

# *Learn From Others to Prepare for Tighter Nutrient Restrictions*

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On Sept. 4 and 5, I had the opportunity to tour several farms on the Delmarva Peninsula in Delaware and Maryland. My main interest when touring these farms was to learn what they were doing to manage farm waste, given the tough environmental restrictions that farms in that area face.

While most farms have very effective manure treatment facilities in place, accompanied by very sound nutrient management plans, they still need to develop an emphasis on phosphorus (P) management. Most of the herds have reduced ration levels of P, and overall, are ahead of the original timeline for reducing nutrient flow into the Chesapeake Bay region. However, many producers in the area know that the land base they are working with will not be able to handle the amount of P contained in the manure. The land is already at the limit of P concentration, so in the future manure will have to be shipped off of the farm.

At the heart of the new restrictions and interest in nutrient management is the Chesapeake Bay. The bay is the largest estuary in the U.S. at 2300 square miles, half of its water from the Atlantic, and the rest from 64,000 square miles of watershed, including areas in six states and Washington, D.C.

In 1976, suspicions of declining water quality in the bay and its tributaries led to a six-year study of water quality of the bay. The EPA coordinated about 40 different studies on declining water quality, and its effects on wildlife and plant population. It was concluded from these initial studies to set a goal of nutrient reduction of about 40 percent, based on the 1985 status. Nutrients entering the bay would now be very restricted.

In 1987, the states of Maryland, Virginia, Pennsylvania, and the District of Columbia, along with the EPA and Chesapeake Bay Commission, formed the Chesapeake Bay Agreement. This agreement set the goal to achieve nutrient reduction in the bay by the year 2000.

In 1989, the University of Maryland/Maryland Cooperative Extension, and the Maryland Department of Agriculture drafted the Maryland Nutrient Management Program. The focus of this program was to unite the 1.4 million acres of farmland in Maryland under nutrient management plans by the year 2000. However, in 1998, the Maryland government enacted the Water Quality Improvement Act, which mandated sweeping changes for the Maryland agricultural community and land managers. This new act requires the following: nitrogen and P based nutrient management plans; reduction of the phosphorus in manure via feed-

ing changes; provisions for moving manure from fields having excessive P to fields needing additional nutrients; increased monitoring of record keeping; and more evaluations of the nutrient P.

Some of the highlights of the new act are as follows (source: University of Maryland Cooperative Extension):

- An operator who uses biosolids or animal manure in an agricultural operation shall develop a nutrient management plan addressing nitrogen as the limiting nutrient on that agricultural operation by December 31, 2001, and implement the plan by December 31, 2002.

- An operator who uses biosolids or animal manure in an agricultural operation shall develop a nutrient management plan addressing both nitrogen and phosphorus as the limiting nutrients on that agricultural operation by July 1, 2004, and implement the plan by July 1, 2005.

- An operator who uses a combination of chemical fertilizer, biosolids, and animal manure in an agricultural operation shall comply with the deadlines above if that operator uses biosolids or animal manure on a minimum of 10 acres, or 50 percent of an agricultural operation, whichever is less. Phosphorus application rates under this subsection shall follow cooperative extension recommendation rates on individual fields where chemical fertilizer is the only nutrient source.

- The plans must be prepared by a certified nutrient management consultant and according to the schedule set forth in the new regulations. The most limiting nutrient in the soil will be determined as an indicator for potential pollution problems. If the sample scores less than 150 on the phosphorus fertility index, nitrogen will be the limiting factor. If it is 150 or greater, a P index risk assessment method will be used to determine the potential risk of P loss. If the risk scores low, nitrogen needs may be used. If the risk is medium, according to the test, nitrogen may be used one out of every three years. If the risk is high, P amounts will be limited to those expected to be removed from the field by the crop or harvest. If the site risk is very high, no additional P may be applied.

While touring the Delmarva Peninsula, I had the opportunity to tour large and small dairies, conventional and grazing, and none of the farms visited were ready for the new P restrictions as far as having a plan in place. As I had mentioned, most had reduced the ration level of P, but had not yet based the nutrient management system on P. Those that seemed most prepared were the farms that were equipped with separator systems, and have made arrangements to sell

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