



COMPOSTING 102

LET'S GET ROTTING



WHY COMPOST?



Soil
Health

COMPOST
IMPROVES SOIL



COMPOST IS
A VALUABLE
RESOURCE



FOOD WASTE MAKES
UP 15% OF
WASTE STREAM





WHAT DO I NEED TO START?



A **PLAN**: Audit- How much food waste do you produce? Yard Waste? Animal waste? What needs do you have?

SPACE: Your compost pile needs to be a minimum of 3'x3'x3' and no larger than 5'x5'x5'. If it is too small it won't retain heat.


CARBON SOURCES: Fall is a great time to prepare a bin because carbon sources are more plentiful. Store these sources for future use. Trash cans/bags, wood bins, a pile with a cover, etc.

NITROGEN SOURCES: Typically easier to come by, particularly in summer and spring.

COMPOST THERMOMETER to ensure process is occurring - breakdown of organic matter produces heat (140-160 F). You can turn the pile and see steam, or FEEL THE HEAT if it's working.

PITCHFORK or **compost turner** is necessary for turning

WATER SOURCE: necessary to keep compost pile moist. Rain water can be efficient if designed properly. Hose, bottle, etc.



WAYS TO COMPOST



ENCLOSED CONTAINERS

- Upright bins- require strategic layering
- Tumblers- simple to add and turn, can be costly



FREE STANDING PILES

- Fenced area may work best.
- Allows for soil bacteria/fungi to penetrate compost
- Use carbon source, such as tree limbs, in log cabin formation on bottom,
- Pile must be large enough for breakdown to occur (3x3x3ft is minimum)



HOMEMADE STRUCTURE

- chicken wire, cinder blocks, wooden structure, etc.
- Suburban and urban areas: Check with HOA before beginning any type of pile.

BROWNS

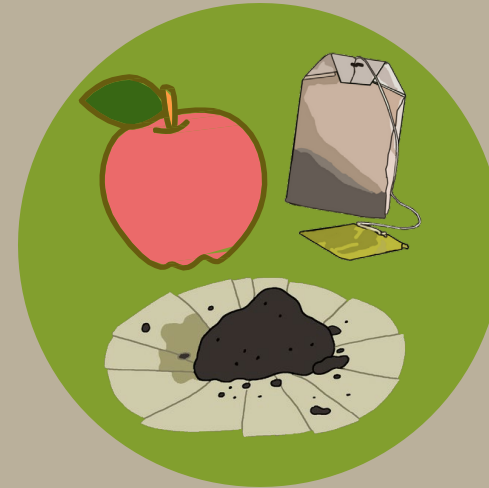
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GREENS



CARBON SOURCES(60%)

- Dead leaves
- Pine cones/ Pine needles
- Shredded paper/Cardboard
- Wood chips
- Hay
- Mulch
- sticks and branches
- Egg shells
- Paper towel



NITROGEN SOURCES (40%)

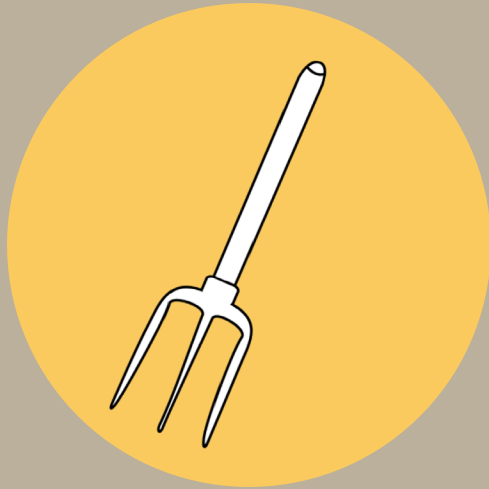
- Vegetable waste (e.g. peels)
- Fruit waste
- Coffee grounds + filter
- Tea bags
- green leaves/grass trimmings
- Table scraps
- Old flower bouquets
- Pet hair

BIN PLACEMENT

- Consider your space: Sun, water, relationships in the landscape. (Flow patterns.)
- Consider access (from kitchen/bar to garden or compost area.)
- Hazards of temperature - Can get hot!
- Check HOA rules

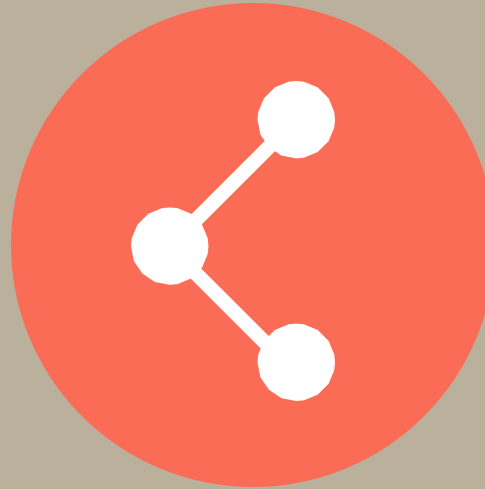


COMPOSTING FACTORS



TURNING

- Allow for aeration
- Needed for aerobic digestion
- Distributes moisture
Tumblers- 3-4 days
Piles- 3-7 days
- Pests, smelly compost, and slow decomposition rate indicating turning may be needed



PARTICLE SIZE

- Microbial activity takes place on organic material surface (where there is water and food there is life)
- Cutting down pieces to increase surface area will improve composting (i.e. chipped and shredded)
- Too small will decrease aeration and allow for compaction



MOISTURE

- Will allow for waste to compost faster
- You should not have pooling water
- Should be 40-60 % moisture (wrung out sponge)
- Balance: too much water decreases available Oxygen, but organisms also need water for decomposition.
- Slow decomposition may indicate water is needed.

STEPS OF COMPOSTING

1

Layer carbon sources that will allow for aeration on the bottom, such as medium- small branches, corn stalks, or shredded cardboard. This layer should be about 5-7" thick and no smaller than 3'x3'x3'

2

Add a layer of green (Nitrogen) material. This layer should be about 2-4" thick. Moderately shredding the material before adding it to the pile will improve the rate of composting. Hose down the pile lightly, so it is about the consistency of a wrung-out sponge.

3

Add some natural, yard topsoil to introduce Native microbial life into your compost pile. This is especially important if you are building a pile on a pallet, elevated from the ground, or in a composting bin.

4

Continue layers with your smaller carbon sources (e.g. newspaper, sawdust, smaller sticks) and nitrogen sources. Maintain the 5-7" and 2-4" layers of each type. Build up the pile until it is at least 3' high.

5

Hose down your entire pile when done so it is a damp sponge consistency. Let the pile sit, monitor temperature (must be $110 <$ and < 150).

6

Continue to turn your pile periodically until it is ready. A small pile assembled in the fall should be ready to use in 3 or 4 months. Steam from your pile should be expected in cooler months.



USE YOUR NOSE

Bad Compost Pile Smells



Good Compost Pile Smells





COMPOSTING THROUGH SEASONS



The core of your pile should remain active in the winter, but continue to maintain brown:green ratio.



You can allow the pile to go dormant in the winter months, but it should be covered.



Be sure the bin does not get too wet. Cover piles if they are too moist, or open drain holes in tumbler bins.



If interested in year-round composting, closed bin tumblers are easiest.



Piles should be covered with tarps and insulated with straw. Be aware that critters may burrow in piles. Putting the pile in a sunny location will help control moisture problems and keep microbes alive over winter.



WHO'S IN MY COMPOST BIN



WOODLICE/
ROLLY POLLY



WORMS



RODENTS



ANTS



RACCOONS



MILLIPEDES



SLUGS



FLIES

WORMS WORMS WORMS

- In just 6 months, 8 worms will multiply into 1500 if conditions are right.
- DON'T WORRY...
- They will stop breeding if there isn't enough food or space.



WORM CASTING USES

House plants (ornamentals)

Herb garden

Outdoor gardens

Compost tea



BEDDING

Cardboard (shredded)

Newspaper (Not bleached office paper or colored paper)

Coconut Fiber (Coir)

Old leaves

-Wood chips

Native soil/dirt

WORM FOOD

- Worms can eat ½ their body weight per day!!!
- Food Scraps - NOT FRESH FOOD
- Dig hole in center, or rotate sides in which to feed.
- Cover with ½ inch of bedding of shredded paper when complete. You must cover the food for them to eat it.





MAKING YOUR BIN

1. Drill Holes.

Use a drill bit to drill in the top for aeration – 1/4” – 1/2” hole

(if stacking two bins drill holes in the bottom of the inside bin too)

2. Add Bedding.

First lay wet cardboard or newspaper (shredded)

Add coconut coir and spray with water

3. Add Worms.

Add the worms into the bin and spray lightly

4. Add shredded paper on top of bedding.

This will help with moisture control (but still spray this layer lightly)

Close lid tightly when finished

CARE AND MAINTENANCE

1

Maintain moisture with a spray bottle. (should be like a wet sponge wrung out-not dripping wet)

2

Harvest casting from the bottom of the bin (Use directly on plants, or make tea)

3

Place "escape worms" back in bin

4

Maintain 40-90 degrees Fahrenheit (ideally 55-77)

5

When bedding has turned into mostly worm castings, refrain from feeding for about a week before harvesting it

COMMON MISTAKES

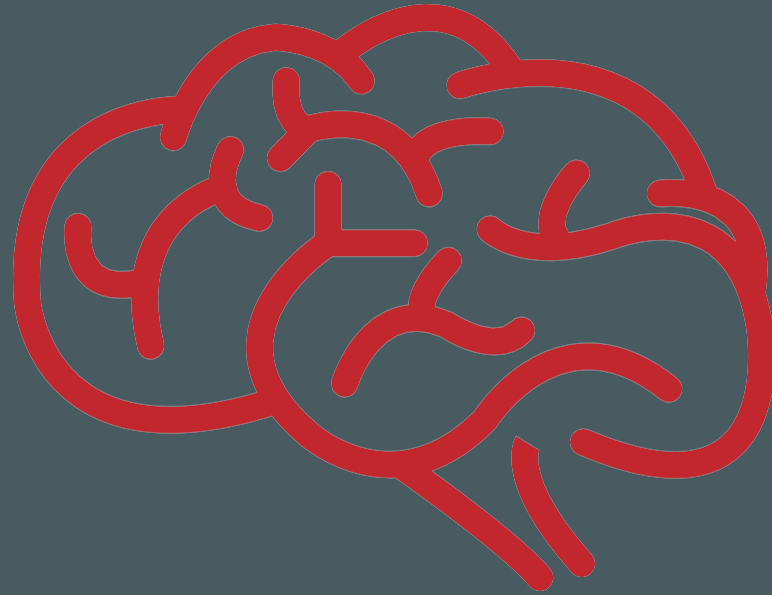
Do not overfeed the worms!!!

Overfeeding causes unwanted pests, smells, and mold. If there is still recognizable food, do not add more

Only use Red Wigglers-
Night Crawlers,
Earthworms, and European
Red Wigglers (larger) will
not get the job done

Start by treating them as
pets first, then composters

Be sure to add some grit
substance to help the
worms eat



QUESTIONS