Composting At Home in Georgia

http://www.caes.uga.edu/extension/
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
What’s In Our Garbage

- Organic: 28%
- Paper: 38%
- Plastic: 16%
- Construction: 6%
- Inorganic: 3%
- Metal: 5%
- Glass: 4%

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 (prevents 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)- ¾”
- Bermuda (Common)-1”
- Zoysia -3/4” to 1”
- Centipede-2”
- St. Augustine-2”-3”
- Fescue, Ryegrass- 2-1/2”-3”
Composting

How Compost Happens

Benefits of Composting
- Saves **money**
- Helps **improve** soil fertility
- **Protects** the environment
Composting At Home in Georgia

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 hot
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
Composting At Home in Georgia

**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
- Small amounts of uncoated paper

**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 to 2 years to yield compost.

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
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

(Slow Compost Method)

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.
Next, add a layer of fresh **greens**

Add water & another layer of **browns**

Add next layer of **greens** from prunings or clippings
Keep extra browns and greens stored separately in other bins for use in compost pile later

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
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

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

![Finished compost image]

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

Improving the Finished Product

How To Use Compost

- Soil Amending
- Mulching
- Potting Mix
**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.

**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

**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

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Problems</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad Odor</td>
<td>Too wet</td>
<td>Add browns</td>
</tr>
<tr>
<td>Bad Odor</td>
<td>Not enough air</td>
<td>Turn pile</td>
</tr>
<tr>
<td>Center is Dry</td>
<td>Not enough water</td>
<td>Moisten &amp; turn</td>
</tr>
<tr>
<td>Only Warm pile in Middle</td>
<td>Pile too small</td>
<td>Mix into larger</td>
</tr>
<tr>
<td>Will Not Heat Up</td>
<td>Lack of nitrogen</td>
<td>Mix in N Source</td>
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</tbody>
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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.
QUESTIONS?

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

Thank you

www.cleanwatercampaign.com

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