How to Build a Compost Bin

Wire Mesh Bins

Wire mesh composting bins are versatile, inexpensive and easy to construct. They may be used as holding bins for composting moderate amounts of yard trimmings or as turning systems for quick composting of larger volumes.

Holding bins are a convenient way of composting yard trimmings with little effort; just add materials as they are cleaned up from the yard. With no effort besides occasionally moistening, compost will be ready in 6 months to 2 years. Attention to chopping materials, maintaining moisture by watering, covering piles with plastic and occasional turning will produce compost in less time. The bin can be moved to turn piles or to harvest finished compost: just undo latches, pull the mesh away from compost and set it up elsewhere. The pile may then be turned into the bin at its new location and compost can be removed from the bottom.

"...made for under $10..."

The circular and five-panel designs have unique advantages. The circle bin may be made for under $10 from poultry wire to hardware cloth. Poultry wire is the least expensive material, however, it quickly loses its shape with use, and requires support with posts and frequent replacement. For a slightly higher cost, hardware cloth creates a self-supporting circle which is easier to manipulate and more durable.

A panel unit offers a greater variety of uses. Panels may be added to enlarge the bin or create small bins for turning piles. Individual panels may be used for screening coarse materials from finished compost. A sturdy and attractive panel bin can be made with 16 gauge plastic coated wire mesh for under $20.

Circular Bins

Materials

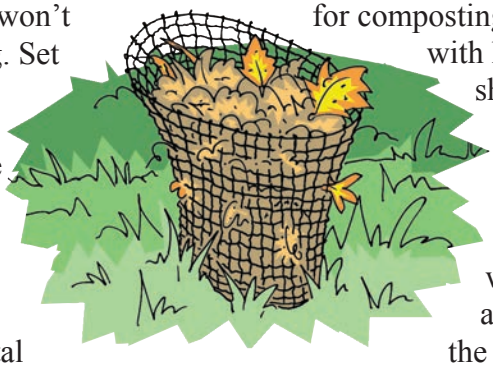
- Four metal or plastic clips, or copper wire ties
- Three 4' wooden or metal posts to support poultry wire bins

Tools

- Heavy duty wire or tin snips, pliers, hammer, and work gloves

Details

Roll out and cut 12½' of poultry wire, hardware cloth or plastic coated wire mesh. If using poultry wire, roll back three to four inches at each end of cut piece to provide a strong clean edge which 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 with a cross wire to eliminate loose edges that may poke or scratch hands. Apply files 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 and ties. Set bins 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

Materials

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

Tools

- Heavy duty wire or tin snips, pliers, hammer and work gloves.

Details

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

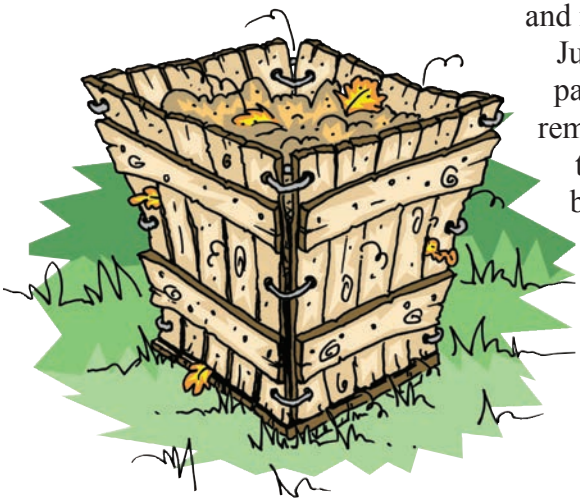
Pallet Bin

Obtain five pallets with narrow spaces between slats (1/2"–1") and of uniform size. Many pallets measure 40" by 48" and will form a 48 cubic foot capacity bin. Pick up pallets from loading docks, hardware stores, garden centers, etc.

Place one pallet (slat side up) on level ground. This pallet is the bottom of your bin and will allow for good drainage and aeration by keeping yard trimmings above the ground. Properly drained and aerated compost decomposes quickly and without odors.

Arrange the remaining pallets upright around each side of the base to form a box, short (40") sides up. Use spare wires,

coathangers, or nylon rope to fasten the pallets together. Join pallets at each corner, lashing both the top and bottom. You can gain access to your compost pile by unfastening one side of a pallet and swinging it out like a hinged door.



Pallet bin sides generally last from four to six years, depending on the level of active use. Bases last one to two years and may need to be replaced. Just drop another fresh pallet over the old base after removing any compost still in the bin and keep the new base as level as possible. The decomposing pallet will eventually turn to compost. Check corner lashing periodically and replace every several years, or as needed.

The Lehigh-Keston Bin

The Lehigh-Keston compost bin, designed by J.L. Rodale more than 10 years ago, has proved to be a popular design. The bin is made of wooden slats, is very portable, long-lasting and ideal for proper compost ventilation. Drill holes at the end of each slat vertical from top to bottom. Fasten together by inserting metal rods through the holes to form a square.

New Zealand Box

The New Zealand Box is another simple, efficient design developed by the Auckland Humic Club of New Zealand. There are many variations of this design.

The simplest is a wooden structure, about 4' square by about 4' to 5' high without top or bottom. The wooden sides consist of 6" wide by ¾" thick boards. Allow one half inch of air space between each board so that air may penetrate the heap from all sides. A divider in front slides down between two posts. Two by fours provide the structural framework for this box.

> "...simple, efficient design..."

The preferred method of filling the box is to mix organic materials thoroughly with soil and manure. Make one air hole in the center of the box all the way down to the ground using a crowbar. If you turn the mixture twice, you do not need to put in an air hole after the second turn.

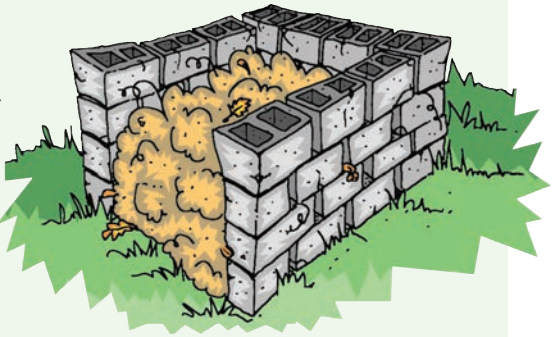
When the compost is ready to be turned, it has to be piled outside the box and then put back again. You can save yourself some time by doubling the box size (4"x8") with a partition in the center. The material is forked from one

section into the other and a new batch is then placed into the first section. If you turn your compost heap twice, make a three section box (12”x4”).

The third section/compartment can be used to cure and store the finished compost.

Block or Brick Bins

Compost bins also can be made of brick, cement blocks or rocks. Just lay the blocks without mortar. Leave spaces between each block to permit aeration. Pile them up to form three sides of a square container. This bin is sturdy, durable and easily accessible.



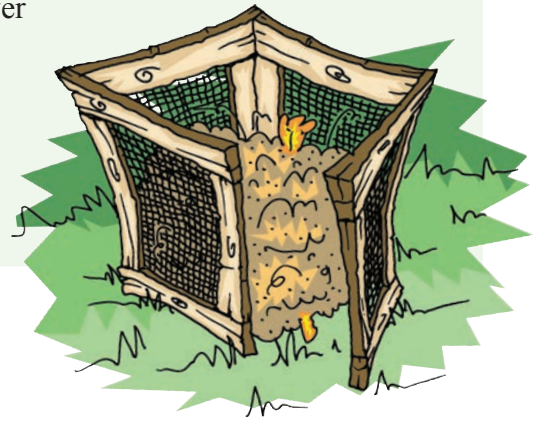
Portable Wood & Wire Bin

Materials

- One 12’ 2”x4”
- Three 12’ fir 2”x4”
- 12’ of 36” wide, ½” hardware cloth
- 100 1” to ½” galvanized #8 wood screws
- Four 3” galvanized butt door hinges
- 150 poultry wire or power staples
- One 10 oz. tube exterior wood adhesive
- Six large hook and eye gate latches

Tools

- Saw
- Chisel
- Hammer
- Screwdriver
- Tin snip
- Caulking gun
- Pencil
- Small carpenter’s square



This portable bin provides a convenient way to compost moderate volumes of yard trimmings with minimal labor. Yard trimmings simply are added to the bin as they are generated, with no effort besides occasional moistening. Compost will be ready in six months to two years. Chopping or shredding materials, maintaining adequate moisture by watering and covering with plastic or heavy fabric, and occasionally turning will produce finished compost in a shorter period of time. Texture of the finished compost depends on the material composted and how long they are left in the bin. Mixing fresh greens with brown yard trimmings will produce the best results.

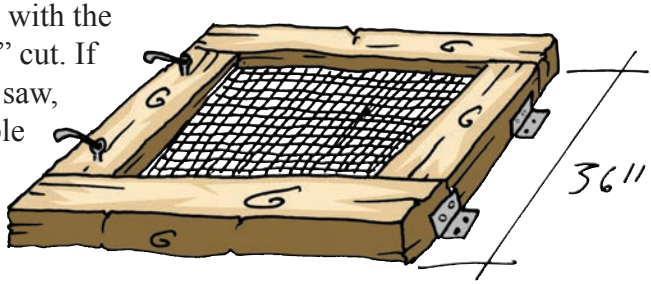
This bin is flexible. It fits well in small spaces, and may be used either as a yard trimming holding bin or as a portable turning unit. The bin can be easily moved to turn piles or to harvest finished compost and build a new pile. Undo the latches, pull the sides apart and move. Compost may then be turned into the bin at its new location. Finished compost can be removed from the bottom. It costs about $50 to build using new materials or less if made with recycled materials.

Details

Cut each 12' 2"x4" into four 3' long pieces. Cut a ¾" deep and 3½" wide section out of each end, for a total of 32 lap cuts. If using hand saw and chisel, cut ¾" down at the 3½" line. Then cut a ½" deep groove into the end of the board. Place a thick wood chisel in the end groove and split the wood with the hammer to the 3½" cut. If using a radial arm saw, circular saw or table saw, set blade depth to ¾" and make multiple passes until the whole switch on is removed.

Make four 3' square frames from the lap joined 2"x4"s. Use one 2"x4" on each frame. Put enough construction adhesive to fill the gaps when the lap joints are screwed together. Fasten each joint with four screws.

Cut the hardware cloth with tin snips into four 3' square sections. Band the edges of the cloth back over 1" for strength. Lay one onto each of the four frames. Center and tack each corner with a poultry wire staple. Hammer in place a staple every 4" along all four edges of the hardware cloth. Try to tension the cloth so it will not sag when filled with compost. Connect each pair of frames together with two hinges. Then put the hook and eye gate latches on the other ends so that the sections latch together.



Wood & Wire Stationary 3-Bin

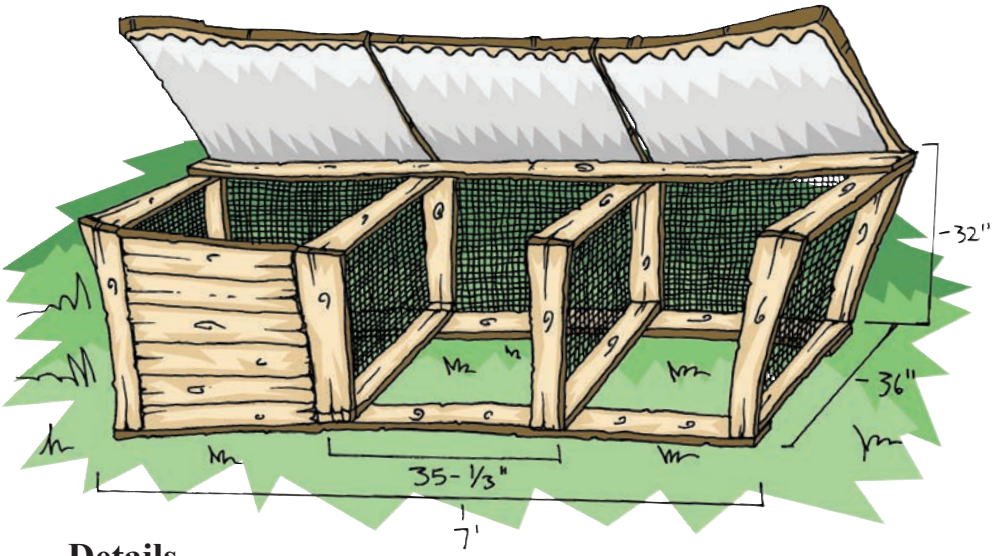
Materials

- 22' of 36" wide, ½" hardware cloth
- 12½" carriage bolts 4" long
- 12 washers and 12 nuts for bolts
- 3lbs. of 16d galvanized nails
- ½lbs. 8d galvanized casement nails
- 250 poultry wire staples or power stapler with 1" staples
- One 12' sheet and one 8' sheet of 4 oz. clear corrugated fiberglass
- Three 8' lengths of wiggle molding
- 40 gasketed aluminum nails for corrugated fiberglass roofing
- Two 3" zinc plated hinges for lid
- Eight flat 4" corner braces with screws
- Four flat 3" T-braces with screws

Tools

A hand saw or circular power saw, a drill with ½" and ⅛" bits, a screwdriver, a hammer, tin snips, a tape measure, a pencil, a ¾" socket or open ended wrench, carpenter's square, safety glasses and ear protection. (Optional: power stapler with 1" long galvanized staples.)

This system is used to compost large amounts of yard and kitchen scraps in a brief period of time. Materials are stored until enough are available to fill an entire bin. Then, materials are chopped, moistened and layered to ensure a hot compost. Piles are turned weekly for aeration. A pile made with a balance of fresh greens and woody materials and turned weekly can be ready to use in three weeks. The texture of the finished compost depends on the materials composted. This unit can be built for approximately $130. Note: Reusing pallets to form the walls of this bin can significantly reduce the cost of construction materials. Construction requires basic carpentry skills.



Details

Build Dividers

Cut two 31½" and two 36" pieces from each 12' 2"x4"s. Butt end nail the four pieces into a 35"x36" square. Repeat for other three sections. Cut four 37" long sections of hardware cloth, bend back edges an inch. Stretch hardware cloth across each frame, check for squareness of the frame and staple screen tightly into place every 4" around edge.

Set Up Dividers

Set up dividers parallel to one another 3' apart. Measure and mark centers for the two inside dividers. Cut four 9' pieces out of the two 18' 2"x4"s. Place two 9' base boards on top of the dividers and measure the 2"x4"s. 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' board. Tighten all bolts securely. Fasten a 9' long piece of hardware cloth securely to the back side of the bin with staples every 4" around the frame.

Front Slats & Runners

Cut four 36" long 2"x6"s for front slat runners. Rip cut

two of these boards to a $4^3/_4$" 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 as 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 2"x6" into a 34" long piece and then rip cut into four equal pieces, 1" to $1^1/_4$" x2". Nail back runner parallel to front runners on side of divider leaving an inch gap for slats. Cut all the 1"x6" cedar boards into slats $31^1/_4$" long.

Fiberglass Lids

Use the last 9' 2"x4" for the back of the lid. Cut four $32^1/_2$" 2"x2"s and one 9' 2"x2". Lay out into position on ground as illustrated 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' sections of the lid frame. Pre-drill wiggle board with $^1/_8$" drill bit and nail with 8d casement nails. Cut fiberglass to fit wiggle molding for each hole. Nail on top of every third hump with gasketed nails.

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