



Bennington County Regional Commission
Spring 2013
Solid Waste Management Newsletter
Composting

With spring upon us, we are devoting this newsletter to composting. Here you will find information on the basics of composting. Composting is easy, but explore some of the recommended sources of information for more complete guidance on getting started.

What is Composting: Composting is a process by which organisms break down organic materials into smaller sizes and in the form of nutrients that can be taken up by plants. In forests, leaves and woody debris break down by the actions of insects and other invertebrates, bacteria, and fungi to form the upper layers of the soil. Composting is the same process.

Uses of Compost: Compost can be used to fertilize plants, to aerate the soil, to provide better soil structure, to encourage soil organisms that help provide nutrients to plants, and to help hold moisture in the soil. Compost can also be used in erosion control by limiting soil loss and by promoting the growth of plants that stabilize the soil.

How and What to Compost: All organic materials can be composted, but some may be problematic. For example, oils, fatty products and dairy products may slow the process and create odors or attract pests. Meat, bones and seafood can attract pests as well, and temperatures should exceed 131⁰ F to kill pathogens that may be lurking in these materials.

What and what not to compost. Source: USEPA 2013	
What to Compost	What Not to Compost
Fruits and vegetables	Dairy products (milk, sour cream, yogurt)
Eggshells	Fats, grease, lard
Coffee grounds and filters; tea bags	Meat or seafood scraps
Nut shells	Pet wastes (feces, cat litter) as these may contain pathogens that are harmful
Paper, including shredded newspaper and cardboard	Plastic, aluminum, tin, glass
Grass and yard trimmings, leaves, hay and straw; houseplants	Yard trimmings treated with chemical pesticides Black walnut leaves or twigs as these release substances harmful to plants; Diseased plants where disease or pests may survive and spread
Woodchips and sawdust	Treated or painted wood
Fireplace or woodstove ash	Coal or charcoal ash as may contain substances harmful to plants
Cotton and wool fabrics including vacuum and dryer lint	Fabrics from human-made materials



Soil Saver Compost Bin

Composting at Home: You can divide the materials you compost into “greens” and “browns.” Greens are high in nitrogen and are generally wet. Vegetables, fruit scraps, grass clippings, coffee ground and tea bags are all greens. Browns are dry and include leaves, straw, hay, woodchips, dried grass clippings and paper and provide needed carbon. A general rule of thumb is to evenly mix greens and browns.

You can use a compost bin, as in the picture on the left, or a simple pile or fenced in area using wood pallets as shown below. Several of the *Sources for More*

Information at the end of this newsletter have plans for compost bins. You can put a great deal of effort into

composting by maintaining the correct blend of materials, keeping the material turned so as to get oxygen into the mixture and maintaining a temperature of 120 to 140 degrees to kill pathogens and speed up decomposition. Or you can be more casual and let nature take over with minimal maintenance. Decomposition will occur more slowly, but you will successfully recycle your organic materials.



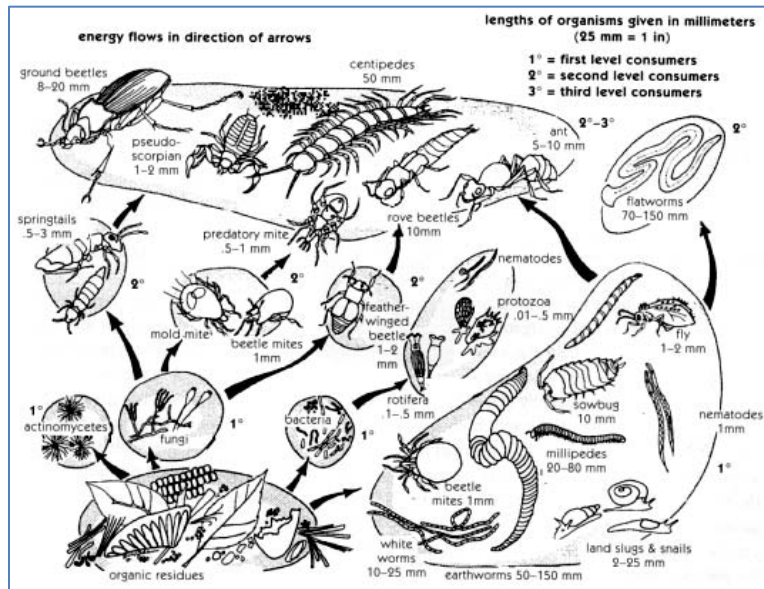
Backyard compost bin made from pallets

The typical size of a compost pile is three by three by three feet or one cubic yard. The size needs to be based on how much material you need to recycle and how much effort you can expend maintaining the pile.

Water is essential, so you should monitor moisture periodically by grabbing some material and squeezing it. If a few drops of water fall, that should be sufficient. More and the pile is too wet and less and it is too dry.

One advantage of a closed bin is that the cover will limit water input from precipitation. Alternatively you can cover your open pile. In either case the piles should be well drained.

Air is essential as the organisms that are doing the composting need air to survive. If the pile becomes too dense or wet, those organisms die and organisms that can function in low or no oxygen conditions thrive. Decomposition slows and the pile begins to smell. The pile needs to be turned weekly or as needed using a fork or your hands or whatever tool is best for you.



There are a multitude of organisms involved in composting including nematodes, springtails various mites, earthworms, millipedes, bacteria and fungi. They all need materials, air, water and the right temperature to thrive.

Larger Scale Composting: In 2012, the Vermont Legislature passed Act 148, which will dramatically reduce the amount and types of materials sent to landfills. Between now and 2020, there will be a gradual phasing in

of management of leaf and yard wastes and food residuals at certified facilities. This phased process requires large generators (>104 tons/year) to divert such wastes by 2014. Ultimately everyone will be doing so by 2020. Composting at home will greatly help residents to meet this goal. Commercial facilities will need to come online to serve businesses, schools, government agencies and those who can't compost at home. For more information on Act 148, visit this website: <http://www.anr.state.vt.us/dec/wastediv/solid/Act148.htm>

Fixing Problems: Common problems include odor and pests. The table below provides some solutions.

Troubleshooting backyard compost. Source: CalRecycle 2012		
Symptom	Cause	Solution
Bad smell	Not enough air Too much moisture	Turn the pile Add dry materials
Pile will not get hot	Not enough moisture Pile is too small Lack of nitrogen Pieces of material are too large	Add water Enlarge the pile Add greens Chop up the pieces
Rodents, flies, pets are problematic	Pile contains meat, bones fatty materials	Alter what is in the pile. Bury fruit and vegetable scraps in the middle of the pile
Pile has slugs	Slugs are accessing the pile	Separate the pile from the garden or other source of slugs after you remove them from the pile

Sources of More Information: The following are some web sites that offer more information on composting.

CalRecycle 2012. Backyard composting. Available via:
<http://www.calrecycle.ca.gov/organics/homecompost/> - Great site on composting and other gardening and landscaping tips.

Chittenden Solid Waste District 2012. Backyard composting. Available via:
<http://www.cswd.net/composting/backyard-composting/> - This site describes how to get into composting in six steps. CSWD also offers workshops on backyard composting.

Cornell Waste Management Institute 2007. Composting. Available via:
<http://cwmi.css.cornell.edu/composting.htm> - This is a great site with materials one can download on composting.

Master Composter Website 2009. Available via <http://www.mastercomposter.com/> - This site provides guidance on the basics of composting, how to get started and how to build your first compost pile.

University of Illinois Extension. The science of composting. Available via:
<http://web.extension.illinois.edu/homecompost/science.cfm> - Great site on what organisms are busy creating compost.

USEPA 2013. Composting for facilities basics. Available via:
<http://www.epa.gov/compost/index.htm> - or <http://www.epa.gov/recycle/composting.html>
These sites have a wealth of information ranging from home composting to larger scale facility operations.

Vermont Agency of Natural Resources 2003. Composting. Available via:
<http://www.anr.state.vt.us/dec/wastediv/compost/main2.htm> - You can find more information on composting operations, rules and regulations in Vermont as well as links to informational sites.