

Environotes from TVA

By John E. Culp

FERTILIZER and agrichemical dealers across the country are adopting improved practices to help prevent accidental releases of waste streams into surface and groundwaters. Secondary containment structures are being built as one way to prevent such problems.

TVA is working with dealers in two major demonstration programs: model site and individual technology demonstrations. We will periodically highlight lessons learned at these demonstrations in this column. Emphasis is on containment structures and environmental practices.

The individual technology demonstration at the Service and Supply Cooperative in Bellflower, MO, was highlighted during a recent open house. This demonstration is a completely new MAP suspension facility designed by TVA engineers. It is an excellent demonstration for dealers with MAP suspension programs. The latest in environmental techniques is being demonstrated at Bellflower. Visits to the site provide a great deal of information about techniques used to prevent environmental problems.

After containment, what is next? Many believe remediation will be—and perhaps already is—the major concern. There are technologies available for solving contaminated site and waste stream problems—including land disposal. Most current technologies are extremely expensive.

TVA is directing a great deal of research toward developing cost-effective remediation technologies to clean up sites and treat waste streams. They range from bioremediation to simple separation or more sophisticated physical/chemical technologies. Let's highlight TVA's approach in three areas.

Bioremediation: This could be an ideal route to destroy pesticide residues in soils.



CONSTRUCTED WETLANDS facility at TVA.

TVA is in the early stages of research to evaluate various microorganisms to break down pesticides and determine the optimum conditions needed to enhance bioremediation. TVA will investigate bioremediation in laboratories, in greenhouses, and at plant sites.

Solar Evaporation: TVA is investigating solar evaporation to concentrate pesticide-containing water. We have established testing and demonstration units in Washington and Idaho and at Utah State University to collect data and demonstrate the technology.

Constructed Wetlands: TVA is conducting research in its newly constructed wetlands facility to determine the potential for this technology in cleaning up nutrient and pesticide waste streams. The idea is to determine the capability of aquatic plants in a wetlands setting in cleaning up wastes from agricultural operations.

Lessons Shared

TVA joined public and private organizations recently in Kentucky to conduct a pesticide collection workshop. Potential problems and proposed solutions were discussed for publicizing and conducting

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pesticide collection (amnesty) days for farmers to bring their unused or outdated pesticides to a central point for handling and disposal.

Cooperators included EPA's Region IV officials, The Commonwealth of Kentucky Natural Resources and Environmental Protection Cabinet, and Agriculture Coalition for the Environment.

The workshop keyed on lessons learned at the Kentucky pesticide collection day. Topics covered included a review of regulations relating to pesticides; precollection events such as planning, liability, and publicity; and collection day events such as receiving, handling, safety, storage, and transportation. Officials from several states attended and were interested in developing similar programs.

Billy Joe Miles, a fertilizer industryman from Owensboro, KY, told the group that common sense is needed to get programs like this conducted. "We've just scratched the surface in getting farmers to bring in their chemicals," he said. Miles recommended that the next step is to develop exchange programs so that usable chemicals can be provided to other farmers. This would eliminate the need for incineration and provide chemicals others can use. Proceedings of the workshop are being published.

Pollution Prevention

TVA organized a session in Washington to explore the EPA/USDA agreement to enhance those agencies' pollution prevention efforts in the agricultural sector. TFI's staff and several fertilizer dealers participated in the September session.

The agricultural pollution prevention initiative specifically targets voluntary actions of growers, producers, processors, and suppliers of the agricultural sector. Dr. Harry Wells, EPA, and Dr. Barbara Osgood, USDA, provided an overview of their pollution prevention initiatives. A key focus of the session was for fertilizer dealers and other industry people to discuss the voluntary efforts they have under way to prevent pollution. TVA staff also discussed how research has been targeted to environmental protection and the work TVA does with the industry in pollution prevention.

Meetings such as this offer the opportunity to inform USDA and EPA of TVA's and industry's interest in environmental protection.

Educational/Training Presentation

TVA staff are intensively involved in developing and introducing improved management practices for use by fertilizer and ag chemical dealers. Emphasis is on environmental practices. Several video presentations are being produced and will soon be available.

- "Calibration of Anhydrous Applicators" (now available)
- "Environmentally Safe Handling of Fertilizers and Agrichemicals at the Grower Level" (will be available in English and Spanish)
- "Safe Transportation of Anhydrous Ammonia by Truck"

Proceedings from the February 1992 conference on "Designing Facilities for Pesticide and Fertilizer Containment" is now available—from TVA and Midwest Plan Service. TVA was a co-sponsor of the conference.

TVA Conference

The "Environmental Realities in the '90s" conference was held in August in St. Louis. Sessions were conducted on clean water and transportation legislation/regulation, FIFRA 88, and SARA Title III. Other sessions explored developing and operating an environmentally sound dealership. This included educational tools to help the dealer, financing issues, and building secondary containment systems.

Co-sponsors of the conference include The Fertilizer Institute, Agricultural Retailers Association, Potash & Phosphate Institute, National Agricultural Chemicals Association, and National AgriChemical Retailers Association. Proceedings of the meeting are available from TVA. ■