Combine Baler Turns Straw, Chaff Into Money

Alberta livestock producers faced a severe feed shortage last year due to drought. Charles Hepfner of Morinville turned the problem into an opportunity by putting together a "combine baler" which he used to make small square bales of dry field peas, barley, and wheat as he harvested the crops.

He removed the pickup from a Deere 327 small square baler and modified it so he could pull it behind his Deere 7700 combine. The combine's chopper drive powers a canvas conveyor that delivers straw and chaff from the sieves directly to the baler throat. No part of the crop ever touches the ground. The chopper drive also pto-drives the baler via a gearbox.

The baler is supported by a pair of large caster wheels off an old Prasco air seeder. The caster wheels keep the baler following in a fixed position directly behind the combine, even on turns.

"It worked better than I expected. I sold the bales for feed, and the extra income really helped out," says Hepfner, who used the combine-baler for the first time last August. "Our peas were only about 1 ft. tall and the crop was light, so when I used it for the first time and looked back I could hardly believe how many bales it was leaving in the field. It looked like someone had shipped them there and dropped them off in rows. Many of the people driving on a nearby highway stopped to watch as I worked. Some of them asked me if they could purchase the bales right away before I was even done combining. I ended up getting 25 to 30 bales per acre at $3 a bale, and the customers picked them up.

"I came up with the idea because our crop was so short and light that it would have been impossible for a baler to pick it up out of a windrow. The straw would have just rolled in front of the pickup. By delivering material directly from the combine sieves I'm able to save all the crop, including the chaff.

"I got the baler from a neighbor who wasn't using it any more. My total cost to retrofit it was less than $2,000."

Hepfner removed the baler's original tongue and used 3-in. sq. tubing to make a shorter one. The tongue hooks up to a clevis and pin that's welded to the back of the combine. "The clevis allows the baler to flex up and down when going over ditches and gulleys," says Hepfner. A tie rod from a big truck is anchored to the center part of the tubing and extends back under the baler, causing the baler to be fixed in a triangle so that it can't change its left or right position relative to the combine. "The length of the tie rod can be adjusted to change its length and move the baler left or right as necessary," says Hepfner.

Hepfner removed the combine chopper and ran a shaft from the conveyor to the chopper drive pulley. The shaft drives a right angle gearbox that mounts on a pedestal. Another shaft goes straight back to the baler.

Hepfner set up a couple of mirrors on the side of the combine so he can watch the baler operate as he drives the combine. He also installed a straw walker alarm off an IH combine so he'll know if the baler ever stops working and straw starts backing up into the combine.

"This idea works perfect in a drought when the crop is short and you want to save all the straw for feed. I don't think it would pay as well in a normal year when there's less demand for feed. However, cattle producers and farmers with small to mid-size combines who want to get the highest possible feed value out of their crops and aren't too concerned about harvest speed might want to try it. Small square bales aren't widely used any more, but in a dry year when people are desperate for anything, they're not as picky about what kind of bales they buy.

"I plan to use my combine-baler on peas even in good year, because peas are high in protein and make really good feed that's easy to sell."

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Hepfner modified a pickup from a Deere 327 small square baler so he could pull it behind his Deere 7700 combine.

Combine's chopper drive powers a canvas conveyor that delivers straw and chaff from the sieves directly to baler throat. Chopper drive also pto-drives baler.

To keep rocks out of his forage harvester, Roy Klindt replaced the original pickup with a used Sund 10-ft. pickup that he cut down to match the machine.

Add-On "Pickup" Keeps Rocks Out Of Forage Harvester

Roy Klindt, Crane Valley, Sask., had a problem with his 1997 New Holland 790 forage harvester.

"The teeth on the original 6-ft. pickup pulled so many rocks into the machine that the knives quickly became dull, which resulted in a poor chop," says Klindt.

To solve the problem, he removed the original pickup and replaced it with a used Sund 10-ft. pickup that he cut down to match the forage harvester. He removed the original pickup drive system and bolted the Sund pickup on. Then he mounted a hydraulic motor on the forage harvester's frame. The motor drives a shaft that chain-drives the pickup's draper table.

He bought the Sund pickup at a combine salvage yard for $150. He was able to mount it with just one bolt at either end.

"It worked even better than I had hoped," says Klindt. "In the past, when we put new knives in or sharpened the existing ones, it took less than a half hour before they started showing wear. The knives looked like we had beat on them with a shovel. The Sund pickup works so well because it has a much more open design, which allows most rocks to fall through to the ground. Also, the pickup moves slow so it doesn't throw rocks ahead of itself, and its teeth are curved more sharply so they're able to pick up shorter, lighter crops without scraping the ground. The only limitation is that the slow-moving pickup limits our field speed to about 3 mph."

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"Bucket Barn" For Skid Steers

Gabriel Verleun uses four different kinds of buckets and forks on his skid steer loader. He used to park them on the ground, but other equipment would get in the way and in the winter he had to shovel snow off the buckets to find the one he needed.

To solve the problem, the Prince Edward Island farmer designed what he calls a "bucket barn" to get buckets up off the ground while also taking up less space. It's made from 2 by 4's and plywood and measures 7 1/2 ft. wide, 3 ft. deep, and 8 ft. high. There are four compartments. From top to bottom he keeps his pallet fork, dirt bucket, scraper blade, and manure bucket. Each attachment lays on a pair of 2 by 6's laid lengthwise.

The structure is anchored to the ground by a pair of wooden posts on back and there's a plywood roof on top.

"It's really handy and also saves time. I can unhook one bucket and immediately hook onto another one and take off," says Gabriel.

Wooden structure has four compartments for buckets and forks.

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Some of the best new ideas we hear about are "made it myself" inventions born in farmers' workshops. If you've got a new idea or favorite gadget you're proud of, we'd like to hear about it. Send along a photo or two, and a description of what it is and how it works. Is it being manufactured commercially? If so where can interested farmers buy it? Are you looking for manufacturers, dealers or distributors? Send to FARM SHOW, P.O. Box 1029, Lakeville, Minn. 55044 or call toll-free 800 834-9665. Or you can submit an idea at our Website at www.farmshow.com.

Mark Newhall, Editor

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