DPR Compost Cooperative Training Course

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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

Acceptable Green Materials
- 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!!!

Acceptable Brown Materials
- 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

Only fresh materials

Bin 2

Cooking and Curing bins

Bin 3
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

Good plants to use:
- 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