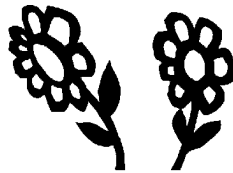


Build for the Future

Even though composting is a natural process, it still needs your help. Building these bins gives Mother Nature an extra boost in providing the richest soil possible. You'll see the results in fresher flowers, larger vegetables, and healthier trees and shrubs. It all begins by building your first compost bin, and from there,

**it just
keeps on
growing !**



For more information regarding Backyard Composting, contact:

**Countywide Solid Waste Programs
(509) 886-0899**



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STEP - BY - STEP INSTRUCTIONS FOR BUILDING COMPOST BINS



**BUILDING SOLUTIONS
FOR A GROWING
PROBLEM**

5 TIPS FOR EASIER COMPOSTING

Mix at least two materials. A pile made of just leaves or just grass, for example, will tend to mat together and become anaerobic. (If it smells putrid, it's anaerobic.) Alternating layers of unlike materials is the remedy.

Make a pile at least three by three feet. Dr. Golueke's research indicates that this is the minimum critical mass for good heating. Piles taller than four or five feet are laborious to turn and tend to compact under their own weight.

Let it mature. At some point you should stop adding to a pile and start another. An unturned pile will be ready about a year after you *stop* adding to it. Each turning cuts decomposition time roughly in half, if nutrients and moisture are right.

Cover it. Excess water drives out oxygen and carries off precious potassium and nitrogen very quickly. Covering the pile with something waterproof recycles the water released during decay and keeps material on the outer edges moist enough to keep rotting.

Make a separate pile for branches. Very woody materials get in the way when the time comes to turn or apply the compost. Stack them by themselves out of the way to rot slowly. Or shred them into mulch for shrubs and garden paths.

Note:

Keep food out of your Compost Bin. Food tends to attract animals (i.e. dogs, cats, rodents). For food waste, see the section on Worm Bins.

Using the 6d nails, nail the 2x4s into place. Then nail the sides onto the base frame. To complete the box, nail the plywood end boards onto the base and sides. Reinforce the box by staggering nails every three inches wherever plywood and 2x4s meet. Drill 12 1/2" holes through the bottom for drainage.

*** Top it all off.** (Diagram D) To build the lid, take the remaining 6-foot 2x4 and cut it into two 26" pieces and two 6" pieces. Lay these pieces flat, shorter pieces on the inside, on top of the top plywood piece, leaving a 1" inset all around the perimeter edge. Nail the plywood onto the 2x4s securely with 6d nails. Fasten a door hinge 1"x1" from each end of one 26" piece. Finish attaching hinges by securing each hinge end onto the top of the side supports. When finished, the lid will stand upright when opened, and overlap slightly.

Tips

Start off by adding damp bedding (cardboard, shredded newspaper, and/or brown leaves) and a small amount of sand. Mix in kitchen waste throughout. Add 1 pound of red worms. Vermicompost will take approximately three months. Push this compost to one side and add new bedding to the empty half. At this time only add food waste to the new half. Worms will begin to migrate to and populate the new bedding. Finished vermicompost can now be harvested.

Optimum temperatures for worm composting is between 55 and 77 degrees fahrenheit. A properly maintained bin is odorless, and with the size of this bin, finding space in the garage or basement should not be a problem. Notches can be cut into the bottom base for easier handling and transport.

Diagram A

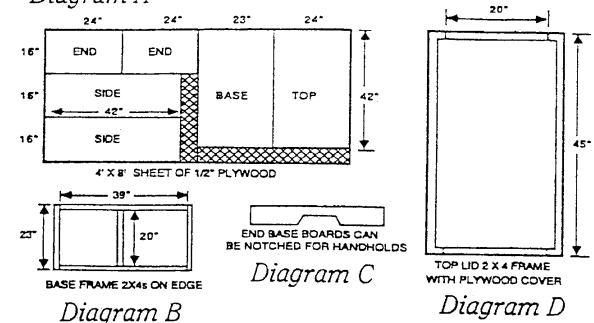
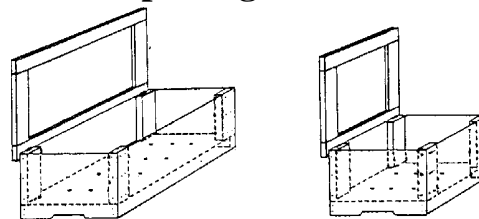


Diagram B

Diagram C

Diagram D

Worm Composting Bin



Although worms are not commonly considered as man's best friend, they most certainly are a favorite of nature's. Considering the amount of high-quality compost that results from their rapid processing, there's hardly a better source.

This bin can be used year round to recycle most food wastes (don't use meat, bones or fatty foods like dairy products or cooking oil), generated by a typical family of four.

Materials

- | | |
|----------------------------------|------------------------------------|
| 1 1/2" treated sheet of plywood. | 1 lb. 6d galvanized nails. |
| 2 6-foot 2x4s. | 1/2 lb. 16d galvanized nails. |
| 3 2-foot 2x4s. | 2 Galvanized door hinges w/screws. |

Tools

Eye glasses and ear protection, tape measure, skill or rip hand saw, hammer, saw horses, long straight edge or chalk line, screwdriver, and drill with 1/2" bit.

Construction

*** Cut plywood as indicated in Diagram A.**

- | | |
|--------------------------|-------------------|
| 2 - 12"x12" ends | 2 - 16"x24" sides |
| 2 - 12"x24" base and top | |

*** Build base.** (Diagram B) Measure and cut one 6-ft. 2x4 as indicated into five pieces: two 20", two 12" and one 8" long. Following the diagram, nail the 2x4s together on edge using two 16d nails per joint. Nail the plywood base piece onto the 2x4 base frame.

*** Build sides.** (Diagram C) Cut four 8" lengths out of the 3-ft. 2x4. Take each plywood side piece and place the 8" lengths flatly onto the corner, flush with the sides.

Down to Earth Solutions

Douglas County, as well as many other jurisdictions in the State of Washington, recognizes the importance of Backyard Composting. Yard waste is the single largest component of our waste stream, comprising approximately 27% of the volume received at the Greater Wenatchee Regional Landfill during the months between April and November. Backyard Composting is the most economic and effective method of recycling yard wastes. By processing your yard wastes on site, you eliminate the need for collection and disposal, and save money in the process.

Composting is the most practical way to turn your yard waste and other organic matter into healthy usable soil. By using your yard waste for compost, you are directly involved in waste reduction, and you are producing a valuable end product at the point of generation.

Compost is the material that results from the decomposition of organic matter. When organic matter decomposes, nutrients are released which later can be used to enrich existing soils for gardens, flowers, mulch, plants and more.

Although you can compost without building a bin, bins have several advantages. A compost bin is a simple, effective way to manage organic waste. Furthermore, compost bins help control heat and moisture content, which in turn speeds up the composting process. This brochure will give you step-by-step instructions for building and selecting the appropriate bin for your home.

Compost in a Trash Can

Perhaps you have an extra plastic trash can that you use to put leaves and grass in. To convert your trash can into a composter, just cut off the bottom with a saw or knife and then place your new unit onto the soil somewhere in your yard. Drill about 24 to 48 1/4" holes in the sides of your can to increase the air flow, or leave it as it is and have a closed-air system.

Tips

You can bury the bottom of your can a few inches below the soil surface and press the loosened soil around the sides to secure it. To increase your composter's capacity, just dig deeper - about one or two feet down. Digging also creates access for nature's helpers to enter, decompose and "shrink" your materials.

Tips

Be careful not to split the wood nailing near the ends of the back guides. Always start out nailing at least one inch away from the edge.

Keep compost temperature high in this bin by turning weekly, sequentially alternating bins. After spending its third week in the final bin, compost should be ready for harvest. The carbon to nitrogen ratio should be layered approximately at 30:1 (two parts grass clippings to one part fallen leaves is about right).

Compost in a Trash Can

Cut all the 1x6" cedar boards into runners, 31" long. Slide the runners in between the front and back guides.

* **Build the lid.** Use the last 9-foot 2x4 for the frame of the back lid. Cut four 32-1/2" 2x2s and one 9-foot 2x2. Lay out into position on ground as illustrated and check for squareness. Screw in corner braces and T-braces on the bottom side of the frame. Center lid frame, brace side down, on bin structure and attach with hinges. Cut wiggle board with 1/8" drill bit and nail onto frame with 8d casement nails. Cut fiberglass to fit flush with front and back edges. Overlay pieces at least one channel wide. Pre-drill fiberglass and wiggle board for each hole. Nail on top of every third hump with gasketed nails.

Tips

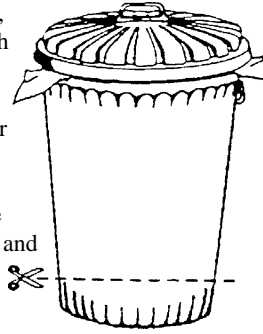
Be careful not to split the wood nailing near the ends of the back guides. Always start out nailing at least one inch away from the edge.

Keep compost temperature high in this bin by turning weekly, sequentially alternating bins. Add water frequently. After spending its third week in the final bin, compost should be ready for harvest. The carbon to nitrogen ratio should be layered approximately at 30:1 (two parts grass clippings to one part fallen leaves is about right).



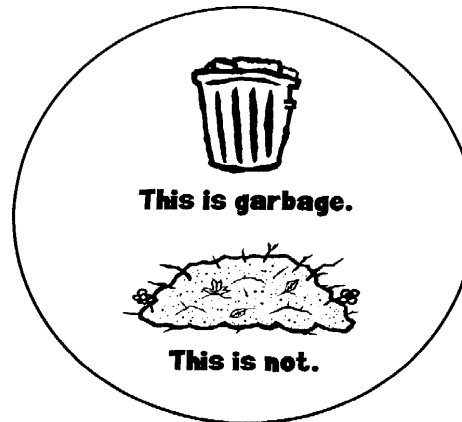
COMPOSTING!
It grows on you.

Perhaps you have an extra plastic trash can that you use to put leaves and grass in. To convert your trash can into a composter, just cut off the bottom with a saw or knife and then place your new unit onto the soil somewhere in your yard. Drill about 24 to 48 1/4" holes in the sides of your can to increase the air flow, or leave it as it is and have a closed-air system.

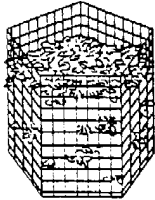
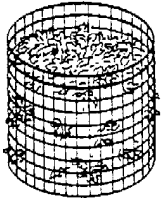


Tips

You can bury the bottom of your can a few inches below the soil surface and press the loosened soil around the sides to secure it. To increase your composter's capacity, just dig deeper - about one or two feet down. Digging also creates access for nature's helpers to enter.



Wire Mesh Composting Bins



Wire mesh bins are the quickest and least expensive bins to construct. They can be used as holding and turning bins, or in combination with one of the larger bins as temporary storage.

Simply adding yard waste as it is cleaned up is appropriate for these bins. With as little effort as occasional moistening and turning, compost will be ready in approximately 6 months.

Materials

Circle Bin

13 ft. of 36" wide 1" poultry wire or 1/2" hardware cloth, or gauge plastic.

4 metal or plastic clips, or copper wire ties.

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

Five Panel Bin

15 ft. of 24" wide 12 to 16 gauge plastic coated wire mesh, or 1/2" cloth.

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

Tools

Eye protection, heavy duty wire or tin snips, pliers, metal file, hammer and work gloves.

Tools

Eye glasses and ear protection, hand or circular saw, drill with 1/2" and 1/8" bits, screwdriver, hammer, tin snips, tape measure, pencil, 3/4" socket wrench, carpenter's square, (option - power stapler with 1" long galvanized staples).

Construction

* **Build dividers.** Cut two 32" and two 36" pieces from each 12-foot 2x4. Butt end nail the four pieces into a 35"x36" rectangle. Repeat for the other three sections. Cut four 38" long sections of hardware cloth and bend back edges 1" for strength. Staple hardware cloth onto the frame tightly into place, every 4" around edge.

* **Set up the dividers.** Set up the dividers parallel to one another 3 feet apart. Cut four 9-foot pieces out of the two 18-foot 2x4 boards. Place two 9-foot base boards on top of dividers. Measure, mark and center lines for the positions of the two inside dividers flush against the outer edge of the 9-foot 2x4s. Drill a 1/2" hole down the center of each junction centered 1" in from the outside edge. Secure base boards with the carriage bolts, but do not tighten yet. Turn the right unit right side up and repeat the process for the top 9-foot 2x4.

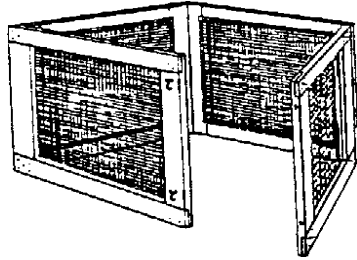
Make sure the bin is square, then tighten all bolts securely. Fasten a 9-foot long piece of hardware cloth securely to the back side of the bin (again, bend back 1" for strength) and staple every 4" around the frame.

* **Slat guides and runners.** Cut the one 16-foot cedar 2x6 into four 36" long pieces for front slat guides. Rip cut two of these boards to 4-3/4" wide. Nail them flush against the edges of the two front outside dividers and baseboard. (Save the two remaining 1-1/4 of the rip cut boards for use as back guides.) Center the remaining 36" 2x6 cedar boards on the front of the inside dividers, flush with the top edge, and nail them securely.

To create back guides, cut the remaining 2x6 into a 34" long piece and then rip cut into 4 equal pieces, 1-1/4"x2". Nail the six back guides parallel to front slat guides on each side of divider, leaving a 1" gap for the slat runners.

(continued on the next page)

Portable Wood and Wire Composting Bin



This portable, versatile bin provides moderate volumes of compost conveniently with very minimal effort. Yard waste is added to the bin as it is generated. By adding occasional moisture, and turning, compost will be ready in approximately 6 months. The bin itself can be used as either a turning unit, or as a portable holding bin.

Materials

1 12-foot pressure treated 2x4.	12 ft. of 36" wide 1/2" hardware cloth.
3 12-foot fir 2x4s.	150 poultry wire/power staples.
1 10 oz. tube exterior wood adhesive	6 3" galvanized butt door hinges.
100 1-1/2" galvanized #8 wood screws.	4 large hook & eye gate latches.

Tools

Eye and ear protection, handsaw, chisel, hammer, screwdriver, tin snips, caulking gun, pencil and carpenter's square.

Construction

* **Cut wood into lap joints** (Diagram A). Cut each of the 2x4s into four 3-foot long pieces. Mark a notch 1" deep and 4" wide section out of each end and cut out using handsaw (a total of 32 lap cuts).

If using a radial arm, circular or table saw, set the blade depth to 1/2" and make multiple passes until the entire section is removed.

Diagram B

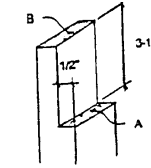
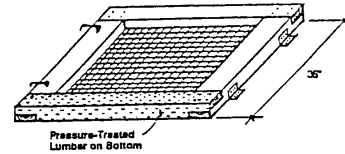


Diagram A

* **Fasten joints together.** (Diagram B) Make four 3-foot square frames from the lap jointed 2x4s. Use one pressure treated 2x4 on each frame. Liberally apply construction adhesive to fill in the gaps when the lap joints are screwed together. Fasten each joint with four screws.

* **Staple hardware cloth onto each joint.** (Diagram B) Cut the hardware cloth with the tin snips into four 3-foot square sections. Bend the edges of the wire back over 1" for strength. Lay one piece onto each of the four frames. Center and tack each corner with staples, using hammer or gun, pulling for tension. Hammer staples every 4" along frame.

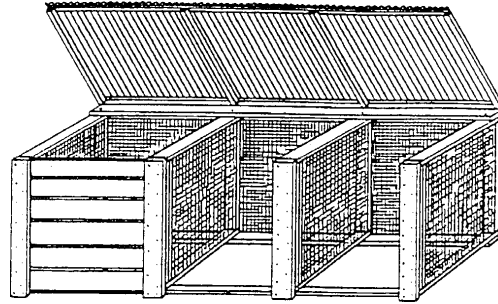
* **Connect frames with hinges.** Screw two hinges onto the side of each frame, approximately 6" flush from each end. Connect each pair of frames with the pressure treated lumber on the bottom. Then fasten the hook & eye gate on the remaining ends so that the sections latch together.

Tips

If quicker compost is desired, chip and shred materials. Use non-woody yard waste for compost, alternating fresh green and brown yard waste. Occasionally turn the material, and cover with a tarp or sheet of plastic.

The opening latches make this bin easy to operate. Undo the latches and pull apart the sides to move to a desired location. Turn the material back into the bin. The finished compost on the bottom is ready for use and new material can be added on the top.

Wood and Wire Stationary 3-Bin System



This bin system is designed as a turning unit to compost large amounts of yard wastes in the shortest period of time. It also works well for storage until enough material is collected for an entire bin. Gardeners benefit the most from this system because the fresh compost is generated so rapidly.

Materials

2 18-foot treated 2x4s.	1/2 lb. 8d galvanized casement nails.
8 6-foot treated 2x4s.	250 wire staples or staple gun.
1 9-foot and 2 6-foot 2x2s	1 12-foot sheet clear corrugated fiberglass.
1 16-foot cedar 2x6	1 8-foot sheet clear corrugated fiberglass.
3 lbs. of 16d galvanized nails.	22 ft. of 36" wide hardware cloth.
9 6-foot cedar 1x6s.	3 8-foot lengths of wiggle molding.
12 1/2" carriage bolts 4" long.	8 flat 4" corner braces with screws.
40 gasketed aluminum nails for corrugated fiberglass roofing.	2 3" zinc plated hinges for lid.
12 nuts and washers for bolts.	4 flat 3" T-braces with screws.

Construction

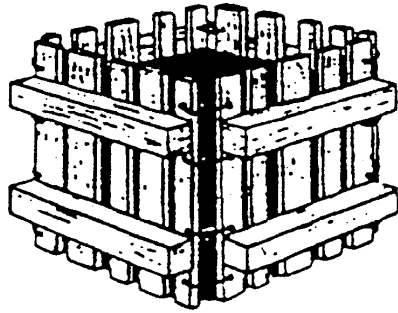
* **Circle Bin** - Roll out and cut 12-1/2 feet of poultry wire, hardware cloth or plastic coated wire mesh. If using poultry wire, roll back three to four inches at each end of cut piece to provide a strong clean edge to work with. Set wire circle in place for compost pile and secure ends with clips 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 sharp edges. Apply file to wire along each cut edge to ensure safer handling. 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 without posts.

Plastic coated mesh bins are made in the same manner, taking extra effort to bend into circular shape. Also, filing the wire ends may cause the plastic coating to tear. Striking the end of each wire with a hammer will knock down any jagged edges.

* **Five Panel Bin** - Cut five 3-foot long sections of the 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. Attach panels using clips or wire ties. Bend, file or break off all exposed wire ends for protection. The Five Panel bin can be enlarged or reduced depending on the amount of compost. Simply add or remove panels.

Wood Pallet Compost Bins



Wood pallets are readily available and are easy to convert into a sturdy compost bin. Not only that, they're often free! Many companies still consider wood pallets a waste material, and pay to have them hauled away with their garbage. So, if you see pallets at a business, ask if you can have them.

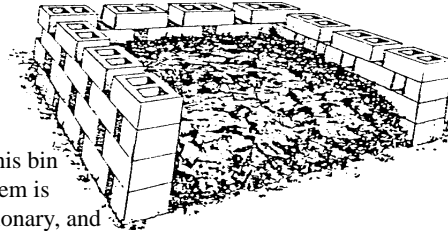
Construction

Select four pallets of the same size. After placing four pallets upright to form your square bin, connect the sides by tying them with string, rope or wire, or by nailing them with double-headed nails. However you connect them, be sure to do it in a way that makes it easy to take it apart when you want to move the pile or harvest the compost.

Tips

You can use a fifth pallet as a floor inside your bin to increase the air flow. A tarp or sheet of plastic can be placed over the top of the pile to reduce moisture loss or keep out rain or snow. If you have a large yard and lots of material to compost, setting up a second unit is a good idea. When the first unit is filled, let it simmer and start building a second pile!

Cinder Block Composting Bin



This bin system is stationary, and is designed for a moderate amount of yard wastes. Yard waste is added to the bin as it is generated. Add occasional moisture and turn weekly, and compost will be ready in approximately 6 months. Multiple bins can be constructed to assist with turning.

Materials

8 Corner cinder blocks 36 cinder blocks

Tools

Garden shovel, level, work gloves.

Construction

- * **Designate the bin location.** Measure out a 6x6-foot square area. Dig out and level the site area.
- * **Set up base blocks.** Dig a footing 3 inches below grade. Place 1 corner cinder block at each corner, level and square block. Place 3 cinder blocks between the corner blocks, making sure an equal space is maintained between blocks. Level and square all blocks.
- * **Building the walls.** Alternate each layer of cinder block to a height of two feet, making sure to level and square each row as it is constructed. Maintain the equal spacing between blocks.

Tips

The base cinder blocks may be filled with sand to provide further stability to the block walls.