

Composting 101

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What is Compost?

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- Compost is a soil amendment. It is a nutrient-rich, dark, crumbly material that helps improve soil health and provides essential nutrients to plants. Compost is the result of the natural decomposition process that turns the nutrients from once-living materials into a rich, organic component of soil, humus (HYOUMUS). Humus is created during the production of compost.

What is Composting?

- Composting is the recycling of organic materials or a method of solid waste management whereby the **organic components** of the solid waste stream is **biologically decomposed under controlled conditions** to produce a **valuable end product** (Goldstein, ed., *Biocycle Guide to the Art & Science of Composting*, p.14).

Why Compost?




Benefits of Composting

- Saves money (disposal & soil amendments)
- Helps improve soil quality
- Protects the environment
- Easy and fun!

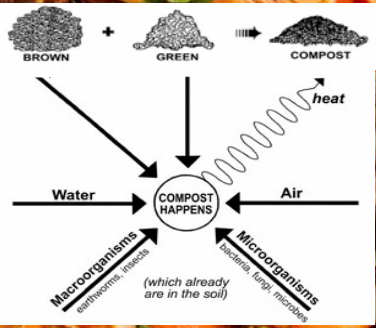


Brown vs. Green Ingredients




- Browns**- dry plant parts (leaves & pine needles) source of carbon
- Green**- fresh (grass clippings, vegetable scraps, weeds) source of nitrogen.

How do you compost?



What to Compost

- Grass Clippings
- Leaves
- Shrub prunings
- Flowers
- Sawdust
- Fruit & Vegetable Scraps
- Coffee grounds/tea bags
- Lint and sweepings
- Pet and human hair
- Small amounts of uncoated paper



Basic Compost Recipe

Ingredients:

- 1/3 Greens
- 2/3 Browns
- Air
- Water

Directions:

Chop greens and browns.
Add air and water. Stir.




Do **Not** Compost

<ul style="list-style-type: none"> • Butter • Bones • Cat/Dog/Bird Manure • Cheese • Chicken • Fish Scraps • Vegetable Oil • Sour Cream 	<ul style="list-style-type: none"> ■ Lard ■ Mayonnaise ■ Meat ■ Milk ■ Oils ■ Peanut Butter ■ Salad Dressing
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These items can all attract **pests, rodents,** and create foul **odors.**

Add Water To The Pile

- Use a squeeze test to be sure your pile has the right amount of water.
- Adding moisture will help to break down materials faster.
- Sprinkle water to adjust the moisture level or add brown material to lower moisture content.



Types of Composting - Residential

- Backyard Composting
 - Slow vs. Fast (next slide)
 - Indoor vs. Outdoor (vermi-composting, thermal unit to outdoor bins)
 - Sheet Composting
 - Trench
 - Com-posthole-ing

Types of Composting

<p>Slow Composting</p> <ul style="list-style-type: none"> • Can use a heap or bin • Add leaves and other compostable materials as they become available. • Easier, less work required • When adding new materials, it is best to blend them into the core. • This method takes 6 months- 2 years to yield compost. 	<p>Fast Composting</p> <ul style="list-style-type: none"> • Build a "hot" heap, hoop or bin. • Requires frequent turning and moisture (1-3 times a week) • Temperatures can reach 120 - 150°F • Ingredients- layered yard trimmings, fruit & vegetable trimmings • Usually takes 1-3 months
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Types of Composting - Commercial

- Commercial
 - Windrows – organic materials are mixed together in long rows (a windrow). As seen at the ACC landfill composting facility.
 - In-vessel - organic materials are fed into a drum, silo, concrete-lined trench, or similar equipment where the environmental conditions—including temperature, moisture, and aeration—are closely controlled.

Types of Compost Structures

Compost Structures: Heaps

- Simple and economical
- Piled on top of each other directly on the ground.
- Materials can be added immediately or stockpiled.



Compost Structures: Hoops

- Usually made from hog wire or hardware cloth.
- Are easy and fairly inexpensive to build.
- Help keep your compost pile tidy.



Compost Structures: Homemade Bins

- Bins-Neatly contain yard trimmings and vegetable/fruit scraps. Can be homemade or store bought.
- Pallets and/or scrap wood can be used
- Garbage can with bottom removed



Compost Structures: Purchased Bins

- Keep optimum size of pile
- Store anywhere
- Hide wastes – aseptics for HOA's.
- Cover Material



Compost Structures: Tumblers

- Ease to tumble and keep compost mixed up
- Low maintenance
- Pest proof
- Avoids odor
- Make compost faster
- Keeps damp in dry conditions & warm in winter



Compost Structures: More Tumblers






Compost Structures: Buckets

- A way for apartment-dwellers or people living in small spaces to compost food wastes inside or outside.
- Use a 5 gallon bucket
- Ingredients: kitchen scraps, dry material (soil, sawdust, peat moss, straw)
- Chop scraps and mix an equal amount of dry material once a week.



Compost Structures: Other Methods

- Bokashi (Bo-ka-shi) – pickling or fermenting your food scraps.
- Electric Thermal Bins – Gardeners Supply Company (one distributor) – www.gardeners.com



Other Tools for Composting

- Kitchen compost collectors (homemade – commercial styles)
- Compost Thermometers






Compost Troubleshooting

Symptoms	Problems	Solution
Bad Odor	Too wet	Add browns
Bad Odor	Not enough air	Turn pile
Center is Dry	Not enough water	Moisten & turn
Only Warm in Middle	Pile too small	Mix into larger pile
Will Not Heat Up	Lack of nitrogen	Mix in N Source

Worm Composting (Vermicomposting)

- What is Vermicomposting?
- Why?
 - Worm castings contain five times more nitrogen, seven times more phosphorus and 11 times more potassium than most garden soil



How to make a worm bin:

- Begin with a lidded container
- Create air holes which are sealed with screen to keep the good in and the bad out
- Make the bedding (newspaper and a small amount of soil) and water to the point of a wrung out sponge
- Add worms
- Begin adding food scraps gradually and dig them into the bedding, rotating corners

What they eat:



The good stuff	Not so tasty
<ul style="list-style-type: none"> • Fruits • Vegetables • Newspaper (shredded) • Cardboard • Leaves from houseplants • Eggshells • Non fatty scraps • Coffee grounds 	<ul style="list-style-type: none"> • Citrus • Peppers • Onions • Manure • Soil in large quantities

- Chop everything as much as possible for faster degradation

Now I want to use my vermicompost!

- Tarp method
- Bright light
- Mesh sack



Want to Learn More?

Athens Area Master Composter program, next class 2013!

Questions?

