

## Low-Cost Lime Spreader Ideal For Small Jobs

Custom lime applicators often don't want to bother with small jobs. Barb and Bob Lee decided to spread lime themselves on their small fields and paddocks. Rather than buy a unit, they found plans on the internet and built a low cost, homemade spreader.

"We're trying to breed Blackbelly Barbados sheep for organic meat sales, and healthy sheep require healthy pasture," says Barb Lee. "We're trying to rejuvenate our worn-out soil by getting the calcium levels up."

The Lees quickly discovered that not only was custom application expensive, no one would even consider doing their six acres. When they found plans for a spreader at [www.bright.net/~fwo/Lime.html](http://www.bright.net/~fwo/Lime.html), they decided to build a 10-ft. version that fits the back of their pickup. Best of all, it works with powdered lime, which the Lees found is half the price of granulated lime preferred for hand spreading.

The design is simple with an equally simple spreading action. It consists of 18-in. sides (length is optional) with a series of dividers inside that make multiple compartments to maintain an even distribution of material.

A 2 by 4-in. shaker board mounted to the bottom of the lime box can be adjusted to flex open and shut, holding the lime in place

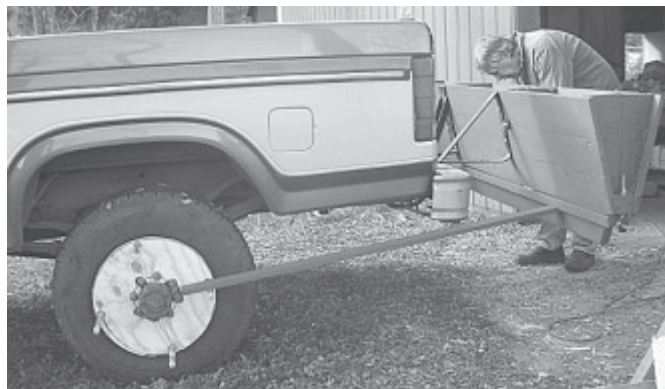
or releasing it. In spread mode, it's kept in constant motion striking the bottom of the box and flexing open to release lime.

A tension spring centered on and mounted to the rear side of the box and the shaker board provides the flex. Eye bolts extend through the shaker board and through small wood blocks attached to the ends and the center divider. Tightening or loosening the nut on the eyebolts allows more or less lime to be released as the board flexes. Short lengths of steel rod attached to the 2 by 4 and extending through the eye of the bolts, keeps them from turning.

A knocker arm is attached to one end of the front side of the shaker board. It extends alongside a rear wheel of the Lee's pickup to a knocker disk with the length determined by the distance from wheel to box. The knocker disk is a round piece of plywood with four 6-in. long, 1/2-in. steel pins mounted equidistant around its perimeter.

The disk is cut to fit the wheel with holes for lug bolts, hub and valve stem. A second set of lug nuts secures it in place, while four steel pins extend out and away from the wheel.

As the wheel rotates, the knocker arm lifts, flexing the shaker board open against the ten-



Bob and Barb Lee spread lime themselves on their small fields and paddocks, using this home-built 10-ft. wide lime spreader that fits on back of their pickup.

sion spring. As the knocker arm is released from one pin, it strikes the next pin, "shaking" the lime down and out.

Calibrating the lime spreader is relatively easy. The first step is to place a known amount of lime in the spreader. The plans suggest 300 lbs. Adjust the nuts on the eye bolt uniformly and drive at a set speed until the spreader is empty. Measure the distance driven in feet and multiply by the width of the spreader. To get acres spread, divide the total by 43,560 (square feet in one acre) to get the percent of an acre covered by 300 lbs. at that setting. Then adjust the nuts accordingly. Different

settings (perhaps 500-lb. increments) can be marked on the center divider and ends for quick adjustment in the future. Increasing or decreasing the speed can also alter the spread rate.

"It's crude, but it works great, letting us spread about a ton per acre on our small fields," says Barb. "Now we're planning a 4-ft. box to get into even smaller paddocks."

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## How To Plant Wheat With A Row Crop Planter

Kinze planter owners can improve small grain yields with the Kinze Wheat Plate. It's a patented backing plate that seals the standard Kinze planter soybean plates so small grain seeds drop in the furrow, not out the back. (Note: A wheat plate for Deere 7000 planters is in the works).

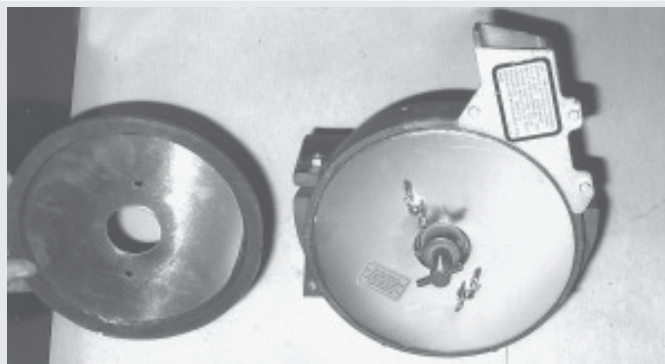
"Using a planter gives you more control over the seed spacing and depth than with a drill," says Larry Hak, one of the developers of the Wheat Plate. "Our yields are as good or better than with a drill, and we use 25 percent less seed. We've tried it with oats, barley, rye, millet and flax. One customer even used it with chili pepper seed."

The suggested retail price for the backing

plate is \$22.95 per row unit. Hak says they are easy to install. He uses his on his 23/15 Kinze and has sold them across the U.S. with some sales in Canada and even Australia. Best of all, they are a low cost alternative to buying and maintaining a drill.

"It eliminates another piece of machinery, and does a superior job of seeding," says Hak. "As seed gets more and more expensive, we can't afford to just throw it out there. With these plates and a planter, every seed counts."

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Backing plate seals standard Kinze planter soybean plates so small grain seeds drop in the furrow, not out the back.



Portable gopher gasser makes use of an old motor. Flexible metal tubing runs from motor's exhaust into tunnel.

## Portable "Exhauster" Kills Gophers And Moles

Got an old unused motor? Then you can kill gophers and moles the easy way, says Kim Bybee. Since he first rigged up his portable gopher gasser, it's been an easy solution to problem diggers.

"Any old motor will do if it's not too big and runs fairly quietly," says Bybee. "I used a four-cycle gas engine from an old lawn mower. Mounted on a piece of board, it can easily be carried to gopher or mole tunnels."

Once at the tunnel, he simply runs flexible metal tubing from the motor's exhaust into the tunnel. Bybee likes to add a little oil to the gas tank to thicken the smoke so he can check the progression of the exhaust through a tunnel. With or without the oil, running the

motor for 45 min. is usually plenty to eliminate either gophers or moles.

"You have to be careful handling the tubing," says Bybee. "It gets really hot and can burn the hand. I use welding gloves to pull it out of the ground."

The only tricky part to setting up a gopher gasser, aside from the hot pipe, is making the connection. Bybee devised a connector that can be adapted to different size pipes and exhaust outlets. "I could send detailed plans and photos to people for a fee if they're interested," says Bybee.

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To fill his air tank, Donald Chapman simply hooks up an air hose to a quick connector and then turns a handle to open an add-on ball valve.

## How To Fill A Portable Air Tank Fast

"I modified my portable air tank so that I can fill it much faster than I could with an ordinary air chuck," says Donald Chapman, Billings, Mo.

All he used was a T fitting, a ball valve, some nipples and the male end of a quick disconnect coupler. He mounted the T fitting between the tank's original safety relief valve

and the tank, then installed a ball valve and quick connector. To fill the tank, he simply hooks up an air hose to the quick connector and then turns a handle to open the valve.

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