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Home composting is an easy and inexpensive way to create a valuable soil amendment from yard and household waste. Composting means less waste going into the landfill and less need for chemical fertilizers.

While many people simply pile their compost in a heap, others may want to use a bin to contain their compost and speed up the composting process. Compost bins vary in size, use, and cost, whether you purchase a commercial product or build one yourself. This publication, from a series of do-it-yourself plans, provides you with all you need to know to build your very own compost bin.

For more information look under Resources at the end of this publication.

BARREL COMPOSTER

The barrel composter (figure 1) is a fast way to make small batches of compost.

Cost: About \$100 with new materials; less if using recycled materials

Capacity: Three to four 30-gallon bags of yard materials

Degree of difficulty: ★★ Some building skills needed

How to construct

LUMBER

Use cedar or non-arsenic pressure-treated lumber. Cut the lumber into the following lengths, carefully measuring first to be sure of a correct fit.

Legs: 4 pieces 2 x 4 x 40"

Frame horizontals: 4 pieces 2 x 4 x 29¾"

Cross braces: 2 pieces 1 x 3 x 40⅝"

Corner braces: 4 pieces 1 x 3 x 23¾"

Bearings:

- Two pieces ¾ x 7½"-diameter wood circles
- Two pieces ¾ x 2¾"-diameter wood circles

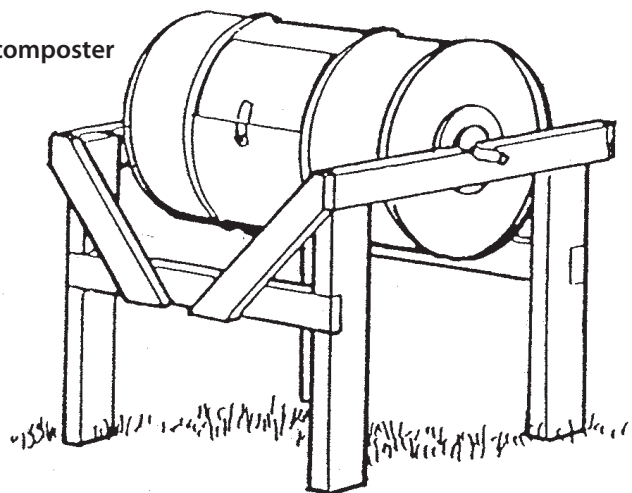
HARDWARE

- One drum or barrel, 55-gallon, that has not been used for toxic chemicals (food-grade barrels are best and paint barrels are acceptable)
- Two hinges, 1½ x 2"
- One small hasp
- One steel rod, ½ x 40½"
- Eight stove bolts, ¼ x 1¼"
- 12 stove bolts, ¼ x 1"
- 28 #10 wood screws, 1½"
- One pint black rust-retardant paint

TOOLS

- Power drill
- Screwdriver
- Pliers
- Saws: saber saw with metal-cutting blade; handsaw or circular saw
- Paintbrush
- Gloves and eye protection

FIGURE 1. Barrel composter



Solid and Hazardous Waste Education Center

Building skills needed:

★ Little or none ★★ Some ★★★ Above-average

CONSTRUCTION DETAILS

1 Drill a $\frac{1}{2}$ " hole in the exact center of each end of the drum to accommodate a $\frac{1}{2}$ " steel rod (figure 2).

2 Make a simple gauge to find the center by cutting a 6"-diameter circle out of heavy cardboard or wood (figure 3):

- Mark the exact center of the circle and cut out a 90-degree wedge.
- Hold the gauge with the cut-out edge against the edge of the drum.
- Draw a line where the piece of wood bisects the end of the drum.
- Rotate the gauge 90 degrees, and draw another line. The intersection of these lines will be the exact center.

3 Draw lines for the opening of the barrel, making sure to round the corners slightly. Drill a $\frac{1}{4}$ " hole somewhere along one of the lines, to start the saber saw. If the barrel has ribs, cut a 1" V-shaped notch on each rib to allow the door to open. Attach the hinges and hasp to the barrel and lid with $\frac{1}{4}$ x 1" stove bolts.

4 Using $\frac{3}{4}$ " wood, cut two 7 $\frac{1}{2}$ "-diameter circles (bearings) and two $2\frac{3}{4}$ "-diameter circles. Drill a $\frac{1}{2}$ " hole in the center of each, and apply glue to the $2\frac{3}{4}$ " circles. Glue each $2\frac{3}{4}$ " circle to a 7 $\frac{1}{2}$ " one. Temporarily slip them over a $\frac{1}{2}$ " steel rod and clamp them. After the glue has dried, remove the bearings, insert the rod through the barrel, and continue to assemble as shown in figure 2. Use four $\frac{1}{4}$ x 1" stove bolts in each bearing to bolt it to drum.

5 To build the support frame, use a corner lap joint to fasten the legs to the horizontal pieces. To make a corner lap joint, remove one-half the thickness of the stock to a length comparable to the width of the stock on the ends of both pieces to be joined. Use two #10 $1\frac{1}{2}$ " wood screws in each joint. Cut grooves (dados) on the legs 23" from the bottom to fit the 1 x 3 cross braces. Cut 45-degree angles at both ends of the 23 $\frac{3}{4}$ "-long corner braces, and attach them across the corners, as shown, with #10 $1\frac{1}{2}$ " wood screws. Cut a $\frac{1}{2}$ " notch in the center of each top horizontal piece to accommodate the rod.

6 Drill several rows of $\frac{1}{4}$ " holes along the bottom of the barrel, underneath the door opening, to eliminate excess moisture. If you use a metal barrel, paint the barrel inside and out with black rust-retardant paint.



Now you are ready to set your bin out in your yard and begin composting! Simply mix one part green (nitrogen) materials with two parts brown (carbon) materials (table 1), keep the materials as damp as a wrung-out sponge, and use a small shovel, pitchfork, or garden fork to mix the contents from time to time.

Source: Adapted with permission from *The Rodale Book of Composting*, 1992 by Rodale Press, D. Martin and Grace Gershuny, Editors.

FIGURE 2. Barrel composter construction detail

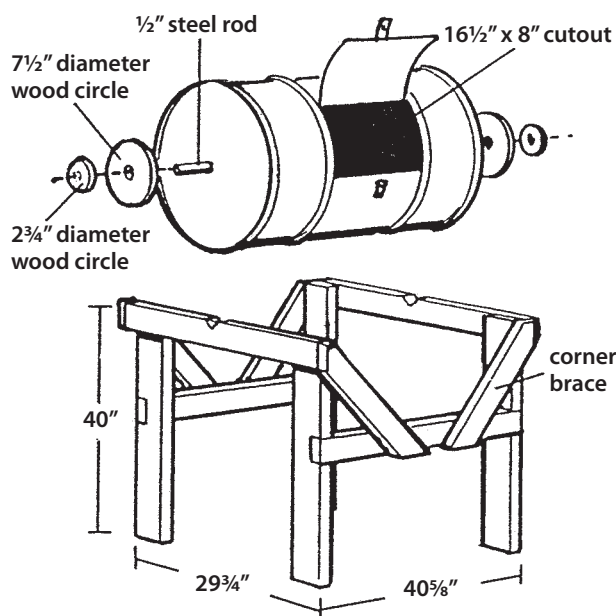


FIGURE 3. Using a gauge to find the center of the circle

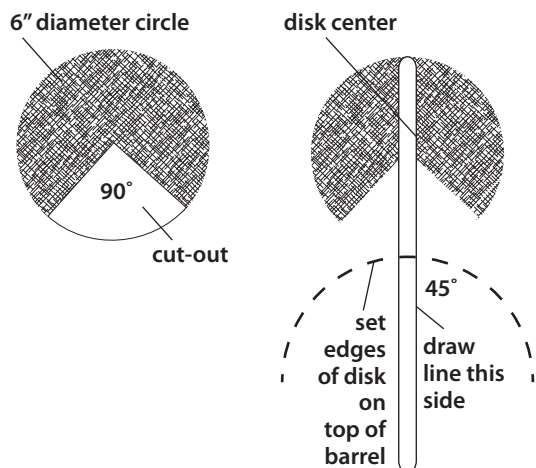


TABLE 1. Materials for composting

Brown materials (2 parts)	Green materials (1 part)
• Dry leaves • Twigs less than ¼" in diameter • Shredded newspaper • Shredded household cardboard: egg cartons, paper towel, and toilet paper rolls	• Green leaves • Grass clippings • Weeds (before they have gone to seed) • Leftover plants at the end of the season • Coffee grounds • Fruit and vegetable scraps • Eggshells
Do not compost: Meat, bones, grease, whole eggs, dairy products, diseased or highly invasive plants, pet waste.	

Resources

For more information on composting, including the Wisconsin Master Composter Program, contact:

Solid & Hazardous Waste Education Center (SHWEC)

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Composting to Reduce the Waste Stream (NRAES-43)
 Plants and Life Sciences Publishing (PALS), Cornell Cooperative Extension
 palspublishing.cals.cornell.edu/
 nra_order.taf?_function=detail&pr_booknum=nraes-43

Master Composter Resource Manual
 Cornell Waste Management Institute
 cwmi.css.cornell.edu/
 mastercompostermanual.pdf

These publications are available from the Learning Store (learningstore.uwex.edu):

Compost (A4021)

Do-It-Yourself Compost Bins series

- Barrel Composter (G4020-01)
- Can Composter (G4020-02)
- Concrete Block Composter (G4020-03)
- Wire Mesh Composter (G4020-04)
- Wood and Wire Composter (G4020-05)
- Wood Pallet Composter (G4020-06)
- Wood 3-Bin Composter (G4020-07)



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Credits: Barrel composter directions and graphics courtesy of Rodale Press.

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I-2013