

Solar Heat Used Dry Crops

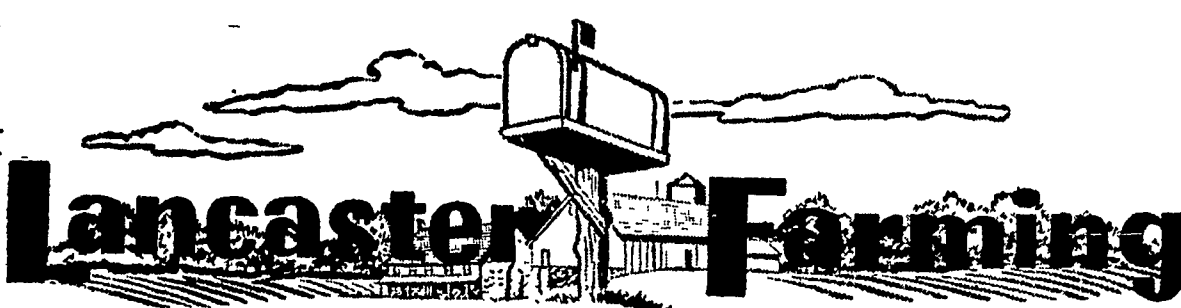
Farmers may soon be using solar-heated air for more efficient and less expensive drying.

Corn was dried better and faster by a solar-heated-air system than by a conventional heated-air system in experiments of Kansas State University agricultural engineers. And fans of the solar-heated system used about 50 percent less electricity.

Results are so promising that studies will continue.

In one week, solar-heated air reduced the moisture content of 100 bushels of corn to 11 per cent—from 17 per cent. Similar corn was dried by unheated air to 12 per cent moisture in the same time, but portions of the top layer still contained 20 per cent moisture. While drying occurred in each layer of corn, it was somewhat greater in corn dried by the solar-heated air. Both systems dried air continuously at 4 feet a minute.

Dr. Lipper of the Kansas Agricultural Experiment Station and C. P. Davis, Jr., offer these preliminary observations.



Lancaster Farming, Saturday, May 14, 1960—13

It appears that grain containing up to 18 percent moisture can be dried adequately by using a solar-heated-air system — even when the sun shines only 3.5 to 6.5 hours a day.

Because of faster drying, a solar-heated-air setup will use only about half the electricity that is needed for moving unheated air. This will be true whether air flow is continuous or fans are controlled to operate only when the relative humidity is less than 85 per cent.

Where in-storage drying is used, it is unlikely that any profit can be made by increasing the flow of solar-heated air above that normally recommended for unheated air systems. A greatly increased air flow usually results in much faster drying, but adds to the cost for electricity.

For Lean Hogs

Selection is Effective Method

Four generations of selection for high and low fatness in Duroc hogs show a widening lean-to-fat ratio, indicating that selection based on backfat thickness continues to be highly effective in changing carcass composition. Backfat is measured by a lean-meter which makes use of the fact that fat tissues don't conduct electricity as well as lean tissues.

Backfat thickness in the Duroc foundation stock averaged 1.49 inches. This increased about 21 percent to 1.82 inches in the fourth generation animals specially bred for high backfat (high-line), and decreased about 17 percent to 1.25 inches in pigs bred for low backfat (low-line). Selection in Durocs has so far been somewhat more effective in increasing backfat thickness than in decreasing it.

Selection for high and low fatness has been carried through two generations in Yorkshire pigs, with backfat thickness averaging 1.26 inches in the foundation stock. This increased 5 percent to 1.32 inches in the second generation high-line pigs, and declined 5 percent to 1.20 inches in the second generation low-line pigs.

These studies are part of a long-range selective breeding Agricultural Research Center, Beltsville, Md., in 1954. The aim is to produce a meatier market hog and speed up the production of high-quality breeding stock. Similar investigations are underway at several State agricultural experiment stations.

Along with changes in backfat thickness, high-line Durocs continued to decrease in weaning weight and in postweaning growth rate. These pigs averaged 29.7 pounds at weaning and made an average daily gain of 1.47 pounds from weaning to the time they were probed for backfat thickness at 175 lbs. Low-line Durocs, on the other hand, averaged 27.5 pounds at weaning and made an average daily gain of 1.41 pounds from weaning to the time they were probed for backfat thickness at 175 lbs. (Turn to page 14)

Systemic Spray Controls Grubs On Cattle

Manti, Utah—(April 19)—Ninety-nine percent control of cattle grubs, five months control of lice and improved wintering, summarizes the Utah Range Cattle Grub Control Project. These results were reported on the basis of a recent spot check of the 9,000 cattle involved.

Approximately half of the cattle were sprayed with a systemic grubicide, at the time they were brought in for the winter. At the same time, all of the cattle that wintered in the same areas were treated. The remainder of the cattle in the cooperating associations were left untreated.

A careful check in each herd of both the treated and untreated cattle early in April disclosed that those sprayed had an average of only 19 grubs per 100 head. Check animals included cows, and calves and yearlings of both sexes.

In addition, none of the treated herds showed evidence of lice five months after treatment, while numerous lice were noted in several untreated herds. Several ranchers, whose herds were (Turn to page 14)

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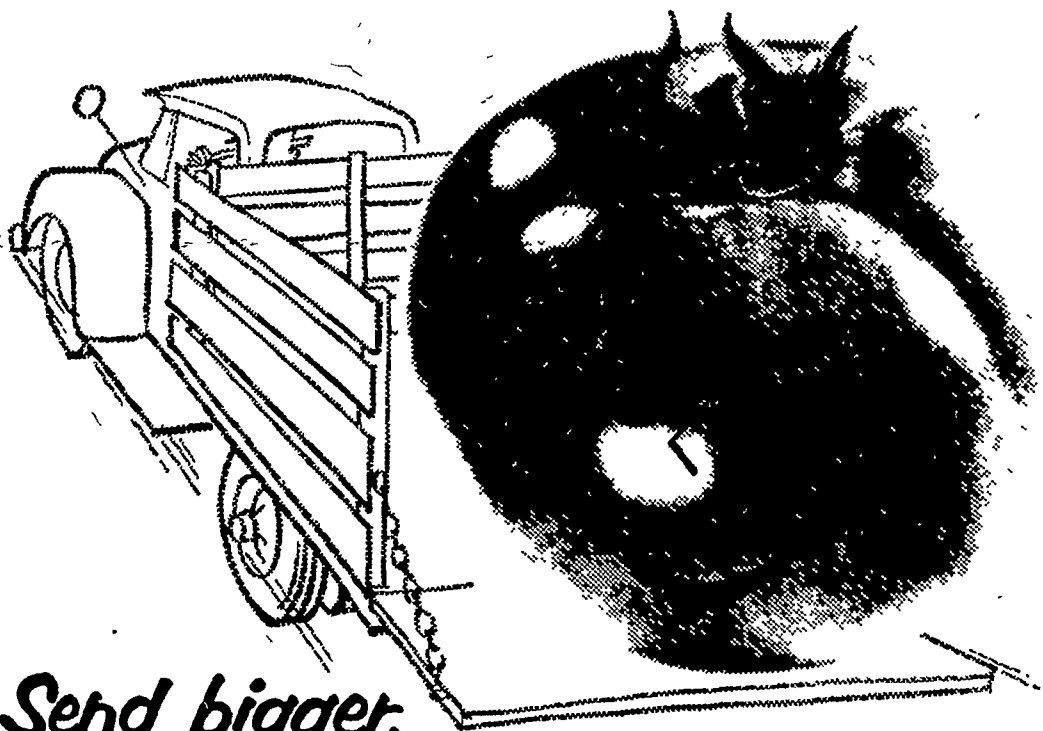
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