

Oregon State UNIVERSITY **OSU**

Advanced Composting for Beginners


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Why Compost?

- Manage yard debris
- Manage domestic waste
- Generate soil conditioner

Organic Matter Improves Soil Quality

- Soil moisture
- Nutrient cycling
- Nutrient holding capacity
- Disease, weed suppression
- 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

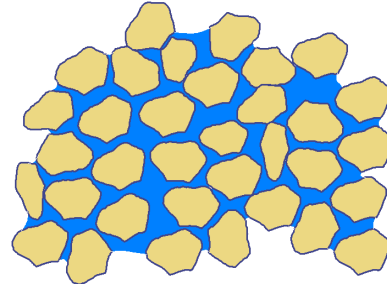


AIR: How

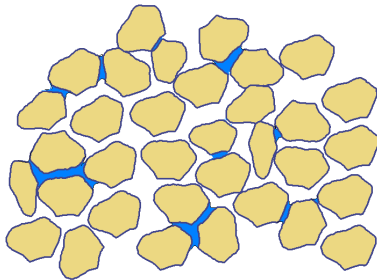
Porosity:
heterogeneous
texture
Turning



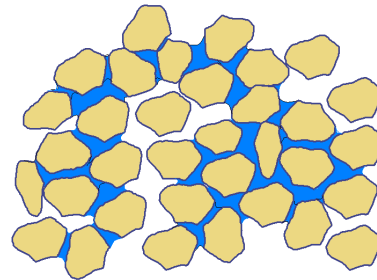
WATER: Too wet



WATER: Too dry



WATER: Just right



Compost Moisture Squeeze Test

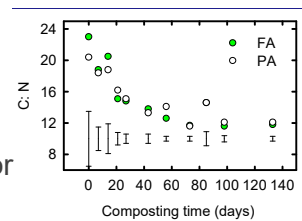
#1 reason for failure: not enough water.
Squeeze a handful, hard – check for drips, look at your hand.

Too dry	Just right	Too wet
<40%	50-55%	60-65%
>65%		
Does not feel moist	1-2 drops	Stream of water
Sheen on gloved hand		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 = 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

Methane Digestion

- No fuss, low work waste disposal
- Converts solids to CO₂, CH₄ and water
- May produce plant-toxic by products



Gedye: there are many brands

Turning Compost



Lift composter from the compost.
Place on chicken wire or hardware cloth.
Begin forking the compost into the composter.



Layer in food waste, fresh grass clippings 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

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.

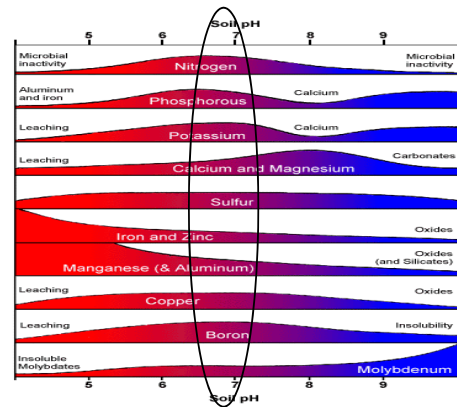


Safe Food Waste Composting.

- 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

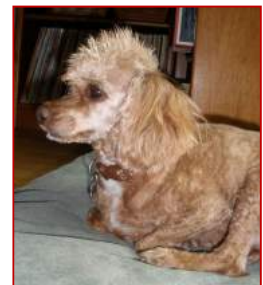


Pet Waste



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!

Yes!



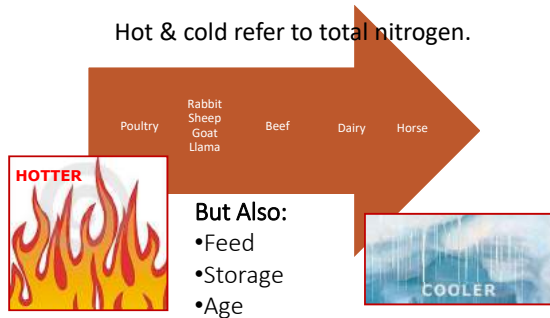
Predator species



Prey species

Common Manures: Hot to Cold

Hot & cold refer to total nitrogen.



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.



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Success with Vermicomposting

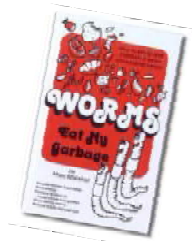
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First Read the BOOK

Worms Eat My Garbage
by Mary Appelhof

Many editions and revisions

Wormwoman.com



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



Assemble Worm Bin



Add Food and Manage

Monitor moisture levels
Monitor odor
Monitor egg laying
Monitor other insects

Manage the Bedding



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