

Tri-County Effort Hosts Manure Tour

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ELIZABETHTOWN (Lancaster County) — When Greek mythical hero Hercules cleaned out the Augean stables by diverting the Alphaeus and Peneius rivers to flush them out, he may have passed the test imposed by the goddess Hera, but he was a far cry from dealing with manure in a responsible manner.

By today's standards, Hercules would have faced fines, complaints, and civil and criminal legal action for willfully contaminating the rivers.

(In fact, to show how much environmental considerations have changed, Hercules was also highly regarded in some myths for being a swamp buster and eradicator of untamed wilderness. But that was before the world reached its

first billion population.) Today such blatant disregard for quality of water being sent to people downstream would not be tolerated.

But, according to experts on manure handling systems, there are many options available, other than diverting a watercourse through the stalls.

In order to show regional livestock handlers what kinds of approved manure handling systems can be and are being used, the conservation districts and cooperative extension offices from Dauphin, Lancaster and Lebanon counties last week held a tour of six farms located in the three counties.

All the farms visited had manure handling facilities built with some form of cost-sharing available through the Chesapeake Bay clea-

nup program. In a pre-event statement, Dauphin County Agent Paul Craig said, "The Chesapeake Bay program is now over 5 years old. Since then, major emphasis has been placed on manure management and nutrient loading on farm fields."

The tour was specifically designed to minimize traveling, but also to show a number of different, yet acceptable, approaches to storing manure.

Dry Storage

The first site visited was the farm of Roy Book, located west of Elizabethtown in Dauphin County. Book's 50-cow milking barn is designed with grated gutters and a scraping system that empties out onto a dry-manure stacking area.

The concept, around which the facility was designed, is to keep the manure at low moisture level and to allow it to stack, or pile, up on a concrete slab at the far, downhill end of the stable barn.

Any runoff moisture from the manure pile is contained in a catch basin outfitted with overflow pipes.

Milkhouse waste flow is taken through drain pipes to a small tank where a siphon pump is located. Once the liquid there reaches certain level, the siphon pump moves it to a type of drain field, away from the manure storage area.

Also, to eliminate excessive water from getting into the stacking area, the contour of the land around the barn is designed so that all rainwater and surface runoff is diverted away from the stable area, maintaining the integrity of the dry storage design.

The stack area has equal accessibility from either side, so that, when ground is open, it can be hauled as needed. It can also be stored for 2½ to 3 months.

More Traditional

At the 30-cow tie-stall barn of Glenn Oberholtzer, Elizabethtown, gravity gutters and gravity flow take the manure to a concrete tank which then has to be pumped.

To accommodate 500 feeder steers a storage pit for runoff from a 4,500-square foot feedlot was created at the operation of David Becker, in Elizabethtown. In addition to handling waste that way, Becker also does weekly hauling of bedded pack.

Variations

At the Elvin Kreider farm in Lawn, Lebanon County, a 90-cow tie stall barn has been outfitted



Some of those on the tour discuss the path of manure flow once it leaves the scraper system, just behind them, at the Kreider brothers' farm in Lawn.



The terminal end of the 200-foot underground pipeline at the Jay Brandt farm empties manure into this 12-foot deep storage tank.

with a gravity system and a scraper system.

The scrapers are chain driven through the aisle gutters and bring the manure out to an area beneath the cement barnyard. From there, the manure travels by gravity to a steep-sided poured concrete pit. The concrete was poured at a very dry state in order to keep strength and enable it to be poured without forms.

The pit has a ramp access and an area for barnyard scrape-in, with tractor guards in place.

The manure storage was put up in the fall of 1988 and Paul Kreider, who is in partnership with Elvin, said it has been serving them well.

He said that because of the cost of buying pumping and application equipment, they've been having the manure spread through a custom operator.

Although the system has both gravity feed and the scrapers, the

system could have been made to be a complete gravity flow. However, Paul said that because the scrapers were already in place, they decided to continue to use that system until it wears out. At that time, he said they will re-evaluate their financial position and decide whether they will make it all gravity.

Paul said the reason he and his brother decided to go with a manure storage system was several fold, but he said environmental concerns were among the most important.

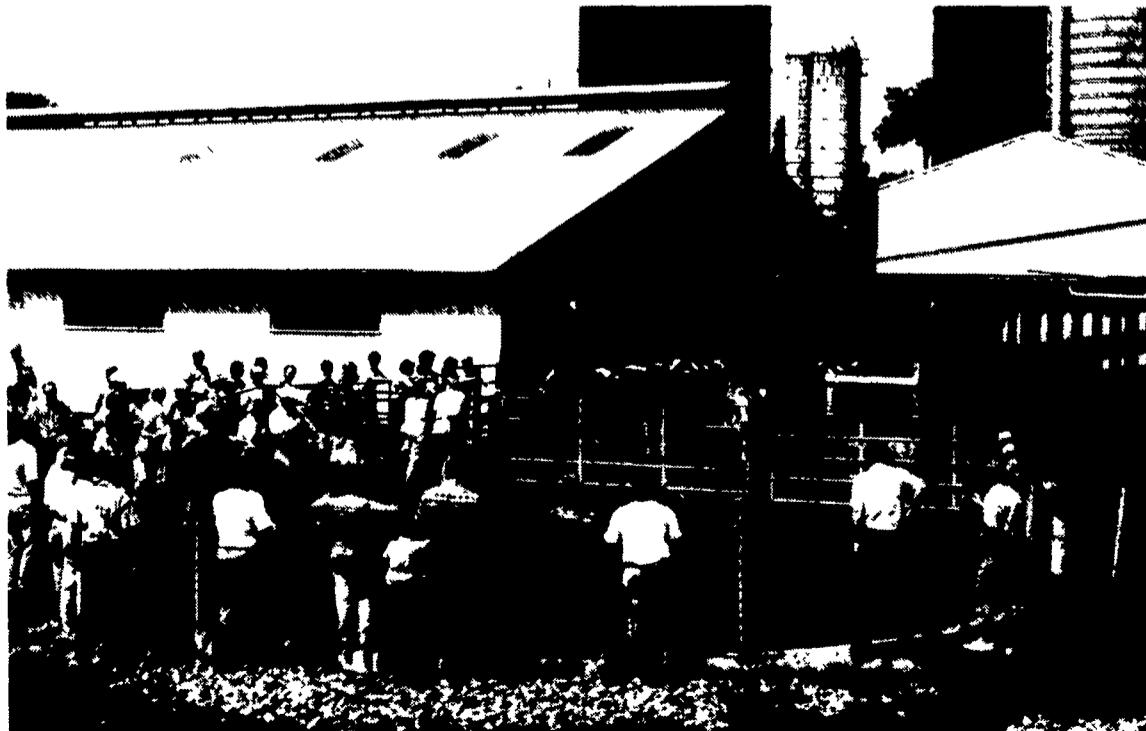
In addition, in the early spring, when the ground is wet, he doesn't like to take equipment out onto the fields.

He said that if any of the people on the tour were considering have a system installed, that they should also make sure it has more than adequate storage capability, because weather and other unforeseen problems can require that the

(Turn to Page A33)



Several farmers peer down into a manhole like opening at the Jay Brandt farm in Bachmanville. The gutter scraper is visible above their heads. The grooved cement in the foreground drains a heifer yard not seen to the left, and keeps all manure and manure contaminated drainage from going anywhere else but down the manhole, like a huge french drain.



Farmers from Lebanon, Lancaster and Dauphin counties examine one of two smaller manure storage tanks at the George Ungemach farm in Campbelltown. Manure from these tanks, if not used for field work within a reasonable time, is pumped uphill to a large storage tank.