

Composting at the Calvert Marine Museum

Have you wondered what those square bins full of dying plant material at the side of the museum building are for? You may be surprised to learn that they are there to help you save the Chesapeake Bay and improve the gardens on the grounds of the Calvert Marine Museum.



The Calvert Marine Museum is located on Back Creek in Solomon's, Maryland, and is host to many events and activities. During the events participants consume food and drink - some of which can be used for composting. The compost bins at the museum shown above are now available for disposal of many acceptable food items that would normally be thrown away. Paper bags and cardboard containers can also be added to the compost bins as well as items in the chart below.

The materials from the compost bins will also be used on site by Yard Arms club members, who plant and care for the landscaping at the Calvert Marine Museum. The use of the compost bins will keep garbage and trash out of Back Creek, a tributary to the Patuxent River, and reduce the amount of garbage and trash that gets dumped in a landfill. Composting is one way the guests of the Calvert Marine Museum can support stewardship of our property and the surrounding waterways.

Composting has been around for thousands of years. It is an efficient and organic way of reducing waste going into landfills and improving soil for growing plants. What is

compost? It is the good brown earthy-smelling material that comes from decomposition of organic waste such as: grass clippings, fruit and vegetable peelings, coffee grounds, newspaper, sawdust, raked leaves, and other debris from our daily activities. When the waste has broken down into good compost and is distributed around plants or worked into the soil, it reduces the need for fertilizer. Composting is one of the best ways to recycle nutrients.



What is needed to turn organic waste into compost?

- **Air** for ventilation provided by open-sided compost bins or wired bins.
- **Water** to keep the compost moist and starting the bacteria and fungi that work on the decomposition process. Water addition needs to be balanced; less than 30% moisture slows the process and more than 65% moisture can create slime and odors.
- **Carbon (brown) materials and nitrogen (green) materials** in a 50/50% ratio. Brown and green does not refer to the color of the materials but their composition and breakdown. See the chart below for breakdown of the carbon/nitrogen materials.
- **Warm or hot temperatures** to break down the materials. It takes three to nine months for compost to break down for use depending on time of year and weather. The pile should be turned monthly.

Chart on composting materials

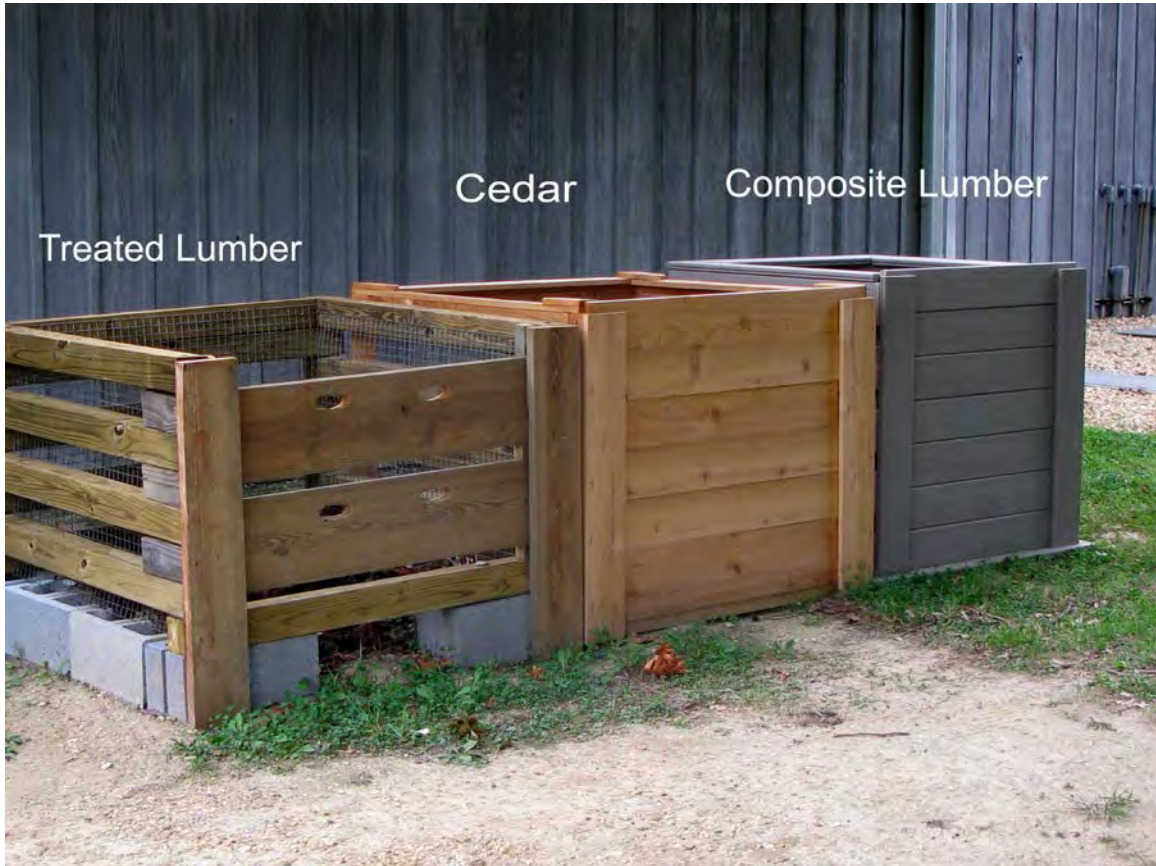
Material	Carbon/Nitrogen Contribution	Info about the material
Fruit and Vegetable scraps	Nitrogen	Add with dry carbon items
Eggshells	Neutral	Well crushed works best
Leaves	Carbon	If possible shred the leaves
Grass clippings	Nitrogen	Layer do not let them clump
Garden plants		Use only disease free plants
Lawn & garden weeds	Nitrogen	Only weeds which have not gone to seed
Pruning debris	Carbon	Woody material breaks down slowly
Straw or hay	Carbon	Straw is better, hay has seeds
Pine needles	Carbon	Use in moderate amounts c
Flowers	Nitrogen	Chop woody or fibrous stems
Ashes	Carbon	Be sure they are cool ashes,
Coffee grounds	Nitrogen	Filters may also be composted
Newspaper	Carbon	No glossy paper, shred all paper
Cardboard	Carbon	Shred cardboard, avoid matting
Corn cobs and stalks	Carbon	Best if chopped up
Sawdust	Carbon	Avoid dumping add in layers
Wood chips and pellets	Carbon	Use sparingly
Soil	Carbon	Absorbs odors, adds beneficial bacteria

Do not add meat products, bones, grease, pet manure or dairy products to compost. These create odors and attract rodents to the area as well as promote harmful bacteria. Gardeners are careful not to add weeds with seeds or plants that have lots of seed heads as these will reproduce when you distribute the composted material. Avoid adding plants that are diseased. Do not add large sticks or branches as they will not break down effectively. If you see insects and other invertebrates in our compost, these are beneficial to the composting process. Please note that although soil is included in the chart above, it is rarely added by most gardeners if their compost process is healthy.

Why should you compost at home?

- Composting can divert 30% of household and garden waste from trash and landfills.
- Compost improves garden soils for root development and health of your plants
- Compost is a good and cheaper alternative to chemical fertilizers
- Compost improves soil to reduce surface runoff
- Compost is a better alternative than burning fall organic refuse

The Calvert Museum showcases three types of compost bins for demonstration. There are also smaller ready-made bins available for purchase at hardware and garden stores.



Compost Bin Details: (Costs below are the actual costs for materials during the summer of 2012 when the bins were constructed.)

Treated lumber design was the easiest assembly and took approximately two hours after all materials had been purchased. [Click here](#) to see a PowerPoint showing assembly.

8 corner design cement blocks at \$1.26 each	\$10.08
2 Rebar(1/2 inch by 10 foot) cut in half	\$9.32
8 4x4x8 treated landscape lumber at \$7.15 each	\$57.20
8 2x6x8 treated lumber for front of bin (optional)	\$39.68
12 X 3 feet of 1/2 inch wire mesh	\$20.00
1 box of wood staples for securing wire mesh	<u>\$8.00</u>
Total	\$144.28



Opening for removal of composted materials.

The **Cedar** compost bin was more difficult to construct and took about 5 hours..

6 1x6x12 cedar boards at \$12.58 each	\$75.48
1 box deck screws 1 and 5/8 inch long	\$25.96
12 X 3 feet of ½ inch wire mesh	<u>\$20.00</u>
Total	\$121.44



The **Composite Board** compost bin took approximately 7 hours to construct and was more expensive. This material should not rot and would be more maintenance free as well as more attractive.

8 pieces of 16 foot Trex deck material - standard width	\$227.26
1 box of deck screws	\$25.96
12 X 3 feet of ½ inch wire mesh	<u>\$20.00</u>
Total cost	\$273.22

If you want to compost at home or you want more information on building a compost bin, there are many good sources for information on the Internet and at your state or county extension office. Below are just a few of those resources.

University of Maryland

<http://www.mde.state.md.us/programs/Land/RecyclingandOperationsprogram/SpecialProjects/Pages/programs/landprograms/recycling/specialprojects/composting.aspx>

University of Maryland Extension

<http://extension.umd.edu/>

University of Maryland Home and Garden Information Center

<http://www.hgic.umd.edu>

1-800-342-2507

US Compost Council

<http://compostingcouncil.org/factsheets-and-free-reports/>