

## Remote-Controlled Seed Box Opener

Opening bulk seed boxes is safe and easy with Mark Hoffmann's new remote-controlled box opening system.

"It allows you to open and close seed boxes from a distance, keeping you safe on the ground and away from potentially harmful dust," says Hoffmann. "Works great for filling seed tenders as well as planters and drills."

The self-contained system uses an aluminum frame that attaches to the box by means of an actuator, which draws the two parts of the frame tight against the box's sides. Another actuator is used to open and close a slide gate at the bottom of the box. The actuators, as well as the remote, are powered by 12-volt batteries.

"It eliminates the need to climb up a seed tender, forklift or tractor so there's no risk of falling. Also, you're a safe distance

away from the box so there's no exposure to seed treatments such as fungicides and insecticides," says Hoffmann.

"It's built strong. The actuator that clamps onto the box has 400 lbs. of force, and the one that opens and closes the box has 200 lbs. of force. You can be sure that when you attach the frame to the box, it'll stay there."

The box opening system, which includes two 12-volt batteries, a charger, and two remote controls, sells for \$1,450 plus S&H. An optional wireless camera is also available. "The camera lets you make sure from the ground that the opening on the box is properly positioned," notes Hoffmann.

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Seed box opening system comes with an aluminum frame that's held to box by means of an electric actuator. Another actuator is used to open and close box's slide gate.

## First Hybrid UTV Combines Gas With Electric Power

"Our new Landmaster 4-WD is the first true hybrid utility vehicle on the market. It combines the silent operation of electric motors with the power of a gas engine," says Keith Hunter, Power Equipment Solutions LLC, Vandalia, Ohio.

Unlike other hybrids on the market that are basically electric vehicles with a generator, the Landmaster comes with 2 separate drive systems. A 48-volt DC electric motor powers the front wheels, and a 650 cc gas V-twin Subaru engine powers the rear wheels. To get 4-WD you engage both the electric motor and gas engine simultaneously.

The vehicle has four 12-volt 155-amp sealed deep cycle batteries and also a 360 cc, 12-volt battery for starting the gas engine. Two of the batteries are located under the hood and two under the seat. The engine is located under the seat. An onboard 48-volt, sealed solid state charger is used to start the engine.

"The gas engine lets you drive fast on the road, and the batteries let you drive quietly without disturbing livestock or wildlife," says Hunter. "You can run exclusively on battery power for up to 13 miles. For longer range travel, or when you just need more power, you can use the gas engine. It has a top speed of 22 mph and can go 90 miles without refueling. The 2-seat model can go up to 6 miles on battery power and 90 miles on gas."

"A regenerative braking system helps recharge the batteries."

Optional features include front and rear lap/



Landmaster Hybrid UTV combines the silent operation of electric motors with the power of a gas engine.

shoulder belts for both driver and passenger, 30-watt headlights, turn signals, mirrors, a 2-in. rear receiver hitch and a manual dump bed, windshield, and fold-down rear seat. The poly bed is constructed from structural foam with stake pockets and has a capacity of 400 lbs., with added storage located under the front and rear seats. Towing capacity is 1,200 lbs.

Comes in red, green, white, camo or black. Base price is \$9,900.

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Don Bogardus repowered and geared down this snowmobile so it goes only about one third as fast as normal, "which is perfect for pulling our sap sled around the woods."

## Snowmobile Turned Into "Slowmobile"

Don Bogardus, Sloansville, N.Y., recently sent FARM SHOW photos of the snowmobile that he repowered and geared down.

"We make some maple syrup here, and as we tap more trees it's getting harder to get the sap out of the woods," says Bogardus. "I thought a snowmobile might do the trick, so I found a used one for \$50. It worked but it was way too fast, and after a while the clutch let go. To solve the problem I yanked out the engine and clutch and installed a Kawasaki 12 hp, 1-cyl. engine, which I geared down with V-belt pulleys. The belt also serves as the snowmobile's clutch."

He says the snowmobile now goes only about one third as fast as its normal speed, "which is perfect for pulling our sap sled around the woods." He added a throttle lever that works like the ones found on tractors, as well as a foot clutch and a key-start.

"Everything is pretty well packed into the snowmobile's engine bay, but it all fits and does the job for us," notes Bogardus.

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## He Treats Stover To Improve Its Feed Value

Duane Kristensen is constantly on the lookout for innovative products and new ideas. He's a farmer, a beef producer and general manager of Chief Ethanol in Hastings, Neb. The facility produces 62 million gal. of ethanol and more than a half million tons of dried distillers grain annually.

In the fall of 2012, Kristensen participated in a demonstration project where calcium hydroxide was applied to corn stover to increase its value as livestock feed. One of his cornfields was harvested with a New Holland 99C combine equipped with a Cornrower under the header. As the combine passed through the field, the Cornrower deposited stover in a single row. Kristensen says the grain was 17 percent moisture at harvest and the stalks were at about 35 percent moisture.

Behind the combine, a tractor pulled a dry fertilizer spreader and applied calcium hydroxide, also known as quicklime, to the

stover. Water was applied after the quicklime pass to reduce dusting and moisten the quicklime so it would begin to breakdown the stover fiber. Next, a forage harvester chopped the treated stover, which was then trucked to Kristensen's nearby feedlot. There the treated stover was unloaded into a bunker and more water was added until the moisture content of the material was almost 50 percent. The material was packed like a normal silage pile and Kristensen waited five days before feeding the material. During that time, the ensiling process raised the pile temperature to 120 degrees, and then it cooled back to the ambient temperature in three days.

Although the demonstration required several trips to get treated stover in the bunker, Kristensen was pleased with the results. "The treated stover was darker than regular corn stalks and almost looked like silage. The ration we fed the cattle had 25 percent treated stover mixed with some dry

hay and about 50 percent wet distillers grain. The cattle ate it real well," says Kristensen. He thinks that treated stover could be used for finishing cattle if corn was added in as an energy source.

Research at the University of Nebraska in Lincoln (UNL) has shown that quicklime treated stover can make up 20 percent of a fat cattle ration and in the process replace about 15 percent of the corn.

"The nutritional value of this product is very good," Kristensen says, "the cattle ate it well and didn't push it around in the bunk looking for smaller grain particles."

Kristensen thinks the overall concept has merit, especially if the treating and collection process can be done in fewer passes. "It costs money to run equipment across the field, and making three passes along with trucking to the feedlot is on the high end of the cost curve. If that can be simplified and made more cost effective, then it's definitely going

to be something that a lot of people will be interested in."

UNL has tested an alternative approach where stover is baled, ground in a tub grinder and the quicklime and water are applied as ground material goes onto a pile. Other testing is being done with collaboration between Monsanto, ADM, agricultural schools and farm cooperators. Kristensen says all of this activity is good because it's focused on finding extra value in corn. "Right now in my operation corn grain goes to the ethanol plant, stover goes to the feedlot, distillers grain goes to the feedlot and manure from the cattle goes back on the land. The grain is making feed, fuel, food and fertilizer and it doesn't get any better than that."

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