



# Backyard Composting – Making Black Gold

**G**ardening is a great way to introduce children to the wonders of nature, but many times, the soil around a school is highly compacted, poorly drained, and low in the nutrients necessary for good plant growth. All of these factors can lead to a less than successful gardening experience for everyone involved.

The solution to these gardening problems can be found through a very simple process called composting. Composting uses the earth's biological cycle of growth and decay to break down organic matter into a soil-like material called compost (Black Gold) or humus. The organisms that make composting possible include beneficial decomposers such as bacteria, fungi, and larger organisms such as worms, sow bugs, millipedes, and nematodes. The finished compost is a free soil additive that provides vital nutrients to help plants grow, loosens compacted soil, and improves drainage over time. It is also a great way to learn about all types of creepy, crawly wildlife that lives in and around the compost pile.

To get started with your own composting project, you will need a supply of organic material. A great source of this raw material is yard waste such as leaves, grass clippings, wood chips, spoiled straw and hay or any other plant material that people discard everyday. Yard waste also makes up approximately 18 percent of municipal solid waste. While you are improving your gardens, you are also helping to reduce municipal waste costs by removing yard waste from the local landfill.

## Elements

For your composting project to thrive and be successful, you must provide the decomposing organisms with four key elements; nitrogen, carbon, moisture, and oxygen. These elements can be provided by mixing a variety of organic materials from the following three categories:

**Energy materials** provide nitrogen and high-energy carbon compounds that support quick microbial growth. This group includes grass clippings, fruit and vegetable scraps, garden trimmings, and fresh cattle, chicken, or rabbit manure.

**Bulking agents** are a dry, porous material that enables oxygen to reach the inner parts of the compost pile. This group includes wood chips, sawdust, wheat straw, small woody branches, and corn stalks.

**Balanced raw materials** contain a balance of energy and bulking agent characteristics which allows them to compost easily. This group includes ground up tree and shrub trimmings, horse manure and bedding, deciduous leaves and spoiled hay.

When mixing these materials together, for best results, you will want a one part energy source with two parts bulking agent (by volume) for rapid composting. If you use too much of the energy material, the pile will probably stay too wet and dense to allow oxygen to reach the inside of the pile, therefore slowing down decomposition and possibly even creating an unpleasant rotting smell. If the pile contains too much of the bulking agent, then the pile will be too low in moisture and nutrients to decompose quickly.

## Tips for creating the most efficient composting system:

- Smaller particles are better as they have more surface area for microbial activity which causes them to decompose faster and are easier to mix and turn in a pile.
- Mix the different materials together at the start and avoid placing the different materials in layers.
- Make your pile large (one cubic yard). It will hold heat better and the hotter you can keep the pile, the faster decay takes place.
- Keep the pile moist, not wet, as water is necessary for decay to take place.
- All of the microorganisms that help with decomposition need oxygen. Use bulking agents to create a porous pile and turn the pile to improve aeration.
- Don't be tricked into believing that you must add a packaged compost starter. If you feel you need to add some type of starter, just add a little finished compost.
- The microorganisms will need nutrients (such as nitrogen, phosphorus, and sulfur) to grow and reproduce. These nutrients are available in the raw materials used in composting, but can also be supplemented by adding either organic or inorganic fertilizers.

## Structures

When starting your composting project, you will need to decide on what type of structure you want to use to contain your compost. There are several popular structures which are described below and will help you get started in making your own "Black Gold."

**Simple compost pile** is a pile of raw materials whose dimensions are at least 3x3x3 ft. This type of pile is normally domed shaped. It is easy to turn, but can be somewhat unsightly.

**Wire hoop compost bin** is made from taking a piece of wire fencing and forming a hoop out of it. To figure how much fencing you need,

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multiply the diameter you want by 3.14 and this will give you your length of fence needed. When you want to turn the pile, pull the hoop off and then fork the composting material back into the hoop.

**Rotating barrel composter** is nothing more than a barrel that has drainage holes and can be rotated on its side.

**Three-chambered compost bins** can be made from cement blocks, or lumber. Regardless of which type of material used, it is normally constructed as a three-chambered bin. This allows you to start the raw material in one bin and then over time, as it decomposes you can move it down the line into the second bin and finally when it gets to the third bin, the compost is ready to be used.

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*If you are interested in finding out more about composting or how to build your own composting system, please contact your local Alabama Cooperative Extension System office ([www.aces.edu](http://www.aces.edu)).*

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