

Compost 101: Compost Happens



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Compost Happens

Agenda



- Why Compost? The Many Benefits
- How is it done?
 - Setting up Your Compost Bin
 - What goes in?
 - What stays out?
 - Building Your Pile
- Hot pile vs. cold pile composting
- What is that in my bin?
- Troubleshooting tips
- Harvesting and Use
- Tips and tricks from the CompostGal
- Q&A

The Many Benefits of Composting and Using Compost

- ◎ **Helps build healthy soil**
 - Retains water in the soil longer, reduces the need to water more often
 - Reduces plant stress from fluctuating water and temperature levels
 - Releases nutrients slowly to feed your plants longer
 - Helps to aerate clay soils and clump together sandy soils
 - Balances the pH of your soil

The Many Benefits of Composting and Using Compost

Diverts waste from the landfill

- Organic wastes in landfill decompose without oxygen leading to an increase of GHG
- You can close the loop on most of your organic wastes by composting at home

Reduces erosion

- The addition of compost to soils make it so water can pass easily (esp. clay soils), so soil stays in place and does not run off

The Many Benefits of Composting and Using Compost

Reduces GHG

- **Methane**-from anaerobic decomposition in the landfill
- **Carbon Monoxide**-from transportation of organic materials
- Sequesters Carbon in the soil when applied aka Carbon Farming

Saves \$\$

- The best compost is the one you make at home
- You'll be recycling materials already on hand in your home/garden

So....how is it done?

◎ Basic Compost Recipe

- **Browns** + **Greens** + Air + **Water** + Time = **COMPOST**
- 50/50 by visual inspection (30:1 C:N ratio)
- **Water**: damp as a wrung out sponge
- **Air**: aerate, **DO NOT** turn
- **Time**: depending on the composter...

”Compost Happens”

Setting Up Your Compost Bin

- Purchase, upcycle or build your bin
- Location, location:
 - Site your bin in a shady locale if possible
 - Bins work best if placed on top of soil
- No-fuss/yard waste only piles. No need for a bin as long as you aren't adding food scraps
- Please make sure your bin has a lid or some sort of covering



My Biostack at Home

- Make sure your bin has a base or make it rodent-resistant if you are incorporating food scraps



Just a quick word about compost tumblers

Most do not connect to the ground so less access to all those
compost critters

Heavy when you have to turn

Dry out quickly, slowing down decomposition

Made for batch composting, not good for

“constant adders”

Expensive!!!!

My mom bought a tumbler and it broke, so.....



Browns and Greens

(what goes in)

Carbon source-generally dry, brittle materials

- Dried leaves
- Straw
- Wood ashes (in small amounts)
- Wood (branches, sawdust, chipped wood)
- Newspaper
- Cardboard
- Pine needles
- Dryer lint

Nitrogen source-generally fresh and wet materials

- Grass clippings from untreated lawns
- Tea leaves/coffee grounds
- Egg shells
- Food scraps
- Weeds without seeds
- Herbivore manure
 - Cow, horse, guinea pig, rabbit and chicken
- Hair/fur/feathers



What stays out!!

Treated wood
(*pallets, furniture,
etc*)

Charcoal

Feces from cats,
dogs and tropical
birds

Meat, dairy, grains
and cooked food

Oil or grease

Noxious weeds:
Vinca, Ivy,
Bermuda grass,
Oxalis, blackberry

Any toxic
substance

Glossy paper

Diseased plants

Mulch from:
Eucalyptus &
Walnut trees



Pile building...by the Steps

Start with a brown (*branches and large wood pieces make a great start*)

Add green material on top and in equal amounts as the browns

Add water and aerate through each layer

Finish with a brown (*you should always see a brown when you open the bin*)

CHOP, MIX and MAINTAIN

Hot pile vs. cold pile

- ⦿ Thermophillic (104-170°) bacteria run the show for the first 1-3 days of building a hot pile
- ⦿ Pathogens and weed seeds can generally be killed off in a hot pile
- ⦿ Faster decomposition
- ⦿ Mesophillic (40-110 °) bacteria are your day-to-day in this pile
- ⦿ You get lots of worms
- ⦿ Less turning of the pile
- ⦿ More effective at preventing “dampening off” disease for seedlings

Hot piles are 3'x3'x3' or larger

Cold piles are any size

Compost Critters and the Friends of Decomposition



Who else is invited to the party?

- They perform the primary decomposition to the pile
- Saprophytic-living on decayed vegetable matter
- “Half-breed”: part bacteria, part fungus
- Produce grey, cobweb growth that gives compost its’ earthy smell

Fungi

Actinomycetes

Who else is invited to the party?

Soldier Fly Larvae

- ◎ Break down green materials like a champ especially coffee grounds and manures!!



Who else is invited to the party?

Sowbugs

- Shred materials to make it easier for fungi and bacteria to break down



Who else is invited to the party?



Worms

Have a mucus film that binds soil aggregates together

Leave their wonderful castings behind to enrich your compost

Got issues?

Troubleshooting

Smelly? → Too wet or wrong "greens" in pile

Fruit flies? → Too wet or unburied "greens"

Nothing is happening → Decomposition has stalled → Balance of brown vs. greens may be off or needs more moisture

Bugs!!! → Bugs are an important part of the composting process

Unwanted guests? → Remove offending materials, secure lids and under bin with mesh, bungee cords or bricks

Harvesting your compost

- ⦿ How do you know it's ready?
- ⦿ What do I do with it?
 - Remove from compost bin and sift (*optional*)
 - Store in a pile and cover until ready to use



Using your compost

Top

Top dress: to prep for new plantings
• 2 inches laid on top of soil and raked in

Side

Side dress: added around existing plants during the growing period, especially at flowering and fruiting times

Backfill

Backfill: 1 part compost to 3-5 parts soil
• Great when planting trees and shrubs

Dig in

Dig in: 2-4 inches of compost mixed into top 6-12 inches of soil
• This treatment works great after double digging

Mulching

Sheet Mulching: 2 inches between cardboard and mulch

Tips and tricks

- “Bank” your browns in the Fall
 - Collect leaves and store dry for use in Spring/Summer
- Magic of chicken manure
- Compost Thermometers
- Coast Live Oak leaves work amazing in your compost bin!! Use occasionally.
- Diversity of feed stock is important, so mix it up!
- FREE squash and tomato plants!!!



Happy Composting!!!



Thank you!!!