

Sand Separator Working On Chester County Dairy

DAVE LEFEVER

Lancaster Farming Staff

COCHRANVILLE (Chester Co.) — Dennis Bush used to bed his cows with new sand every week. Now he's reclaiming about three-quarters of it for reuse and saving an estimated \$25,000 a year on sand purchasing costs.

Bush was the first dairyman in the state to install a gravity sand separation system. He put in the setup last year as part of a new 300-cow freestall barn and manure-handling system.

"I've been happy so far," Bush said at an open house on the farm last September. "Things look like they've been working."

Hired man Kevin Badman said it used to take two to three hours to scrape the freestalls in the old barn. Now the sloped floors can be flushed in about ten minutes.

"The best thing about it is the time it saves," Badman said.

The separation system works by allowing sand particles to drop away from the liquid and solids in a sloped concrete separator at the lower end of the freestall barn. Since the sand particles are heaviest, they are the first to drop out of the mix. Manure solids drop out farther along in the process. The liquid passes through screens and a second separator and are filtered again before ending up in the lagoon.

By that time the water is relatively free from solids, which prevents the lagoon from filling up with manure, according to Joe Harner, an extension



Dennis Bush, left, discusses his new freestall and sand separator system at an open house on his farm last September.

engineer at Kansas State University.

The liquids from the lagoon are then pumped back to holding tanks at the upper end of the freestall barn where they are reused as flushwater

The manure solids need to be cleaned out of the separator three times a year, Bush said.

Harner has worked on sand separation technology on a number of farms in the Midwest and was on hand at the open house to talk about the system on the Bush farm.

The technology can work on just about any size dairy herd, said Harner, who said he has seen it on farms with herds ranging from 36 to 4,000 cows.

"It's size-independent," he said. "I think it will pay on any dairy."

The new separator system didn't come totally trouble-free for the Bushes.

With the past winter being colder than usual, there were some problems with the flushwater freezing in the tanks, according to Eleanor Bush, Dennis's wife.

"It was a little tough this winter," she said in a recent update. Dennis plans to build a protective structure around the tanks to help prevent that from happening again.

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A dairy tour visitor tries his hand at cleaning screens between the sand/manure separators on the Bush farm.