



Dairyman Dennis Luedtke says his all-concrete barn cost about the same as a wood frame building. The entire 50 by 175-ft. barn is made of 8 by 50-ft. concrete panels.



With clear span roof panels there are no interior support poles to get in the way. All equipment is hung from the ceiling, which makes cleaning easier.

All-Concrete Barn Cooler In Summer, Warmer In Winter

After watching one wood dairy barn go up in smoke, Dennis Luedtke wasn't anxious to build another. He contacted a local supplier of precast concrete slabs to see if there was another way.

"We put the numbers together, and the price for concrete was similar to a wood frame building," says Luedtke, Wells, Minn.

Once a design was drawn up and the order placed, the dairyman and his family began pouring concrete floors and removing field-stone walls from the old barn. At the same time, Wells Concrete began pouring slabs for the barn walls and ceiling.

Construction began on a Friday as wall slabs were hauled to the farm and set in place. Each panel consisted of a 2-in. layer of con-

crete, a 4-in. layer of foam insulation and a 3-in. layer of concrete for the exterior. By the following Tuesday, the entire 50 by 175-ft. barn was up, including the roof which is made of 8 by 50-ft. concrete panels.

Each wall and roof panel has weld plates on its sides and ends. As panels were laid in place, each was welded to its neighbor.

Roof panels were notched into the wall panels to create a sunken roof. A layer of Styrofoam insulation topped by a rubber membrane and a layer of rock provides R32 ceiling insulation. The rubber membrane keeps water from seeping through the precast sections and a slope of 14 in. on 50 ft. drains away water.

Less than 2 1/2 months after starting,

Luedtke moved his herd into the new barn. The clear span roof panels meant no interior support poles to get in the way. Nothing is bolted to the floor. All equipment is hung from the ceiling which makes cleaning easier. In addition to tie stalls for the milking herd, there are pens for young stock and calving. "The cows and calves can see each other, and there is a lot less bawling when you take the new calf off the cow," says Luedtke.

The insulated concrete barn has proven to be warmer in the winter, cooler in summer, and drier year 'round than the previous wood frame barn.

"We used to see an 8 to 10-lb. drop in milk production when the heat hit in July and August," reports Luedtke. "That has been re-

duced to 3 to 4 lbs. There's no wall sweating in the winter, and we haven't had a sick calf in this barn. I think the air quality is better."

One other benefit of the fireproof construction is that insurance rates are much lower.

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To salvage down corn, Larry Smith mounted not one but two reels on the 6-row header on his Gleaner combine.



First reel grabs loose stalks and pushes them onto gathering chains. Reel behind it helps move stalks into cross auger.

Double Corn Reel Picks Up Downed Stalks

When Larry Smith went out to look at his corn crop after a storm blew through last year, he says "It looked like a culti-packer ran over it."

The Walnut Hill, Florida farmer adds, "After the wind blew it down, we had rain on it for weeks, so there was no chance of trying to combine it. In total, we had more than 40 inches of rain on the crop after it went down.

"It was completely flat and laid there for three months before it was dry enough for us to try to harvest it," Smith continues. "By then, the stalks had rotted off at the ground. Despite that, the ears were still dry and the grain was in good shape, so we thought if we could get it into the combine, we could get enough grain to recoup some of our losses."

Years ago, Larry's father, Jake, had built a reel that allowed him to pick up a downed crop. "I could have used that reel if I had been able to get into the field before the stalks rotted off," Smith says.

Because loose snouts would roll along in front of the header, Smith decided he needed

a second reel in front of the first one to grab the loose stalks and push them onto the gathering chains. From there, he figured the original first reel would help move stalks into the cross auger.

With help from a local fabrication shop, the second reel was added. Both reels have big fingers, made of bent round tubing, over each row. The front reel is smaller, with shorter fingers than the first one.

Jake Smith calculated the shape and size of the fingers and made a pattern from wood. He gave it to the fabrication shop, which duplicated it from pipe.

"Really, it's just a piece of pipe with fingers on it," Smith explains. He made brackets to mount the reels on the front of his Gleaner 6-row corn head. He used 112-tooth sprockets and no. 60 roller chain he had on hand to drive the two reels. Both run at the same speed, and they're adjusted and timed so they don't hit each other.

Smith says he was amazed at how well it worked. "We had to run a lot of extra stalks



Both reels have big fingers, made of bent round tubing, over each row.

through the combine, but by then, they'd started to decay. We had no problem with them building up or plugging. The reels just kept kicking the stalks on up and through the combine," he says. "We calculated that we harvested 80 bu. of grain per acre."

He says the reel cost less than \$1,500 to make.

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