



Composting Simplified:

Basics, Hints, and Helps

Brian Schlaefli

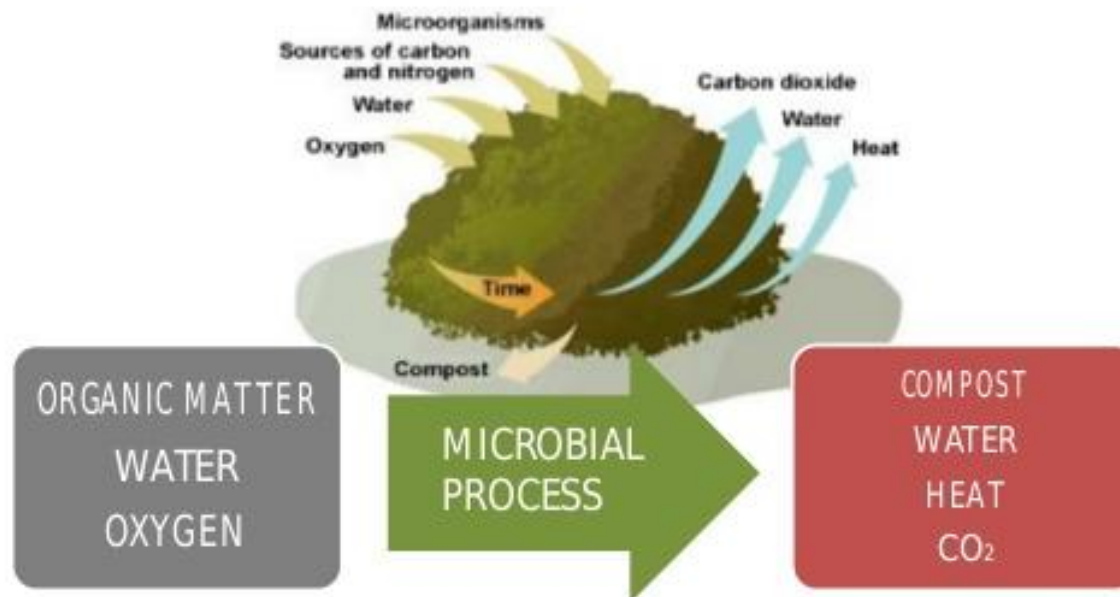
Cowlitz County Master Gardeners

March 30, 2021

Simplified Composting; but, the science of composting is complex.

(But not within scope of this presentation)

COMPOSTING PROCESS



Want to get more technical?

Lots and lots and lots of resources...

Composting

22

Topics covered:

- Introduction
- Managing the Decay Process
- Raw Materials
- Other Factors Affecting the Composting Process
- Health and Safety Concerns
- How to Make Compost
- Slow Composting
- Fast Composting
- Troubleshooting
- Using Compost
- Reversing Soil Mulching
- Vermicomposting
- Supplies for Vermicomposting
- Worm Bin Management
- Harvesting the Vermicompost
- Summary

Learning Objectives

- Realize the importance of composting for improving garden soils as well as for reducing the amount of waste in landfills or other waste treatment facilities.
- Understand the biological principles of the composting process.
- Understand effective methods and suitable materials for successful composting.


By

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Backyard Composting

WASHINGTON STATE UNIVERSITY EXTENSION • EB1784E



CRAIG C. COGGER & DAN M. SULLIVAN

WASHINGTON STATE UNIVERSITY EXTENSION

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Advanced Composting for Beginners

LINDA J. BREWER
DEPARTMENT OF HORTICULTURE
OREGON STATE UNIVERSITY

Composting

- * Basics
- * Tips
- * Tricks

WSU Cowlitz County
Master Gardeners Composters

Reduce
Reuse
Recycle



[Advanced Composting for Beginners \(oregonstate.edu\)](http://oregonstate.edu)

[wrkngmulch.png \(825x485\) \(ca.gov\)](http://wrkngmulch.png)

[Compost stuff \(oregonstate.edu\)](http://oregonstate.edu)

Composting Simplified: turning kitchen waste and yard waste into a mulch and soil amendment for the practitioner




Hot composting vs. Cold Composting
(Active vs. Passive)
We will cover hot composting


Why bother to compost?



Composting: Saves \$

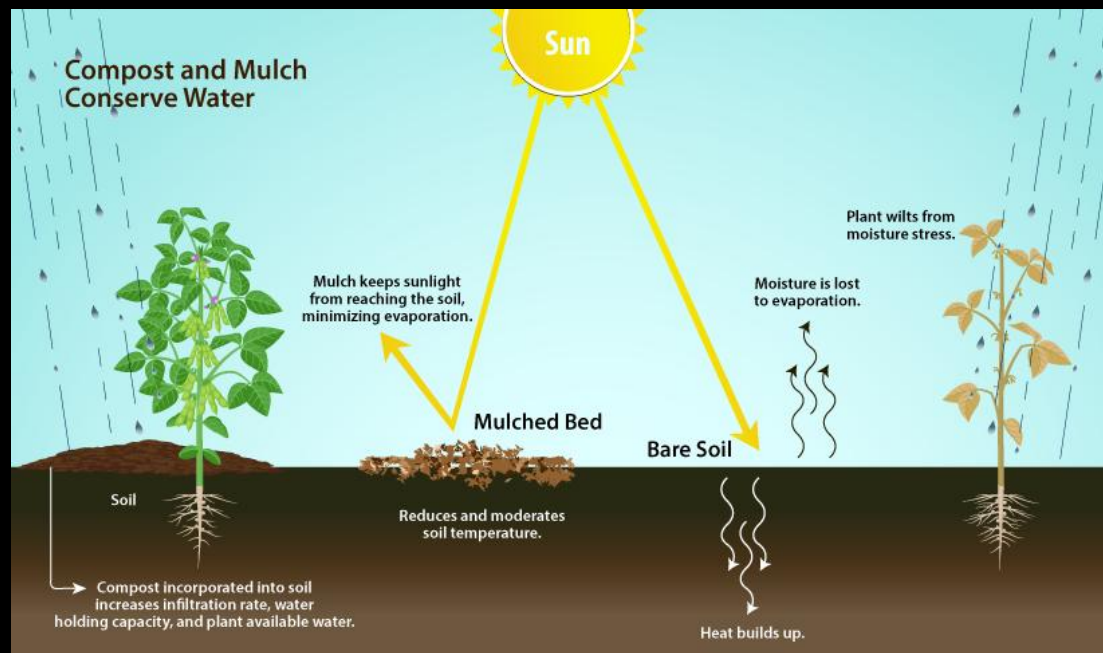
- 
- Soil amendments can be expensive
 - Kitchen and garden wastes add to household garbage rates and/or the overall cost of garbage service for everyone to deal with compostables

Composting: Environmentally Friendly

- 
- Reduce the need for chemical fertilizers.
 - Reduce methane emissions from landfills and lower your carbon footprint.

Composting: Saves on watering

- For each percent of organic matter added to a cubic foot of soil, roughly 1.5 quarts of plant-available can be retained.
- Compost as a top mulch reduces the surface evaporation of water



Composting: Adds Value to Your Garbage



- Yard waste and kitchen waste can comprise 20% or more of household garbage.
- Composting produces valuable organic matter for your soil while reducing waste going to landfills or into burn piles.

Composting: Helps to grow an amazing garden and yummy veggies!



What can be composted?

“Green” (higher N)	“Brown” (higher C)	“Balanced”
Grass clippings	Wood chips	Ground up tree and shrub trimmings
Dairy, chicken, or rabbit manure	Sawdust	Horse manure mixed with bedding
Fruit and vegetable waste	Grass hay	Deciduous leaves
Garden trimmings	Wheat straw	Legume hay (pea, vetch, etc.)
Coffee grounds; tea leaves	Corn stalks	
	Shredded newspaper	

What can be composted?

Rule of Thumb for manures:

NO!	<i>Yes!</i>
	
Predator species	Prey species

What can be composted?

Tomato plants

Mowed leaves

Dahlias, etc.

Mulched leaves

Leaves
(before mower
mulching)

Grass





**Kitchen scraps
(don't forget!)**

Shhh!!!



“And, remember, free is a very good price!”
Tom Petersen, Appliance Store Ad (circa 1960s)

**Not recommended
for composting...**



What not to compost...

Can create odor or attracts pests

Dairy products

Bones and scraps from meat or fish

Fats, lard, oils

Might survive composting process

Diseased or insect-ridden plants

Certain weed seeds and certain weed roots or stems (cold composting)

Might contain harmful agents

Pet dog or cat waste; including soiled cat litter

Yard trimmings treated with chemical pesticides (might persist)

How to compost?... first, some basics

Compost: A Three-legged Stool

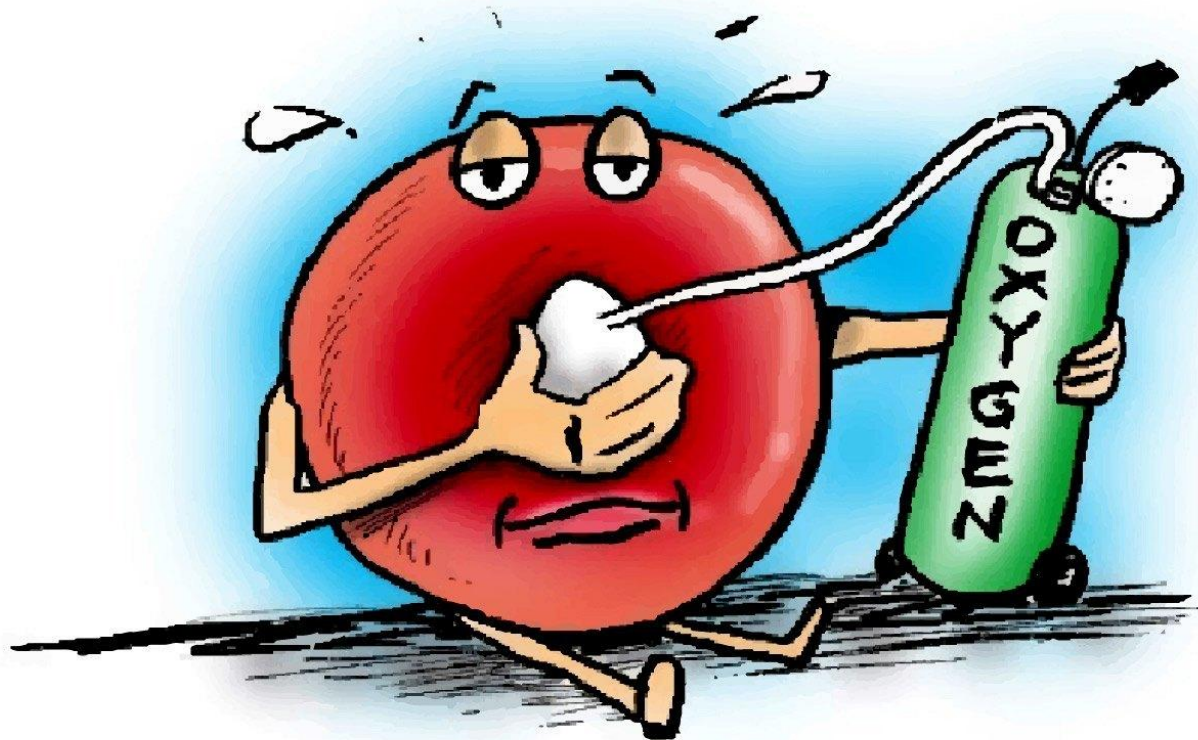


Air (oxygen)

Compost: A Three-legged Stool



The microorganisms that do the work need to “breathe” ... O_2 to live



Water

Compost: A Three-legged Stool



They also need water to survive, but not too much or too little.



- Materials should be damp and not soaking wet.
- Materials should feel like a damp sponge but not able to squeeze water out.

Food

Compost: A Three-legged Stool



Remember to keep the “little guys” fed, but give them a balanced diet!



Your compost pile will thrive with a balanced diet

Your pile will struggle if not balanced.

C:N ratio (a.k.a. brown : green)

Compost: A Three-legged Stool



The ideal
C : N ratio
is 30:1

Material	C:N ratio
Wood chips	641:1
Corrugated cardboard	563:1
Sawdust	500:1
Rotted sawdust	208:1
Newspaper	170:1
Wheat straw	128:1
Dried leaves	70:1
Corn stalks	60:1
Horse manure with litter	60:1
Pine needles	60:1 to 110:1
Peat Moss	58:1
Timothy hay	58:1
Oat straw	48:1
Fresh leaves	40:1
Hay	40:1
Horse manure	30:1
Red clover	28:1
Oak leaves	26:1
Coffee grounds	20:1
Alfalfa pellets	20:1
Cattle manure	19:1
Vegetable produce	19:1
Alfalfa hay	18:1
Composted dry chicken manure	15:1
Fresh grass clippings	17:1
Cottonseed meal	7:1
Soybean meal	6:1
Blood meal	4:1
Urine	0.6:1

But, how do I compost?

(I like to keep it simpler)

Basic Compost Recipe

One part green stuff

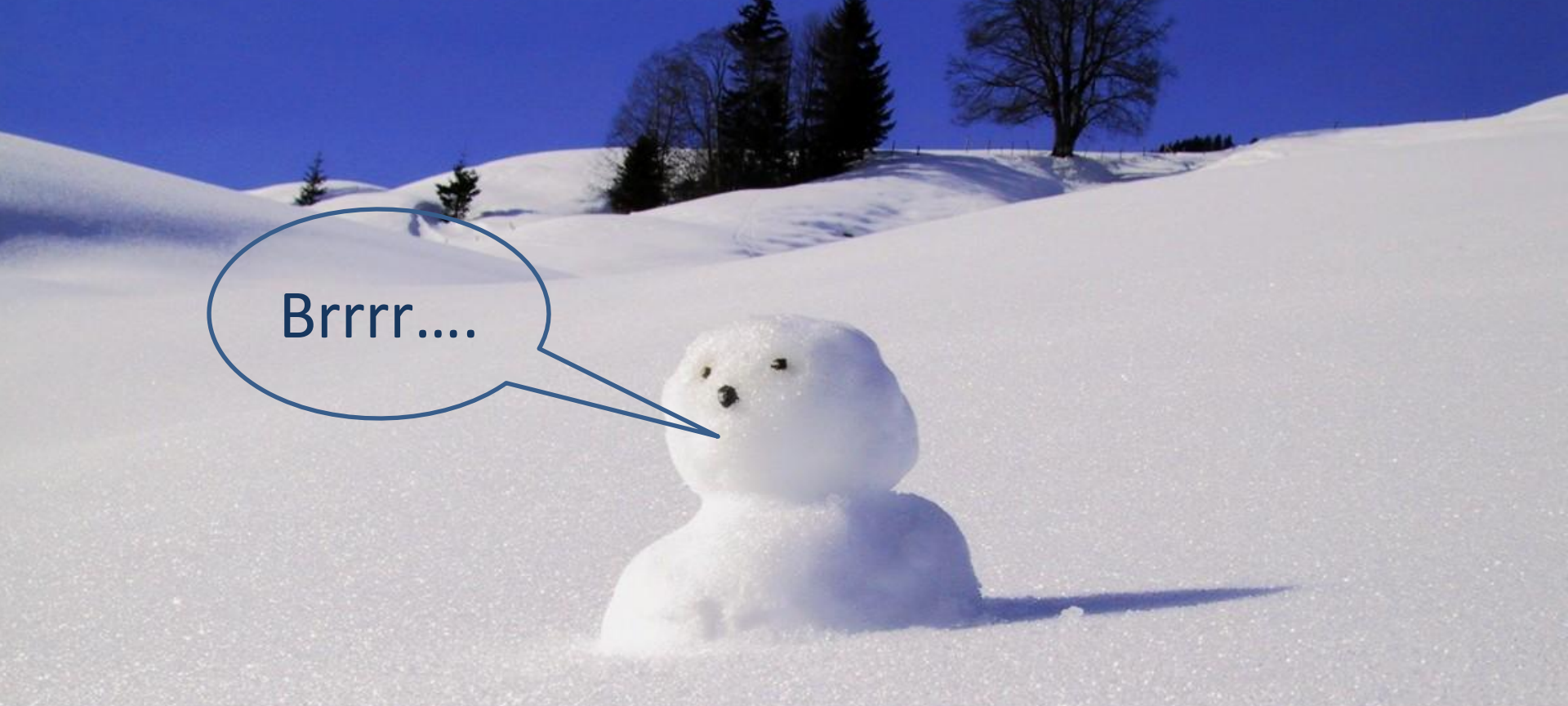
Four parts brown stuff

Air and water as desired

1 + 4 = COMPOST

Remember this?...

“Green” (higher N)	“Brown” (higher C)	“Balanced”
Grass clippings	Wood chips	Ground up tree and shrub trimmings
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	Shredded newspaper	



Brrrr....



The right “habitat” is important for effective, hot composting.

All 3 of these factors might be in place, but without suitable “habitat” for hot composting to occur, it'll be a struggle.

1 cubic yard



Hot composting "habitat" is 1 yd³ mounded or contained

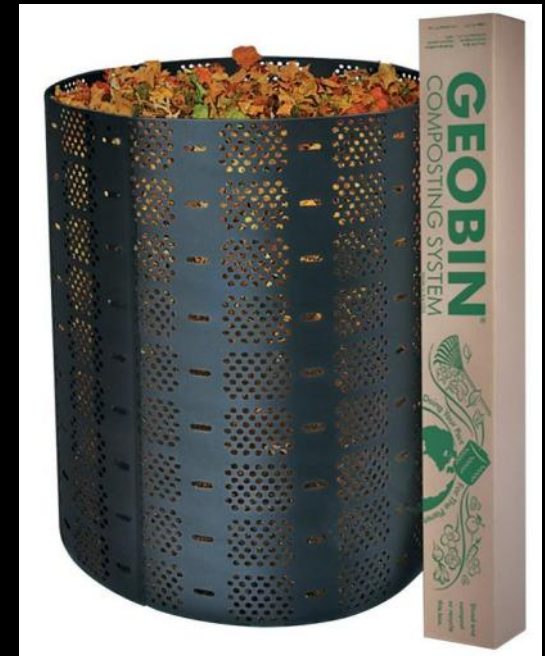
How to compost? (cont'd)

Compost bins make
maintaining/containing
1 yd³ easier...

Compost bins... quite an assortment:



A few examples



My choice...

It works well, and it was free

(remember Tom Petersen?!)

- 7 pallets
- 2 pieces of plywood
- Hinges
- Cinder blocks



Compost bins v3.0 and v3.1



(It's been an evolutionary process)

TOOLS:

It's your choice...
but, here's what works for me

Thermometer!!!

Hose and nozzle

Rake

Leaf blower

Pitch fork

Shovel



Tools cont'd: wheelbarrow

TRUPER



A wooden frame structure is shown, likely used for sifting compost. The frame is made of weathered wood and has a fine wire mesh screen attached to its sides. Inside the frame, there are several large, rectangular blocks of compost, some of which are covered in green moss. The structure is set outdoors on a ground covered with mulch and small plants.

**Optional:
½ inch hardware cloth screen
(to sift finer compost for top
mulching)**

**Tools cont'd:
Mulching lawnmower
with/without catcher**



BEFORE



AFTER



**Elapsed time: 10
minutes**

Results of mowing
leaves with a catcher





**Before
mulching**



After "mulching"
(no mower bag)



mulching.TRIM.MOV

How to compost? (get ready and just do it!)



Tomato plants

Mowed leaves

Dahlias, etc.

Mulched leaves

Leaves
(before mower
mulching)

Grass



Basic Compost Recipe

One part green stuff

Four parts brown stuff

Air and water as desired

1 + 4 = COMPOST





1st day... Wednesday 3:40pm
55 degrees F



2nd day... Thursday 1:50pm
84 degrees F



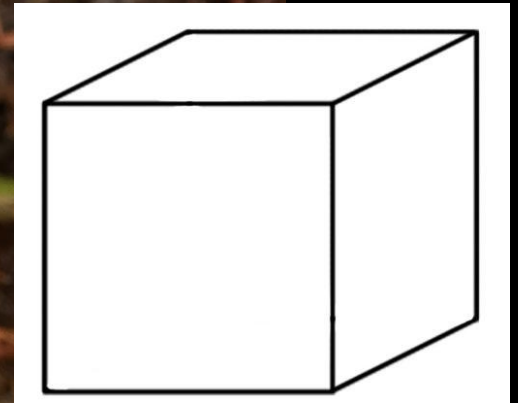
4th day... Saturday 10:20am
132 degrees F



8th day... Wednesday 10:15am
119 degrees F



8th day... Wednesday 10:15am
119 degrees F



A photograph of a wooden compost bin. The bin is constructed from weathered wooden planks and is filled with a dark, rich, and well-decomposed compost. In the foreground, several concrete blocks are visible, likely used to support the bin. The text "25 days later" is overlaid in yellow in the center of the image. The background shows a wooden wall with metal brackets.

25 days later

A close-up photograph of dark, moist soil. Several earthworms are visible, some partially buried and others on the surface. The soil is rich in organic matter, with small twigs and leaf fragments visible. In the bottom left corner, a portion of a white, cylindrical object, likely a carrot, is visible, serving as a scale reference. The text "25 days later" is overlaid in yellow in the upper center of the image.

25 days later

5 months later...



Why bother to compost?



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Questions???

