

**CHEAPER TO RUN THAN  
REGULAR VENTILATION FANS**

# Air-Conditioned Barn Boosts Milk Production

By C.F. Marley

When Tom and Howard Walquist first got the idea of air conditioning their dairy barn, the Belknap, Ill., farmers didn't get a lot of encouragement from friends, neighbors or dairy specialists. In fact, they couldn't find anyone who thought the idea would be cost efficient.

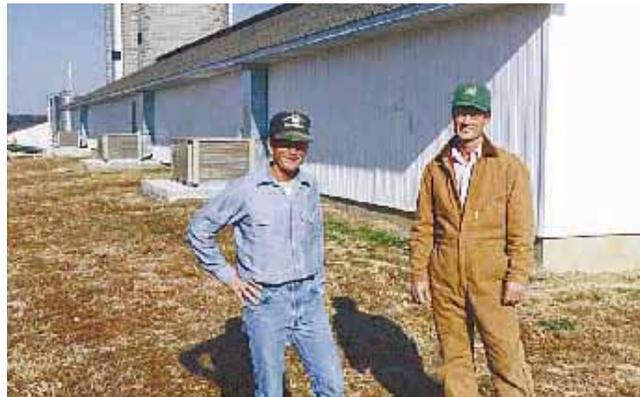
But they set out to do it anyway and discovered, to their amazement, that air conditioning boosts milk production by as much as 35 percent during hot summer weather. What's more, they found that it actually costs no more to operate the big commercial air conditioning units they installed than conventional aeration fans.

"This area of Southern Illinois is known for its heat and humidity, which takes a toll on milk production," says Tom. "During the summer of 1995, which was a hot one, production at other area dairy farms fell off some 35 percent but our cows dropped only 1 percent. We attribute the difference al-

most totally to the comfort of our air-conditioned barns."

The Walquists first got the idea of air conditioning their barns several years ago. When they could find no research supporting the idea, they decided to go ahead with a test of their own in a well-insulated barn (6 in. in the walls and ceiling) designed for 30 Holsteins. They kept detailed records for more than 2 years, running three 5-ton air conditioners. They found they could keep the interior at 70 to 75° on a 100° day. Whenever temperatures went above 80°, they kept the cows inside during the day, but sometimes let them out at night.

After proving to themselves that cooling paid off, the Walquists decided to build a new 62-cow barn designed specifically with air conditioning in mind. The 54 by 164-ft. barn is cooled by six 5-ton commercial air conditioning units which are also equipped with ductwork for ventilation.



**Air conditioned barn costs just 38 cents per cow per day to operate. The Walquists say they get 4 to 5 times that much back in increased milk production.**

The cost of running the air conditioning and ventilation has averaged 38 cents per cow per day - the cost of about 3 lbs. of milk. But they've found that the average cow produces 15 to 20 lbs. per day more milk when in the air conditioned barn, giving the Walquists a 500 percent or better return on their investment.

After comparing the cost of running air conditioning against the cost of conventional ventilation fans, the Walquists say the system doesn't cost any more than fans alone

because with fans you have to move so much more air to provide any cooling effect.

"So far as we know, we have the only detailed figures in the country on air conditioning dairy cows. It's an idea that really works. It might pay off for other livestock producers, too," says Tom.

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Sperry makes "farm chairs" painted in familiar implement colors.

## He Makes "Farm Chairs" Painted In Your Favorite Colors

You've never seen anything like these easy chair/recliners built by retired beekeeper K.L. Sperry, Kindred, N. Dak.

The design is unique and also the way he paints them - in farm implement colors and bearing genuine manufacturer logos.

"They're based on the design of a homemade chair I saw in the 1950's. I've worked to improve it over the last 10 or 20 years," says Sperry. "I started painting them Deere green, Ford blue, Cat yellow, and Case-IH red because bare wood just didn't look nice enough. Chairs I've built in the last 10 years have all been the color of some brand of implement. I get authentic paint and logo decals right from the manufacturers."

Sperry's chairs are 52 in. high and 12 in. wide, with seats 17 in. off the floor. Backs and sides are 3/4-in. plywood, while arms are 1 by 4's and 2 by 4's.

They convert from an upright chair to a recliner in a unique way. "You pull the chair from its sitting position toward you, then turn it 180° to its reclining position," explains Sperry. "It pivots on its legs so arms and legs reverse function in the conversion. There are no moving parts. There's nothing like it on the market."

Chairs sell for \$75. He's working on a model with a cushioned pad that will sell for right at \$140.

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Photo (left) shows chair in upright position. Tipping chair forward creates a recliner (right).



Chuckry's "deep plow" is used at about 5 mph and can plow 25 to 35 acres a day. A 40-ft. steel roller trails behind.

## "Deep Plow" Digs 3 1/2 Ft. Deep

"It works slow but does a good job," says Bill Chuckry, Winnipeg, Manitoba, who built a plow that'll work his peat soils as deep as 3 1/2 ft.

Chuckry needed something that would bury the approximately 3-ft. layer of peat covering his fields and bring about 6 in. of clay to the surface. To make the deep plow, he modified a "breaking plow" that originally made a single furrow 26 in. deep and 42 in. wide. He increased the size of the moldboard and welded a 15-ft. long steel I-beam on top of the plow's main beam to keep it from twisting under the increased load. An 18-ft. wide, 40-in. dia. steel roller trails behind the plow. Chuckry uses a 400 hp Ford 9880 tractor equipped with triple 20.8 by 42 radial tires all the way around to pull the plow and roller. The inside 8 wheels are filled with fluid, and the tractor is fitted with almost 5,000 lbs. of suitcase weights on front. Fully loaded, the tractor weighs 41,500 lbs.

"Bringing 6 in. of new clay up to the surface allows the soil to warm up sooner in the spring and lets us grow longer season crops like wheat, flax, canola, lentils, etc., that we otherwise couldn't grow," says Chuckry. "We used it to plow over 300 acres last fall and hope to plow our entire 2,700-acre farm over the next 3 to 5 years. We go at about 5 mph and can plow about 25 to 35 acres per day. It's not a lot different than breaking new ground. The



Plow buries peat, brings clay to surface.

key is keeping the plow down deep enough so that it rolls all the ground over.

"The steel I-beam, which weighs about 3,500 lbs., helps keep the plow in the ground. The roller knocks down the big furrow made by the giant moldboard and also helps keep the plow frame pulling straight in line. Chuckry keeps it about one fourth full of water. It weighs about 2,800 lbs. He makes a second pass later with a tandem disk.

"When raised, the plow pivots on a front set of wheels and skids on a 'tailbone' at back. The bottom of the moldboard drags a little on the ground. To keep it from digging into the road during transport, we have to unhook the plow from the tractor, jack up the back end, and hook it back up to the tractor so we can tow it backward."

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