Town of North Hempstead

Composting Guide

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What is Composting?

Composting is the mixing of yard and household organic waste in a pile or bin that provide conditions to encourage decomposition. Decomposition is fueled by many different organisms (ex. earthworms, insects, bacteria, fungi) that live in the compost pile, continuously consuming and recycling waste to produce a valuable nutrient rich soil amendment.

Benefits of Composting

- Composting reduces the amount of organic waste that ends up in landfills or combustion facilities.
- It can help reduce the use of synthetic fertilizers, which can be harmful if they get into local waterways as well as groundwater.
- Compost contains nutrients that plants need for optimum growth, such as nitrogen, phosphorus, and potassium.
- The organic matter in compost binds with soil particles (sand, silt, and clay) to form small aggregates, or crumbs that increase the water and oxygen holding capacity of the soil, making it available to plants as they need it and improving soil drainage.
- Compost also acts as an inoculant to soil by adding microorganisms and attracting earthworms and insects, which are soil builders.
- Compost neutralizes various soil toxins and metals, such as cadmium and lead, by bonding with them so they can't be taken up by plants.
- It regulates the pH of soil thereby improving the ability of plants to take in nutrients (at certain pHs nutrients become less available and at a neutral pH most plants take up nutrients well).

Composter Parts

The composter you will be receiving is a tumbler called the Compost Wizard Jr. by Good Ideas. Parts include:

- Lid- twists on and off; where you will be putting your materials for composting.
- Drum- cylindrical in shape; where the compost will be created; spins on base for easy turning
- Base- has wheels so that the main drum spins on it and allows you to turn the composter to help the materials breakdown and add oxygen.
- Holes on the side of bin- allow oxygen to enter the bin, which is needed for decomposers to break materials down.

Adding Materials

It is important to include a mixture of brown fibrous ingredients, which are carbon (C) rich, and greens, which are nitrogen (N) rich. All organic matter is made up of carbon and nitrogen. The balance of these two elements in an organism is called the carbon-to-nitrogen ratio (C:N ratio). For best performance, the compost, and microbes within it require the correct proportion of carbon for energy and nitrogen for protein production. A good rule of thumb is adding 2 parts browns for every 1 part greens to your compost, but you may need to adjust this over time. It is also important to add a cup of soil from your yard into the composter to inoculate your compost. This adds beneficial microbes that are already in the soil to get the decomposition process started.

There are different methods for adding materials to your bin. One would be to keep adding them until it is still comfortable to turn and then stop to let everything in the composter breakdown. The finished compost can then be taken out all at once for use. Another way would be to keep adding materials continuously and then use your hands or a sieve to separate the finished compost from the materials that haven’t broken down yet. You can choose which method works best for your habits.

What to Compost	
Browns = High Carbon	***Greens = High Nitrogen***
Dried Leaves	Vegetable scraps
Newspaper, shredded	Fruit pits/peels
Peanut shells	Coffee grounds
Egg shells	Grass clippings
Dried grass clippings	Leafy plant trimmings
Cardboard, shredded	Algae
Corn stalks	Clover
Pine needles	Hops, used
Sawdust	Manures
Twigs	Seaweed
Straw	
Wood chips	
Wood ashes	

What Not to Compost

Coal Ash: Contains sulfur and iron in amounts high enough to damage plants.
Colored Paper: Some paper with colored inks (including newsprint) contains heavy metals or other toxic materials.
Diseased Plants: If the disease organisms are not destroyed, they can be spread when the compost is applied.
Inorganic Materials: Don't use aluminum foil, glass, plastics, or metals. Pressure-treated lumber should also be avoided because it is treated with chemicals that could be toxic.
Meat, Bones, Fish, Fats, and Dairy: These will not breakdown in a small composter since temperatures won't get high enough and can therefore cause odors and attract animals.
Pet Waste: Dog and cat wastes contain several disease organisms.
Synthetic Chemicals: Certain lawn and garden chemicals (herbicides, insecticides) can withstand the composting process and remain intact in the finished compost.
Weeds: They can go to seed in compost and their seeds will be spread in your soil.

Proper Moisture and Temperature

The microbes in compost require water for survival, but it can be hard to judge how much water to add and when. The more green material that is put in, the less water is needed. In general compost should be moist, but not soaking wet.

Keeping compost at the right temperature is also important. The organisms responsible for composting generate large amounts of heat, which raises the temperature of the pile or compost bin and speeds up decomposition. A compost pile that is working well will produce temperatures of 140-160ºF. At these temperatures almost all weed seeds and plant diseases are killed. If compost temperatures get higher than 160ºF, beneficial microbes could be killed, which would decrease compost production. Compost in the Compost Wizard Jr. can have temperatures that are lower and should range from 100-150ºF. Therefore, putting weeds in a small pile or bin is not recommended.

Faster Composting

These activities will help speed up the composting process:

1. Chop and shred larger items, which makes it easier for the microbes to break them down.
2. Turn compost as much as possible to provide oxygen and mechanical breakdown of waste.
3. Collect organic waste over a couple of days and then add it all at once. The more you add at one time, the more the compost will heat up.
4. Keep your compost pile or bin in the sun. This will increase temperatures, which allows the microbes to work faster to breakdown materials.

Compost Bin Maintenance

1. Don't fill the drum all the way to the top- the more you fill it the harder it will be to turn and if you can't turn it materials won't breakdown as quickly.
2. Winter Composting- You can compost in the winter, but decomposition will be slower due to lower temperatures and less sunlight. Please note that any liquid in the composter may freeze and could crack the plastic. You can put your bin away for the winter and take it out again in the spring when temperatures warm up.

Using Compost

Compost is finished when it is a dark, rich color, crumbles easily, and you can't pick out any of the original ingredients. It should have a sweet, earthy smell. If it is too stringy or lumpy, it may need more time. It can take anywhere from a few weeks to 12 months to produce compost. Decomposition depends on several factors including temperature, type of organic matter used, model of compost bin, size of materials, how often it is turned, and more. Finished compost can be added to the soil any time of year without the fear of burning plants or polluting water.

Compost should be incorporated by mixing into the soil, but it can also be used as a top-dressing by spreading it in a thick layer on top of exposed soil. Worms and other creatures will help the compost meld with the soil. This is not only an easy way to apply compost, but it also prevents weeds and helps soil retain moisture.

Common Composting Problems

My compost pile has a bad odor.
This may be due to an overabundance of anaerobic microbes. Stirring and turning your compost pile regularly will add oxygen and should put a stop to it.

My pile is damp and has a pleasant smell, but it's not heating up.
The pile is low on nitrogen. Try adding some more greens to your compost.

My compost smells like ammonia.
This is due to too much nitrogen. Add some high carbon materials, like dried leaves, woodchips, peanut shells, or newspaper to the pile and mix them in well.

For more information on composting visit:
https://www.epa.gov/recycle/composting-home
http://www.dec.ny.gov/chemical/8799.html
http://ccenassau.org/gardening/compost-resources
NorthHempsteadNY.gov/Sustainability (see the NYC Master Composter Manual)

For additional questions:
Visit NorthHempsteadNY.gov/Sustainability
or
Email Sustain@northhempsteadny.gov