



Interceptor's 175 mirrors collect "free" energy from the sun.

Solar Collector Follows The Sun

Latest new way to harness "free" heat from the sun is the Solar Interceptor, a giant geodesic globe made up of 175 mirrors, from Cyclone International.

Designed to produce low cost supplemental heat for hog barns, poultry houses and other agricultural uses, the Solar Interceptor rotates automatically to follow the sun from sunup to sundown. "This sun tracking is east-west oriented to follow the sun's daily path, and is also north-south oriented to maintain the correct angle each season of the year," explains Bruce Glass, advertising manager.

"We know it works," says Glass. "However, before we get into full production, we want to closely monitor a dozen or so pilot installations so we can refer to concrete data in telling prospects, wherever they might be located, what kind of performance they can expect."

The collector's 175 mirrors are strategically positioned to reflect sunlight to a centrally located water-cooled heat exchanger. "This design has the effect of multiplying the warming effect of the sunlight 175 times to produce an amazingly high temperature at the focal point. It's hot enough to create live steam. Thus, it has no trouble in maintaining practical water temperatures in the 180° range," explains Glass.

"If the exchanger were dry (containing no circulating water), its temperature would reach 2,000°F on a clear day.

"Because clear sunlight is not constantly present, the unit must be considered supplemental to primary heat sources. Its effectiveness is enhanced by clean air, which allows more energy to reach it. It is more efficient on clear winter days than on hazy summer days. The energy collected depends entirely on the amount and intensity of sunlight reflected from the surfaces of the mirrors."

Two small electric motors supply the power to keep the mirrors facing the sun. They require about 50 cents worth of electricity per year to operate.

Solar heat collected during the day heats water which, in turn, circulates throughout the building to provide heat during the night. At sunrise, the collector goes back into action, heating up water for another cycle.

Cost of the basic unit, less plumbing inside the building being served by the unit, is right at \$5,000.

"We figure it has a five to seven year payback," says Glass. "If a hail storm would knock out all 175 mirrors, which is a remote possibility, total replacement cost would only be \$125."

Glass notes that the tubular structure is designed to withstand strong winds. And, if the mirrors get dusty, they can be washed off with a garden hose, or wiped off with a cloth.

For more details, contact: FARM SHOW Followup, Cyclone International, P.O. Box 1017, Holland, Mich. 49423 (ph 616 392-5981).



Combine is equipped with double pickups.

IT'S SELF-PROPELLED AND CUTS 67 FT. SWATH

Farmers Build World's Biggest Grain Swather

Canadian farmers Glen and Gregory Honey, of Brackeen, Sask., do things in a big way. Not only did the Honey Brothers build one of the biggest two-wheel drive tractors in the world (The 425 hp "Honey Bee" featured in FARM SHOW's January-February, 1980, issue) but now they probably have built the world's biggest self-propelled swather, too.

The swather cuts a 67 ft. swath and, in one 13 hr. day, the brothers were able to cut 420 acres. "Our home-built swather worked great for us this past harvest season. We'll be making only a few changes on it for next year", Gregory told FARM SHOW.

This year, the Honey Brothers swathed 2,600 acres of small grain, including 600 acres of short stubble crop. Not one knife was broken nor a guard bent.

The machine consists of three separate tables. The center one is 25 ft. wide and positioned just slightly ahead of two 21 ft. outside tables. Hydraulic cylinders hold the side tables in working position. Accumulators built into the hydraulic system let the system act like a big spring to protect each table. The center table is split in the middle so the cut crop is divided into two windrows. The two outer tables deliver the cut crop over the end,

placing it on the top of the windrows made by the center table.

Each cutting unit has individual height and reel controls. "By being able to cut higher with the outside tables in a heavy stand, we are able to handle the two swaths with the combine quite easily," says Gregory.

The hydraulic system swings the tables back so the unit is 25 ft. wide in the transport position.

A Caterpillar diesel powers hydraulic drive motors in each wheel. The operator's platform is located on the center unit. The cab, which the Honey Brothers also built, is air conditioned.

To pick up the two windrows laid down by the 67 ft. swather, the Honey Brothers equipped their John Deere combine with double pickups. "On our best days, we combined 340 acres of durum wheat which yielded 8,000 bushels," says Gregory. "We only put 120 hours on the combine to harvest 2,600 acres of crop."

To give the combine bigger capacity in the concave-cylinder area, the Honey Brothers replaced the original concave with their own modification. "It did a much better job and let the big swath move through the combine easier," Gregory points out.