

Simple Way To Measure Grain Loss

You can check combine grain loss quickly and easily with this on-the-go powered "drop board" for combines.

The device consists of a metal framework that mounts underneath the combine grain separator fan, just ahead of the sieve discharge. It holds a 20-in. by 4-ft. wide drop board. The board is held in place by a spring-loaded "catch" controlled by a cable that runs to the combine's cab. The operator simply pulls on a T-handle in the cab to drop the sample board onto the ground.

"It works good for gathering samples of crop and chaff at different speeds and different locations throughout the field," says inventor Brian Duyck, Powell, Wyoming. "It could be custom-built to fit any combine."

"I use it on my IH 1460 combine. After dropping the board I determine how many kernels per sq. ft. are on the board. Then I make an educated decision on whether to slow down or speed up the combine and whether to adjust the sieves."

"I use it on all my crops including grass seed, clover, barley, wheat, and beans. It's a lot safer than trying to throw something un-



Powered "drop board" mounts underneath the combine grain separator fan.

der the combine or walking alongside it with a shovel. It can also be helpful for setting the in-cab monitor on newer combines.

"I painted a square on the board and wrote down reference notes along the board's margins. For example, if I'm harvesting barley and there are 108 seeds in the square on the board I know I'm losing about 1 bu. per acre."

Duyck says he has built several of the units for neighbors. "I weld a piece of angle iron onto each side of the combine frame and then bolt the unit on. I charge about \$200 per unit."

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Riding Mower Converted To Self-Propelled Wheelbarrow

Old riding mowers can be converted into self-propelled wheelbarrows, says Edward Kaban, Brandon, Manitoba, who converted an old Ford mower.

The wheelbarrow mounts on back, above the engine and directly behind the seat, and is manually dumped. It hinges on two bolts and is held in place by a front-mounted latch.

"I'm retired from farming and live in town where I have a small garden and enjoy doing yard work. It makes gardening more enjoyable," says Kaban.

He started with a late 1960's Ford 528 riding mower equipped with a 28-in. deck, which he bought at an auction. He removed the deck and replaced the mower's original 5 hp engine, which was worn out, with an 8 hp electric start engine off a Lawn Boy mower he also bought at an auction. "My total cost for both mowers was \$30," says Kaban.

The Ford mower's original seat sat low and was in the way of the wheelbarrow. To solve the problem he removed the seat but kept the mounting bracket for it, then mounted the Lawn Boy's seat on top of it. That moved the seat 6 in. forward and also raised it. With the seat moved forward he needed more room for his legs, so he repositioned the steering column straight up and down.

He then used angle iron to build a frame



Self-propelled wheelbarrow was built out of a late 1960's Ford riding mower.

that supports front end of wheelbarrow and bolted it on back of the mower frame. He also stripped the bottom deck off the mower to provide more clearance on uneven terrain. And to prevent flat tires, he replaced the original air-filled tires with solid tractor-style tires.

A metal box mounted next to the steering column houses the engine's electric start, as well as the choke cable and throttle cable. He also added a cow horn off a Model A car that's wired to the mower's 12-volt battery. "Now my neighbors always know when I'm coming," chuckles Kaban.

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"Better Mousetrap" Ideas

FARM SHOW contributing editor C.F. Marley, who just turned 88 in April, tells us he's not finding it as easy to set and place mousetraps as it used to be. That's why he came up with the idea of using rubber bands to attach traps to short pieces of wood.

"It makes it a lot easier, especially if you're trying to slip a trap back into a corner or under a shelf. We use rubber bands, but you could also attach them with small nails," Marley says.

Another trap idea we heard recently came from William P. McKinley, Oak Harbor, Wash. He was having trouble with rats slipping out of traps once they're caught. He solved the problem by driving small nails up through the bottom of each trap so the sharp ends extend about 3/8 in. above the top of the trap. "A couple nails stops them from wriggling out from under the spring," says McKinley.



Rubber band is used to attach mouse trap to piece of wood. Makes it easier to slip trap back into a corner or under a shelf.



Tool Arm attaches to any 3-pt. mounted rotary mower. Sells for \$3,800.

"Tool Arm" For Mowing Ditches

"Our new Thrifty Tool Arm works with virtually any rotary cutter. It offsets the cutter by 84 in. and allows you to mow roadside ditches at up to a 55 degree angle. And, it's affordable," says Keith Martin, MK Enterprise, Inc., Elmira, Ontario.

The 3-pt. mounted Tool Arm is designed to attach to any 3-pt. mounted rotary cutter weighing up to 800 lbs. A pto shaft drives the mower's gearbox. The unit requires a tractor with two remote outlets. One outlet is used to operate a cylinder that raises and lowers the arm, and the other operates a cylinder that allows the cutter to follow the contour of the ditch.

"It works similar to other tool arms on the market, but doesn't have all the bells and

whistles so it's priced much lower," says Martin. "It sells for \$3,800, whereas larger hydraulic-operated commercial models sell for up to \$10,000. It's useful not only for roadside ditches, but for getting up close to buildings and fence lines. The only limitation is that it can't be raised all the way up for cutting tree branches."

"The tool arm weighs 900 lbs. We recommend using a 60 to 80 hp tractor for up to a 5-ft. mower."

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Even a small amount of water is enough to activate the micro hydro Pelton turbine. It concentrates small flows under high pressure through jets inside a sealed box.

Micro Turbine Works In Small Streams

Even small streams can generate a lot of electricity with a micro hydro Pelton turbine. The mini turbines have rapidly gained a following in New Zealand and other countries and are now available in North America.

"Initially, our turbines are selling for \$1,000 delivered in North America," says developer Michael Lawley.

The design concentrates small flows under high pressure through jets inside a sealed box. A flywheel inside the box catches the full force of two water jets, one striking it high from one side and one striking it low on the other side. The flywheel shaft is directly connected to a Smart Drive generator.

The generator windings cannot be burned out, and the brushless design can be easily converted for different voltages. It uses a large stainless steel shaft for easy mounting and resists corrosion.

Even a small amount of water with sufficient variation in height from source to turbine over a limited distance can produce a

significant amount of electricity with the Pelton turbine.

"Tests indicate these units can achieve efficiency as high as 60 percent," says Lawley.

He explains that just two to three liters of water per second falling 90 to 130 meters can produce as much as 1800 watts.

The EcoInnovation website provides information on recycling motors for use as generators and offers a wide variety of components and smaller turbine systems. It also offers solar and other alternative energy systems and parts.

"We're starting off with a single turbine in the North American market," says Lawley. "We currently sell systems and components throughout the world."

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