

Home-Built Honey Extractor

"I recently started beekeeping and needed a honey extractor, but I didn't want to spend the money for a commercial model. So I built one that fits inside a 31-gal. trash can," says Richard Groth, Naperville, Ill.

The honey extractor is designed to remove the honey from wooden honeycomb frames. It consists of a "cage" that goes inside the trash can. The can mounts on a 3-legged wooden stand. A 1/2-in. variable speed, reversible drill is used to rotate the cage. The centrifugal force moves the honey out. There's about 1/2 in. clearance all the way around between the cage and the sides of the can. The honey drips down through a plastic drain at the bottom of the can and into a 5-gal. bucket.

The cage consists of an 18-in. dia. metal strap at the top and a circular metal plate at the bottom, which are connected by lengths of 1/2-in. dia. conduit. The plate rests on a wooden block about 5 in. above the bottom of the can and contains the bearing for the center rod. Pairs of threaded 1/4-in. dia. rods run across the

top of the cage and are spaced 2 in. apart. Four honeycomb frames fit inside the paired rods and snap into 4 small rectangular slots in the plate.

The cage rotates on a 1/2-in. dia. pipe at the center. The pipe extends up through a wooden bar that's bolted at both ends onto the trash can's sides and contains the upper bearing.

"It works great and removes every last bit of the honey," says Groth. "I had fun making it. After I locate a pair of bevel gears I plan to hand crank it, which will make it easier to regulate the speed of the cage."

"I spent only about \$30 to build it, whereas commercial honey extractors sell for about \$200. I cut an 18-in. dia. circle out of a discarded clothes dryer to form the bottom. The wooden bar on top is a piece of hardwood flooring. All I bought new was the trash can, a bearing, a plastic fitting for the drain hole, and the strap iron around the top."

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Home-built honey extractor fits inside a 31-gal. trash can that mounts on a 3-legged wooden stand.



"Cage" with paired 1/4-in. dia. rods mounts inside trash can. Four honeycomb frames fit inside the paired rods.



A 1/2-in. variable speed, drill is used to rotate the cage. Centrifugal force moves the honey out toward the sides of can.

Turning Corn Stalks Into Lumber

Thanks to a new process developed by the University of Illinois, a portion of the 580 billion lbs. of corn stalks and cobs left in U.S. fields can now be made into lumber.

Lane Segerstrom, founder and CEO of Corn Board Manufacturing, Inc. (CBMI), plans to start with an eye-catching fun product - skateboards.

His company's StalkIt Longboards - performance skateboards with cores of 100 percent CornBoard™ - will hit the market soon.

"The skateboards get CornBoard into the market in a high profile way," Segerstrom says, noting his goal is to brand the new type of pressed board and grow public demand.

Segerstrom believes consumers will choose his company's products because of their solid engineering and design.

"We can engineer the board for the application," Segerstrom explains. "When we press the board, we can determine what type resin we put in, if the product needs to be waterproof, pest resistant or if it will be used in a cabinet. We can determine how much flexibility the board needs or if the board needs to be stiffer."

CBMI has a licensing agreement with the University of Illinois to develop composite products from corn residue. After extensive research, the company contracted with farmers around Stratford, Texas, last fall to round bale over 1 million lbs. of corn stover.

Production is underway on the high-end skateboards (\$485 to \$585), which have already obtained publicity by setting the Guinness World Record for the fastest towed skateboard traveling 78.1 mph.

The next product is an Adirondack chair (\$200), the first in the company's Zea Home line. The chair has a unique slotted design that allows it to be portable and assembled in minutes with no nails, screws or adhesives.

"CornBoard has limitless possibilities in replacing pressed wood board and will allow us to bring innovative new products to market," Segerstrom says.

That could include modular homes in the future. It takes about 2 acres of corn



StalkIt skateboards are made out of CornBoard, which is made from corn stalks and cobs.

stover biomass (4,000 lbs./acre) to supply the roof decking, flooring and outer wall sheathing for a two-story home.

Segerstrom notes that he doesn't plan to sell CornBoard as a raw material. He intends to sell it through finished products to maintain control of the CornBoard brand quality.

He adds that the environmental aspect of the product is a bonus. Farmers can earn extra profits, and with less debris in the field they may be able to switch to no-till practices. Removing the stover also reduces CO2 emissions by 1.5 tons/acre.

As the business grows, Segerstrom envisions small manufacturing plants in several locations in corn-growing areas.

"Having grown up on a farm in Iowa, I look forward to working with farmers to increase their bottom line, while making a positive contribution to the rural communities where they live and work," he says.

Go to CBMI's website to purchase products or find a dealership near you.

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Hank Greschaw's "tractor buggy" started life as a 1973 Chevy 4-WD Blazer. "I use it to move RV's in and out of barns," says Greschaw.

"Tractor-Buggy" Great For RV Storage Business

Hank Greschaw runs an RV storage business and he needed a quicker way to move trailers around. So, he built what he calls a "tractor buggy".

It started life as a 1973 4-WD Chevy Blazer. It's powered by the original 350 cu. in. engine and 4-speed manual transmission with 2-speed transfer case. There are receiver hitches front and back and a fifth wheel hitch on back for use with lightweight trailers.

"It's a cross between a tractor and a dune buggy with quick acceleration with a top speed of 60 mph," says the Webberville, Mich. man. "I use it to move RV's in and out of 6 different barns. One barn is 124 ft. long, one 160 ft., and four are 100 ft. long."

He bought the Blazer with a badly rusted body and frame for \$125. He removed the body and cut off the rusted-out frame just behind the seat, moving the rear axle forward onto a new channel iron frame. The front axle still has the original suspension.

He used 1 1/2-in. sq. tubing to make a rollbar and added a fiberglass roof. He cut the hood down on an old Chevy pickup and used it to cover the engine, leaving the sides open.

"It has worked well for many years. I doubt I've got much more than \$1,000 invested in it," says Greschaw. "I built it because I store up to 120 RV's for customers and am constantly moving vehicles in and out. I had been using an old Ford tractor without power steering to back rigs in, but I needed

something better. With my buggy, I can see where I'm going at all times.

Greschaw also built another heavy-duty rig for backing in trailers. He started with the frame off a 1970's Chevy 3/4-ton 4-WD pickup, then mounted the body, cab, fenders, and grill off a 1962 Chevy pickup on it. There's a homemade flatbed on back, and a fifth wheel hitch and receiver hitches on front and back.

It has solid rear suspension with dual wheels on back. The front suspension is original to the pickup. A 1984 Chevy 350 cu. in. engine equipped with a turbo 400 transmission and 2-speed transfer case provides power.

"I use it to haul anything I want, including big 36-ft. fifth wheel RV trailers," says Greschaw. "I used channel iron and diamond plate steel to weld together a bumper and grill guard on front. I like to back trailers in from the front because it's easier to see where I'm going than backing up."

"There's a 12-volt electrical plug both on front and back, which comes in handy when handling trailers equipped with electric jacks. I used angle iron and diamond plate steel to make the flatbed."

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