

Environotes from TVA

By John E. Culp

MORE THAN 60 RETAILERS in 27 states are working with the Tennessee Valley Authority (TVA) to research and demonstrate improved technologies and strategies to prevent contamination of surface and groundwater from plant nutrients and agricultural mixing operations. These include model site demonstrations that TVA initiated three years ago and individual technology demonstrations.

Specific practices are being introduced, such as innovative structures to contain spills from mixing and rinsing operations. New construction methods are needed, and many of these are being tested at agricultural dealer sites. Progress is being made in such areas as concrete strength and cost-effective containment structures.

Some states require monitoring of releases from mixing sites. TVA is working with retailers to test and commercialize monitoring techniques. Another growing concern is stormwater containment. TVA and cooperating agricultural retailers are demonstrating ways to capture stormwater and to use or dispose of it in the most economical way.

Poultry Litter Use

About 20 states recognize poultry production as one of the four primary agricultural income generators for farmers. It is an impressive \$30 billion a year industry. The downside, however, is the huge volume of poultry litter and other poultry wastes and by-products that must be disposed of in environmentally acceptable ways.

TVA has recently established a compost research and demonstration facility. The idea is to develop composting as an industrial process, generating products with controllable properties and designated uses. Poultry litter, a significant potential pollutant of lakes, streams and groundwater, is the primary component of the compost project.

Researchers are investigating the use of nutrient-enhanced broiler litter as an organic-based plant nutrient source for turf. Comparisons are being made between fresh and composted poultry litter combined with a nitrification inhibitor and used on turf and agricultural crops. The potential for concentrating the litter and promoting it as a plant nutrient source for bulk blending and other commercial operations is also being considered. Private organizations, the Environmental Protection Agency (EPA), and others appear to be interested in looking at this possibility.

Another way TVA is approaching the poultry litter problem is the creation of a Poultry Water Quality Consortium. Other partners in the activity include the private industry through the Southeastern Poultry and Egg Association, the EPA and USDA's Soil Conservation Service. The consortium is promoting communication between the industry and government agencies on quality and by-product use issues.

River Action Teams

One of TVA's major corporate goals is to make the Tennessee River system the cleanest river system in the nation by the year 2000. The agency is conducting an extensive Clean Water Initiative in the Tennessee Valley which includes parts of seven states—Alabama, Georgia, Kentucky, Mississippi, North Carolina, Tennessee and Virginia.

Centerpiece of the Clean Water Initiative are the River Action Teams (RAT). There are 35 watershed areas in the 125-county area of 41,000 square miles. The plan is to have a team in each of these areas to help build alliances and programs to solve nonpoint source and point source pollution problems. ■

Mr. Culp is with the National Environmental Research Center, Tennessee Valley Authority, Muscle Shoals, AL 35660.