Belt Conveyor Unloads Grain Bins Without Damaging The Crop

Anyone who grows soybeans, edible beans or seed crops will be interested in this new tubular belt conveyor that's designed to "gently" unload grain bins.

Introduced at the recent Canadian International farm equipment show in Toronto, it consists of a 10-in. wide rubber belt inside an 8-in. steel tube. The belt is chain-driven by a 2 hp electric motor (it can also be hydraulic or pto-driven). The top of the tube has high capacity sump openings for fast unloading.

"It virtually eliminates damage to the crop during unloading," says Neil Scholten, County Line Equipment, Palmerston, Ontario. "It's much easier on the crop than conventional augers with steel flighting and even air vacuum systems, which have air locks that can cause seed damage. The belt moves at up to 400 ft. per minute. At that speed it moves about 3/4 tons or 1,700 to 1,800 bu. per hour. Belt speed can be adjusted by using different sprocket sizes. Belt tension can be adjusted at either end of the conveyor by simply loosening a fly nut. All parts on the unit, including the belt, are widely available and can be easily replaced. Replacement belts sell for about $100.

The 10-in. wide rubber belt rides inside an 8-in. steel tube, which seals tight against bin wall so it won't affect aeration fans.

"We can make the conveyor in lengths to fit any size bin. The tube seals tight against the bin wall, so it won't affect aeration fans."

The conveyor is shipped fully assembled and ready to install. A model designed for a 24-ft. dia. bin sells for $2,000 to $2,500.

Contact: FARM SHOW Followup, County Line Equipment, Ltd., Rt. 2, Palmerston, Ontario, Canada N0G 2P0 (ph 519 343-2483; fax 4560).

Armstrong built a towing frame using the front axle off a 4-ton truck. A cradle holds rear wheels of forage truck about 4 in. off ground.

One-Man Silage Harvesting System

Ontario farmer Lloyd Armstrong runs a small cow calf, stocker operation. He uses rotational grazing in the summer and feeds grass silage and baled hay in winter. Silage is stored in a pit silo.

Like many solo farmers, Armstrong needs to keep labor to a minimum. That's why he came up with a nifty system for hauling silage from field to farm.

"I wanted to use a truck to haul silage but we had to find a way to fill it on-the-go in the field," says Armstrong.

He mounted a dumping forage box on back of a 1-ton pickup and rigged up a tailgate that opens automatically when the box is dumped. Then he set out to find a way to tow the truck behind his forage chopper.

What Armstrong did was to construct a towing frame using the front axle off a 4-ton truck. He made a cradle between the two wheels out of two pieces of 4-in. dia. pipe, spaced about 18 in. apart. This cradle holds the rear wheels of the forage truck about 4 in. off the ground. Two small ramps allow the truck to easily back into place on the dolley. Then the ramps are flipped up tight against the wheels and held in place by a chain with a simple lockup.

When the forage truck is on the dolley,the steering wheel of the truck is kept from turning by a lock strap in the cab. When pulling the truck, it pulls like a wagon with the dolley being the steering unit. Once the truck box is full, Armstrong just drives it off the dolley and back to the bunk silo.

"It lets me haul 10 to 14 loads back to the bunk silo in an afternoon, working alone," notes Armstrong, who put the system together last summer and has had no problems. "It's much faster than using a tractor to tow a wagon."

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Dumping forage box mounts on back of 1-ton pickup, which he tows on cradle.

"Cleated Belt" Tube Conveyor

"It has a lot more capacity than standard flat belt conveyors," says Todd Kaebe, KSI Conveyors, Inc., Cissna Park, Ill., about the company's new "cleated belt" tube conveyor that'll carry a layer of grain 2 in. deep at up to a 40 degree angle.

The cleats are notched and mount on a flat belt that follows the curvature of the tube. After exiting the tube the belt flattens out again.

"The cleated belt design is ideal for moving seed, edible beans, or any other product where there's a premium for quality," says Kaebe. "Our cleated belt tube conveyor sells for 2 to 2 1/2 times as much as a conventional auger. The cleats move material more efficiently than a conventional conveyor, allowing you to run the belt slower and discharge the material with very little damage. An average belt speed is about 350 ft. per minute. Another advantage is that the belt follows the curvature of the tube, keeping the material in the center of the belt."

The company offers two conveyor models in various lengths. One has a 10-in. dia. tube with a 16-in. wide belt and 2-in. high cleats. The other is an 8-in. dia. tube with a 12-in. wide belt and 1 1/2-in. high cleats.

Contact: FARM SHOW Followup, KSI Conveyors, Inc., 484 N. State Route 49, Box 518, Cissna Park, Ill. 60924 (ph 888 868-8486; fax 815 457-2346).

Company offers two conveyor models in various lengths.

Cleats attach to flat belt that follows curvature of tube. After exiting the tube the belt flattens out again.

Simple Chain Marker For No-Till Drill

There are many different kinds of row markers on the market but Alberta farmer Gordon Graves thinks he came up a design that is simpler than most other markers yet works just as well.

At first he considered making a disc-type marker for his 20-ft. Haybuster no-till drill."A disc makes an extra deep mark and if you are underseeding in hay, you don't want those ruts. Everything else we could think of involved an electric motor or hydraulics. Finally, we just hit on the idea of dragging a chain on the ground. Chains are cheap and they bounce off rocks and tree branches without breaking," says Graves.

Another thing he likes about his marker is that it mounts on the tractor, rather than on the drill. "It's less likely to catch on fencelines or trees because it's right up by the driver," he notes. And it's easier to see. He can watch the chain instead of the drill. You don't have to turn all the way around like you do with a drill-mounted marker. Too often, when you have to turn around, the tractor drifts in the direction you turn. Those overlaps cost money."

The chain extends 7 in. past the first row. He simply runs it in the outside row from his last run. "I can see where the disc opener and packer have gone."

Graves used 8 ft. of 1 1/4-in. sq. tubing and 8 ft. of 1-in. sq. tubing that slips inside so it can telescope out as needed. Other tubing and angle iron were used to brace the marker arm, which fit to a bracket bolted to the frame of the tractor. For transport, a pin on each arm is pulled and the markers pivot straight up. A strap across the hood of the tractor holds the two arms up during transport. One pin holds a guide onto each side of the tractor. They can be quickly removed.

Contact: FARM SHOW Followup, Gordon Graves, Iron River, Alberta Canada (ph 780 826-2796).

Dragging a chain on the ground is simpler than most other markers yet works just as well, says Gordon Graves.

Marker arm mounts on a bracket bolted to tractor frame. For transport, a pin on each arm is pulled and the markers pivot straight up.