*Eliminates back strain, too*

# Parallel parking makes dairy business nicer

SEVEN VALLEYS — A persistent cattle rustler and an aging milking parlor were largely responsible for a decision by Leroy Bupp, Seven Valleys R2, to buck the current dairy-building trend and construct a new stanchion barn.

When a cattle rustler hit twice in six months, stealing six of his best registered Holstein heifers and butchering two in the pasture of the heifer barn over the hill from the main buildings, Bupp considered putting up a more visible heifer-raising facility.

But what he really wanted was a new dairy barn.

"It had always been one of our dreams to milk the Bupplynn herd in a tie-stall barn, where we could give better individual care to each of our registered cows," Bupp reflects.

The old double-three Surge walk-through parlor was almost 25 years old, one of York county's earliest, and both Bupp and his Maryland Cooperative Milk Producers fieldmen agreed that some major remodeling was needed.

On a borrowed drafting table, Bupp began experimenting with designs.

Among his barn construction goals were ways to eliminate the back and knee strain of constant kneeling and bending during milking, the incorporation of labor-saving systems and methods of holding down energy costs. He also figured on tying in the earthenbank manure storage and bunker feeder systems that had been in use for several years with the parlor operation.

After several layouts on paper, and a mockup of stall design in his wagon shed, Bupp was satisfied with a barn plan. His final drawing incorporated angled stalls, raised ten inches above the center alleyway and extending out over a grated gravity-flow-gutter manure handling system.

Bupp took his rough blueprints to Amish builder Elam S. King of Strasburg, who agreed to tackle construction of the angled stall barn

On Thanksgiving Eve, 1980, the herd was tied in their new home.

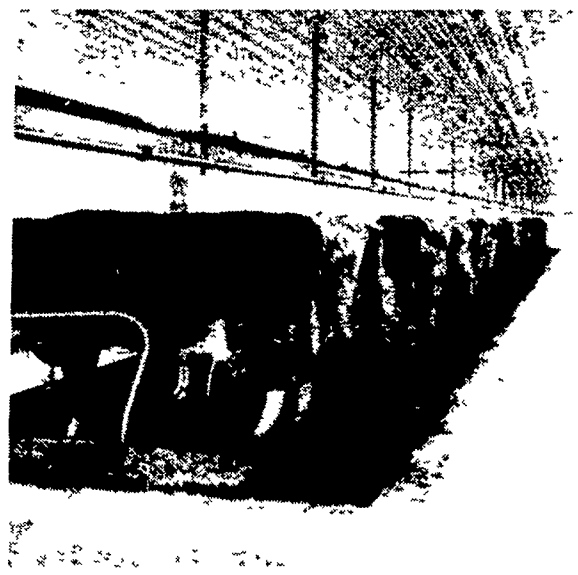
For lack of a better name, Penn State dairy specialist Dr Larry Specht has dubbed the design a "herringbone stanchion barn"

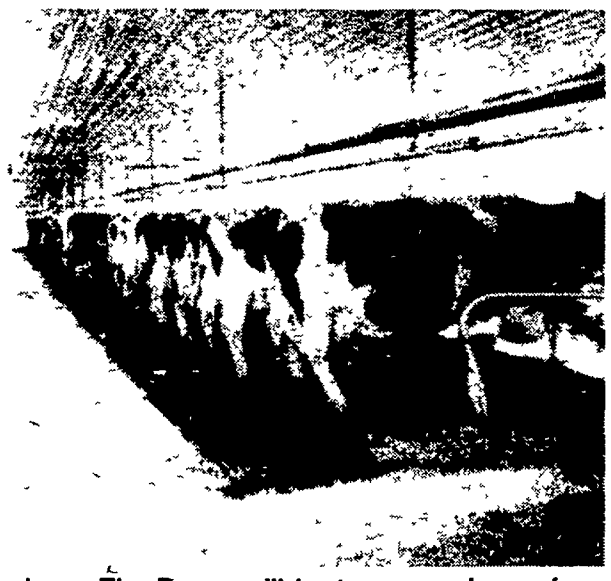
The 82 rubber-matted, angled tie stalls are 72 inches long and range from 48 to 54 inches in width, to accommodate big-bodied older cows as well as younger heifers. Small quantities of well-dried sawdust are used for bedding.

Because Bupp could not locate commercially produced gutter grates to meet his specifications, he fabricated his own of square five-eighths inch steel. The manure gutter is 27 inches wide at the top, sloping beneath the center alley to 34 inches of width at the gutter depth of four feet. The sloped side of the gutter allows for extra manure volume for the bacterial action and gravity flow processes to work.

Ten-inch dams are built into the gutter at intervals of 50 feet, which retain the liquids that keep the bacterial organisms breaking down waste solids. More solid materials float to the top, and are pushed by gravity flow from one dam to the next, moving through the gutter system at the distance of about two stalls per day.

Manure flows into a cross-gutter that also handles milkhouse water,





**Parallel parking for cows, in an angled-stall design, and a gravity-flow manure system are two features of the Bupplynn Farms tie-stall barn. The Bupps will host an open house for their new barn this Friday.**

then into a receiving room with a large ventilating fan, and finally flowing into the storage pond. Fans at both ends of the gutter ventilate odors and are an integral part of the barn's ventilating system.

"Contrary to what we might believe in this country, this manure system is not a new one," says Bupp. "European dairy farms have had them for years."

To cut down on the use of high-energy fans for ventilation, Bupp designed five three-by-three foot ceiling vents spaced through the barn's 220-foot length, to carry air up through the barn attic and out cupolas on the roof. If necessary, fans could later be installed up in the plywood vents, reducing fan noises to a minimum.

Eighty 40-inch windows are

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**Stall angling in the barn also extends to the feedway, where cows are fed on a glazed tile trough.**