

How to build a compost bin

Selecting a compost method

Holding unit

Containers or bins that hold yard and garden materials until composting is complete. Allow 6 months to 2 years for finished without turning.

Easy to build and least labor intensive. Good for small compost amounts of yard wastes. Slowest way to compost.

Wire-mesh holding unit

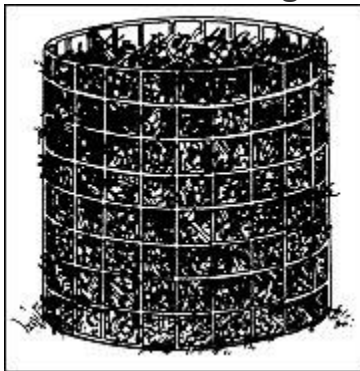


Figure 1
A wire-mesh holding unit.

A wire-mesh holding unit (Figure 1) is inexpensive and easy to build out of either galvanized chicken wire or hardware cloth. Non-galvanized chicken wire also can be used, but it will not last as long. Posts provide more stability for a chicken-wire bin, but make the bin difficult to move. A wire-mesh bin made without posts is easy to lift and provides access to finished compost at the bottom of the pile while the compost at the top of the pile is still decomposing.

Materials

- 10-foot length of 36-inch-wide 1-inch galvanized chicken wire, or
- 10-foot length of 1/2-inch-wide hardware cloth (note: This will make a bin with a diameter of 3 feet)
- Heavy wire for ties
- Three or four 4-foot-tall wooden or metal posts (for chicken wire bin)

Tools

- Heavy-duty wire or tin snips
- Pliers
- Hammer (for chicken wire bin)
- Metal file (for hardware cloth bin)
- Work gloves

To build a wire-mesh unit with chicken wire

- Fold back 3 to 4 inches of wire at each end of the cut piece to provide a strong, clean edge that will not poke or snag and that will be easy to latch.
- Stand the wire in a circle and set it in place for the compost pile.

- Cut the heavy wire into lengths for ties. Attach the ends of the chicken wire together with the wire ties, using pliers.
- Space wood or metal posts around the inside of the chicken-wire circle. Holding the posts tightly against the wire, pound them firmly into the ground to provide support.

To build a wire-mesh unit with hardware cloth

- Trim the ends of the hardware cloth so that the wires are flush with a cross wire to get rid of edges that could poke or scratch hands. Lightly file each wire along the cut edge to ensure safe handling when opening and closing the bin.
- Bend the hardware cloth into a circle, and stand it in place for the compost pile.
- Cut the heavy wire into lengths for ties. Attach the ends of the hardware cloth together with the wire ties, using pliers.

Snow-fence holding unit

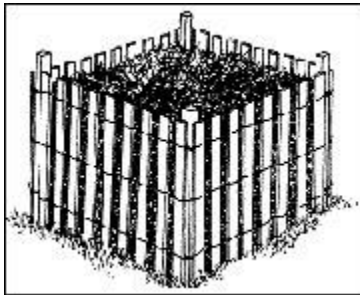


Figure 2
A snow-fence holding unit.

A snow-fence holding unit (Figure 2) is simple to make. It works best with four posts pounded into the ground for support.

Materials

- Four wooden or metal posts, 4 to 5 feet long (use pressure-treated lumber for the wooden posts)
- Heavy wire for ties
- A 13-foot length of snow fencing, at least 3 feet tall

Tools

- Heavy-duty wire or tin snips
- Pliers
- Sledge hammer
- Work gloves

To build a snow-fence holding unit

- Choose a 3-foot-square site for your holding unit and pound the four wooden or metal posts into the ground 3 feet apart, at the corners of the square.
- Cut the heavy wire into lengths for ties. Attach the snow fence to the outside of the posts with the wire ties, using pliers.
- Attach the fence ends together in the same way, forming a 3-foot-square enclosure.

Wood and wire three-bin turning unit

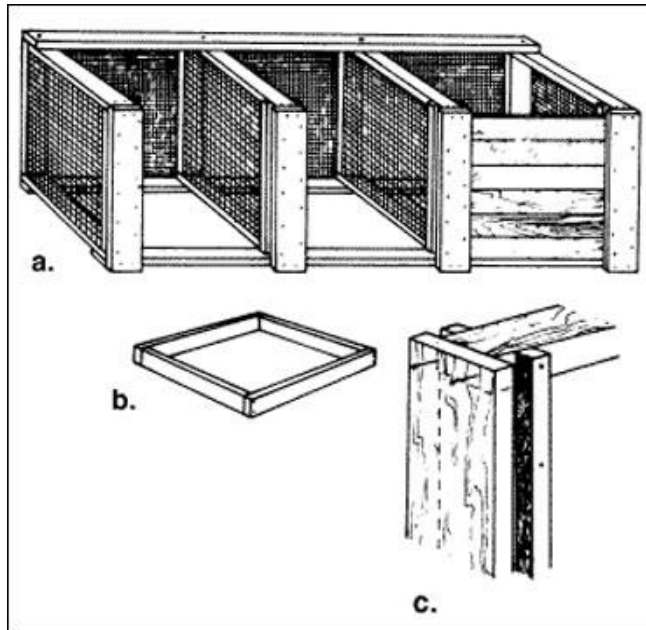


Figure 3

A wood and wire three-bin turning unit.

A wood and wire three-bin turning unit can be used to quickly compost large amounts of yard, garden and kitchen wastes. Although relatively expensive to build, it is sturdy, attractive and should last a long time. Construction requires basic carpentry skills and tools.

Materials

- Four 12-foot lengths of pressure-treated 2 x 4 lumber
- Two 10-foot lengths of pressure-treated 2 x 4 lumber
- One 10-foot length of construction-grade 2 x 4 lumber
- One 16-foot length of 2 x 6 lumber
- Six 8-foot lengths of 1 x 6 lumber
- A 22-foot length of 36-inch-wide 1/2-inch hardware cloth
- 16d galvanized nails (2 pounds)
- Poultry wire staples (250)
- Twelve 1/2-inch carriage bolts, 4 inches long, with washers and nuts
- One quart wood preservative or stain

Materials for optional lids

- One 4-x-8-foot sheet of 1/2-inch exterior plywood
- One 4-x-4-foot sheet of 1/2-inch exterior plywood
- Six 3-inch zinc-plated hinges
- Twenty-four 3/16-inch galvanized steel bolts, with washers and nuts

Tools

- Tape measure
- Hand saw or circular power saw

- Hammer
- Tin snips
- Carpenter's square
- Drill with 3/16-inch and 1/2-inch bits
- Screwdriver
- Adjustable wrench
- Pencil
- Safety glasses, ear protection, dust mask, and work gloves

To build a wood and wire three-bin system

- Cut two 31-1/2-inch and two 36-inch pieces from a 12-foot length of pressure-treated 2 x 4 lumber. Butt-joint and nail the four pieces into a 35-inch x 36-inch "square" (Figure 3b). Repeat, building three more frames with the remaining 12-foot lengths of 2 x 4 lumber.
- Cut four 37-inch lengths of hardware cloth. Fold back the edges of the wire 1 inch. Stretch the pieces of hardware cloth across each frame. Make sure the corners of each frame are square and then staple the screen tightly into place every 4 inches around the edge. The wood and wire frames will be dividers in your composter.
- Set two dividers on end, 9 feet apart and parallel to each other. Position the other two dividers so that they are parallel to and evenly spaced between the end dividers. Place the 36-inch edges on the ground. Measure the position of the centers of the two inside dividers along each 9-foot edge.
- Cut a 9-foot piece from each 10-foot length of pressure-treated 2 x 4 lumber. Place the two treated boards across the tops of the dividers so that each is flush against the outer edges. Measure and mark on the 9-foot boards the center of each inside divider.
- Line up the marks, and through each junction of board and divider, drill a 1/2-inch hole centered 1 inch from the edge. Secure the boards with carriage bolts, but do not tighten them yet. Turn the unit so that the treated boards are on the bottom.
- Cut one 9-foot piece from the 10-foot length of construction-grade 2 x 4 lumber. Attach the board to the back of the top by repeating the process used to attach the base boards. Using the carpenter's square, or measuring between opposing corners, make sure the bin is square. Tighten all the bolts securely.
- Fasten a 9-foot length of hardware cloth to the back side of the bin, with staples every 4 inches around the frame.
- Cut four 36-inch-long pieces from the 16-foot length of 2 x 6 lumber for front runners. (Save the remaining 4-foot length.) Rip-cut two of these boards to two 4-3/4-inch-wide strips (save the two remaining strips).
- Nail the 4-3/4-inch-wide strips to the front of the outside dividers and baseboard so that they are flush on the top and the outside edges. Center the two remaining 6-inch-wide boards on the front of the inside dividers flush with the top edge and nail securely (Figure 3c).
- Cut the remaining 4-foot length of 2 x 6 lumber into a 34-inch-long piece, and then rip-cut this piece into four equal strips. Trim the two strips saved from Step 8 to 34 inches. Nail each 34-inch strip to the insides of the dividers so that they are parallel to, and 1 inch away from, the boards attached to the front. This creates a 1-inch vertical slot on the inside of each divider.
- Cut the six 8-foot lengths of 1 x 6 lumber into 18 slats, each 31-1/4 inches long. Insert the horizontal slats, six per bin, between the dividers and into the vertical slots.

- (Optional) Cut the 4-x-8-foot sheet of exterior plywood into two 3-x-3-foot pieces. Cut the 4-x-4-foot sheet of exterior plywood into one 3-x-3-foot piece on one of the three bins, and attach each to the back, top board with two hinges.
- Stain all untreated wood.

Heap composting

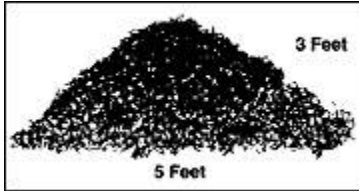


Figure 6
The width and height of a compost heap — the length can vary according to the materials available.

Heap composting is similar to turning-unit and holding-unit composting except that it does not require a structure (Figure 6). The heap should measure about 5 feet wide and 3 feet high; its length will vary depending upon the amount of materials used.

The pile may be turned regularly or not at all. If the heap will be turned, vegetable and fruit scraps can be added (check with local authorities for ordinances that may be in effect for composting). If the pile will not be turned, adding vegetative waste may attract pests.

Incorporation

Incorporating food wastes into the soil well below ground surface is the simplest method for composting non-fatty food wastes. With time, the wastes will break down to fertilize established or future plantings. The wastes will decompose in one month to one year, depending on the soil temperature, the number of organisms in the soil, and the carbon content of the wastes.

Non-fatty food wastes can be incorporated outside the drip line of trees or shrubs, or buried in areas that are not being used to grow plants. The hole must be large enough to allow the waste to be buried under at least 8 inches of soil. Burying to this depth discourages animals from digging up the waste. Chopped food wastes should be mixed into the soil before they are buried. Care must be taken to avoid damaging large roots when digging near trees and shrubs. Incorporation of meat, bones, or other fatty food wastes are not recommended as they may attract pests.



Figure 7
Soil incorporation is a useful composting technique if you need to dispose of small amounts of food waste. Waste is mixed with soil to speed decomposition and covered with at least 8 inches of additional soil.