DPR Compost Cooperative Training Course

By Josh Singer

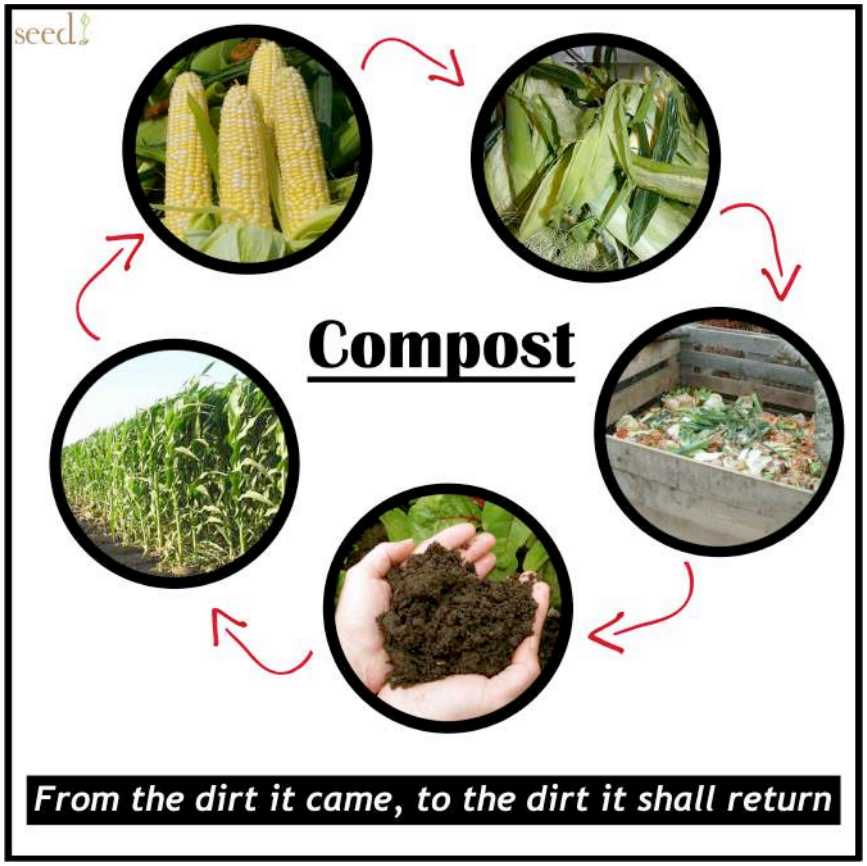
DPR Community Garden Specialist

Class Outline

1. Components of Compost
2. 3-bin Composting Process
3. Urban Composting Best Practices
4. Compost Cooperative

What is Compost?

- Compost is an organic fertilizing soil amendment made from the decomposition of organic matter by a variety of different methods.
- Compost is an important part of the nutrient cycle



Type of Composting

Bacteria/Hot Composting

- Method used by Compost Cooperative to attract heat producing bacteria to decompose the organic matter and create compost.

4 Ingredients of Composting

1. Green (Nitrogen) Material
2. Brown (Carbon) Material
3. Water
4. Oxygen

Green Material

- Organic matter high in Nitrogen
- Fuel for the compost
- Material that can smell

<u>Acceptable Green Materials</u>

- raw vegetable or fruit scraps
- coffee grounds
- tea bags (remove the staple)
- crushed egg shells
- fresh leaves
- fresh garden waste
- flowers
- hair

High Nitrogen Green Materials

- **Acceptable Green Materials that must be coordinated with Manager due to extremely high levels of Nitrogen.**
- Fresh (less than a year old) *organic* manure
  - Research source!!!
- Alfalfa
- *Organic* fresh grass clippings

Brown Material

- Organic matter high in Carbon
- Base of the compost
- Manages smells
- HARDEST PART OF URBAN COMPOSTNG!!!

<u>Acceptable Brown Materials</u>

- Dried leaves
- Woodchips (avoid woods with natural herbicides such as walnut, cypress, cedar, and white oak)
- Sawdust and wood shavings (avoid pressure treated wood/toxic glues)
- Straw (avoid hay - has more seeds)
- Dried plant waste with no diseases
- Wood ash
- Newspaper and any other paper with soy ink
- Pine needles if lower pH compost is okay.

Materials to Avoid

- Plants with diseases or pests
- Any plants that have seeds
- Meat, fat greases, bones
- Dairy
- Oils
- Breads, gains, rice
- Too much citrus
- Poison ivy
- Colored paper
- pesticides or herbicides
- Anything toxic or non biodegradable
- Pet waste
- **Compost bags!!!**

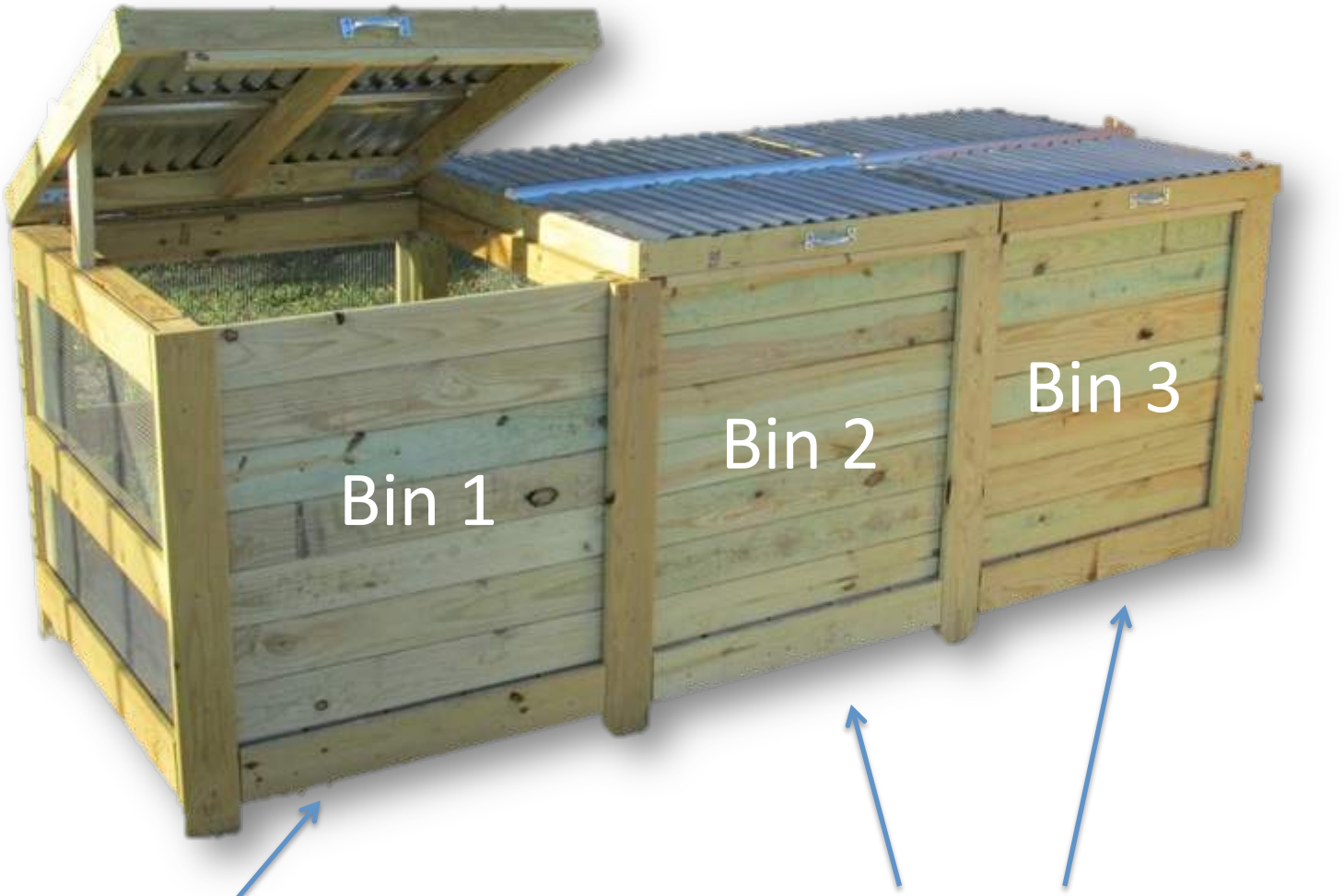
Oxygen

- Hot compost is an aerobic (oxygen) process.
- - Oxygen feeds the bacteria that decompose the organic matter.
- - If there is low oxygen (becomes anaerobic) it will attract bad bacteria that produce a bad smells.

Water

- The bacteria needs the right moisture level to be active.
- Should feel like a rung out sponge.
- Too much water will make the compost anaerobic.
- Not enough will slow down the bacteria.

3-Bin System


Bin 1
Bin 2
Bin 3
Only fresh materials
Cooking and Curing bins

Compost Knox Improvements

- Enclosed in hardware cloth
- Built to last at least 10-years
- Paver stone floor
- Raised off the ground with drainage cracks
- Slate fronts
- Locks!!!

Starting a Biofilter

- A biofilter is a layer of browns that completely covers any greens to prevent bad smells and pests
- Add first 2-3’’ layer of woodchips.
- Add a 2-3’ trim a brown material around the outer hardware cloth

Making a Green and Brown Lasagna

2:1

Browns : Greens

1. Add a green layer
2. Cover with a twice as much browns
3. Repeat

- Remember to keep adding brown trim biofilters

Never Leave Food Scraps Exposed!

Surface Area

- Smaller the pieces the quicker and easier it is to compost

- chop and cut browns and greens when possible

Brown Storage

- Create a Brown storage bin to collect Browns throughout the year.
- **Anytime there are no browns all drop-offs must be suspended!!!**
- One bad experience can shut down a compost cooperative.

Turning Compost

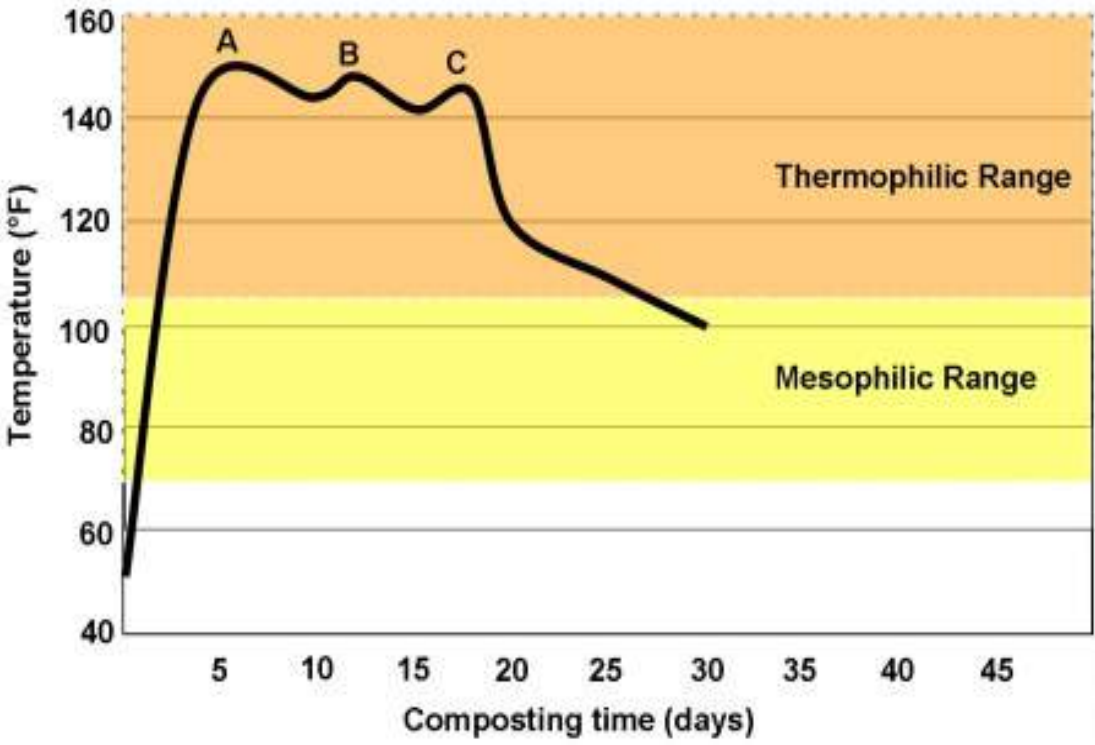
- When the first bin is full its time to turn the compost to the next bin.
- Try to estimate to fill the bin in one month
- Pitchfork and shovel time!
- This is the time to add water or browns
- Try to maintain biofilter

Adding Water

- Unless there are bad odors add one 3-gallon slow release watering can of water to each full pile a week.

Compost Process

- Turning the compost and adding water will jump start the bacteria process
- Compost needs to stay between 135-155 for at least 3 days to kill most weed seeds or pathogens.



Finishing Compost

- Compost may take 2-3 months to finish
- Once Bin 3 has cooled down it will need to be sifted.
- Sift final compost over a wheelbarrow or a storage bin.
- All uncomposted debris should be put back into Bin 1.
- Finish and Sifted compost should be covered and left to seat for another two weeks before using in a garden.

Solarization

- Store any diseased and insect infested plants in a black trash bag in the sun for at least 30 days.

Leachate Buffer Zone

- Leachate is a liquid runoff of compost that can be hazardous
- Create a non edible vegetated buffer zone around and down hill of the compost bin.
- Amend soil with sand if possible

<u>Good plants to use:</u>

- comfrey
- native grass
- native perennial flowers.

Storing Compost at Home

To prevent bad odors
store compost at home in:

- Freezer
- Charcoal filter containers to store compost at home

Compost Trouble Shooting Guide

- Rotten Egg Odor
  - *Too much moisture:*
    - Dry out, turn pile more, add dry brown material, check drainage
- Ammonia Odor
  - *Too much Green material:*
    - Add Brown Material
- Unwanted Pest
  - *Too much moisture, food scraps are exposed, wrong material in pile:*
    - Dry out, make sure food scraps are covered by brown material, remove any bad foods
- Slow Decomposition/low heat
  - *Lack of moisture, air and/or Nitrogen*
    - Add water, turn pile, add more greens, increase pile size

Equipment

- Pitch fork
  - Turns compost better than shovel
- Compost mixer
  - Can help turn compost without moving to another bin.
- Compost thermometer
  - Thermometer that is long enough to reach the middle of the pile.
- Scale

Compost Cooperative

3 Requirements of a Compost Manager

1. lead trainings for new members
   - only an hour long and comes with a handout
   - First training is done by DPR

2. Coordinate new members
   - once a month the compost needs to be turned
   - Communicate any updates or modifications

3. Quality control
   - Must monitor quality and organize any changes

Compost Cooperative Member

3 Requirements of a Compost Member

1. 1-hour training before getting the code
2. Provide an active form of communication
3. Help turn the compost once every 3 months or sooner if the compost manager deems.

We Need Your Help Composting!

- For more information or to register with the nearest compost cooperative please email the DPR Community Garden Specialist at joshua.singer@dc.gov