



Applicator is mounted on top of baler and uses a star wheel to stop the belt and applicator when hay is not moving through baler.

## Bale-Powered Inoculator

Enos Beiler lets his bales power the inoculant applicator on his baler. He eliminated the need for a 12-volt battery and an on/off switch. Thanks to a belt drive, the applicator runs at the same speed as the bales that move through the bale chute.

"I bought a Gandy box applicator, but all the other parts I needed were scraps I had salvaged off of other projects," says Beiler. "I did have to special order a belt to fit the drive pulleys."

Beiler mounted the applicator on two vertical steel legs above the bale-making chamber. A third leg is angled back from the applicator tank to the bale chamber to counter pressure from the belt drive.

A star wheel from a previously used applicator mounts near the rear of the bale chute. Beiler added a pulley to it and bolted

a 2 by 2-in. angle iron as a vertical leg just ahead of the star wheel. Two pulleys at the top of the leg raise the drive belt above the knottor and other baler mechanisms to a drive pulley on the applicator.

The upper pulley directs the belt to the applicator from the star wheel and can be mounted in any of 3 holes. The lower pulley redirects the returning belt. It is mounted in a slot so Beiler can adjust it for belt tension.

"The star wheel drive means the applicator stops when hay is not moving through the bale chamber," says Beiler. "I'm not wasting inoculant when turning or not picking up hay, because I forgot to hit the shut-off switch."

Contact: FARM SHOW Followup, Enos Beiler, 4508 W. Rohr Rd., Montezuma, Ind. 47862 (ph 765 245-2399).



To change the angle of Chalmers' front-mounted snowplow, you just tilt the loader forward or backward.



## Loader-Mounted "Tilt Plow" For Compact Tractors

This prototype "Tilt Plow" for compact tractors lets you use the tilt function on any front-end loader to change the angle of a front-mounted snowplow.

"Most compact loader tractors don't have the hydraulics needed to adjust the angle of a front-mounted plow. You have to either get off the tractor and pull a pin to manually reposition the plow, or add to the hydraulic system which is very expensive," says inventor Steven Chalmers, Castle Rock, Colo.

"With our patent pending 'Tilt Plow', changing the plow angle is as easy as tilting the loader forward and backward. You tilt the loader forward to move a control arm to a different control point, and tilt it backward to pull on the control point, which rotates the plow accordingly."

Chalmers designed the Tilt Plow for his Kioti-40 hp. tractor and has tested it on a 6-ft. plow. Since the Tilt Plow is operated in float mode, he equipped the plow with a tail wheel to support the trailing end of the plow.

The Tilt Plow hooks up to the loader's

quick-tach system. It comes with a short steel rod attached to a universal joint, and a large horizontal plate with 3 slots that attaches on back of the plow. The slots in the plate determine whether the plow angles to the left or right, or straight ahead.

"If you need to lift the loader, the plow's angle will still be maintained," says Chalmers.

A secondary benefit of the Tilt Plow is that it acts as its own carriage, pivoting on the loader, which allows it to follow the contour of the plowing surface better than a rigidly mounted blade.

Chalmers says the Tilt Plow could also be designed to clamp onto a bucket. He is looking for a manufacturer.

Contact: FARM SHOW Followup, Steven Chalmers, 4829 N. Mesa Drive, Castle Rock, Colo. 80108 (ph toll-free 833 278-2787 or 303 981-9879; steven@chalmersinnovations.com).

You can watch a video of the Tilt Plow on YouTube at: <https://chalmersinnovations.com/pages/tiltplow>



Angle iron sections welded to rollers keep them from compressing the soil.

## Rough Rollers Level Lawns

Roy Albertson levels his lawn with angle iron studded rollers. He says the 4-in. long sections of angle iron push down mole tunnels and other rough spots, leaving the lawn as smooth as blacktop.

"I wanted a smoother lawn, but many people told me that smooth rollers can actually hurt the lawn, packing the soil so tight that rain just runs off. Any recently applied fertilizer or seeds wash off with it."

The angle iron sections that Albertson welded to his rollers keep them from compressing the soil like a smooth roller would. Instead, each sharp angle presses into any raised area, pushing it down to equalize the surface.

He built his first roller as an experiment to see if the rough roller worked. He welded rows of 1 by 1-in. angle iron sections to a 30-in. long, 13-in. dia. water tank. Each row is 5 1/2 in. from high point to high point, with 5 1/2-in. spaces between sections in the row.

"I used 1 1/2-in. square steel tubing for the frame," says Albertson. "I drilled holes in the ends of the tank and slipped a steel rod through the tank and the ends of the frame for an axle. I didn't use a bearing; just oiling it occasionally has been enough."

While the 30-in. roller worked as Albertson hoped, his tractor's wheelbase was slightly

wider. In soft soil conditions, the tractor left wheel indentations to each side of the roller.

"I made a second and wider roller," says Albertson. "It is 62 in. long and 15 in. in diameter. I used 1 1/4-in. angle iron sections and closed up the spacing to 4 1/2 in."

He did the frame much the same, running a center brace in it and also using pillow block bearings with grease fittings to attach the axle.

Albertson notes that any round tank would work. He suggests measuring the circumference and then dividing it by different numbers to find an even spacing, and applying the same strategy to the length.

Filled with sand, the first roller weighs 400 lbs. Albertson uses water in the second roller, giving it a 500-lb. weight.

"I drain the water out in the fall, bringing it back to its 200-lb. empty weight," he says. "When it's empty, I can move it around easily."

"I have 65 trees on my lawn, so the shorter roller is handy around them," he notes. "I can bring the wheels close to the base of the tree, knowing the roller won't rub against the bark."

Contact: FARM SHOW Followup, Roy Albertson, 731 Hwy. 3, Armstrong, Mo. 65230.



Caterpillar-style sides with rope pulls are used to raise and lower hoop house plastic. A screen layer under plastic allows cross ventilation and protects plants from pests.

## Screened Hoop Houses Keep Pests Out

The portable hoop houses at Beech Grove Farm (Vol. 41, No. 5) are working better than ever these days. Eric and Anne Nordell have modified their original design to allow more ventilation while protecting plants from pests. The modifications have also extended the life of the plastic covering the hoop houses.

"Originally, the plastic covering was secured to the sill plate with wood lathes," says Eric Nordell. "The only ventilation was end to end. We have since gone to caterpillar-style sides with rope pulls to raise and lower the plastic, allowing cross ventilation."

The problem with open sides is that insects and wildlife have easy access. The Nordells' solution is to first layer the hoops with screening and secure it to the sill plates. Then they overlay the screening with plastic.

"A positive side effect of adding the

screening is reduced stress on plants and plastic," adds Nordell. "The screening acts like a windbreak, reducing wind pressure on the plants. Plus, since adding the screening, we are getting 9 to 10 years life from the plastic versus 5 to 6 years previously."

One thing that hasn't changed with the Nordells is the portability of their hoop houses. As originally described, multiple hoop houses are set up with 18-ft. strips of cover crops in between. Every 2 years, hoop house coverings are removed and 4 by 4-in. sill plate beams and hoops are transferred to refreshed and renewed soil. The 2-year-old beds are then seeded down with cover crops.

Contact: FARM SHOW Followup, Eric and Anne Nordell, 3410 Rt. 184, Trout Run, Penn. 17771 (ph 570 634-3197; aenordell@gmail.com).