

# Composting Basics



Presented by  
UC Master Gardeners of Placer County



**UNIVERSITY OF CALIFORNIA**  
Agriculture and Natural Resources

■ UC Master Gardener Program

# Who Are Master Gardeners?

- Master Gardeners of Placer County
  - Extend **research-based**, sustainable gardening and composting information
  - Present accurate, impartial information to **home gardeners**
  - Encourage public to make **informed** gardening decisions



# Who Are Master Gardeners?

- Where to find us...
- Online, in the Media, and Special Publications
  - Hotline: Call **(530) 889-7388** or submit your questions online
  - Website: [pcmg.ucanr.org](http://pcmg.ucanr.org)
  - Facebook, Twitter, Instagram
  - Gold Country Media monthly column
  - *Curious Gardener quarterly* newsletter and on our website
  - *Gardening Guide and Calendar*



# Who Are Master Gardeners?

- Where to find us...
- Workshops, Fairs and Festivals and Special Events
  - Speakers by Request
  - Workshops (various venues, check website)
  - Farmers' Markets (seasonal: Auburn, Roseville)
  - Fairs and Festivals Booths (varies)
  - Garden Faire (April)
  - Mother's Day Garden Tour (May)



# Why Compost?

- Diverts waste from our landfill, extending landfill life
- Benefits environment
- Saves resources, \$ to homeowner and community
- Improves soil structure



# The Residents Of Placer County Need To Compost!

- From Western Placer Waste Management Authority (July 1, 2013 – June 30, 2014)
  - **Placer Residential Waste Disposal** = Trash 213,163 tons
  - Per year (1 lb per day per resident)
  - Green Waste 49,760 tons of this waste is classified as “other organic” which means its COMPOSTABLE

# Compost Happens!!!



- ▶ Felder Rushing's Two Rules of Composting:
  - ▶ 1. Stop Throwing That Stuff Away!
  - ▶ 2. Pile It Up Somewhere!

# The Composting Process

- Organic Matter Composition
  - Carbon (Browns)
  - Nitrogen (Greens)
- Microorganisms
- Macroorganisms
  - Water
  - Oxygen
- Temperature



# Organic Matter: Nitrogen or “Greens”

- N is needed to get the decomposition process started and keep pile “cookin”
- Examples: vegetable and fruit scraps, grass clippings, coffee grounds, manures, and alfalfa hay



# Organic Matter: Carbon or “Browns”

- Carbon rich sources are called “*browns*”
- Usually dry, low moisture content, lightweight
- Examples: dry leaves, straw, sawdust, wood chips, corn stalks, cardboard/paper



# What goes in the Pile?

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Grass clippings

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Yard waste

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Leaves, pine needles

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Vegetable trimmings

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Food scraps

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Eggshells

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Wood chips (shredded to size)

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Newsprint

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Sawdust

# **What does NOT go in the Pile?**

- Disease infected plants
- Plants with severe insect attack
- Ivy, morning glory and succulents
- Pernicious weeds, e.g. Bermuda grass, oxalis, cheeseweed (mallow)
- Cat and dog manures
- Meat, dairy, and fish scraps
- Wood ash (add after composting is finished)

# Making the Pile: Important Considerations

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Size of pile should be 3'x3'x3' to 5'x5'x5'

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Do you have all the organic material (batch) or will you add continuously (continuous)?

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Have you chopped up your materials?

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Moisture and aeration: what's the rule?

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Compost tools: spading fork, aerator...

# Choosing A System

- What is your goal?
  - Hot composting
  - Cold composting
- Figuring out which one to choose



# What kind of bin should I use?



# Hot Composting

- Large volume of material – equal volume of greens and browns
- Pile no smaller than 3x3x3
- Keep it moist – like a well wrung out sponge
- Keep it aerobic – turning weekly
- Make a pile- don't add to it



# Cold Static Method

- Adding material as they are available
- No “Dump and Run” – equal volume of greens and browns
- Keep moist – like a well wrung out sponge



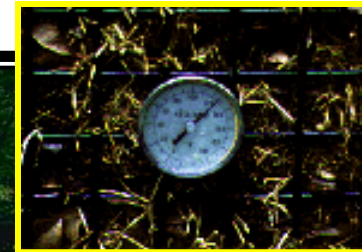
# Compost Considerations

## How Long Does it take?

- Moisture (wet versus a dry pile). Pile should be as moist as a wrung out sponge
- Oxygen. Ideal mixture is 50% oxygen 50% moisture.
- Active aeration and passive aeration
- How hot is the pile
- What is going into the pile. Particle size and moisture.
- Seasonal considerations

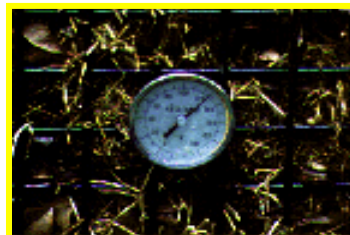


# Compost Processes & Critters in the Compost Pile



# The Compost Process depends on:

- Organic Matter Composition
  - Carbon (Browns)
  - Nitrogen (Greens)
- Microorganisms
- Macroorganisms
- Water
- Oxygen
- Temperature



# Macroorganisms

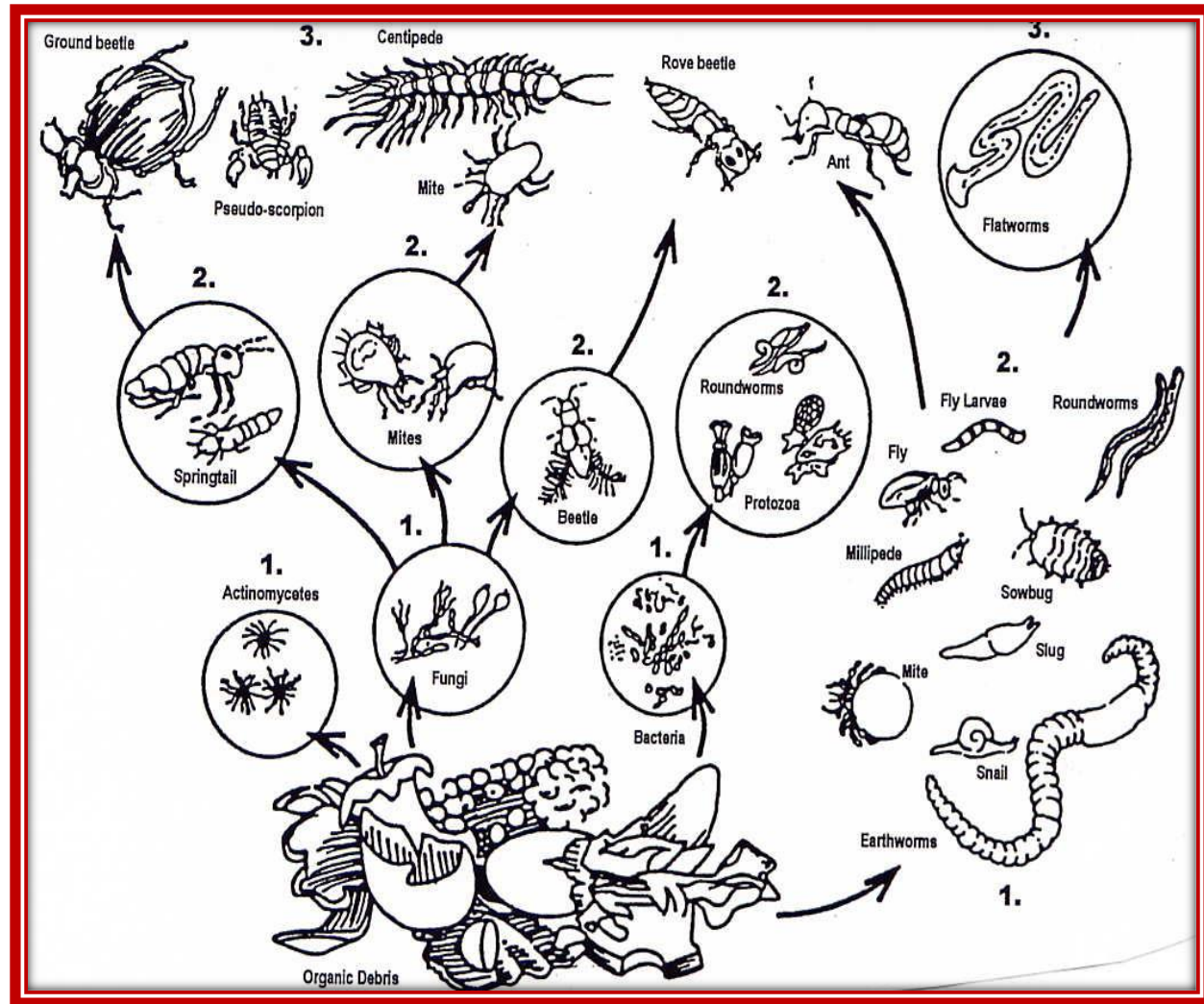
The decomposers we can see.

- Included are: Ants, centipedes, snails, sow bugs, worms, beetles, earwigs, grubs
- They are the physical decomposers because they grind, chew, suck, bite, and tear material.



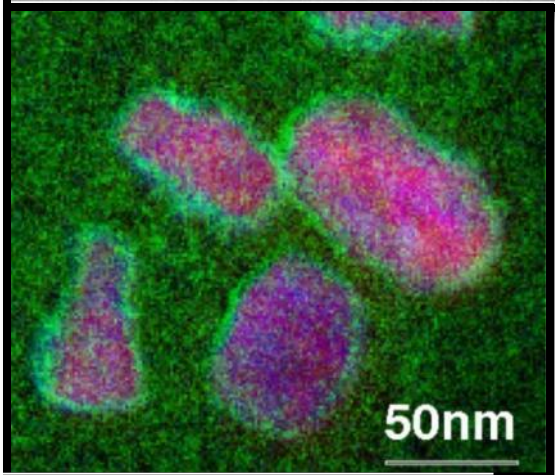
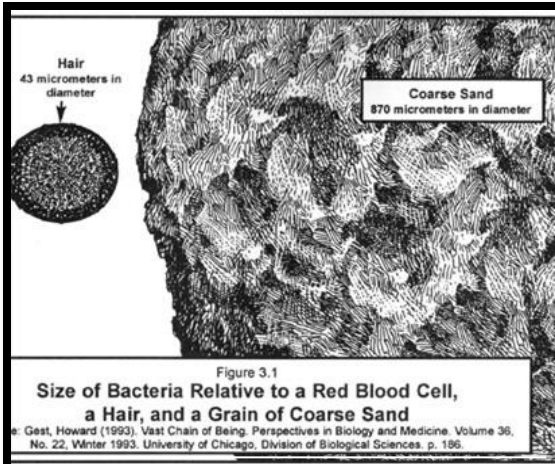
# A Compost Pile is an Ecosystem

Function =  
decomposition of  
organic matter  
into stable  
humus



# Microorganisms

- **Bacteria** are the powerhouse in the compost pile. They breakdown plant matter & create carbon dioxide and heat.
- In the right conditions, population growth is amazing—bacteria can double every hour!



# Harvesting your Compost

## **Your compost is done when:**

- most of the material is broken down and unrecognizable.
- the temperature cools and very little heat is produced.
- Finished compost can be sifted with a 1/2 “ screen to remove large pieces
- Large pieces can be put back into the pile or used as mulch



# Using Finished Compost

- Incorporate
- Top Dressing
- Container Mix
- Extract (tea)



# Mulching Basics



# Mulch

- ❖ What is MULCH?
- ❖ What does mulch do?
  - Suppresses weeds
  - Conserves moisture
  - Moderates soil temperature
  - Prevents compaction
  - Controls Erosion
  - Invites worms



- ❖ Nature does not like bare soil, either you cover it with mulch or it will be covered with weeds!

# How Much Mulch Should I Use?

- Application Depth
  - \* 2-4" thick in close plant spacing
  - \* 6" thick in open plant spacing
- Application Area
  - \* 6" from trunks
  - \* 12" from buildings



# Mulch Care



## **Water mulch with oscillating sprinkler**

Before and after spreading and smoothing  
Helps provide moisture to encourage worms  
Promotes decomposition of mulch



## **Important in months when we don't get rain**

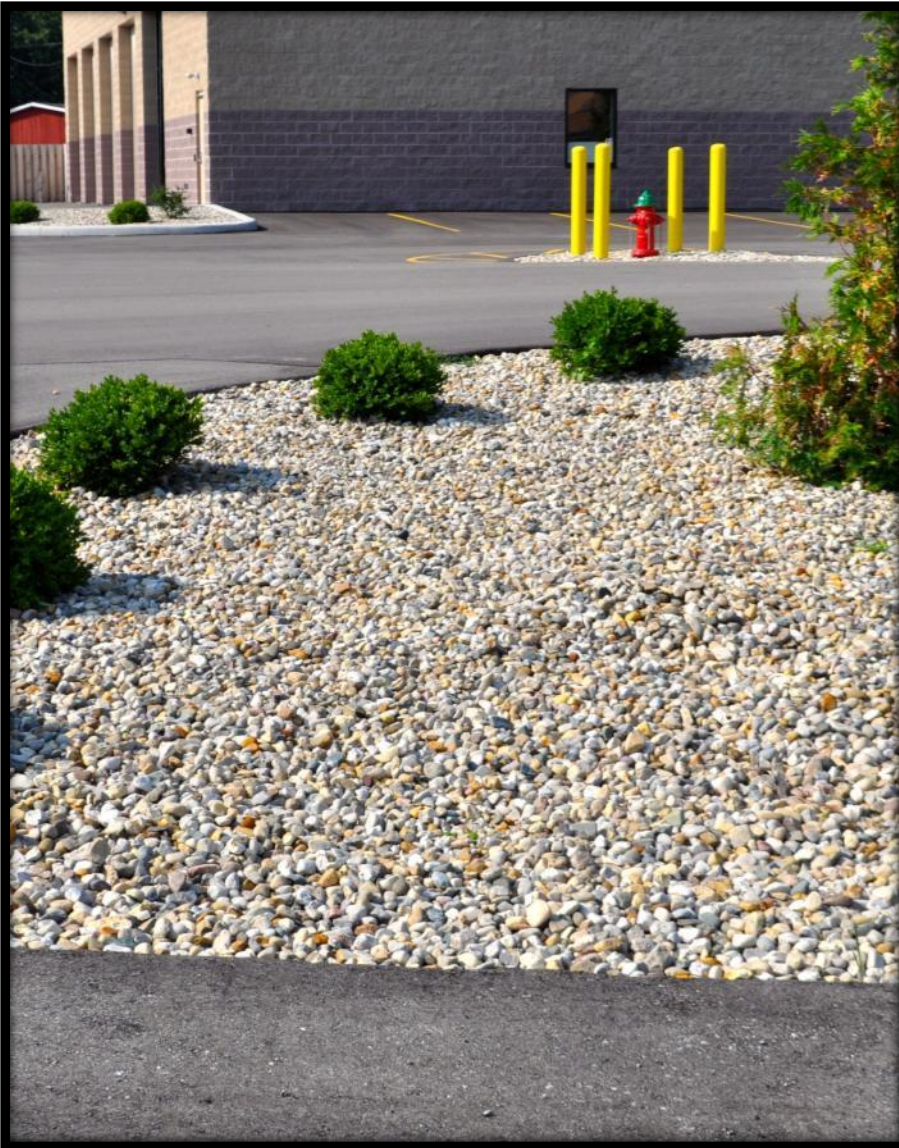


## **Add new mulch yearly to keep up depth**



## **Allow leaves from trees and plants to drop where they are**

Creates new coat of mulch  
Plants leaves are the best for replacing nutrients  
Sprinkle or “vener” fresh mulch on top



- What About Mulching With Rocks?

# Grasscycling. What's That?



- Leave your grass clippings on lawn after mowing to decompose.
- Leaves nutrients in the soil, reducing need for fertilizer and pesticides.
- Helps environment by reducing material sent to the landfill
- It does not cause thatch!

# Summary

- **Compost** is fully decomposed organic material that is worked into the ground
  - Promotes healthy soil and healthy plants
  - Discourages erosion
  - Saves time and money
  - Holds moisture
- **Mulch** goes on top of the soil
  - Reduces moisture loss
  - Suppresses weeds
  - Saves time and money
  -



# Thank You!

## Any Questions?

Master Gardener Hotline: **(530) 889-7388**

Rot Line: **(530) 889-7399**

Master Gardener Website: **[pcmg.ucanr.org](http://pcmg.ucanr.org)**

You Tube: Placer County MGs

❖ You can download a Pdf of this presentation  
and handouts on our web site



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