

Chesapeake Bay Program In Action

# Virginia Farm Tour Highlights Manure Storage Systems

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HARRISONBURG, Va. — Farmers in Rockingham County, Virginia are benefitting from a program to clean up the waters of the Chesapeake Bay. High nitrogen levels in surface water that reaches the Bay are seriously affecting marine life there. In response to the problem, Virginia's Division of Soil and Water Conservation has set up a program that works with farmers to reduce the nitrogen from agricultural sources.

The heart of the effort is the Chesapeake Bay Agricultural Best Management Practice Cost Share Program and has been very well received by county producers. Rockingham is Virginia's leading agricultural county with about 300 dairies, and has been pin-pointed as a major source of nitrogen pollution. The Chesapeake Bay Program is set up to limit this by providing financial incentives that encourage farmers to invest in waste management systems which control nitrogen-rich run-off from

animal manures.

Nearly 50 farmers toured the county recently to get a firsthand look at some of these systems. Much of the money from the program has gone into concrete or earthen storage facilities for animal wastes and these were the emphasis of the tour. Producers also had the opportunity to quiz owner/operators on their management of the systems and how they fit into the total farming operation.

**Heatwole Dairy Farm**

The first stop on the tour was Dewitt Heatwole's dairy west of Harrisonburg. In addition to an older 70-by-70-by-5-foot concrete storage facility next to the barn, Heatwole recently installed a 39-by-39-by-10-foot earthen pond with the help of cost sharing funds from the Bay Program and A.C.P. program of the ASCS. These two facilities allow the dairyman to store more than 61,800 cubic feet of combined manure, washwater and precipitation—or 280 days of waste from his 80-animal dairy herd



Roscoe Wine's gravity flow manure system includes the circular concrete pit pictured that feeds truck located downhill.

when kept in total confinement.

The two facilities form a complementary system that gives Heatwole additional flexibility. Manure and washwater from the barn are deposited into the concrete structure and pumped up to the primary earthen pond as it becomes necessary. When the liquid manure is to be used, it's pumped out of the concrete facility and the upper holding area is allowed to drain back into the older structure. From there it is loaded and applied to cropland at the appropriate times for fertilization.

**Horst Dairy Farm**

Mennonite dairyman Daniel Horst also lets fertilization needs rather than limited capacity determine when he empties his storage facility. The brand new 50-head operation has a 365-day total confinement waste storage capacity of 84,318 cubic feet and

was the second stop on the waste management tour.

Producers were particularly interested in the mechanics of the set-up on Horst's farm. The earthen storage pond accepts manure and waste water from the operation through a two-foot pipe under the barn and lot. Manure is pushed to a drop structure in the floor of the freestall barn, and waste water carries it, by gravity flow, to the pond. There is also a push-off ramp at the edge of the paved and grooved lot.

Although no funding was used to construct Horst's facility, Bill Patterson, district conservationist and tour guide for the day, pointed out that the dairyman still had to follow the same procedures as farmers who participate in the program. "You can't just start digging a hole," Patterson explained, noting that ground and surface water, as well as soil

composition, plays an important part in site location and facility design.

Animal waste easily seeps through the porous limestone soils of Rockingham County and adds to the nitrogen in ground and surface water. This means that the majority of producers have had to pass up the less expensive earthen facilities, which Patterson calls "just a regular old farm pond," and erect concrete structures instead. These prevent any seepage from the storage facility, even when surface water is located nearby.

**Fifer Dairy Farm**

The tour visited just such a facility during their third stop at Carl Fifer's dairy farm. The circular 64-by-12-foot concrete structure was constructed above ground and can hold 32,672 cubic

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Manure from Dewitt Heatwole's earthen storage pond combines with a second concrete unit to provide the farmer with up to 40 weeks of storage for 80-cow dairy herd.




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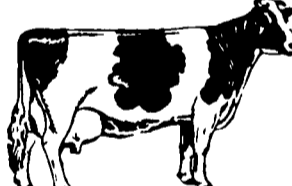
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