Advanced Composting for Beginners

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Why Compost?

Manage yard debris
Manage domestic waste
Generate soil conditioner
Organic Matter Improves Soil Quality and Soil Health

Soil moisture
Nutrient cycling
Nutrient holding capacity
Carbon sequestration
Erosion reduction
Successful Composting

Blend the materials
Manage to suit your style
Recognize when it’s finished
Compost: A Three-legged Stool

air  |  C:N  |  water
AIR: Why

Manage odor, heat, moisture, biology
AIR: How Porosity: heterogeneous texture Turning
aerobic

O₂

energy
low

high

temp
low

high

odor
bad

good

less

time
more

faster

speed

anaerobic

CO₂

high

CH₃

less

low

bad

more

slow
Water: Why . . .

Water that stays in place

Versus

. . . and How
WATER: Too wet
WATER: Too dry
WATER: Just right
# Compost Moisture Squeeze Test

#1 reason for failure: not enough water.

Squeeze a handful, **hard** – check for drips, look at your hand.

<table>
<thead>
<tr>
<th>Too dry</th>
<th>Just right</th>
<th>Too wet</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;40%</td>
<td>50-55%</td>
<td>60-65%</td>
</tr>
<tr>
<td>&gt;65%</td>
<td></td>
<td></td>
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</tbody>
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- Does not feel moist
- Sheen on gloved hand
- 1-2 drops
- Stream of water
- Many drops

Courtesy Compost Design Services
C:N RATIO: Why

Efficient composting
Odor control
Balanced diet for microbes
C:N RATIO: How

Green stuff and brown stuff
Who’s doing the composting?
Temperature, composting speed
Final compost nutrient value
What is Green Stuff?

Nitrogen sources: protein
Fresh green plant materials
Manures; meat; bone-, blood-, hoof-meal
Bagged fertilizer
Alfalfa pellets

Water that stays in place
What is Brown Stuff?

Carbohydrates: energy
Absorbency
Dried brown plant materials
Paper, cardboard
Wood working hobbyists

Photo Credit: Best of OSU Archives
Basic Compost Recipe

One part green stuff
Four parts brown stuff
Air and water as desired

$1 + 4 = \text{COMPOST}$
Speed Survey:

WHAT IS THE RIGHT WAY TO COMPOST?
We’re All Right

Aerobic composting
Anaerobic composting
Sheet composting
Direct soil incorporation
Some are More Right than Others

Effort, time, personal preference
Weeds, insects, disease problems
Speed, space
Nuisance value
Compost quality
and now a word about

Tumblers
Methane Digestion

Low work disposal
Converts solids to \( \text{CO}_2, \text{CH}_4 \) and water
May produce plant-toxic by-products temporarily

And many DIY ideas on YouTube
Turning Compost
Lift composter from the compost. Begin forking the compost into the composter.
Layer in food waste and other fresh materials as you move compost.
Use the fork to break up clumps as you go.
Alfalfa pellets - a good source of N.
Important Points

Your composting must fit your lifestyle.
Tool choice is personal.
Compost method choice is personal.
Pop Quiz: Compost Maturity

WHEN IS COMPOST FINISHED?
When you say it is

Intended use?

Very immature composts – toxic plant effects

Very mature composts – soil biology
Special Topics
Pop Quiz: Food Waste

WHAT KINDS OF FOOD SCRAPS CAN BE COMPOSTED?
If you can eat it, you can compost it.
Safe Food Waste Composting.

Never put in direct contact with soil
Never have food as top layer
Layer in absorbent carbon sources
Compost aerobically in hot, active pile
Turn the whole pile when you add food waste
Turn frequently
Wood Ash

Soluble K and P
Readily available
Raises soil pH
Not for acid-lovers
5-10 pounds per 100 square feet per year – *no more!*

Annual soil testing
Pet Waste
Pet Waste

Pathogen source
Consult your hauler
Bury or process in methane digester
NEVER put in contact with edible plants or garden soil
Manure as a Soil Amendment
NO!

Predator species

Yes!

Prey species
Common Manures: Hot to Cold

Hot & cold refer to ammonia risk.

- Poultry
- Rabbit
- Sheep
- Goat
- Llama
- Beef
- Dairy
- Horse

But Also:
- Feed
- Storage
- Age

HOTTER

COOLER

HOTTER refers to ammonia risk.
Manure in the Home Landscape

Apply during the growing season or
Apply in late summer with a cover crop.
Don’t apply in the autumn or early spring.
Which part of the crop do you eat?
Never use raw hog manure; dog, cat, or human waste.
Sod

Photo Credit: D Putnam, UC Davis
Keep your compost pile covered during the rainy season
And during the dry season.
Success with Vermicomposting

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First Read the BOOK

Worms Eat My Garbage
by Mary Appelhof

Many editions and revisions

Wormwoman.com
Caveat

Worm composting generates mold spores. Red wigglers **cannot** be raised for release into garden soil.
Vermicomposting

Select container
Select bedding
Locate red wigglers
Assemble worm bin
Add food and manage
Select Container
Select Bedding

Commercial mix
Shredded paper
Newsprint
Leaf mold
Manure
Locate Red Wigglers

Yes!
WE HAVE
WORMS
FOR SALE
Assemble Worm Bin

+ [Image of a blue container]
+ [Image of shredded paper]
+ [Image of water droplets]
+ [Image of soil]
+ [Image of eggshells]
+ [Image of worms]
Add Food and Manage

- Monitor moisture levels
- Monitor odor
- Monitor egg laying
- Monitor other insects

hormone stimulus
Manage the Bedding
Linda J. Brewer

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