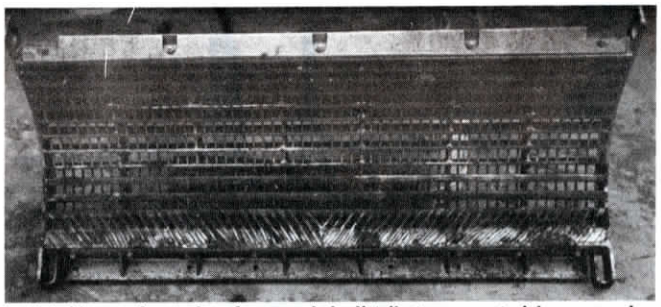


Angled ridges on front edge of concave help distribute crop material more evenly.

TURNS STRAW AND COBS 90° AND MAKES CONCAVE WEAR MORE EVENLY

Angled Concave Bar Improves Performance

"I've tested the idea on my own Deere combine for seven years with fantastic results," says Saskatchewan farmer Ben Kambeitz who's patenting a new add-on bar for concaves fitted with angled ridges that he designed to direct the flow of crop material more evenly over the width of the concave. In the process of perfecting the idea, he discovered many more benefits.

"The problem I had was with uneven wear, especially when we had a light crop. The concave would wear down the middle so when you tightened it up, it would grind up grain on the ends where it hadn't worn down. The angled ridges direct the flow of grain and crop material outward as it enters the concave. Works great in any crop," says Kambeitz, adding "Every farmer I talk to likes the idea and knows exactly what I'm talking about except for guys with Massey Ferguson combines. That's because MF combines have a paddle-type feederhouse system that spreads material out evenly across the entire width of concave."

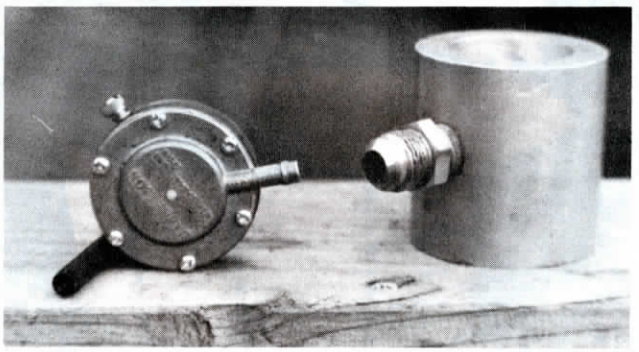
A big additional benefit of the modification that he hadn't expected is that the angled ridges turn the the grain heads and straw 90° to the direction of travel so that they roll through the concave rather than sliding through head first. That has a number of advantages, Kambeitz told FARM SHOW.

"Number one, the straw now rolls out the rear of the concave straddling the straw walkers rather than sliding out lengthwise which prevents it from spearing the sieves and also keeps material from sliding to either side when the machine is tilted on hillsides. Additionally, concave and rub bar life is extended because the rolling action of the straw and grain reduce friction and fuel is saved. And the threshing action is gentler on the straw so it's chewed up less before going back onto the ground, so residue lasts longer on the surface, reducing erosion."

Although Kambeitz has only tried the idea on small grains, he says he's had interest from corn farmers looking for a way to rotate cobs so they roll through the concave rather than going in head first. He says he believes the modification will work in corn and he plans to test the idea this summer.

The add-on bar is 4 in. wide and has 3/4-in. high angled ridges spaced every 1 in. Although at the current time Kambeitz is selling limited number of complete concaves with the bar attached ($400 Canadian), he is developing an insert that could be attached to concaves without removing them from combine.

For more information, contact: FARM SHOW Followup, Ben Kambeitz, Box 93, Richmound, Sask. S0N 2E0 Canada (ph 306 669-2154).



Wallace uses a vacuum-operated needle valve (left) to control flow of gasoline. Valve on right is a standard valve used to run gas engines on propane.

"Hybrid" Fuel System Boosts Mileage

"It increases power and uses less fuel," says Colorado FARM SHOW reader Harry Wallace, who's come up with his own "hybrid" fuel system for his pickup that uses propane and gasoline.

"I've been exposed to propane as an engine fuel since 1958 when my father bought a Deere 620, factory-equipped to burn propane. Propane conversions for tractors and pickups have never measured up to the standards established by that 620 Deere and I've always felt some additional engineering and testing was required to achieve the full potential of propane as an engine fuel," says Wallace.

"In October 1990, I installed an add-on propane conversion kit, manufactured by Garretson Inc., of Mt. Pleasant, Iowa, on my 1978 Datsun pickup. This dual-fuel kit had a manual gasoline control valve and an electric control valve for propane. This set-up allowed "careless" switch-overs when both fuels would enter the engine for short durations of time. I noticed drastic changes in performance during such switch-overs and decided to try to recreate this performance by metering a small quantity of gasoline into the engine along with the propane.

"I connected a vacuum-operated valve, equipped with a needle valve to control flow of gasoline, to the venturi vacuum of the distributor. Now the engine idles on 100 percent propane and burns propane with a trickle of gasoline when I accelerate and vacuum opens up the gasoline control valve.

"Since making the modification, I've had a 13 percent increase in mileage over either gasoline or propane as a single fuel and a big boost in performance. I really notice the difference since I live in Woodland Park, Colo. (8,600 ft. altitude) and work in Colorado Springs, Colo. (6,040 ft. altitude). I drive over Ute pass daily, which has 8 percent grades, and my hybrid system lets me climb the pass at 45 mph in overdrive. The actual fuel useage ratio is 1.5 gal. of gasoline to every 20 gal. of propane.

"Gasoline ignites at 520 degrees F while propane ignites at 1,000 degrees F and octane ratings are 88 and 130, respectively. The problem with most propane conversions is that because propane is more difficult to ignite, it doesn't burn as efficiently. Using a little bit of gasoline totally ignites the propane so the two fuels complement each other.

"To my knowledge this is the first fuel system that lets two fuels burn at the same time. All other systems are dual fuel, letting you burn one or the other. I'm currently working with a patent attorney and testing laboratories and hope to bring this system to market. The two valves I used are standard equipment with most propane conversions. However, I made slight modifications to make this system work.

"Right now I'm testing the system on late model vehicles. They're more complicated because of the computer controls. I've found I can run up to a 50-50 mix of gasoline and propane in a 1989 Ford pickup without making any modifications to the engine or controls. If I go over 50 percent propane, the computer system gets screwed up."

Contact: FARM SHOW Followup, Harry E. Wallace, Box 521, Woodland Park, Colo. 80866 (ph 719 687-3761).

Propane valve attaches to air cleaner. Gas control valve is at upper part of photo.

10,000 WORMS SEEDED ON 80-ACRE FIELD

He Plants Earthworms Along With Row Crops

Indiana farmer Ed Slayton is convinced that by seeding 10,000 earthworms on an 80-acre field he will eventually increase the soil's water infiltration and organic matter content enough to boost yields significantly.

"Earthworms increase crop yields by burrowing to improve the soil's water intake. They also speed up the process of converting nitrogen from crop residue. I've been told that $6.25 worth of earthworms per acre have as much value as 100 lbs. of potash per acre and that they will eventually reduce the need for nitrogen," says Slayton, who first began "planting" earthworms two years ago. "I switched from continuous corn using conventional tillage and insecticides - both of which had killed off the worms -to a no-till corn-soybean rotation. I decided to add worms to the fields because earthworm populations were extremely low and all of the surrounding fields were under conventional tillage so there was no place for them to come in from."

The addition of 125 earthworms per acre may not sound like much, but Slayton says he has been told by experts that's it's an adequate starting population because the worms multiply fast.

Slayton "planted" earthworms on one 80-acre field two years ago and on another 80-acre field last spring. The first year he bought 10,000 earthworms from a wholesale bait club at 4 1/2 cents apiece. The worms came in 1-ft. sq. styrofoam containers, 1,000 per container. He used five people to do the job, some walking and others driving ATVs or pickups, depositing the worms in standing corn stalks in spring before planting. It took about 2 1/2 hours to cover 80 acres with worms. "We dropped them in bunches of five or six so they could find each other to breed," says Slayton.

Dr. Ed Berry, who's in charge of earthworm research at USDA's National Soil Tilth Laboratory in Ames, Iowa, is doing an extensive study of earthworm types and populations to learn about trends in distribution and to study the conditions which may favor their increase. "There's no question earthworms help break down residue and help increase water infiltration. The problem is developing an effective technique for introducing them."

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