Shred your leaves.** This will improve your success composting leaves because:
  - Reduces the bulk of the leaves by about two thirds
  - Reduces the tendency of the leaves to mat.
  - Speeds up the decomposition process as more surface area is bared to the decomposers at work.
- **Mix shredded leaves with a high nitrogen source** such as grass clippings. You can mix them by:
  - Setting your mower to bag the clippings and mow the lawn and leaves together. You should get a well shredded and mixed material.
  - Using a shredder pass both the nitrogen rich material of choice and the carbon rich leaves through together. A nice shredded mix results.
  - Mix them by hand, a few forkfuls of leaves, a few of greens and stir.
- If you are going to use layers **make the layers thin** so as not to get into big problems with matted leaves.

## The Leaf Mold Option

Many experienced composters choose not to mix their fallen leaves into their composts. They instead handle them separately creating a special compost made from almost 100% leaves called leaf mold.

It's simple to make leaf mold. Just follow these steps

- **Shred your leaves** with a shredder or your lawn mower. This speeds up the amount of time needed to make leaf mold.
- **Collect them together** in either
  - A naked pile (they may blow around though)
  - A wire cage or a compost bin.
  - In big plastic bags.
- **Add water if dry and wait.** a year or two until ready.

The process is slow - a couple or three years - but the product - leaf mold is a deluxe mulch well worth the wait.

Articles used with permission from another excellent website: [Waste Reduction Week at www.wrwcana.com](http://www.wrwcana.com)

## Making Your Leaves Work For You

You can tell that fall is here by the bulging bags and piles of leaves sitting at the curb in some municipalities. But what a waste to let you have a high mineral content and contain large amounts of fibrous organic matter. You can compost them or use them as a mulch to be reduce your household's garbage.

When autumn comes to a forest and the leaves drop to the ground, they are worked on by bacteria and fungi to turn them into a rich dark mould which feeds the trees and other plants in years to follow. We can learn a valuable lesson from this natural re-cycling and put it to good use in our own backyards.

### Composting

You can compost leaves in a number of different ways:

- Add some leaves to your compost heap along with kitchen scraps and other yard waste. If you compost a lot of kitchen scraps, the addition of dry leaves will prevent the pile from becoming too wet. Also, leaves are a high-carbon material to balance the high nitrogen content of kitchen scraps. (Your compost heap works best if you add both high-carbon and high-nitrogen materials.)
- Save some leaves in the fall to add to your bin throughout the year; you can store some in a garbage bag next to your bin so that every time you add some kitchen scraps you can throw on a handful of leaves. Avoid putting in too many leaves at one time as they may clump together and prevent good air circulation.
- Compost leaves separately in a simple pile or a second bin. A good spot for a pile is an out of the way location where there is some protection from the wind, e.g. a corner of the yard where two fences come together.
- A second bin can be as simple as heavy-duty wire mesh formed into a cylinder and latched together. Here are some simple instructions for constructing and using a wire mesh bin:
  - From a roll of mesh 36" wide, cut a piece 11' long. When you join the ends you will have a rigid hoop that will stand on its own. Simply fill the hoop with leaves.
  - You can stockpile additional leaves nearby to add as the leaves in the hoop settle. To speed things up moisten and add a bit of soil.
  - In the spring you can turn the material: lift the hoop straight up and over the leaves, place the hoop next to the pile of leaves, pitchfork the leaves back into the hoop adding water if there are dry pockets. The leaves should be ready for use the next spring.
- By themselves, leaves will decompose very slowly. To speed things up you can add a nitrogen supplement such as manure, blood meal or bone meal. (Approximately two cups blood meal or other supplement to each wheelbarrow load of leaves.)
- Here's a slightly different method of composting leaves. Shred the leaves first, place them in garbage bags, moisten, close the bags and leave them till spring. This will produce leaf mould which you can dig into your garden in the spring or add to your compost pile for further decomposition.
- Regardless of the method of composting, shredding leaves first will greatly reduce their volume. You can run over them with a lawn mower, or place them in a garbage can and use a lawn trimming tool. Shredded leaves not only take up much less space, they are easier to mix and turn as well.
- You can also dig some leaves directly into your garden to prepare the soil for spring planting.

### Mulching

- You can use leaves as a mulch on your vegetable garden or flower beds. Mulch is a layer of material which covers the soil surface. You can use some in the fall and save some to use in the spring.
- As a mulch the leaves will conserve soil moisture, insulate the soil, reduce weed growth, and add organic matter and nutrients to the soil as they decompose. Acid leaves - oak, pine or spruce - can be used, shredded, as a winter mulch on acid-loving small fruits such as strawberries, blueberries or cranberries, or on plants such as azaleas and rhododendrons.
- You can also use leaf mould as a mulch. Leaf mould is made up of leaves which have decomposed to the point where the leaves are no longer distinguishable, and just the skeletal system of the leaf is left. Leaf mould can be used to feed perennial plants that are difficult to cultivate such as grapes, berries and fruit trees. Leaf mould can also be mixed into the soil before seed planting.

## Leaf Collection

- Some municipalities still collect leaves and compost them at a central site. Call your municipal office to find out what applies in your area.

## Winter Composting

Don't be put off by winter winds and snow - you can compost year round. Materials that you add to your bin during the winter will decompose more slowly as the temperature drops and the pile may freeze solid, but as soon as the weather turns warmer, the process will become active again.

Cold temperatures are actually beneficial; the freezing action breaks down the fibres in organic material which aids in decomposition once it thaws out.

To make winter composting more convenient, you may wish to locate your bin close to the back door rather than in a far corner of the yard. But remember - there are other things to consider in deciding where to place your bin; for example, it should sit directly on the soil in a location with good water drainage. For faster composting in the winter, locate the bin in a warm sheltered spot, such as the south side of the house.

There is no need to take your food scraps out each day. You can store them in a container by the sink (a lid will prevent odours) and take them out every few days.

- Store indoors for a few weeks if layer with sawdust or soil.
- A typical-sized bin, 12 cubic-foot capacity, is more than large enough to hold the kitchen wastes of an average family of five. (*Barclay - Harrowsmith*)
- Locate bin in warm sheltered place; chop wastes; cover loosely with clear plastic sheeting to create greenhouse effect. (*Alaska - Harrowsmith*)
- Insulate pile with hay bales, fallen leaves or soil.
- To reduce the number of trips to the compost bin, store kitchen scraps in a plastic can by the door; line the bottom with sand, or soil to prevent the waste from freezing to the bottom of the can; a locking lid will keep out animals.
- When the can is full, or before that if it's too heavy, take it out to your bin; turn it upside down and thump or bend the bottom till the material falls out; the material used to line the bottom of the pail will make a good cover to the pile. (*Fred Dale*)
- Make bin from bales of hay. (*Organic Gardening*)

Be sure there is plenty of room in your compost bin in the fall so you can keep adding materials throughout the winter. To avoid filling your bin with leaves, you can compost some in a separate bin or pile, save some to add gradually to your bin throughout the winter, use some as a mulch, or dig some directly into the garden. See our Information Sheet "[Making Your Leaves Work for You](#)".

You should also harvest finished compost in the fall to make room for fresh materials over the winter.

One alternative to backyard composting in the winter is composting indoors with worms. Worm or vermicomposting is also suitable for schools, offices and apartments.

Because worms cannot survive cold temperatures, worm composting has traditionally been done indoors year around or outdoors in the warm months and indoors in the winter. However you can do worm composting outdoors year around if you make or purchase a special insulated worm bin. For details see our [Vermicomposting](#) Information Sheet.

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