



What makes Harry Day's greenhouse different is the strength of wood and the way he attaches 20-ft. long, 3/4-in. dia. pvc "hoops" to the 2 by 6's that run down each side.

## Do-It-Yourself Greenhouse

"This is the best little home-built greenhouse around," says Harry Day, Spokane, Wash. "What makes the 12 by 12-ft. structure different is the strength of wood and the way I attach the 20-ft. long, 3/4-in. dia. pvc 'hoops' to the 2 by 6's that run down each side.

"I made the end caps out of wafer board by bending a piece of pipe into a half circle and laying it across three 4 by 8 sheets, which I cut into an arc. Then I cut out squares under the arc for a door and for openings covered by plastic.

"Four 12-ft. 2 by 6's run around the base and a 2 by 4 runs from end to end down the top center, with braces down the wood ends. I also ran a couple 2 by 2 braces down each side, screwed to the pvc pipe with sheetrock screws.

"To attach the pvc hoops, I screwed pvc end caps to the 2 by 6's along each side — spaced about 2 ft. apart — and then glued the ends of the pipes into the caps. It holds



Day made the end caps out of wafer board by bending a piece of pipe into a half circle and laying it across three 4 by 8 sheets, which he cut into an arc.

them very securely and is simple.

"We had 97 inches of snow last year and buildings were collapsing all over Spokane. But not my greenhouse."

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## Log Cabin Built From Scrap Wood

Aurelio Gracia likes to drive through industrial areas in his pickup, looking out behind businesses to see if there's anything being tossed away that he can put to good use. That's how he built a 21 by 14-ft. log "cabin" almost entirely out of salvaged materials.

The cabin has 8-ft. wide double doors at one end and windows on three sides, including a 4 by 5-ft. picture window. There's also a loft accessible by a 4 1/2-ft. high double door.

"My total cost for the building was \$380, and most of that was for roofing shingles. A comparable commercial building would have cost about \$8,000," says Gracia.

He found a big pile of pressure-treated landscaping ties behind an electrical cable company. "I went in and asked the manager if I could have the ties. He said he was having trouble getting rid of them so he was glad to let me take all I wanted. So I brought about 380 ties home and denailed them. The ties had been used to secure large reels of cable on flatbed trailers. Each tie measures 8 ft. long and 6 in. wide by 4 in. high."

Then he got some free cinder blocks from a local Home Depot, after the company changed construction plans on a new building. He laid rows of blocks down in the shape of the building and then built a frame out of 2 by 4's and laid it on top of the blocks, leaving room for the first layer of ties which he also set on top of the blocks flat side up. Then he used the nails he had removed to fasten the ties to the frame. "I alternated the ties in layers, with one layer flat side up and the next layer flat side down. Notching the ties would have been too much



Pressure-treated landscaping ties, found behind an electrical cable company, were used to make cabin's walls.

work," says Gracia.

He got some light pine free from a copper pipe distributor and used it to build the doors, installing an old fashioned locking system.

One of the small windows came from an old pickup, and the 15-year-old picture window came from Gracia's house. "I saved the window when we decided to replace the window with a new one," he says.

The cabin doesn't have a floor, but Gracia says he might install one some day. A 2 by 6 board extends above the attic's double doors and is equipped with a hook and pulley, allowing Gracia to raise objects into the attic.

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Photos show step-by-step process for converting pipe into trowel.



## Easy To Make Garden Trowel

Next time you need to replace a garden trowel or small spade, grab a piece of aluminum pipe and make your own. Billy Robb says they're easy to make, handy to use and the price is right.

"All you need to make one is a piece of pipe, a hack saw, a hammer and heavy-duty metal snips," says Robb.

He uses 1 1/4-in. galvanized chain link fence pipe that he picked up at a garage sale for \$1 per 10-ft. length. In addition to hand trowels, he has used the pipe to make a pole saw.

To make the trowel, he cut partially through the pipe at the point where the handle would end and the spade would begin.

"Don't cut too far into the pipe, or you'll lose the strength of the tool," cautions Robb.

He then cut lengthwise down the portion to be made into the spade, opening it slightly with pliers. He hammered it into the desired curve, trimming it to shape with the metal snips.

"I filed and ground down the sharp edges, wrapped the handle with duct tape for a better grip, and drilled a hole in the handle for mounting on the wall," says Robb.

For detailed step-by-step instructions, see Robb's posting at the do-it-yourself website, [www.instructables.com](http://www.instructables.com).

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Snips shape trowel edges.



Completed trowel.



Duct tape wrapped around handle.



Gate-carrying bracket system lets Tom Hageman use his skid loader to carry up to 50 ft. of connected-together gates at a time, and then quickly unfold the gates for sorting cattle.

## Skid Loader-Mounted "Gate Bracket"

"I built it because I got tired of having to carry livestock gates around by hand," says Tom Hageman, Ossion, Iowa, who recently sent FARM SHOW photos of a gate-carrying bracket system he made for his skid steer loader. It lets him carry up to 50 ft. of connected-together gates at a time on one side of the skid loader, and then quickly unfold the gates for crowding or sorting cattle.

"The gates will fit right through a 10-ft. wide gate opening," says Hageman.

The system is designed for a 3-section corral gate. It consists of a middle bracket that slips over the skid loader's pallet forks, and a sq. tube bracket that clamps onto each end of the center gate. One end bracket is 2 in. bigger than the other one, which allows the narrow side to be folded in first, and then the wide side.

"It sets up in minutes and works great for making an alley or crowding cattle into a shed," says Hageman. "The headgate can be used to sort cattle off either end. I use it on my farm to carry an 18-ft. center gate and two 16-ft. gates. However, you can use any size gates that you want. It works great for sorting cattle, moving cattle from one yard to another or into a shed, etc. If you want, you can set it up alongside an existing fence and make a long narrow alleyway to a dip tank or foot bath. The middle bracket can be approached from four different directions and is freestanding when not in use."

The bracket system sells for \$875.

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