Composting:
Turn Waste into Treasure (Black Gold)

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Outline

- Who are we
- What is compost
- Basic composting
- Benefits of compost
- Composting in US and California
- Application of compost
- Infrastructure
- Where to compost
- Getting started – step by step
- Critters in the compost pile
- Trouble shooting
- Hot composting vs cold composting

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Master Composter Program of Santa Clara County

- Training on an even year (2016; 2018)
- Composting Education Program
- Monthly composting workshops at various locations
- City support on discounted bins, etc.
- School garden education
- **ROT-line 408-918-4640**
- **There are many available resources – info on hand outs …**

What is compost?

Compost consists of

- Nutrients
- Minerals
- Microbiology
- Organic matter
- Humic substances

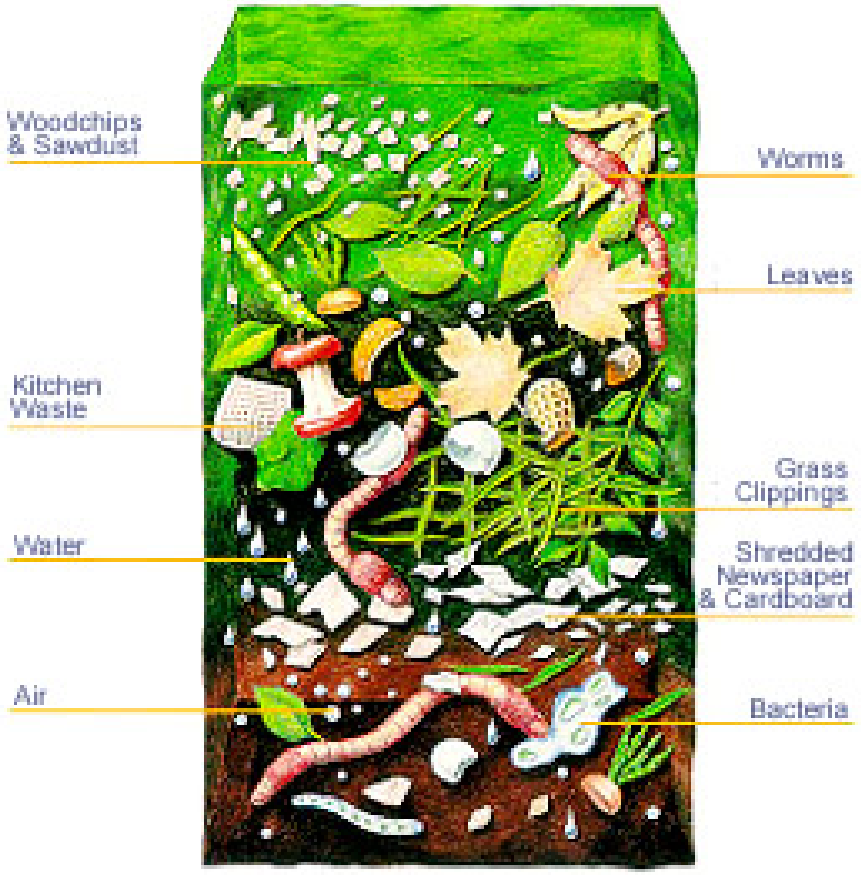
Brown (Carbon) + Green (Nitrogen) + Soil
Air + Moisture + Time = COMPOST

Fungus, Bacteria, and Invertebrates (F.B.I.)

- Building a compost pile is constructing an incubator for the F.B.I.
- The F.B.I. consumes and breaks down green material and brown material
- Conditions such as moisture and temperature are important to F.B.I.'s health
- The F.B.I. transforms organic matter into a nutrient rich soil amendment
- This nutrient rich soil amendment is often referred to as HUMUS

Basic Composting

- Compost: a decayed mixture of plants (such as leaves and grass) that is used to improve the soil in a garden
- Composting is nature's way of recycling!



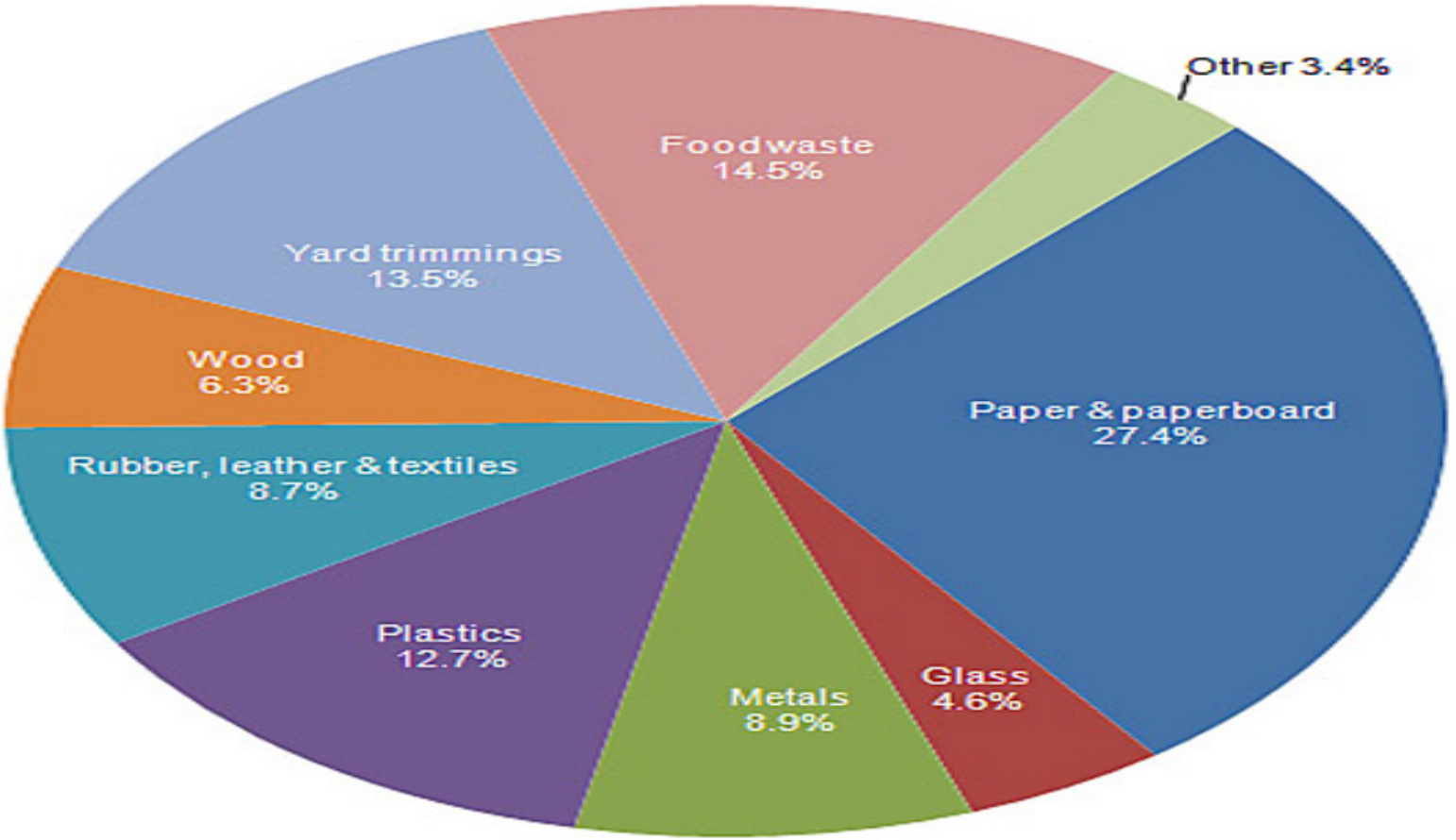
http://bloggingbishop.com/taxonomy/term/283

Benefits of Compost

- Soil fertility
- Waste diversion
- Water retention & quality
- Carbon sequestration
- Pathogen suppression by bio-filtration

http://sjmastergardeners.ucanr.edu/Composting_/

Figure 5. Total MSW Generation (by material), 2012
251 Million Tons (before recycling)



Environmental Protection Agency- https://www.epa.gov/smm/advancing-sustainable-materials-management-facts-figures

Composting in California

- California generates 15 million tons of compostable organics annually
- It comprises 34% of the waste stream
- There are 115 existing composting facilities
- The state wants to open 100+ new facilities

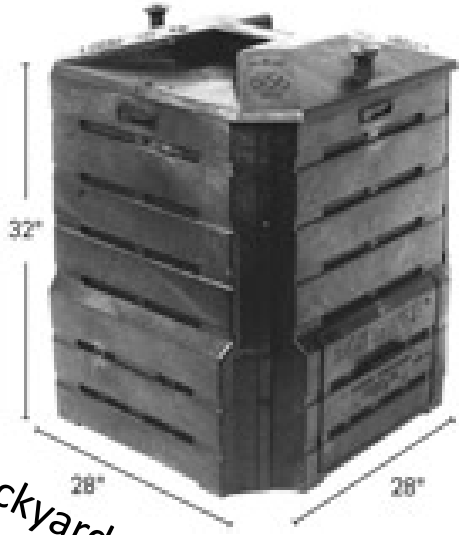
Application of Compost

- Garden: One to two inches on the surface with each planting (twice per year). Mix it into the top few inches of soil. Optionally, use an additional two to three inches as a mulch.
- Trees: One to two inches lightly raked into the topsoil.

Choose a System

- Food Waste & Yard Trimmings
  - Rodent-resistant bins
  - Open piles & Simple bins

- Food Waste Only
  - Worm bins
  - $50 Each (San Jose residents)



Soil saver backyard compost system

Wiggler wranch

http://.sanjose.gov/index.aspx?NID=2191

Size & Infrastructure

Home-made structure (3 bays)

Turning drum

Bio-stack

Home-made pallet structure

Open pile

Mesh or hardware cloth cylinder

Where to Compost

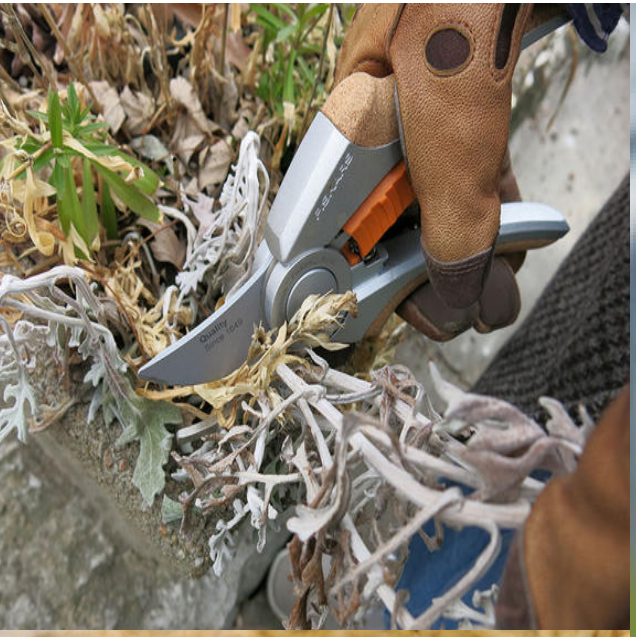
- Convenient access
- Near water source
- Away from home or building
- Shade (part sun)
- Away from access to pests
- Ease of pile maintenance

Compost Recipe

Brown (Carbon) + Green (Nitrogen) +
Air + Water + Time

=

Finish Compost!



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Material Preparation

BROWN

- ✓ leaves
- ✓ hay & straw
- ✓ paper & cardboard
- ✓ woody prunings
- ✓ eggshells
- ✓ tea bags
- ✓ sawdust

GREEN

- ✓ vegetable peelings
- ✓ fruit peelings
- ✓ grass clippings
- ✓ coffee grounds
- ✓ green plant cuttings
- ✓ annual weeds
- ✓ young hedge trimmings

NO GO

- ✗ meat & bones
- ✗ poultry & fish
- ✗ fatty food waste
- ✗ whole eggs
- ✗ dairy products
- ✗ human & pet feces
- ✗ pernicious weeds
- ✗ treated wood

Follow the Basics 1-2-3

1. Chop materials
2. Layering browns & greens (1:1)
3. Maintain water & air (50%)

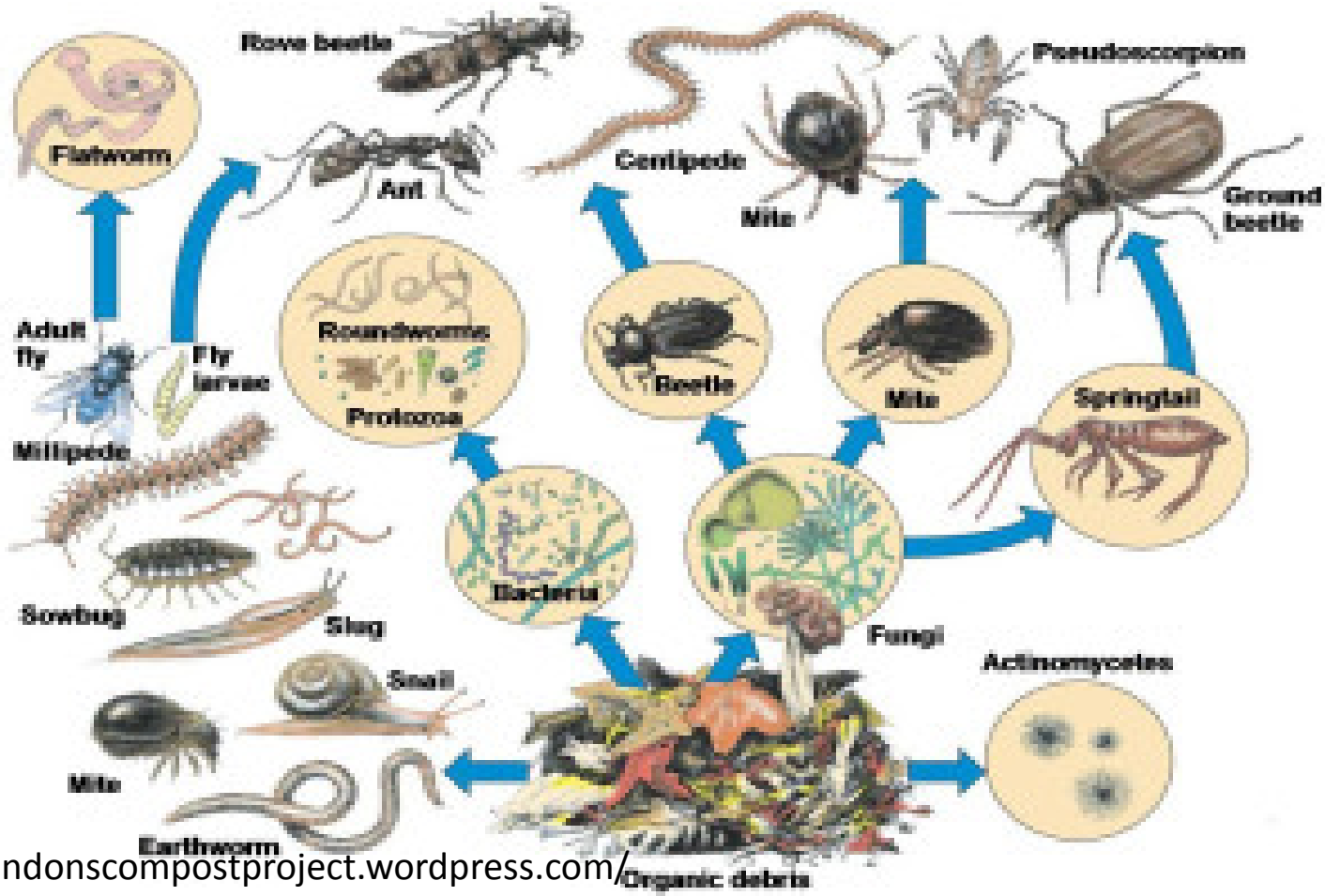
Getting Started Step by Step

1. Choose a location
2. Add materials (Brown-Green-Brown, always)*
3. Maintain water & air (50%)
4. Be patient!

Tips & Tricks

- ‘Free’ greens from Starbucks, Jamba juice
- ‘Bank’ your browns in the fall
  - Collecting dry leaves
- Speed up by adding chicken manure
- Always bury kitchen scraps within the pile
- Start and end with layers of browns

Critters in Compost Pile



https://brandonscompostproject.wordpress.com/

Trouble-shooting

- Rodents
  - Meat
  - Oily or greasy foods
  - Cooked foods
- Smelly pile
  - Excess green (nitrogen)
  - Excess moisture
- Material composting slowly
  - Too dry
  - Carbon nitrogen imbalance
  - Pile not turned

Hot pile vs. Cold pile

- Thermophillic 140-200F
- Hot for a few days

- Pros:
  - Faster (weeks-months)
  - Kill pathogens and weed seeds
- Cons:
  - More labor intensive

- Mesophillic 40-110F
- Medium temperatures

- Pros:
  - Less labor intensive
  - More worm friendly
- Cons:
  - Slower (months-year)

http://www.rbnc.org/composting.htm

Happy Composting ☺

The End

http://compostpilotprojectucsb.blogspot.com/

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Master Composter Program of Santa Clara County

- Composting and vermicomposting workshops
- http://cesantaclara.ucanr.edu/Home_Composting Education/
- Composting video series
- http://cesantaclara.ucanr.edu/Home_Composting_Education/Composting_Video_Series_/
- Where to get compost
- http://cesantaclara.ucanr.edu/Home_Composting _Education/Where_to_Get_Compost/

University of California Cooperative Extension (UCCE)
Master Gardener Program of Santa Clara County

- University of California trained volunteers
- Hotline: Call, walk in, e-mail, 408-282-3105 mgsantaclara@yahoo.com
- Demonstration & research gardens
- Events, Spring & Fall Garden Market, classes, School gardening workshops, demonstration and teaching gardens, school garden support, integrated pest management info, speaker's bureau

University of California Cooperative Extension (UCCE)
Master Gardener Program of Santa Clara County

- Master Gardeners of Santa Clara County
  http://mgsantaclara.ucanr.edu/
- Master Gardener events and classes
  http://mgsantaclara.ucanr.edu/events/
- UC Agriculture and Natural Resources
  http://ucanr.edu/
- Soil Science Society of America
  https://www.soils.org/home