







Composting, Grasscycling and Mulching at Home



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Learning objectives

- Why composting is important
- How the decomposition processes work
- How to construct and maintain a compost pile.

- Benefits and drawbacks of composting structures
- Using composted materials in the landscape and garden
- How organic materials can be used in amending the soil
- How organic materials can be used as mulch in the landscape and garden

Nature Recycles Leaves & Plants

- 🌿 In a forest, leaves and plants fall forming a layer of mulch that absorbs rainfall and protects the soil.
- 🌿 Over time this layer decomposes into nutrients for the forest.



People Remove Natural Mulch

- 🌿 In our suburban and urban landscape, we like to rake up and remove this plant material.
- 🌿 Soils are robbed of the natural soil amendments & nutrients



Excessive Nutrients From Leaves



Excessive grass clippings and leaves dumped or blown into the street, drainage ditch or stream bank are sources of water pollution.

Where Does Stormwater Go?

- ☛ Stormwater flows across streets, down street gutters, drainage ditches and storm drains into rivers, lakes and streams



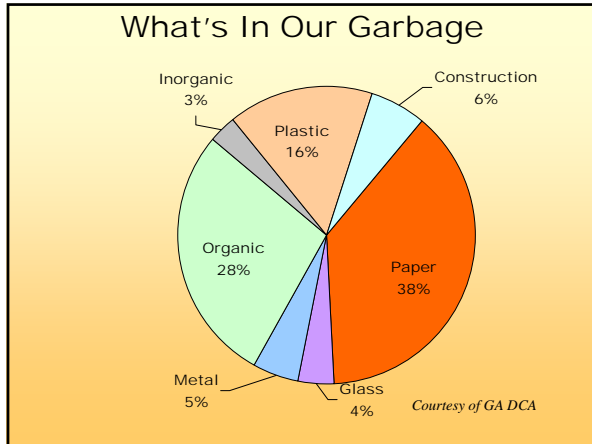
Grass Clippings

- ☛ Good on lawn
- ☛ Bad in streets and down storm drains.
- ☛ Carry excessive **nutrients** and **pesticides** into waterways.



Too much nutrients may cause....
Algal blooms, fish kills, loss of other aquatic life, eutrophication





Managing Solid Wastes



- Local governments offer yard waste collection but **149** of them disposed of yard waste in inert landfills in 2002.
- Recycle yard waste at home and keep it out of the landfill.

Yard Waste...



...Where to put it.

Recycling Options

🌱 Mulching

🌱 Grasscycling

🌱 Composting



Mulching

Benefits of Mulch

🌱 Saves water & reduces amount of runoff

🌱 Insulates roots from heat & cold

🌱 Helps control weeds & disease

🌱 Organic mulches add nutrients to soil



Mulch Basics

- **Apply** anytime, best in the late fall
- **Identify** mulch materials & quantity
- **Use mower** to make your own mulch
- **Do not apply** directly in contact with plants.
Leave an inch or more of space (to prevent plant diseases).
- **Remove** weeds before applying



Mulch Material

- **Leaves (chopped)**
- **Newspaper**- Applied 3- 4 sheets thick and covered with organic mulch
- **Bagged material**-Pine straw, pine bark, and cypress chips
- **Compost material**
- **Materials to avoid**- nut shells, fresh hardwood wood chips, straw, hay, grass clippings, sawdust, rocks .



Grasscycling

Grasscycling

✿ Mow frequently enough so that no more than 1/3 of the length of the grass blade is cut in any one mowing.



✿ Grasscycling is not dumping leaves on streets and into storm drains.

Grasscycling Benefits

✿ Saves Landfill Capacity

✿ Saves Time

✿ Saves Water and is Better for the Environment

✿ Saves Money



Grasscycling (Mowing Heights)

Suggested Mowing Heights for Various Types of Grasses

✿ Bermuda (Hybrid)- 3/4"

✿ Bermuda (Common)-1"

✿ Zoysia -3/4" to 1"

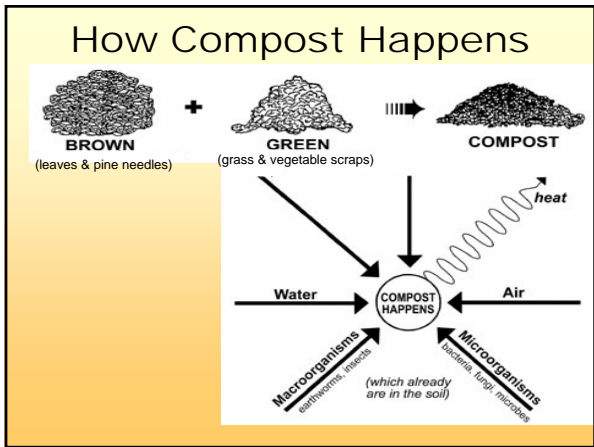
✿ Centipede-2"

✿ St. Augustine-2"-3"

✿ Fescue, Ryegrass- 2-1/2"-3"



Composting



Benefits of Composting

- 🌱 Saves **money**
- 🌱 Helps **improve** soil fertility
- 🌱 **Protects** the environment

A photograph showing a garden bed with a shovel and a pile of dark, rich compost. The garden bed contains various green plants and some brown mulch.

Choosing the best compost system

- 🌱 **Piles**- no special tools or bins
- 🌱 **Holding bins**- neatly contain materials, ward off animals, and keep in moisture
- 🌱 **Tumbling systems**- designed for quick, hot composting.

Heap Composting
(*No container necessary*)

- 🌱 **Simple**
- 🌱 **Piled** on top of each other directly on the ground.
- 🌱 Materials can be added immediately or stockpiled.



Compost Hoops
(*Homemade or Store bought*)

- 🌱 Usually made from dog or hog wire.
- 🌱 Are easy and fairly inexpensive to build.
- 🌱 Help keep your compost pile tidy.



Wooden Compost Structure (Homemade or store bought)

🌿 **Bins**-Neatly contain yard trimmings and vegetable/fruit scraps. Can be homemade or store bought.

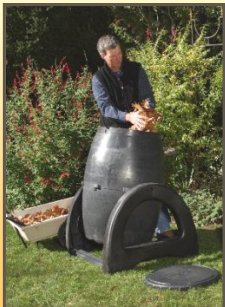


Plastic Compost Bins (Store bought)

- 🌿 Keep optimum size of pile
- 🌿 Store anywhere
- 🌿 Hide wastes
- 🌿 Cover Material



Tumbler (Homemade or store bought)



- 🌿 Ease to tumble and keep compost mixed up
- 🌿 Low maintenance
- 🌿 Pest proof
- 🌿 Avoids odor
- 🌿 Make compost faster
- 🌿 Keeps damp in dry conditions & warm in

Compost in a Trash Can *(Homemade bin)*

- Use an extra plastic trash can to put leaves and grass in.
- Cut off the bottom with a saw or knife.
- Place unit into the soil.
- Drill 24-48 1/4-inch holes in the sides of the can to increase airflow.



Buckets *(For Small Space Composting)*

- A way for apartment-dwellers or people living in small spaces to compost food wastes inside or outside.



How to Compost

Instructions, Methods and Basic Recipe

Compost Ingredients

- What to Compost
- Browns vs. Greens
- What to Avoid
- Basic Recipe

What to Compost

- ✿ Grass Clippings
- ✿ Leaves
- ✿ Shrub Prunings
- ✿ Flowers
- ✿ Sawdust
- ✿ Fruit & Vegetable Scraps
- ✿ Coffee grounds/tea bags



Brown vs. Green Ingredients



✿ **Browns**- dry plant parts (leaves & pine needles) source of carbon

✿ **Green**- fresh (grass clippings, vegetable scraps, weeds, source of nitrogen.

Do **Not** Compost

- ✂ Butter
- ✂ Bones
- ✂ Cat Manure
- ✂ Cheese
- ✂ Chicken
- ✂ Dog Manure
- ✂ Fish Scraps
- ✂ Vegetable Oil
- ✂ Lard
- ✂ Mayonnaise
- ✂ Meat
- ✂ Milk
- ✂ Oils
- ✂ Peanut Butter
- ✂ Salad Dressing

These items can all attract **pests**, **rodents**, and create foul **odors**.

Do **Not** Add (cont.)

- ✂ **Lime**- experts find it unnecessary and not beneficial to the environment.
- ✂ Wastes that attract pests
- ✂ Disease/Insect ridden plants
- ✂ Troublesome weeds (e.g. seed heads, rhizomes)

Basic Compost Recipe

- ✂ **Chop** compostables.
- ✂ **Mix** 2/3 dry brown material with 1/3 moist green
- ✂ **Add** water as you build your pile.

Methods of Composting

- Dump and Run/ Slow
- Fast Method
- Small Space

Dump & Run Method (Slow Method)

🗑️ Add leaves and other compostable materials as they become available.

🗑️ When adding new materials, it is best to blend them into the core.

🗑️ This method takes **6 months-2 years** to yield compost.



(Slow Compost Method)

1. Set Up Bin or Heap

🗑️ Select a spot that receives partial shade.

🗑️ Out of the way but convenient

🗑️ Places to set-up bin

- ◆ near your garden
- ◆ back corner of the yard
- ◆ location close to a source of water



(Slow Compost Method)

2. Mixing & Adding to the Pile



- ✚ Add materials to the bin or pile
- ✚ No need to check for moisture
- ✚ Pile is not mixed in this method
- ✚ Build pile with greens & browns as they become available

Fast Composting

Fast Composting

- ✚ Build a **“hot”** heap, hoop or bin.
- ✚ Requires frequent **turning and moisture**
- ✚ **Temperatures** can reach **120-150°F**
- ✚ **Ingredients-** layered yard trimmings, fruit & vegetable trimmings




Layering Illustrated

(Layering Method)
The first step is to add a bed of twigs and small branches to promote air circulation.



(Layering Method)
Add a layer of **browns**. Water between layers to evenly distribute moisture.



Composting At Home in Georgia

(Layering Method)

Next, add a layer of fresh greens



(Layering Method)

Add water & another layer of browns



(Layering Method)

Add next layer of greens from prunings or clippings



(Layering Method)

Keep extra **browns** and **greens** stored separately in other bins for use in compost pile later



(Layering Method)

Add Water To The Pile

- 🌿 Use a squeeze test to be sure your pile has the right amount of water.
- 🌿 Adding moisture will help to break down materials faster.
- 🌿 Sprinkle water to adjust the moisture level or add brown material to lower



Small Space Composting

- Bucket
- Worm Boxes

(Small Space Composting)

Bucket Compost

- 🌱 Compact way to **compost** vegetable/fruit scraps.
- 🌱 **Use** a 5 gallon bucket
- 🌱 **Ingredients:** kitchen scraps, dry material (soil, sawdust, peat moss, straw)
- 🌱 **Chop** scraps and mix an equal amount of dry



(Small Space Composting)

Worm Composting (Vermicomposting)

- 🌱 What is Vermicomposting?
- 🌱 Different from Composting
- 🌱 Vegetable & Fruit Waste



*Worm Boxes
(For Small Space Composting)*

- 🌱 Can be used to compost vegetable & fruit wastes inside or outdoors.
- 🌱 For small spaces
- 🌱 Give off very little odor
- 🌱 They eat only food waste



Finished Product



Improving the Finished Product



Finished compost can be improved by sifting through a screen to remove oversized pieces.

How To Use Compost

🌱 Soil Amending

🌱 Mulching

🌱 Potting Mix



(How To Use Compost)

Soil Amending

- ✿ Mix 4-6 inches of compost into newly reclaimed or poor soils
- ✿ Mix 1-3 inches into annual garden beds, or into soil under and around new trees & shrubs before planting.



(How To Use Compost)

Mulch

- ✿ Spread 2-3" over the soil around plants, trees, shrubs
- ✿ Use on exposed slopes to suppress weeds
- ✿ Keeps plant roots cool and moist & conserves water
- ✿ Maintains a loose & porous surface helping to



(How To Use Compost)

Potting Soil

- ✿ 1/3 Compost
- ✿ 1/3 Coarse Sand
- ✿ 1/3 Ground Pine Bark



Composting FAQ's

Can compost replace petroleum based fertilizers?



How long does it take to produce compost?

Troubleshooting

<u>Symptoms</u>	<u>Problems</u>	<u>Solution</u>
Bad Odor	Too wet	Add browns
Bad Odor	Not enough air	Turn pile
Center is Dry	Not enough water	Moisten & turn
Only Warm pile in Middle	Pile too small	Mix into larger
Will Not Heat Up	Lack of nitrogen	Mix in N Source

Recap Benefits

Preventing leaves from entering streets and storm drains helps to prevent stormwater pollution.

Recycling yard waste saves you money, time and efforts.

Composting helps to turn garbage into gold.



Additional Information

www.cleanwatercampaign.com

www.ces.uga.edu

www.mastercomposter.com

www.compostingcouncil.org

Additional Resources (cont.)

www.compostinfo.com/cn/index.htm

www.compostinfo.com/tutorial/faq/FAQ1.htm

www.dep.state.pa.us/dep/deputate/airwaste/wm/recycle/Compost_sum/Home.htm

Sources

- 📄 www.dca.state.ga.us GA Department of Community Affairs
- 📄 www.dep.state.pa.us (Pennsylvania Dept. of Environmental Protection)
- 📄 <http://aggie-horticulture.tamu.edu/extension/> (Texas A&M Horticulture Extension)
- 📄 www.compostinfo.com (Florida's Compost Info)
- 📄 www.cleanairgardening.net (Clean Air Gardening)
- 📄 www.marquisproject.com (Marquis Project)
- 📄 www.ces.uga.edu
- 📄 Backyard Composting (Harmonious Press, 1992)

Thank you



www.cleanwatercampaign.com

The University of
Georgia
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Service
www.ces.uga.edu
