

Tapered fins mount underneath each corner gate to channel grain toward center as trucks or trailers are being unloaded.

## Dump Truck "Fins" Put An End To Grain Spills

New truck "fins" that help avoid grain spills and clean-up hassles made some Kansas elevator unloading crews very happy during the recent wheat harvest.

Co-Bra Fins, invented by farmer Lynn Colip, are diverters for corner gates of end dump trucks and trailers.

Made of lightweight aluminum, the tapered fins mount under each corner gate to channel grain toward the center when trucks or trailers are being unloaded. That keeps grain flowing into unloading pits or grain augers - not out the sides.

The fins are held in place with brackets

bolts to the truck or trailer box. A chain attachment plate is also bolted to the box and its chain is used to set the fins at the desired angle. Fins pivot automatically if an obstruction occurs during dumping, and they can be removed easily in about a minute, according to Colip.

Price for two fins and brackets is \$185, plus shipping. Additional brackets are \$25 per set, plus shipping.

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Self-propelled "corn pollen harvester" was made by modifying commercial 4-row "high-boy" corn detasseling machine.

## EXCITING NEW "CROP" HAS "TREMENDOUS POTENTIAL"

# World's First Commercial Corn Pollen Harvester

An Ontario agronomist who's pioneering new uses for corn pollen says the new "crop" could someday provide substantial extra income for corn producers. To prove the feasibility of the idea, he's built a 1-row self-propelled "corn pollen harvester" by modifying a commercial 4-row "high-boy" corn detasseling machine.

Peter Dragla, Chatham, Ontario, developed the corn pollen harvester with help from Gordon Scheifele, a forage specialist at Ridgeway College of Agricultural Technology in Kent, Ontario. The harvester collects surplus pollen from corn fields without hurting grain production. Dragla says pure pollen can be used in food, cosmetics and pharmaceuticals. His company, Copoll International, is testing uses for processed pollen. A British Columbia company already is using corn pollen as an ingredient in nutritious snack bars.

"Corn pollen has a strong, honey-like taste that makes a great flavoring agent and food supplement," says Dragla. "It's high in protein and amino acids, but also has minerals and a wide range of vitamins, as well as many plant hormones and enzymes. The pollen has a nice golden color and is a good fermentation agent for yeast so it would be perfect to use with specialty breads. It could also be used in a wide variety of other foods."

The pollen harvester uses rotating brushes to remove the flower parts from the tassel without injuring the rest of the plant. A pair of deflectors direct tassels into the

harvesting unit which consists of a cylinder fitted with two rotating brushes powered by a hydraulic motor. The brushes beat the tassels against a steel plate, removing the anthers and pollen. The anthers and pollen are then sucked through a hole at the bottom of the cylinder by a belt-driven fan (salvaged from an old combine). The fan blows the material through a flexible 3-in. dia. hose into a metal "cyclone", then into a pollen collector which allows the air to pass through but retains the pollen. To increase productivity, this prototype will be developed into a 4-row pollen harvester.

Dragla then dries and processes the material to recover the pure pollen, using liquid nitrogen to break down the pollen's tough shell. The anthers are ground up to release the pollen inside them, then the ground-up anthers and pieces of tassels are sifted away from the pollen and discarded.

He harvests from every other two rows in a corn field, which comes out to about 40 lbs. per acre and leaves plenty of pollen for the crop. "Theoretically, a single tassel contains enough pollen to fertilize one acre of corn," says Dragla, who adds that his company is looking for a business partner to develop the project into a new food ingredient industry.

Dragla estimates the potential value of 40 lbs. of pollen at about \$1 per pound.

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Cylinder-shaped wagon is 8 ft. in dia. and 16 ft. long. It holds 600 bu. of corn.

## Big Grain Cart Built From Used Fuel Tank

Hauling big loads of grain with no fuss and muss.

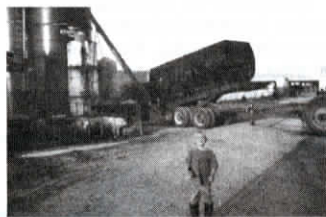
That's what Stewardson, Ill., farmer Dennis Vahling discovered he could do after turning a used fuel tank into a big grain wagon that dumps out the back.

"I got two underground fuel storage tanks from a service station for about \$200," explains Vahling. "They were like new, but the EPA said they had to pull them up anyway."

Both tanks had been thoroughly cleaned out by the service station to eliminate any safety risks. Vahling made one into a bulk feed bin. The other, 8 ft. in diameter and 16 ft. long, he turned into a grain wagon. He plans to paint it to look just like an ear of corn, the commodity he hauls in it most often.

The cylinder-shaped wagon holds 600 bu., compared with most commercial wagons that hold a maximum 450 to 500 bu. Besides its big capacity, because the wagon's round, "you never have to clean out the corners," Vahling notes.

Here's how Vahling did it.



A 20-ton hoist mounts between tank frame and wagon frame for dumping out the back.

First, he cut the top 18 in. off the tank so it's 78 in. deep at its deepest point.

Next, he made a rectangular frame, which runs the length of the tank, out of 2 by 12-in. channel iron. It's welded to the bottom of the tank and seven metal braces on each side secure the tank to the frame. A 20-ton hoist mounts between the tank frame and wagon frame, which Vahling made out of 4 by 6-in. steel tubing.

Two feet back from the center of the tank, Vahling bolted two trailer axles from a wrecked grain bed to plate metal reinforce-

ments running the length of wagon's sides.

To complete the conversion, Vahling cut out a 20-in. square opening in back of the tank. Fitted with a winch and crank, he re-used the cut-out section as a sliding end gate for unloading.

Including semi axles complete with truck tires, Vahling's total investment in the wagon was about \$4,000, he says. However, \$2,500 of that was for a new hoist, he adds.

"Since that was the only moving part, I didn't want to spare any expense," he says. "You can sink a lot of money into an old hoist that leaks."

It takes a 185 hp tractor to pull the wagon because of the weight of 600 bu. of corn, he says.

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