

# Combine Add-Ons Save Chaff, Cobs

## Cob-Catcher Attachment

"We've tested it for two years. We know it works," says Chat McBroom, Princeton, Minn., inventor of a new Cob-Catcher attachment that lets you harvest ear corn with your conventional or rotary self-propelled combine.

McBroom has licensed Automatic Equipment Co., Pender, Neb., to manufacture and market the Cob-Catcher (patent pending) throughout the U.S. and Canada. "It'll save 70 to 90% of the cobs, depending on the make of combine," he points out.

To install, you replace the top adjustable chaffer with the Cob-Catcher attachment, remove the lower sieve, then adjust the cylinder enough so no cob pieces are more than about 2 in. long.

"On Massey combines, which have three top chaffers, you can govern the amount of cobs saved by replacing one, two or all three chaffers with Cob-Catchers. Replacing all three will put about 90% of the cobs into the grain tank with the shelled corn," says McBroom.

He notes that, "because the corn-cob mix is virtually free of any husks or stalks, it flows like grain, with very little bridging when unloading the high-moisture material from hopper-bottom wagons, or trucks. Also, the cob pieces are small enough so you can run the corn-cob mix through an Automatic roller mill without having to equip it with a cob-crushing head. If you're using the same combine to harvest soybeans in the morning and corn in the afternoon, it only takes about 15 min. to put the Cob-Catcher on, or to take it off and reinsert the chaffer," says McBroom.

The just-introduced Cob-Catcher



Corn cob attachment replaces top adjustable chaffer.

attachment is currently available for all later model Deere and Massey combines, plus a few other makes. "It'll be available soon for virtually all makes and models of later model conventional and rotary combines," McBroom told FARM SHOW.

Sells for \$159 to \$200, depending on the make and model combine.

For more details, contact: FARM SHOW Followup, Automatic Equipment Mfg. Co., P.O. Box P, Pender, Neb. 68047 (ph toll free 800-228-9289; in Nebraska, call 402 385-3051).

**Editor's Note:** During the 1982 harvest season, University of Minnesota agricultural engineers Vance Morey and Cletus Scherts adjusted a combine to harvest a mixture of corn and corn cobs. (They decreased concave clearance so cobs were broken up and would pass through to the sieves, removed the bottom sieve, and opened the top sieve to let the mixture of broken cobs and shelled corn pass through.) "One alternative is to dry the mixture of cobs and corn in the grain dryer, then separate the mixture with the corn going to storage and the cobs to the burner to provide heat for drying. Another alternative is to separate the entire mixture before drying, with the corn going to the dryer, and the cobs to a burner to provide heat for drying," Morey points out.



Besler residue blower is powered by a 16 hp. gasoline engine.

## Tag-Along Blower

You don't have to do any "retooling" of your combine to salvage straw, stover or chaff with the Model 820 Residue Blower, manufactured by Besler Industries, Cambridge, Neb., and first featured in FARM SHOW last fall (Vol. 6, No. 5).

The 820 hitches onto the rear axle of most makes of combines with a special hitch that's included with the unit. The hitch pivots under the Residue Blower, enabling you to catch all of the straw, chaff, cobs, husks, weed seeds, and other material coming out of the combine — even when making sharp 90° turns, according to Herb Besler, president. Material coming out of the combine falls onto the pan of the 820 and is pulled through by the suction power of rotating flails and propelled into the forage wagon trailing along behind the Residue Blower.

The 10 by 36 in. discharge spout is adjustable for directing the flow of residue into conventional forage wagons. "Thanks to the self-contained Residue Blower, your total invest-

ment for 'tooling up' to salvage low-cost cattle feed is less since you don't have to mount anything on your combine, and you collect and haul the residue in the forage wagon you already own," explains Besler.

Powered by a 16 hp., 1 cyl. Kohler engine, the flail blower is 36 in. long and 24 in. in dia. A special design makes it easy to replace the belts and the metal flails if either become damaged, Besler points out.

The engine features an electric start and holds 11 gal. of gas, enough to last about 10 hours. Weighing 1,650 lbs., the unit requires very little extra power from the combine. The frame is made of heavy rectangular tubing.

Cost for the model 820 residue blower is right at \$5,250. You'll need to provide a 12 volt battery and two 15 in. tires. Included in the cost is the combine hitch, a hitch for towing behind trucks and tractors, and a jack.

For more information, contact: FARM SHOW Followup, Besler Industries, Inc., P.O. Box B, Cambridge, Neb. 69022 (ph 308 697-4698).

## Cob-Saving Attachment

Corn cob harvesters designed to fit self-propelled combines have been developed by Purdue University Ag Engineers and, at least one private company that plans to introduce the new add-on soon.

According to Ag Engineer Clarence Richey, the Purdue-designed corn cob harvesters sort the cobs from the stalks and husks to use as fuel, or for sale to further processors. Purdue engineers, in conjunction with the USDA, have developed a corn cob gasification burner for grain drying and they use their cob harvester to obtain clean fuel for that unit.

"One acre of cobs out of every three is enough to dry an entire corn crop. In 100 bu. per acre corn, you'll get about ½ ton of cobs," says Richey, noting that for their cob-fired burner they need clean cobs. Some of the funding for the project came from

companies, such as Quaker Oats and the Andersons, which need corn cobs for further processing.

The Purdue cob-saver bolts to the rear of the combine and uses a combination of air and mechanical separation. It involves some modification of the rear body of the combine and is powered off the combine itself. A fan blows across the cobs as they drop off the combine straw walkers and into a straw chopper. The chopper flails the partly cleaned cobs to further break them and cut loose as many of the attached husks as possible. The cleaned cobs drop into a cross auger feeding into a forage blower which throws them into a trailing wagon.

The unit saves about 80% of the cobs by weight and cobs make up 86 to 94% of the material salvaged. Most of the extra trash is husks attached to

the cob. Power consumption of the cob saver is around 9 to 10 hp. and pulling the wagon behind requires an additional 7 hp. Researchers figure the cob-salvaging operation reduces total corn harvesting capacity roughly 5%.

If a farmer doesn't plan to burn cobs himself, there are other markets for cobs. Quaker Oats, for example, is interested in cobs to extract a material called "furfural" which they sell to companies for the manufacture of plastics. The Andersons, located in Maumee, Ohio, use cobs for a variety of products, including facial powders and sandblasting. Some 500,000 tons of crushed cobs go to Pennsylvania each year for use in the mushroom growing industry. Richey says that "in season" corn cobs sell for about \$6 a ton but off season prices range as high as \$90 a ton.



Purdue-built attachment saves 80% of the cobs that pass through the machine.