Easy Composters You Can Build

Nick Noyes

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Introduction

Composting, which in its most basic form is simply the process of decomposition, began long before we humans ever took it upon ourselves to make it an organized activity. Given enough time and the proper conditions, organic matter breaks down. Composting, as we use the term in the modern sense, is a system for enhancing, and thus accelerating, the natural process of decomposition. Since composting is going to take place with or without us, we can make the process as simple or as complex as we choose and be assured of success every time.

When I began, everything I knew about composting was what I had learned from my dad. It's a wonder that I ever started, though, as his experience was . . . well, ill-fated. Always a person ahead of his time, one spring in the mid-1960s he decided to make a compost bin out of a big old steel oil tank. The tank's walls were quite thick, so he had a welder cut a hole in one end to put in materials, and a door in the other end to remove the compost. Iron legs were welded to the bottom for stability. Dad painted the tank green and stood it up in the backyard. It was about six feet tall, four feet wide, and two feet deep.

A tank that big can accommodate a great deal of compostable material. In fact, it held much more than a family of four in a suburban neighborhood could produce. For the first time in our family's history dad stopped insisting that we finish all the food on our plates. In fact, we were lucky to have eaten what we wanted before our plates were scraped and dad was headed for the tank. Unfortunately, everything went into that tank, including meat, fat, and bones, and I shudder to think what else. With his family unable to generate sufficient waste, my father also collected all sorts of material from friends (many of whom were fishermen).

Almost no air could get to the material in the tank, and in no time it was filled with a rotting, awful-smelling mess. My brother and I complained. Our neighbors complained. Dad kept heaping on the materials. It was only a matter of time, he said, before the system would be working correctly. The outcry grew louder, though. By September, due to popular demand, dad stopped using the bin.

Dad's oil bin composter stood in the back yard for more than a decade. The stuff in it eventually stopped smelling bad, and by the early '70s he was indeed using compost from it on his garden. "See, it did work." he said at the time. You won't find plans for my dad's composter here.

Personally, I am a lazy composter. Unlike my dad, who wanted compost for his garden, I began composting as a way to reduce the waste that my family sent to the landfill. My first compost bin was a concrete block enclosure made by simply stacking the blocks. I took advantage of a corner of the chain link fence that enclosed our backyard, and used the blocks to form a square. Two sides of the bin were fence, and two sides were block. When our dog developed a fondness for the area, I added a lid, making a frame with 2x4s and stapling chicken wire to the frame. I attached the lid to one of the chain link "walls" of the composter with heavy wire. The lid lifted easily to put in my compost materials and then dropped right back into place over the pile. Keeping out a bigger dog than ours might have also required a latch.

Almost nothing but kitchen and yard waste go on my compost pile. Other materials, as you will read, may be used if handled properly, but the memory of dad's compost mix lingers, so I play it very safe. I rarely turned that first compost pile of mine, usually only when adding fall leaves, to mix it up a bit. But it made a great rich humus anyway. After four or five years there was a great base of decomposed material. I never did put any of it in my garden. I ended up using it to fill in some low spots in my yard as I prepared to sell the house. This seems like a terrible

waste of that great stuff now, but it got me started on the right track.

I've built a number of bins since that original one of concrete block, and, by trial and error, learned a bit more every time. This book is designed to help both the beginning and seasoned composter to organize an efficient composting system to fit their particular needs. It covers the reasons for composting, the materials and methods of composting, and finding a suitable location. It also presents a variety of plans for building your own bins and boxes for efficient composting.

My dad's experience notwithstanding, a compost system should be one of the more pleasurable minor accomplishments of life. With as much or as little effort as you wish to put into it, you're helping to address the environmental problems that we all share. Plus, you're creating a useful, beneficial product. Composting can be a simple matter of tossing kitchen and yard waste into a contained pile or it can be a three-bin, multi-layered time- and temperature-monitored extravaganza. What works best is what works best for you.

Why Make Compost?

Even though you've already decided to make compost, thinking about the "why" of making compost is important in deciding what type of bin to make and where to locate it. Perhaps your only interest is to save money on your trash disposal bill and/or be kinder to the environment. Maybe (horrors!) you don't even have a garden. For you the simplest of bins is probably the best answer. If you're in no rush to have usable composted material you can keep your easy-care pile working and odor-free with just an occasional turn of the pile and little else. A simple wire bin or quickly assembled concrete block enclosure may be all you need.

Gardeners who compost save money in many ways. Compost contains nitrogen, phosphorus, and potassium, plus trace nutrients that plants need, so it reduces the need for purchased fertilizer. It releases nutrients at a natural rate, keeping pace with the growth patterns of plants, and makes wonderful improvements to soil texture. In addition, it's filled with organisms useful to the soil, from microorganisms to earthworms. Finished compost may be used as mulch around plants, saving the cost of wood mulch and helping to conserve water by keeping roots moist. And because it is so helpful to soil texture, compost also eliminates the need to purchase peat moss.

As a gardener discovering the myriad uses and virtues of compost, you may decide that you must quickly produce vast quantities on an ongoing basis. A system such as this will require a bit more time and attention to detail. You might want to consider a large and durable structure situated for easy access, and convenient to load and turn.

Why Make Compost in a Bin?

Although they are not strictly required for composting to occur, compost bins are useful for a number of reasons. First, bins are tidy. Piles out in the open are harder to control, especially to keep piled up and properly aerated and watered, than ones that are contained. Frequent turning accelerates composting, and a pile in a bin is easier to turn without making a mess. Bins help hold in heat as the compost "works," increasing the likelihood that weed seeds and pathogens will be destroyed, an especially important factor if you will use the compost on your garden.

Another good reason for a bin is animals. Animal problems are second only to odor problems as the factors that gave early composting efforts a bad name. Both problems are easily avoided. With minimum effort, a properly designed and managed compost heap will not create any problems with animals. Period. I've never had problems with wild animal visits, even living in the country. Of course, if you toss on something appealing to varmints and don't cover it up right away, having a bin that restricts animals will head off potential raids. An animal-proof bin will also help alleviate concerns that uninitiated neighbors might have about your new pursuit (until they see your success and start composting themselves).

Common sense dictates that compost piles in urban residential neighborhoods without fences should be protected from animals, especially pets, rats, and mice. Because of the danger of encouraging rodents, some states require rodent-proof compost bins in urban areas. A rodent-proof bin really is a necessity if you plan to compost food waste in urban areas, and you may find that it is a good idea wherever you are. Pets, especially dogs, will sometimes "prospect" around untended piles. Some gardeners use an enclosed composter for food wastes and have a separate open bin system to handle yard wastes. Food waste may also be composted by burying it in the garden, at least 8" deep.

If you should encounter a problem with animals, you may be using the wrong materials in

your pile (i.e., fat, oils, grease, meat, bones, or dairy products), or not turning it often enough (thereby creating an “attractive” odor), or the bin might not be sufficiently restricting to pests.

Composting Systems at a Glance

Type	Advantages	Disadvantages
Slow outdoor pile	Easy to start and add to. Low maintenance.	Can take a year or more to decompose. Nutrients are lost to leaching. Can be odorous and attract animals and flies.
Hot outdoor pile	Fast decomposition. Weed seeds and pathogens are killed. More nutrient-rich because less leaching of nutrients. Less likely to attract animals and flies.	Requires lots of effort to turn and aerate and manage the process. Works best when you have lots of material to add right away, as opposed to a little bit at a time.
Bins and boxes	Neat appearance. Hold heat more easily than a pile. Deter animals. Lid keeps rain off compost. If turned, decomposition can be quite rapid.	Costs you time to build the bins or money to buy them.
Tumblers	Self-contained and not messy. Can produce quick compost. Relatively easy to aerate by turning the tumbler. Odor not usually a problem. No nutrient leaching into ground.	Tumblers are costly. Volume is relatively small. Works best if material is added all at once.
Pit composting	Quick and easy. No maintenance. No investment in materials.	Only takes care of small amounts of organic matter.
Sheet composting	Can handle large amounts of organic matter. No containers required. Good way to improve soil in large areas.	Requires effort to till material into the soil. Takes several months to decompose.
Plastic bag or garbage can	Easy to do year-round. Can be done in a small space. Requires no back labor.	Is mostly anaerobic, so smell can be a problem. Can attract fruit flies. Need to pay attention to carbon/nitrogen ratio to avoid a slimy mess.
Worm composter	Easy. No odor. Can be done indoors. Can be added to continuously. So nutrient-rich it can be used as a fertilizer. Good way to compost food waste.	Requires some care when adding materials and removing castings. Need to protect worms from temperature extremes. Can attract fruit flies.

Wood and Wire Compost Bins

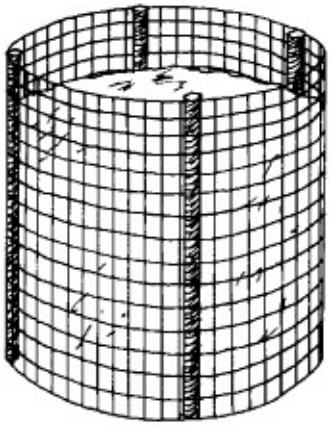
The following plans offer compost containers that fit a variety of composting styles and composter locations. While some offer exact specifications for dimensions and materials, the plans can also be used simply as guidelines. The desire to recycle materials on hand seems to be an integral personality trait of those who compost. My neighbor cuts 15-foot lengths from an old reinforced rubber conveyor belt, wires together the ends, and makes great, sturdy bins. Others use plastic or wood snow fencing arranged in a circle. Experiment, adapt, innovate!

The plans of the Seattle Tilth Association are included (with thanks for their use) because they are well thought out and understandably popular. However, some people, especially those with physical handicaps, may find the bins are too tall for them to easily reach in and turn materials, or that it is too cumbersome when aeration is done by lifting and moving the bin. While the taller bin is optimum for making a hot pile, compost may be made just as well in a lower, wider bin.

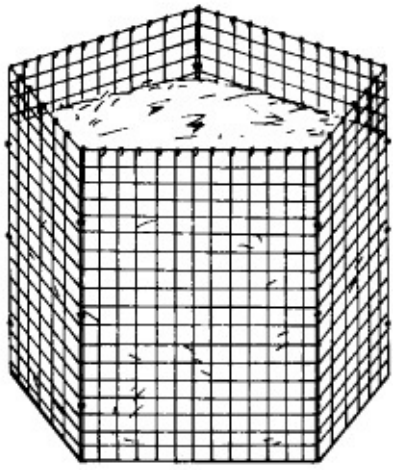
Many prefer to use pressure-treated wood for outdoor projects (and the “wood and wire stationary 3-bins system” specifies its use). You may wonder if this wood is safe for use around materials, such as compost, that will come in contact with plants that you might eat. The jury is still out, although some experts insist that the toxic compounds in pressure-treated wood do not leach out and affect plants. I choose not to use pressure-treated materials anywhere near my compost bins or my vegetable gardens. If you want to build with pressure-treated wood, check with the manufacturer for the latest safety information regarding your intended use.

Although these are mostly simple projects, don’t neglect safety when making them. Unwrap wire carefully: prepackaged hardware cloth (which, by the way, is not cloth at all, but a stiff wire mesh) is often “spring loaded.” When making composters that use hardware cloth or poultry wire, make sure there are no wire ends sticking out on your completed project. Cover all exposed wire edges with wood trim where practical. Finally, always wear the ear and eye protection appropriate for building your project.

Wire Mesh Compost Bins



Circular Bin



Five-Panel Bin

Materials

Circular Bin (3½-foot diameter)

12½ feet of 36” wide 1” poultry wire, or

½” hardware cloth, or 18-gauge plastic-coated wire mesh

4 metal or plastic clips, or copper wire ties

three or four 4-foot wooden or metal posts to support poultry wire bins

Five-Panel Bin

15 feet of 24” wide 12- to 16-gauge plastic-coated wire mesh

20 metal or plastic clips, or plastic-coated copper wire ties

Tools

heavy-duty wire or tin snips

pliers

hammer

metal file

work gloves

Construction Details

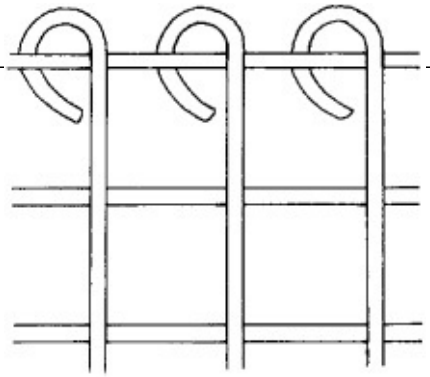
Circular Bin:

Roll out and cut 12½ feet of poultry wire, hardware cloth, or plastic-coated wire mesh. If using poultry wire, roll back 3 to 4 inches at each end of cut piece to provide a strong, clean edge that will be easy to latch and won’t poke or snag. Set wire circle in place for compost pile and secure ends with clips or wire ties. Space wood or metal posts around perimeter inside wire circle. Pound posts firmly into the ground while tensing them against wire to provide support.

If using hardware cloth, trim ends, flush with a cross wire to eliminate loose edges that may poke or scratch hands. Apply file to each wire along cut edge to ensure safer handling when opening and closing bins. Bend hardware cloth into circle and attach ends with clips or ties. Set bin in place for composting. Bins made with hardware cloth should be strong enough to stand alone without posts. Plastic-coated wire mesh bins are made in the same manner, except that bending this heavier material into an even circular shape will require extra effort. Also, filing the wire ends may cause the plastic coating to tear. Striking the end of each wire with a hammer a few times will knock down any jagged edges.

Five-Panel Bin:

Cut five 3-foot-long sections of 24” wide wire mesh. Make cuts at the top of the next row of squares to leave 1” long wires sticking out along one cut edge of each panel. This edge will be the top of the bin. Use a pair of pliers to bend over and tightly clamp each wire on this edge. This provides protection against scraping arms when adding yard wastes to the bin. Attach panels using clips or wire ties.



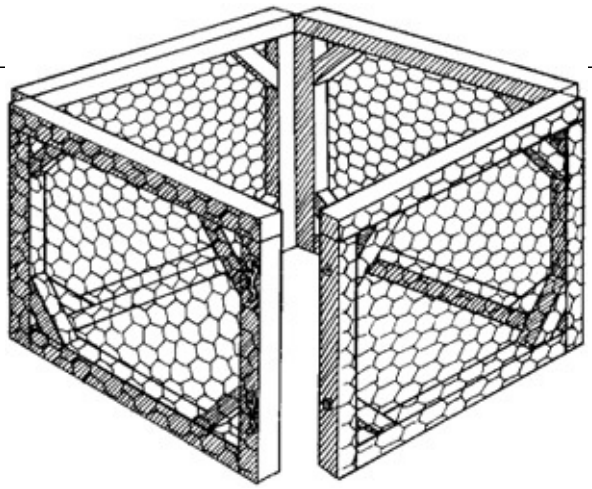
top edge detail

Bin designs for "Wire Mesh Compost Bins" and "Wood and Wire Stationary 3-Bin System" were developed by Seattle Tilth Association for Seattle's Master Composter Program. Reprinted with permission from Seattle Tilth and the Seattle Engineering Department.

A Quick and Easy Composting System for Wire Mesh Compost Bins

1. Set up a wire collector. Choose a well-drained spot, preferably a shady one that's not too far from the house or garden. Don't forget that it's nice to be near a water source, too. If you want, you can loosen the soil up a little where the collector sits. This will help drainage.
2. Make the first layer. Loosely place leaves, hay, straw, or other good compost materials in the bottom of the collector in a layer about 2 inches thick.
3. Add protein material. Sprinkle a large handful of alfalfa meal or other protein-rich meal over the first layer. Dust the entire surface.
4. Do it again. Repeat steps 2 and 3 by adding the same amounts of organic matter and meal as before.
5. Sprinkle with water. Moisten the pile thoroughly. Compost piles that don't "work" well are usually too dry or too wet. The material should be moist but not soaked. In warm, dry weather you may have to water the pile every three or four days to keep it in good working condition.
6. Keep the center loose — never compact the center of the pile. The composting process depends on the ability of the air, water, and activator to contact all the material as completely as possible. Good circulation is a must. A good compost pile is a balance of thirds: one third air, one third material, and one third moisture.
7. Fill the collector. Whenever material becomes available, repeat steps 2 through 6, until the collector is full. Keep everything loose and never tightly packed down.
8. Turn the pile in a week. If the pile is made correctly, the temperature should reach 140° to 150°F. within two or three days. After a week or so of heating and decomposing, it's time to turn the pile.

   Lift off the wire collector, set it up beside the pile, and then fork all the material back into it. Put the outside, drier material in the center of the new pile. If the material seems too dry, moisten it. The heating process will start up again. It should be ready to use — but still coarse — in 15 days.



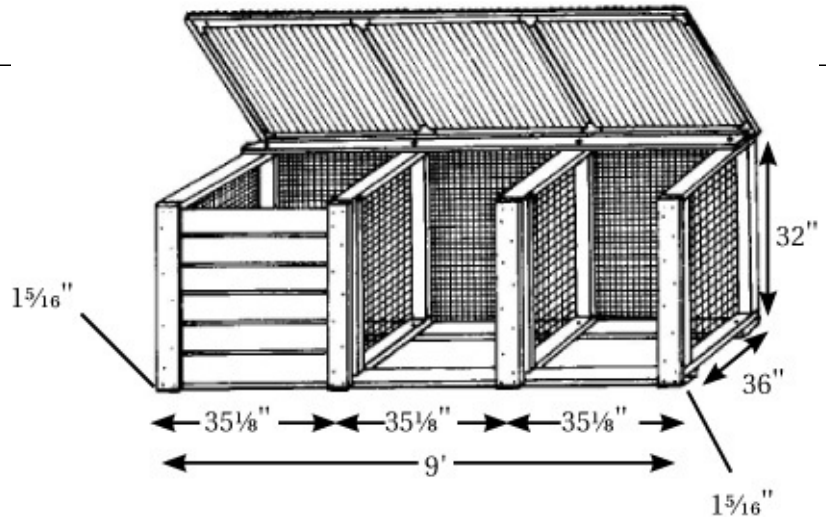
The Portable Composter

Here is a wood and wire style compost bin that has been used for many years, originally designed by Lyman Wood. This popular plan is adaptable to a variety of convenient sizes, and the specifications may be adjusted to suit materials that you might already have on hand.

Using 2” x 2” or similar wood, make four frames, each three feet high and four feet wide. Reinforce the corners with 2x2s as shown. Cover each frame with chicken wire — the half inch mesh will hold its shape longer than the cheaper and larger meshes. Half-inch hardware cloth may be used instead — it is much stronger but more expensive. In either case, stretch the frame wire as tight as possible and staple into place. The originator of this bin fastened these panels into two L-shaped sections that were linked into a square with screen door hooks. An alternative is to link all of the panels with screen door hooks, two to each corner, rather than forming the L-shaped sections. Some gardeners find that this makes it easier to handle the panels. Another choice is to use hinges on three of the four corners, then join the remaining corner with screen door hooks.

No matter which way you choose to build it, this is a convenient bin to use — it’s easy to assemble, and particularly easy to handle when the pile should be turned. Just unhook the sides and take them apart, reassemble the bin beside the compost pile, and fork the pile back into the bin.

Wood and Wire Stationary 3-Bin System



Materials

two 18-foot treated 2x4s
four 12-foot, or eight 6-foot treated 2x4s
one 9-foot and two 6-foot 2x2s
one 16-foot cedar 2x6
nine 6-foot cedar 1x6s
22 feet of 36” wide ½” hardware cloth
twelve ½” carriage bolts 4” long
12 washers and 12 nuts for bolts
3 lbs. of 16d galvanized nails
½ lb. 8d galvanized casement nails
250 poultry wire staples or power stapler with 1” staples
one 12-foot and one 8-foot sheet 4 oz. clear corrugated fiberglass
three 8-foot lengths of wiggle molding
40 gasketed aluminum nails for corrugated fiberglass roofing
two 3” zinc-plated hinges for lid
8 flat 4” corner braces with screws
4 flat 3” T-braces with screws

Tools

hand saw or circular power saw
drill with ½” and ⅛” bits
screwdriver
hammer
tin snips
tape measure
pencil
¾” socket or open-ended wrench

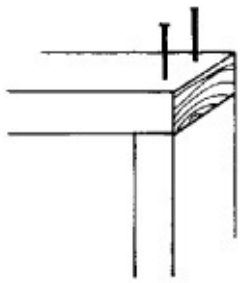
carpenter's square

(option — power stapler with 1" long galvanized staples)

safety glasses and ear protection

Construction Details

Build Dividers: Cut two 31½" and two 36" pieces from each 12-foot 2x4. Butt end nail the four pieces into a 35" x 36" square. Repeat for other three sections. Cut four 37" long sections of hardware cloth, bend back edges 1". Stretch hardware cloth across each frame, check for squareness of the frame and staple screen tightly into place every 4" around edge.

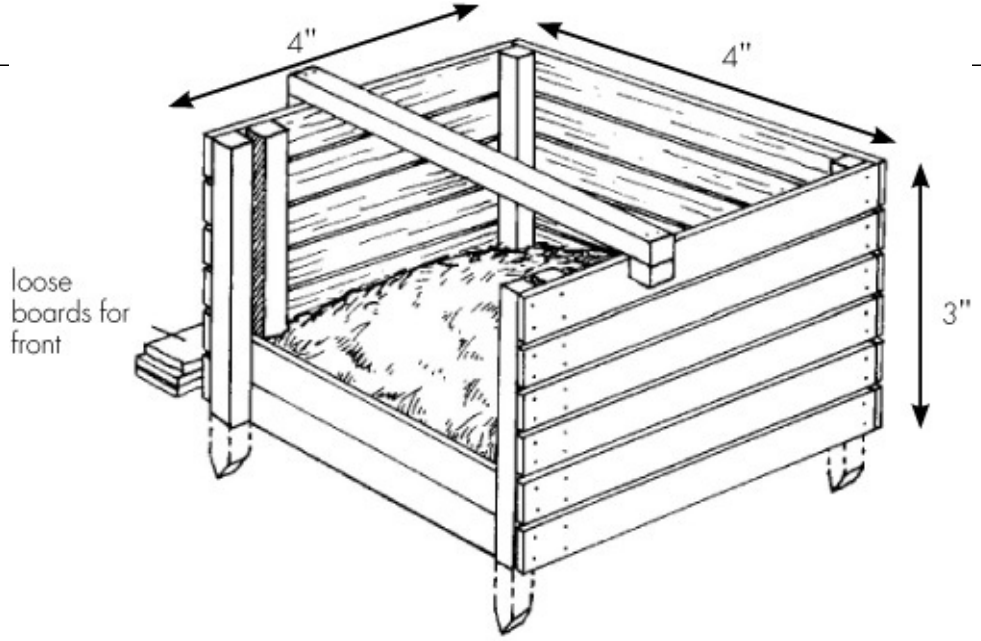


Butt end nail detail

Set Up Dividers: Set up dividers parallel to one another 3 feet apart. Measure and mark centers for the two inside dividers. Cut four 9-foot pieces out of the two 18-foot 2x4 boards. Place two 9-foot base boards on top of dividers and measure the positions for the two inside dividers. Mark a center line for each divider on the 9-foot 2x4. With each divider, line up the center lines and make the base board flush against the outer edge of the divider. Drill a ½" hole through each junction centered 1" in from the inside edge. Secure base boards with carriage bolts, but do not tighten yet. Turn the unit right side up and repeat the process for the top 9-foot board. Using the carpenter's square or measuring between opposing corners, make sure the bin is square, and tighten all bolts securely. Fasten a 9-foot-long piece of hardware cloth securely to the back side of the bin with staples every 4" around the frame.

Front Slats and Runners: Cut four 36" long 2x6s for front slat runners. Rip-cut two of these boards to 4¾" wide and nail them securely to the front of the outside dividers and baseboard, making them flush on top and outside edges. Save remainder of rip-cut boards for use on back runners. Center the remaining full-width boards on the front of the inside dividers flush with the top edge and nail securely. To create back runners, cut the remaining 2x6 into a 34" long piece and then rip-cut into four equal pieces, 1¼" x 2". Nail back runner parallel to front runners on side of divider leaving a 1" gap for slats. Cut all the 1x6 cedar boards into slats 31¼" long.

Fiberglass Lid: Use the last 9-foot 2x4 for the back of the lid. Cut four 32½ inch 2x2s and one 9-foot 2x2. Lay out into position on ground and check for squareness. Screw in corner braces and T-braces on bottom side of the frame. Center lid frame, brace side down on bin structure and attach with hinges. Cut wiggle board to fit the front and back 9-foot sections of the lid frame. Predrill wiggle board with ⅛" drill bit and nail with 8d casement nails. Cut fiberglass to fit flush with front and back edges. Overlay pieces at least one channel wide. Predrill fiberglass and wiggle board for each nail hole. Nail on top of every third hump with gasketed nails.



New Zealand Compost Box

The New Zealand Box was designed by Sir Albert Howard, a farsighted British horticulturist who developed composting systems during the World War II era. A very precise man, Howard's methods and composting processes were quite specific, as were his instructions for making the following bin.

This box requires two ten-foot lengths of 2" x 2" wood and twelve eight-foot lengths of 1" x 6" wood. Cut the 2x2s into six 39" pieces, and cut the 1x6 wood into twenty-four 48" pieces. Assemble the pieces as illustrated, taking care to leave a half-inch space between each of the side boards to allow for aeration. Use galvanized screws (preferably) or nails to join the pieces. The uprights should be pushed into the ground approximately 3" (loosen the soil if necessary). The front boards (which will likely need to be trimmed a bit for an exact fit) slide in and out to make filling and emptying the box easier.

Two of these boxes side by side would make an ideal system. Adding a crossbar across the top is strongly recommended to increase the stability of the sides.

The box may be primed and painted with latex paint for greater durability, or built with treated wood if you don't object to using it in contact with your composted materials. Some have suggested making the uprights longer to create a taller box. This might be a good idea if you often have a lot of bulky materials to compost.

Sir Albert Howard's compost-making system is called the Indore method, named after Indore, India, where he conducted research. This method will make great compost, but frankly most of us aren't that organized. But if you have built the box, perhaps you're a composting purist, and will want to follow Sir Albert Howard's instructions for using it, too.

The Indore method calls for building a series of layers with a three-to-one ratio of green matter to manure:

- first: six inches of green matter (weeds, leaves, etc.)
- second: two inches of manure, garbage, or other high-nitrogen source
- third: a sprinkling of soil (plus ground limestone and ground phosphate rock)

Repeat layers until the pile is four or five feet high. Moisten each layer as you build the pile so

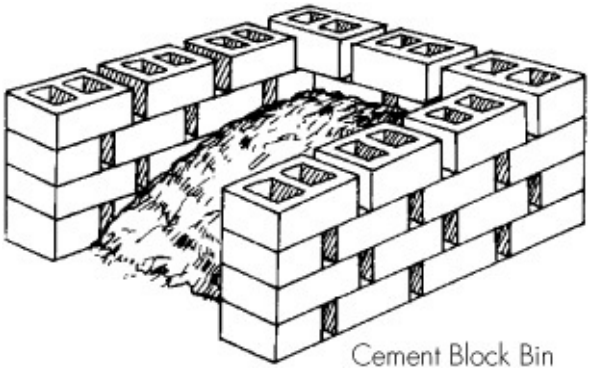
it is about as wet as a squeezed-out sponge. Poke holes in it with a rod to aid aeration. Turn the pile in six weeks and use it after three months.

Cement Block Bins

Stacked Block Composter

Stacked cement block bins are my hands-down favorite quick-to-build composting bins. They cost more than some other styles, but they last virtually forever. In addition to being durable, they are easy-to-use, and because they are not mortared together, may be arranged in myriad and quickly changed bin designs to accommodate a variety of personal composting styles.

Be sure to select a level site for a stacked cement block composter. It is especially important that the blocks that form the base of the bin be on firm, level ground because the blocks are not mortared together. Stagger the seams in each row to interlock the blocks, rather than making a simple series of stacks of blocks that could easily topple. For bins that use blocks placed with holes vertically, iron pipe or wooden stakes may be placed through at intervals and driven into the ground for added stability, if desired.

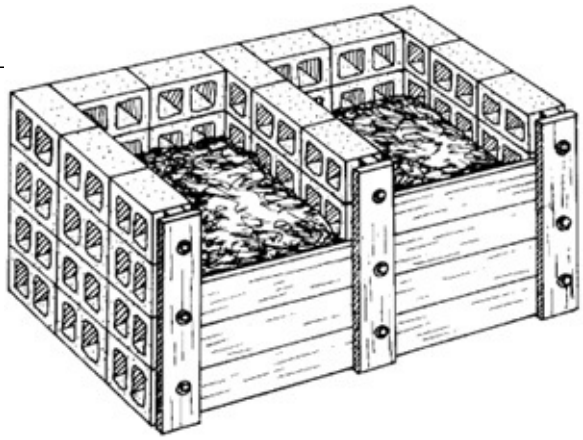


Cement Block Bin

To build the bin, first calculate the approximate size bin you want. Approximately fifty blocks will make a decent-sized bin, although the exact number you need will depend upon how you lay the blocks. Next, either lay the blocks with the holes sideways to promote air circulation, or, if laying the blocks with the holes vertically, leave spaces between each block. Half blocks can be purchased for the front edges of the walls, to fill the gaps due to staggering the alternating rows. With a cement block bin it is easy to create a two or even three bin system: simply lengthen the back wall and add an additional side wall or two.

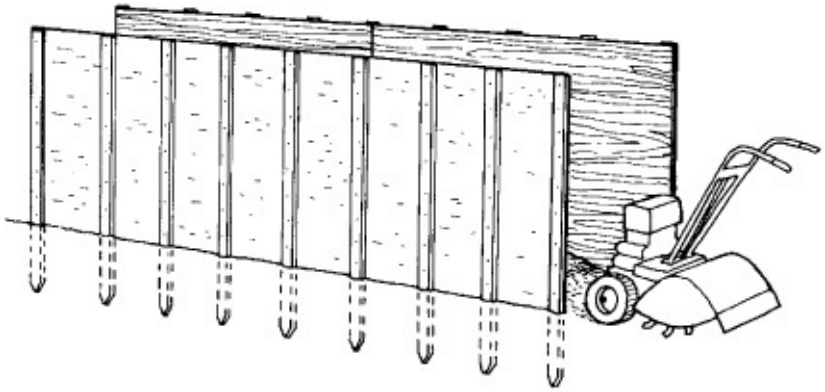
The only real drawback of open cement block bins is that they offer no protection against visits from animals, so they are not practical for urban areas. To discourage small pets from visiting the bin a four-sided bin may be constructed, although this makes adding materials and turning the compost more difficult. This bin would need a lid, which can be a simple wood frame constructed of two by fours, with chicken wire or hardware cloth stapled to it. The lid would simply lift off for access.

Mortared Composter



An alternative to the stacked open bin is a two-bin closed container using concrete blocks held in place with mortar. Because it is mortared, this bin may be somewhat taller than a stacked block bin and the wall seams do not have to be staggered. The bin pictured on page 16 features a removable front made of wood.

To make the front of the bin bolt 1” x 8” boards through a spacer board to the cement blocks. Make sure that the space between the 1x8s and the blocks is slightly greater than the thickness of the boards that will slide in to face the front, so that they may be inserted and removed easily. One way to accomplish this is to make spacers by ripping 2½-inch-wide pieces from some of the 1-inch wood. Then just shim the spacers out from the blocks with a couple of washers when you install the bolts.



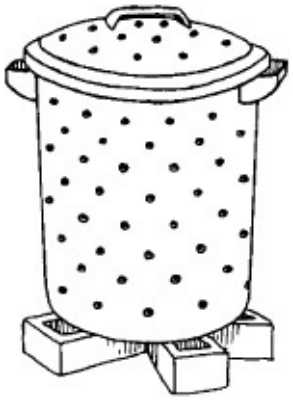
The Trench Composter

In his classic composting book, *Let It Rot!*, author Stu Campbell describes an “alternative composting system” that puts your garden tiller to use for something other than working in the garden. Campbell characterizes this method as “much like a mini-trench silo — modeled after the open concrete areas used for storing silage on large livestock farms.”

The trench composter is easy to build, using four sheets of ½-inch exterior plywood for sidewalls that are held upright in place with 2” x 4” stakes driven into the ground (see illustration). The sidewalls should be spaced slightly farther apart than the tiller’s width. Make the stakes long enough to drive 1 to 2 feet below ground, depending upon soil conditions. In loose soil the stakes should be longer and driven deeper. Attach the plywood to the stakes with galvanized screws rather than nails to avoid disturbing the ground around the poles and making them loose. This bin is as easy to use as they come. Compostable material is simply piled in the center of the container, tapering toward the ends. Running the tiller through the container does all the work of mixing and aerating for you.

Barrel Composters

If you have limited space or just need a small, quickly made bin, you can compost in a garbage can or a steel drum. This is a great system if you are concerned about rodents and if you don't generate large quantities of compostable materials that require a bigger bin. Either galvanized metal or heavy duty polyethylene cans will work. I prefer the polyethylene ones with a locking lid for this purpose. Lids that don't lock will have to be secured — using a rubber tie-down strap run from one can handle over the top to the other handle. This is a very quick and secure system. Punch or drill ¼ inch holes in the bottom, sides, and lid for drainage and aeration. Set the can up on bricks or concrete blocks so that it will drain properly. As you fill this composter, cover each layer of waste materials with a layer of soil. This system holds water well, but may need additional water at times. To prevent odors, stir the material once in a while, as barrel compost bins receive less natural aeration than other types of bins.



It usually takes at least a couple of months to get usable compost from a barrel composter. Fully composted material will settle toward the bottom and the uncomposted top material will have to be removed to reach and use the finished stuff.

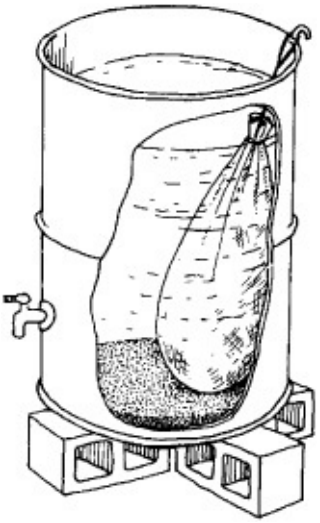
It helps to have two barrels set up. When one barrel is full, begin filling the second barrel. The first barrel should be fully composted and ready to use when the second barrel is full.

Composting Accessories

Compost "Tea Kettle"

A compost "tea kettle" is not a compost bin, but rather a system for putting your compost to great use. In fact, no one who composts for gardening should be without a system for brewing compost "tea" because tea is, quite simply, liquid gold for plants. Once you have a tea kettle set up you will find the stuff invaluable for reviving sickly plants, giving a boost to transplanted plants, or stimulating the growth of your flower plants or vegetable crops. Setting up a tea system is easy, and there are several ways to create your own efficient system.

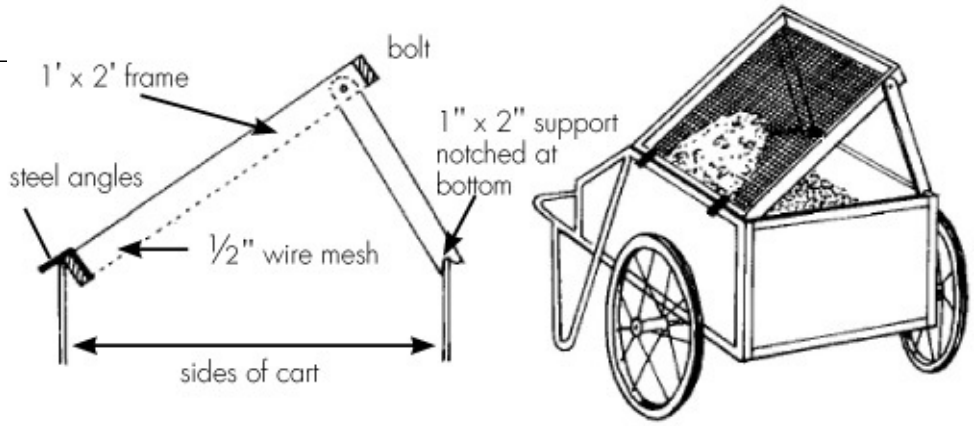
Most compost tea brewers use a well-cleaned 55-gallon drum as the container, though other large barrels will work, too, including heavy-duty plastic trash barrels. It is a good idea to keep metal barrels off the ground, on bricks or cement blocks, to keep them from quickly rusting out. The quickest system is to simply fill the barrel about one-quarter full of compost or manure and then add water to within a foot or so of the top of the container. Stir the mixture occasionally, and in no time you will have your own rich, brown compost tea.



Keep a plastic bucket nearby to dip out the tea when you need it. You can even use compost tea for houseplants and seedlings, applying it with a baster. Just add water as you use up the liquid in the barrel. When the tea begins to weaken, use up the remaining liquid, dump the sludge from the bottom (onto the garden of course) and start again.

There are several variations on this system. For one, you can put the compost or manure into a burlap bag, then hang the bag from a rope or heavy twine into the water (bolt or weld a hook to the top of the container if there is no handle to tie the bag to). This makes it easy to recharge the tea with fresh ingredients — eliminating the need to dump out the barrel each time. Also, some gardeners who use the burlap bag technique also install a spigot about 8 to 10 inches from the bottom of the barrel as a convenient way to draw off their tea. In this case be sure that the barrel is on cement blocks or otherwise elevated so that you can fit a container such as a watering can underneath the spigot. Do not place the faucet any nearer to the bottom of the barrel than specified or it is likely to clog with sludge. This design should only need to be dumped out every few years to clean out the bottom sludge.

Compost Sieve



A compost sieve is nothing more than a screen to separate uncomposted materials, such as eggshells, sticks, and fruit pits from finished compost. Most gardeners use a screen that fits over the top of their wheelbarrow or garden cart, but the size of the screen and the way you use it is strictly personal preference. Make the frame with 2” x 2” or similar lumber. An old storm window frame of suitable size, with the glass removed, is an excellent ready-made frame. Staple either ½” or ¼” mesh hardware cloth (depending on how fine you want the compost) to the frame, tensioning the cloth so that it will not sag. The best frames have a 2- to 4-inch lip that helps to contain the materials being sifted. Some gardeners add braces to the sieve to hold it at an angle (approximately 45 degrees) so that compost may be tossed against the screen. This type of frame is either mounted on the wheelbarrow or set up on the ground. With this method, unwanted materials just fall away from the screen as they are separated.

Selecting the Compost Pile Location

Not long ago the compost pile was regarded as a lowly feature of the yard, and usually relegated to a hidden spot. Today, however, that has all changed. The compost pile is now a status symbol of the environmentally responsible citizen. While you shouldn't expect to see compost piles cropping up in front yards across the country, this new attitude does mean that the possible locations for a pile are greatly expanded (especially if you build a great-looking bin).

The basic rules for situating a compost pile are to set it up in a location protected on three sides, with the opening, if the bin loads from the side, facing south. And when the various options are considered, putting the pile directly on the ground in a level area seems to work best, as opposed to going to the work of elevating the pile and/or putting in a concrete or plastic sheeting base. But don't hesitate to experiment — perhaps you have an ideal natural location or a great new technique that doesn't fit these suggestions.

Virtually any location, from full sun to total shade, will work for composting. In northern New England a partially shady location has functioned best for me. In cooler climates a sunny location will enhance composting for those who want a quick-working pile. A bin in full sun in warm climates, however, will tend to dry out quickly and require more frequent watering to keep things working.

Consider where items to be composted will be loaded from. If most of the waste will come from the kitchen, select an area convenient to that sort of disposal. I have always located my compost piles at least 25 or 30 feet from the house, which, as much as I enjoy composting, is close enough to suit me. Remember, though, if you live in an area with snowy winters you'll have to clear a path to it. Also keep in mind that the less frequently you turn the pile, the more odor your bin will give off. Unfortunately, the more lazy a composter you are, the further from the house (and heavily used areas of the yard) the bin should be.

Locating your compost bin close to a source of water is another factor to consider. I rarely add water to my piles (laziness again), but in some climates this is a frequent necessity, especially for piles that you want to compost very quickly.

The proximity of your pile to your garden may also be important. A close bin saves hauling, and you'll probably find more uses for compost if the pile is handy to the garden.

Finally, consider the size of the pile that you want. I find that piles that are a moderate size, say 3 to 5 feet square and 3 to 4 feet tall, are the most manageable. Smaller piles don't heat up much, so they don't decompose as quickly. On the other hand, large piles are difficult to manage because they require frequent turning to aerate all of the material. Also, very large piles require very large bins. For me, making two or three medium piles keeps things going much better than one big one.

Ingredients for Compost: What to Use, What to Avoid

To get a compost pile working well, it's essential to have several layers of an activator throughout the pile. An activator is a source of both nitrogen and protein — ingredients that help all the various microorganisms and bacteria break down compost material.

Alfalfa meal is one of the cheapest, quickest-acting activators. If you can't find it at your garden or feed store, look in the supermarket for Litter Green, a cat litter product that's 100 percent alfalfa meal.

Every time you add new material to the compost pile, dust it thoroughly with alfalfa meal and moisten the pile a little. Alfalfa meal is an excellent source of nitrogen and protein. Made from alfalfa hay, it is usually 14 to 16 percent protein. Other good activators include barnyard manure, natural products such as bone meal, cottonseed meal, blood meal, and good, rich garden soil. Any time you add to your compost pile, dust it with a little activator.

Finding Additional Materials for Great Compost

While compostable materials from around the house and yard are more than enough for most backyard compost makers, many gardeners find the need to go further afield to secure even larger quantities of usable materials, such as some of the more exotic ones listed on the next page.

The next most immediate source is your neighborhood. People are often glad to give away raked leaves for the favor of not having to haul them to the local landfill. The same is often true of lawn clip pings. Fireplace and woodstove ashes are high in phosphorus and potassium.

Recipe for Compost

To get organic material to compost properly, mix materials so that the mixture is about 30 parts of carbon to 1 part of nitrogen. There is nothing precise about this, but be aware that a mixture with too much carbon, such as a pile of leaves, will not heat up, while a mixture with too much nitrogen will manufacture ammonia — and the nitrogen will be wasted.

In the following list, the figure given is the amount of carbon per 1 part of nitrogen:

Straw	150 – 500
Ground corn cobs	50 – 100
Sawdust	150 – 500
Pine needles	60 – 110
Oak leaves	50
Young weeds	30
Grass clippings	25
Manure with bedding	25
Vegetable trimmings	25
Animal droppings	15
Leguminous plants	15

If you live near the sea, seaweed is a valuable source of trace minerals as well as readily

available organic matter.

Folks in the country can sometimes obtain manure at a low cost by offering to clean out a neighbor's horse stable, chicken coop, or pig pen.

Even the local barber shop can be a source of fertility for the garden. Human hair contains about 12 percent nitrogen and will help speed the decomposition of other organic materials in the garden. If you provide a separate container and make regular collections, the barber just might be willing to save his refuse and give you a free supply of clean, light, rich organic matter.

Consider also the manufacturing activities in your area. A shoe factory will have quantities of leather scraps, a potent source of nitrogen that will decompose quickly in compost. Apple pomace from cider pressing is high in potassium and phosphorus, basic plant foods. Brewer's waste from beer making is also rich in potassium.

Suggested Materials for Compost

"You can work at compost as if you're cooking a wonderful French ragout," says a gardener who savors her product. "Try to make it as interesting and diverse as possible."

With a little imagination and the initiative to scavenge a bit, the time spent in building your soil will bring lush crops that grow with less of your midsummer energy.

Here's a handy basic list of items that you can use on your compost pile:

apple pomace (by-product of cider making)

bird-cage cleanings

brewery wastes

buckwheat hulls

cannery wastes

castor bean pomace

chaff cheese whey

cocoa bean hulls

corn cobs and husks

cottonseed hulls and gin trash

dust from vacuum cleaner

evergreen needles

feathers

felt waste

garden residues (spent plants and vines, beet and carrot tops, corn stalks, etc.)

gelatin processing waste