



# Backyard Composting



## Housekeeping

- Post questions any time and we will answer at the end
- 1<sup>st</sup> of 6 healthy living webinars

## A bit about me:

- Coordinate the Master Composter Recycler Program for Clark County
- Background is in economics (Masters from PSU) – save money & save the planet

Lets get started!

## Learning objectives

- Composting the **SMART** way
- Using Your Compost
- Troubleshooting



The purpose of this presentation is to give you the tools to successfully:

- DIY compost
- Keep food scraps and their valuable nutrients out of the landfill
- Regenerate soil to grow healthier food
- Reduce or eliminate the need for chemical fertilizers and pesticides



### What is Composting?

- It's Nature's way, she designed decay
- In Nature it is called Humus
- When you do it in your bin it's called compost

<https://www.youtube.com/watch?v=iAiRNq8JXw8>

### Humus/Compost is:

- Long hard to break chains of carbon molecules with a large surface area which carry electric charges which attract and hold mineral particles
- Largely cells and skeletons of all the microorganisms that participated in the process
- Partially decomposed particles of organic matter (cellulose & lignin)
- Some inorganic particles (rock) other mineral elements (came in on organic material)

### Why Compost?

- A teaspoon of healthy (living) soil contains:
  - 1 billion invisible bacteria (20-30,000 different species)
  - several yards of invisible fungal hyphae
  - several thousand protozoa
  - few dozen nematodes
- Rich, dark crumbly, Earthy smell from the decomposing remains of many once-live entities (prebiotic)
- Nutrient rich soil amendment (happy plants)



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## Add as You Go Composting

1. Dump kitchen scraps “greens”
2. Cover with “browns”
3. Repeat



- Add leaves, garden trimmings whenever
- In 6 months dig out compost at bottom of pile
- Return rest to bin/pile
- Sand Castle Analogy for turning / harvesting material
- Slow results 3-8 months
- Lower temp bacteria work with other micro and macro organisms (worms)
- Weed seeds will not be cooked

## Use the **SMART** method for success

- **S**ize
- **M**oisture
- **A**eration
- **R**atio
- **T**ools



- Chopping or shredding exposes more surface area to help composting critters break it down
- 2 to 4" pieces
- Lawn mower good for chopping up vines leafy greens, etc.

## **Moist** like a wrung out sponge

- Not too dry
- Not too wet



- Too dry – microbial activity slows down
- Too wet – clogs air space / anaerobic (stinks)
- Cells / membranes / moist
- Wire mesh bin - cover with a tarp (keeps out rain during wet months; keeps in moisture during dry months)
- Turning your pile lets you see what is happening. Add dry brown ingredients if your moisture level is too high (smelly) and rewetting materials or add wet greens) if too dry (no action).



## Aeration supports aerobic organisms

- Turn and fluff
- Stir in place



### Turning Frequency:

- When pile temperature drops
  - Once a week
  - Twice a month
  - When the mood strikes you
  - Never!
- 
- Control for adding more food, water
  - Renews decomposing activity (oxygen)

**Ratio 1 part greens : 1 part browns**



Alternate "greens" and "browns" in approx. 3" layers

- Manure hierarchy
- Manure needs to sit and process for 3 months before using compost
- Straw vs. Hay
- [www.getchipdrop.com](http://www.getchipdrop.com) – mulch

## Tools - which compost system?



Bigger pile (up to 3'x3'x3' more insulated) most plastic bins are ½ cubic yard or less

Craigs list, freecycle, Next Door, neighbors

- Lifetime Compost Tumbler – 80 Gal (not 65 gal)
- Earth Machine Composter – 80 Gal
- Enviroworld – 80 Gal (\$59 through Metro Paint on Swan Island)
- Wire Mesh Bin ( $V=\pi r^2 h$ ) 3' x 3' = 150 Gal.
  - 4' x 12' x 1/2" hard ware cloth (19 gauge)
  - Insulated wire for twist ties (14 gauge )
  - Tarp and strap/bungees to secure
- Seattle Composter – 90 Gal for small; 150 Gal for large
  - Good idea to add handles

## Some tools to speed you along



Aerators – Auger-style & winged (wind dinger) great for mixing and fluffing in a plastic composter

Pitchfork

Digging / Spading / Turning fork

Compost thermometer - REOTEMP Backyard Compost Thermometer - 20" Stem, with Composting Instructions (0-200 Fahrenheit)

Pruner / lopper

Square blade shovels (D-grip & long handle)

Pointed-blade & flat shovel

Wheelbarrow

Sifter

Buckets & lids



## Maintaining Your Tools



## Using the compost you made



The closer the plant contact (in space and time), the greater the quality and maturity must be!

- Seed rows / seedlings - dig row, fill with compost, spread seeds
- Potting soil addition
- Soil amendment: Spring-Summer
- **Garden mulch:** Fall or several months prior to planting
- Turf top-dressing  $\frac{1}{4}$ " fine raked in

### Garden

- Functions as a slow-release store of nutrients N, P, K, S, micronutrients that are available as the plant needs them
- Binds with soil (sand, silt, clay) particles to provide structure - help light soils hold moisture and heavy soils to drain more easily
- Provides food and habit for soil biotics, earthworm activity is encouraged, further enhancing soil fertility

# Miracle Mulch

- 2" layer over garden beds; exposed soil areas
- 2" around drip-line of plants/trees

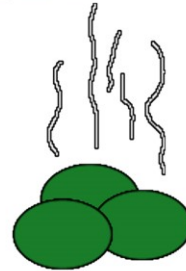


The longer it sits around, the less nitrogen it will retain

- Don't leave a pile of finished compost unused for more than 6 months at most
- Better to spread too early (before fully cured/matured) than too late and lose much of its value
- No need to turn in, dig, till any additional decomposition is occurring above the root zone.
- Retains moisture
- Provides food for soil organisms
- Weed barrier
- Apply compost when you are preparing your garden in the spring or putting your garden to bed in the fall. Cover with leaves, straw etc. to prevent nutrients from leaching until ready to plant
- Keep away from tree trunks

# Troubleshooting

- Situation:
  - Ammonia like odor
  - Rotten eggs or worse
- Problem:
  - Too wet / no air
- Solution:
  - Turn the pile and add more brown material to balance the pile.



- There are 2 things that can go wrong with your pile.
1. Too dry, you put in your compost thermometer and it is the same as the ambient temperature. Nothing is happening. No life for critters. Need to add greens and possibly moisten.
  2. It stinks!
    - Break up any matted grass
    - Break up matted leaves
    - Woody/stemmy pieces 2" or smaller
    - Turn pile add browns



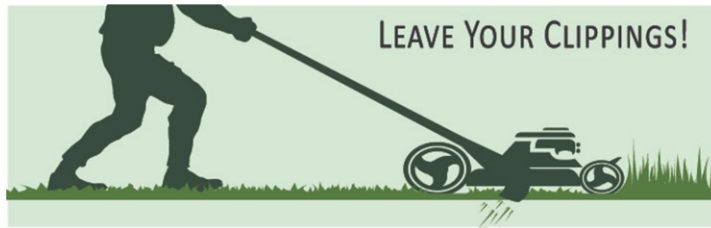
## Critters you might encounter



- No meat, dairy, grease, bones, processed foods
- Cover food scraps with browns or bury in pile

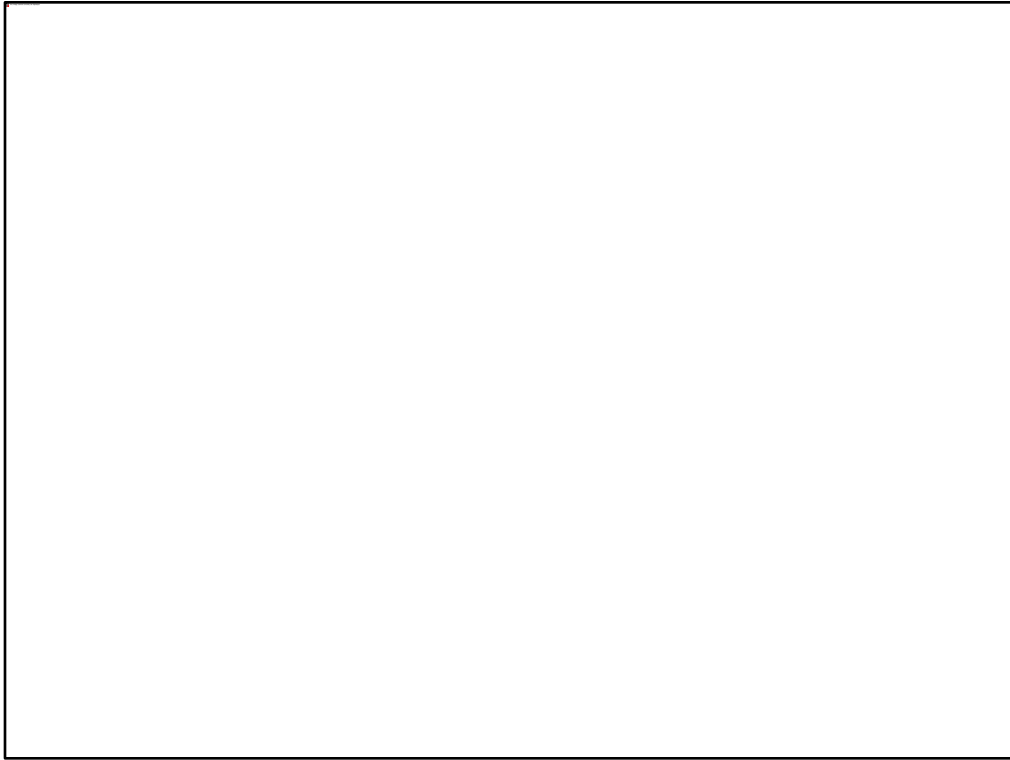
Q. What are these (point to soldier fly larvae)  
Explain how they are beneficial

## Grasscycling



- Cut grass when dry and 3 inches high
- Rich in nutrients N-P-K around 4-1-2
- Reduces need for fertilizers and pesticides

- Quickly decompose
- Non-thatch causing
- Clippings are 75% water



- Can hold up to 500 percent of its own weight in water. Besides helping retain moisture in the soil by reducing evaporation, leaf mold also absorbs rainwater to reduce runoff, and in hot weather, it helps cool roots and foliage.
- Coffee grounds make a good activator (and urine)
- Not necessary to chop up the leaves
- Seed sowing mix - well-rotted leaf mold
- Potting mix:
  - 3 parts leaf mold; 1 part worm compost
  - 1/3 sifted compost, 1/3 soil, 1/3 leaf mold

# Trench Composting

- Good for all kitchen waste
- Dig a trench 1-2 feet deep
- Chop items and mix with soil
- Cover with remaining soil  
(at least 8")
- Plant into trench in 3 months





## FAQs

- Will my compost pile catch fire?
- Should I add commercial activators?
- Can I plant straight into compost?
- Will weed seeds be killed?



ClarkCountyComposts.org

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## Supplies for class

- Sample browns & greens
- Sample composts (finished, sifted, worm, leaf)
- Compost thermometer
- Wing dinger
- Garden / Spading fork
- Pitch fork
- Sifter
- Compost bin