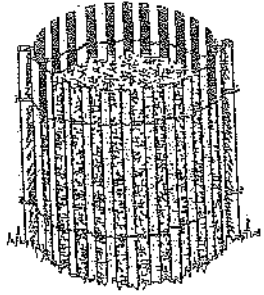


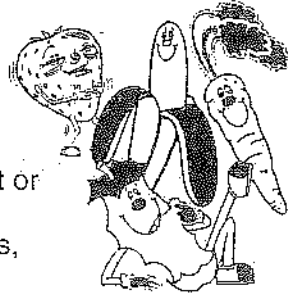
Backyard Composting Dos and Don'ts



What kinds of things can I compost? What shouldn't I compost?

Do put weeds, bread, coffee grounds, evergreen needles, fruit, fruit peels and rinds, garden and lawn clippings, leaves, sawdust, straw, sod, tea leaves, vegetables, wood ash, wet paper towels, and wood chips in your compost pile. These are all safe and effective materials for composting. You can also soak and tear cereal, snack and soap powder boxes to add to your bin. Cover these materials with leaves and yard trimmings. Start now, no matter what time of year, but definitely start a new batch every fall or whenever you have lots of leaves or yard trimmings.

Do not put butter, bones, cheese, chicken, meat or fish scraps, lard, pet manure, mayonnaise, milk, oils, peanut butter, salad dressing, vegetable oils, or sour cream in your compost pile.



How much space will I need?

An effective compost pile must be large enough to hold heat at its center, yet small enough to allow air to permeate the pile. Generally speaking, a home compost pile should be at least 3'x3'x3' in order to retain proper heat, and not any larger than 5'x5' or proper air circulation may not be maintained.

Is it best to buy a compost bin or just have an open pile?

Backyard composters have several options. An open compost pile can be an effective method, though your pile will be more susceptible to wind and other weather conditions. If you can keep the pile together and maintain necessary heat and moisture, this is an inexpensive method of backyard composting. Building your own compost bin can also be inexpensive and fun, typically requiring enough wire mesh to create a 3' diameter enclosed area, a few metal stakes to anchor the bin to the ground, and a little handiwork to put it all together.

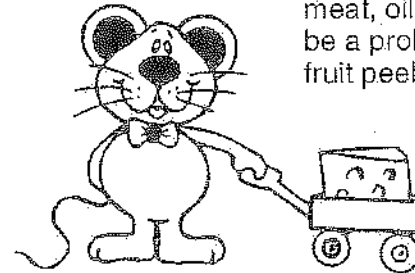


If you decide to purchase a home composting bin, there are many effec-

tive sizes available. It will be up to you to decide how much backyard space you will dedicate to composting. Many compost bin varieties are available, ranging from small, partially-underground units, to large tumblers that agitate the decomposing organic matter by rolling around the backyard. Most bins are made out of wood or recycled plastic, are priced quite reasonably, and will hold up well against the elements.

Will my compost pile attract mice, rats and other animals?

If you follow the guidelines above regarding what to include in your backyard compost pile, you should have little problems with pests. Pests are attracted by high fat and protein foods such as meat, oils, cheese, fish and chicken, but should not be a problem if you only include vegetable scraps, fruit peels, and garden clippings.

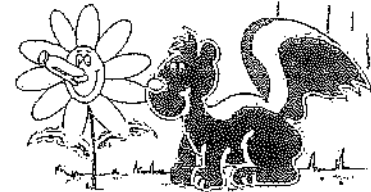


Occasionally mix the pile's contents to maintain proper levels of heat and oxygen. Be aware of the moisture in the pile. The wetness should be similar to that of a damp sponge -- not too wet, not too dry. If you live in an area that re-

ceives an inordinate amount of rainfall, try covering your pile so as not to over-saturate it.

Will the pile smell bad?

There should be no odor if the pile is properly maintained. The same rules about attracting pests should also be followed to avoid odors. In addition, you can improve your compost pile's performance by turning the pile with a shovel or other turning device. Microorganisms that thrive in environments with no oxygen (anaerobic) tend to generate bad odors, while those that exist in oxygen rich environments (aerobic) do not smell bad. Composters who turn their piles regularly maintain high levels of oxygen throughout the pile. Regular turning will also accelerate decomposi-



tion and transform your kitchen and garden scraps into humus-rich compost that much sooner.

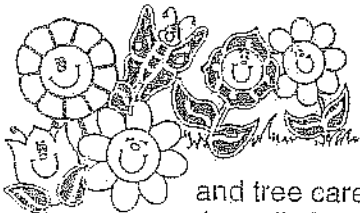
Can I compost during the winter in cold climates?

Yes. Because microorganisms generate heat and must have oxygen to survive, cold climates should not affect the pile too dramatically if the pile is properly maintained. Decomposition may slow down, but the process will continue. Carbon rich materials such as leaves, twigs, and sawdust must be mixed in the pile with nitrogen rich materials such as grass clippings and fruit and vegetable peels. Along with regular turning and good air circulation, the microorganisms responsible for decomposition will generate heat while they break down the materials into compost. With the proper carbon/nitrogen ratio and regular turning, heat will be generated and decomposition will occur regardless of climate. During the winter months, cover finished compost with a piece of plastic to keep it dry.



How can I use the compost I make?

Compost improves the structure of soil and helps retain moisture and minerals. In clay or sandy soils, compost also increases porosity that allows plant roots to more easily penetrate soils and surface water to drain between particles. Compost can be beneficially applied on lawns, gardens, athletic fields, shrubs and trees, and nursery and container plants. For application to your lawn, fine compost should be broadcast uniformly on grass surface at a rate of 1/8" to 1/2". For shrub and tree care, apply 1/8" to 1/4" compost and work it into the soil. Compost can also be used in other landscaping techniques, such as around trees, as a light mulch instead of straw and can be added to soil around perennial flower beds. In flower beds, 1" to 2" of compost should be worked into the surrounding soil.

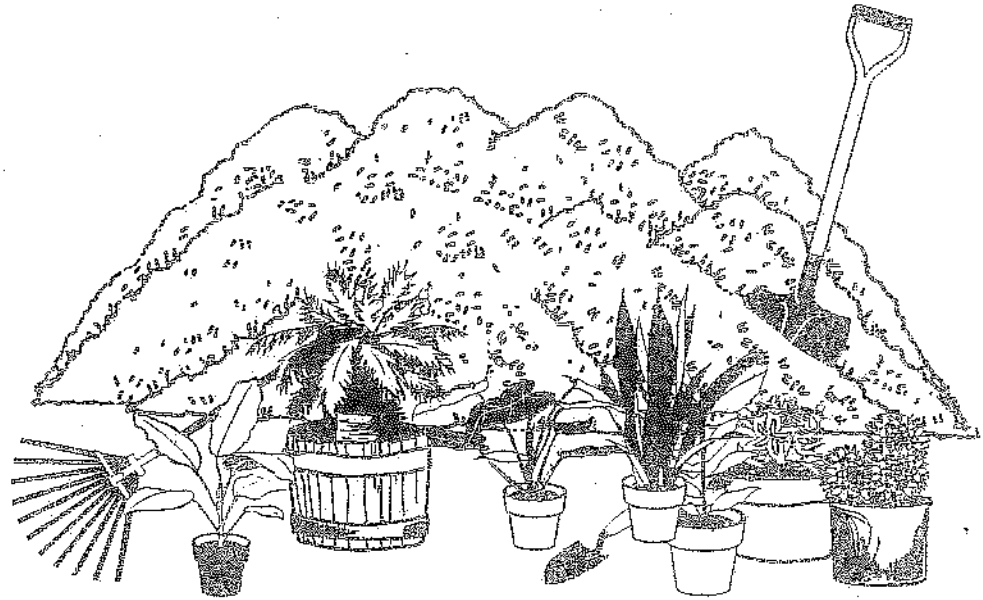


Where can I find out how to get started composting?

Call the Greater Cleveland Ecology Association's Yard Waste Recycling Program at 687-1266. GCEA has been composting yard waste for municipalities since 1981. Composted yard waste makes a fine rich humus suitable for flower and vegetable gardens. We sell the finished product to home gardeners, landscapers, and garden centers. Call today for a price list on Cuyahoga leaf humus and mix.

Information contained in this brochure was provided by the Composting Council, Washington, D.C.

Backyard Composting



A Good Thing to Do!



**CUYAHOGA COUNTY
SOLID WASTE DISTRICT**



*Greater Cleveland Ecology Association
(216) 687-1266
Cuyahoga County Solid Waste District
(216) 443-3749
323 Lakeside Avenue West, Suite 400
Cleveland, OH 44113*

• WHAT IS COMPOSTING?

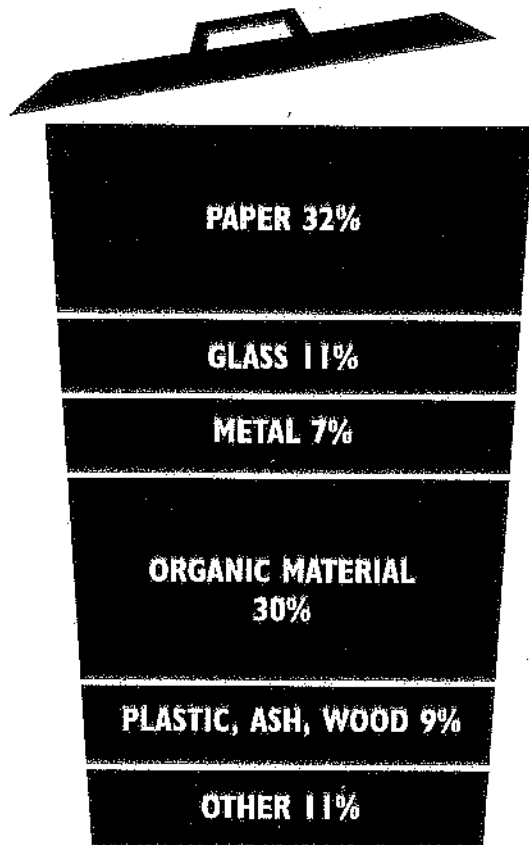
Composting is a simple way of converting organic waste into a rich humus called compost. Billions of micro-organisms produce this rich dark humus.

• WHY COMPOST?

To produce a rich soil amendment and to increase vegetable, flower, lawn and tree growth without spending any money.

To reduce domestic waste volume: your garbage bag contains an average of 1/3 of compostable organic material.

• AVERAGE GARBAGE CAN CONTAINS



Recent studies show that an average family generates 225 kg of organic waste every year. In most cases this waste fills up landfill sites, becomes potentially toxic, and sooner or later may release polluting gases, mainly methane, which is responsible for the greenhouse effect. Home composting is a positive solution to our landfill sites' congestion; it allows waste recycling by converting it into a readily usable non-chemical resource, and produces an excellent soil amendment for gardens.

• WHAT TO COMPOST?

YES

From the Garden

- Mulched Leaves
- Grass (not wet)
- Garden Plants
- Weeds
- Old Potting Soil
- Soft Plant Stems

From the Kitchen

- Fruit Scraps
- Vegetable Trimmings
- Egg Shells (crushed)
- Tea Bags
- Coffee Grounds with Filters
- Shredded Paper
- Shredded Cardboard
- Containers

NO

- Meat Scraps
- Bones
- Fish
- Dairy
- Oils
- Cheese, meat or sauces
- Plastics
- Metals
- Glass
- Stone
- Pet Waste

JUST A LITTLE

- Pine Needles
- Pine Cones
- Walnut Leaves
- Wood Chips

• HOW TO COMPOST

Start with your available organic materials; leaves, grass and table scraps. Moisten the dry parts lightly and mix whatever you have together with some old compost, composter manure, leaf mould, compost starter, or rich loam soil if the others are not available.

Add your daily kitchen scraps and garden trimmings.

Sprinkle each layer with old compost and work it in.

The Earth Machine works best when the pieces are small.

Weeds and trimmings should be shredded.

Do not add thick layers of any one kind of waste. Grass should not be more than 2 1/2" deep, leaves up to 6" deep. (Mulch or dry and crumble them). Mix grass with coarse material to prevent compacting.

The composter contents should be moist like a wrung-out sponge. If the contents are too dry, it will take overly long to compost; and if too wet, the contents may rot and smell. The lid of the Earth Machine is specially designed to control moisture.

On high humidity days turn the lid to expose all the vents.

On cool days, keep the vents closed to maintain the optimum composting temperature.

Mix the compost every couple of weeks or each time you add new material. This keeps the compost well aerated.

Removing the finished compost is simple. For small quantities, slide open the door and take out the composted material. For large quantities, lift the entire cylinder, remove the top active uncomposted layer to one side, remove composted material from the bottom, then re-install the composter with the screw pegs and put back inside the active uncomposted layer, which you had set to one side.

• COMPOSTING QUESTIONS AND ANSWERS

HOW LONG DOES COMPOSTING TAKE?

The composting process can take from 2 months to 2 years, depending on effort involved. To accelerate process, pile must be balanced (dry/humid material), watered thoroughly, frequently turned, and material should be shredded.

CAN COMPOSTING BE DONE IN WINTER?

Yes. You can accumulate your kitchen waste all winter long. Add dry material each time. Breakdown process stops when pile is frozen, but it will start again in spring. Thorough turning in spring will reactivate the pile.

- TIPS.**
- Empty the composter in the fall to make plenty of room.
 - Move your composter close to the house for the winter months.
 - Save a few bags of leaves in the fall to add throughout the winter.

WHAT ABOUT TREE LEAVES?

If many trees grow on your property, you may not be able to compost all the leaves at the same time in your composter.

Though you can:

- 1 - crumble them with your lawn mower, to reduce volume;
- 2 - pile it in a wind free area for future use;
- 3 - during fall, mix some with your garden soil to amend the soil;
- 4 - use it as a mulch to prevent weeds and keep soil moisture;
- 5 - putting your leaves in a container and running your grass trimmer through them will also reduce their volume.

GRASSCYCLING

For years people have been mowing, bagging and ultimately sending grass clippings to landfill sites. Grass clippings are fine materials to place in your compost pile. Another option is GRASSCYCLING, which is the natural recycling of grass clippings by leaving them on the lawn after mowing. Mulching lawn mowers are now available which finely cut the grass blades and return them to the lawn.

Remember, do not remove more than 33% of the leaf blade at one time, set your mower height to 2 to 3". Cut grass when dry.

HOW TO COMPOST GRASS CLIPPINGS

Grass Clippings bring problems because the material tends to compact itself and is very rich in nitrogen, which can bring bad odors.

To combat this you can:

- 1 - add to compost in thin layers;
- 2 - let it dry before adding to the pile;
- 3 - mix it with dry material such as leaves.

HOW TO USE FINISHED COMPOST

Compost is ready to be used when it has a dark color with friable structure, and when most material cannot be identified. You can sift the compost to eliminate undesirable material. Pour this material back into the "Earth Machine".

To help build a lawn that stays green all summer with low water demand, use compost generously. In building a new lawn, work in large amounts of compost to a depth of at least 6 inches before planting seed or laying sod.

You can sift your compost through a very fine screen and simply sprinkle a layer on top.

Applying compost in a wide ring directly below dripline of a tree, feeds the root system. When planting tree seedlings, blend some compost with existing soil as a soil enrichment.

Add compost to 5 or 10 centimetres (2 to 4 inches) of your soil before planting flowers or vegetables. Compost helps to retain moisture.

HOW COMPOST CAN BENEFIT YOUR SOIL

- Compost increases organic matter in soil.
- Compost builds sound root structure.
- Compost makes clay soils porous so they drain.
- Compost improves sandy soils moisture holding capacity.
- Compost attracts and feeds earthworms.
- Compost balances pH (acidity/alkalinity) of soil.
- Compost helps control soil erosion.
- Compost reduces plant stress from drought and freezing.
- Compost improves vitamin and mineral content in food.
- Compost generously applied replaces reliance upon petrochemical fertilizers.

• TROUBLE SHOOTING

Composting is not difficult, but nature doesn't always behave exactly as we would want. Here are easy solutions to the few things that might stall your Earth Machine.

SYMPTONS	PROBLEMS	SOLUTIONS
BAD ODOR	>NOT ENOUGH AIR OR >TOO MUCH WATER	>TURN THE PILE AND ADD CARBON RICH MATERIAL >DECREASE WATER- ING OR PROTECT FROM HEAVY RAIN
CENTER OF THE PILE IS DRY	>NOT ENOUGH WATER	>MOISTEN AND TURN THE PILE
COMPOSTING PILE IS COLD OR ONLY ITS CENTER IS WARM	>NOT ENOUGH MATERIAL >OUTSIDE LAYER IS EXPOSED TO DRY- NESS	>ADD MATERIAL AND TURN >COVER THE PILE WITH JUTE >ADD NITROGEN RICH MATERIAL
ATTRACTS UNDESIRABLE INSECTS (FLIES) AND ANIMALS	>INAPPROPRIATE COVERING OF RECENTLY ADDED KITCHEN WASTE OR >PRESENCE OF NON- RECOMMENDED MATERIAL	>ALWAYS COVER KITCHEN WASTE WITH SOIL OLD COMPOST OR LEAVES OR >REMOVE NON-REC- COMMENDED MATERIAL

• HOT RECIPES

Composting can be viewed a little like cooking; a good recipe will enhance the finished product. The following recipes and ratios are suggestions for combinations you can create from the materials you have available.

Compost recyclers may opt to just "Keep the Bin Full," rather than follow these recipes and mixing guidelines.

The recipes below are based on volume and listed in descending order from hottest to least hot piles. A pile made up of 1/4 to 1/2 high-nitrogen materials (greens) will heat up rapidly and become compost faster.

COMPOST COOKBOOK

N = nitrogen

NN = higher nitrogen

NNN = highest nitrogen

C = carbon

CC = higher carbon

CCC = highest carbon

RECIPE #1

2 parts Dry leaves	CC	Browns
2 parts Straw or wood shavings	CCC	Browns
1 part Manure	NNN	Greens
1 part Grass clippings	NN	Greens
1 part Fresh garden weeds	N	Greens
1 part Food scraps	NN	Greens

RECIPE #2

2 parts Dry leaves	CC	Browns
1 part Fresh garden weeds	N	Greens
1 part Fresh grass clippings	NN	Greens
1 part Food scraps	NN	Greens

RECIPE #3

6 parts Dry leaves	CC	Browns
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3 parts Food scraps NN Greens

3 parts Fresh grass clippings NN Greens

RECIPE #4

3 parts Dry leaves CC Browns

3 parts Fresh grass clippings NN Greens

RECIPE #5

3 parts Dry grass clippings C Browns

3 parts Fresh grass clippings NN Greens

...or your own special blend.

SPICE UP YOUR PILE

The following condiments will add nutrients to your pile. These materials are not required, but can be beneficial to the process. Sprinkle the condiments throughout the pile.

CONDIMENTS

Garden soil* 1/2 shovelful maximum

(high in microorganisms)

Finished compost* 1/2 shovelful maximum

(very high in microorganisms)

Bone meal 1/2 shovelful

(high nitrogen source)

Blood Meal 1/2 shovelful

(high nitrogen source)

Fireplace ashes shovelfuls

(high in potash and carbon)

Crushed rock dust shovelfuls

Compost Starter per directions

*Too much soil will slow the process down.

