"ONLY WAY TO BEAT SKYROCKETING COSTS," SAYS THIS OHIO CORN GROWER

Should You Switch To Ear Corn Harvesting?

Kleptz plans to begin harvesting corn this fall at 35% moisture. Lack of hauling equipment, he says, is one of the bottlenecks to efficient ear corn harvesting.

by Frank Buckingham

"Just look at the $80,000 price tag on a new self-propelled combine nowadays, versus about $15,000 for a 3-row ear corn picker. Amortize that over ten years and you've got a savings of $6,500 a year," says Charles Kleptz, Ohio corn grower who has developed an ear corn harvesting system he feels is the answer to soaring energy and equipment costs.

Kleptz, who has been a professional engineer, restaurant designer, meat packing plant owner and who is presently farming 800 acres in Ohio's Miami and Montgomery Counties, figures he saves 30 to 40¢ a bu. by harvesting and storing 280 acres of ear corn, compared to conventional field shelling.

Kleptz first bought a Harvestore to store his corn. But he wanted the flexibility to either feed corn, or sell it on the open market — an option he felt he didn't have with the Harvestore. Soaring energy and equipment costs also discouraged him.

So, with the help of an $18,000 grant from the Department of Energy, Kleptz assembled an ear corn harvesting-storage system with "catalog equipment" which he says could be duplicated by anyone. However, he thinks manufacturers should design an entire equipment system for ear corn harvesting, based on today's corn yields and desired harvest rates.

Kleptz uses a pull-type three-row corn picker and picks into a high-dump forage wagon. "This is one of the secret's to Kleptz's success with ear corn harvest," says R. Donald Moore, Ohio University Farm Management Agent headquartered at Eaton, Ohio. "Charles is using forage equipment to handle ear corn because it's not free-flowing like shelled corn. And, while there's twice the volume with ear corn, he's only handling about 29% more weight compared to shelled corn."

Although it could hold much more, the dump wagon is unloaded about every 125 bu. for easier field operation. Two dumps are placed in an 18 ft. truck which then heads for the storage area, with a maximum distance of about three miles one way.

At the storage area, 10-wire mesh corn cribs have been erected in a semi-circle so they can be filled with a 50-ft. elevator from a central unloading area. Here, trucks are dumped into a platform feeder (similar to a forage wagon with chain-and-slat conveyor in the bottom) which meters corn into a conventional chain-and-flight grain and bale elevator.

The truck endgate opens automatically when the bed is hoisted and Kleptz says it takes about 10-13 min. to unload and store 250 bu. of ear corn. One man hauling can usually keep up with the corn picker says Kleptz (although the picker will likely have to wait some as hauling distance increases to three miles).

The cribs are each 18½ ft. in dia., 20 ft. to the eaves, and have an oversized 24 in. dia. vent tube running up the center. Air is drawn up through the vent by a wind-driven turbine on top, and the upper 5 ft. of vent tube is solid to avoid drawing air through only the top layer of corn.

Corn stored last fall with 29% moisture was down to 18% when it was removed in mid-March, and Kleptz expects no problems with spoilage in the remaining cribs. This fall, he plans to begin harvesting ear corn at 35% moisture.

Kleptz uses a Kelly Ryan ear corn auger to pull corn from cribs into the same elevator used for filling. The equipment essentially eliminates all hand labor from ear corn harvest to storage and removal.

Working in cooperation with other Ohio State University specialists, Moore has estimated that Kleptz (or other farmers with similar equipment and facilities) can harvest 20,000 bu. of corn in 11 days with two men working 10 hours per day. The Ohio specialists also figure twice that many total bushels could be harvested in most years with the same setup without severe weather problems. They calculate labor at $4.50 per hour and an 80-hp. tractor pulling a 3-row 30-in. corn picker. Using these calculations, Kleptz arrived at his estimate of 30 to 40¢ saved per bu. with his ear corn harvesting system, versus conventional field shelling.

It is generally accepted that the energy (in btu's) in a bushel of corn cobs is about equal to a gallon of oil, and many people have suggested burning cobs to dry grain. However, when corn is harvested, the moisture content of cobs is about twice that of the grain. So, cobs from 25% moisture corn would be half water and very difficult to burn. And artificially drying cobs so they can be used to dry grain would seem to be counter-productive.

But Kleptz maintains that, with ear corn storage, both cobs and grain can dry naturally through the winter. Then, if additional drying is needed in the spring, corn can be shelled and the cobs used to provide heat for whatever drying is needed.

However, rather than burning cobs directly, Kleptz is considering use of a gassifier which turns heat energy in the cob or other material into a gas similar to methane or natural gas. Several seed corn companies are doing this now on an experimental basis. But, says Kleptz, some have had problems with tar forming in the gas and fouling up the burners. This is being corrected. The gas produced from such a system could also be used to heat buildings, run a still, etc.

"Kleptz has rediscovered something a lot of people have forgotten — that ear corn storage provides better quality corn without the stress damage of heated air drying," says Moore. "Ear corn storage costs less than shelled corn bins, even though you double the volume of material stored. You eliminate the cost of a dryer, and there are no drying energy costs to pay either. You also avoid overdrying, which is detrimental to grain quality."

FARM SHOW contacted two corn picker manufacturers for their views on ear corn harvest. United Farm Tools, Bethany, Mo., makes a one-row pull-type picker, and Avco New Idea, Coldwater, Ohio, makes one and two-row pull-type pickers. Avco's Uni-System can also harvest up to six rows of ear corn and users have the option of using a husking bed or combine shelling.

Avco engineers say you can harvest an average of 12 acres per 10 hour day with a one-row pull-type picker, and about 20 acres with a two-row in the same time. They cite the following average hourly harvesting rates for one and two-row ear corn pickers, in average conditions at different speeds in 150 bu/acre corn: With 40 in. rows, the rate would be 242 bu/hr at 2 mph, 364 bu/hr at 3 mph and 484 bu/hr at 4 mph. In 30 in. rows, with the same yield, harvest rate would be about 181 bu/hr at 2 mph, 273 bu/hr at 3 mph, and 364 bu/hr at 4 mph. They assume that a one-row picker can harvest about 60% as much as a two-row. So, at 2 mph, a one-row picker should average about 145 bu/hr, 218 bu/hr at 3 mph, and 290 bu/hr at 4 mph.

The actual harvesting rate will, of course, vary up or down from these figures, depending on crop moisture, lodging, soil moisture, equipment and labor available for hauling corn, etc. In fact, lack of hauling equipment is usually seen as the biggest bottleneck to efficient ear corn harvest.

Both manufacturers said picker

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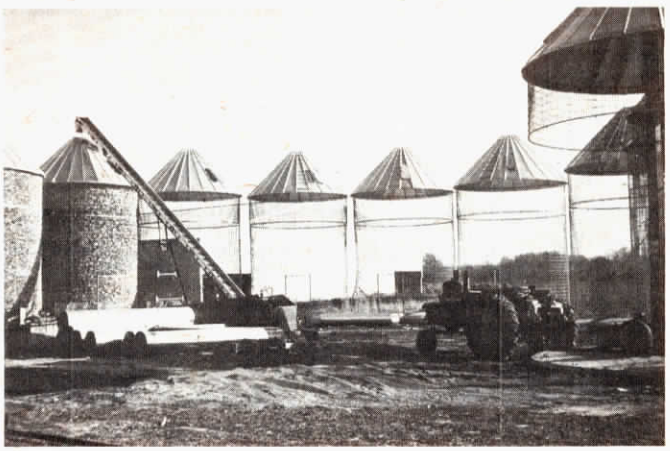

Kleptz fills his 10 semi-circled corn cribs with one 50-ft. elevator.