Livestock Waste Management Educational Program

Charles Linderman

Producer Workshops

A total of 271 persons, including 187 livestock producers, attended 12 livestock waste management workshops in January and February 2003. The workshops were held in Center, Wishek, Rhame, Napoleon, Raleigh, Towner, New Salem, Hettinger, Williston, Watford City, Killdeer, and Carrington. The one-day events covered environmental risk and manure management for animal feeding operations, structures for feedlot runoff control, environmental rules and regulations, manure nutrient management and land application, and environmental cost sharing programs for livestock producers. Besides the NDSU livestock waste management specialist, presenters were personnel from NRCS field and area offices and the North Dakota Department of Health.

According to surveys answered by producer participants, 66 percent of the animal feeding operations (AFOs) represented were in the small AFO size category, 28 percent were medium AFOs, and 6 percent were large AFOs defined as concentrated animal feeding operations or CAFOs by the new U.S. Environmental Protection Agency CAFO rules. Over one-half of the producers are soil testing and crediting manure nutrients to reduce fertilizer use. However, less than 10 percent are testing manure for nutrients and calibrating manure application equipment. Eighty six percent of the workshop participants graded the workshop A or B on a letter grading scale.

CNMP Curriculum

The term "comprehensive nutrient management plan" or CNMP has been used to include all the components of structures, operations, and management necessary to make an animal feeding operation environmentally sound. A regional EPA project resulted in a self-help curriculum to encourage livestock producers to assess their own feeding operations. The goal is to encourage voluntary compliance with environmental regulations by producers who will adopt technically sound, economically feasible, site specific CNMPs. Producers can go through the workbook at their own pace to determine how to minimize the impact of their AFO on water quality.

The CNMP self-help curriculum includes soil and water inventory, feed management, estimating the production of manure and manure nutrients and sizing manure storages, estimating outdoor feedlot runoff volumes and sizing storage structures, sampling soil and manure, planning to utilize manure nutrients for crop production, animal mortality management, record keeping, and complying with regulations.

Other Activities

At a Fly Ash and Composting Field Day at the Carrington Research Extension Center, principles of managed manure composting were discussed and a compost turning machine was demonstrated.

Compost turning machine demonstration.

Utilizing manure nutrients in crop production is increasingly emphasized as an environmentally and economically sound practice. Accordingly, manure sampling and testing was one area of emphasis in presentations to two feedlot schools at the Carrington Research Extension Center and NDSU. Manure sampling, determining proper manure application rates, and manure spreader calibration were the topics at a field demonstration in Dickey County sponsored by NDSU Extension and the Dickey and LaMoure County Soil Conservation Districts and 319 Watershed projects.

The livestock waste specialist spoke to a citizens' information meeting in Cando concerning large swine feeding facilities being built in Towner County. Information was presented on the design and operation of earthen manure storages, odor management, and estimating the crop land area needed to utilize manure nutrients.

A two-day workshop was held for professionals who work with producers in design and management of livestock waste systems and nutrient utilization. Thirty six attended the workshop which featured presenters from NDSU Extension, Natural Resources Conservation Service (NRCS), North Dakota Department of Health, North Dakota Agriculture Department, and the North Dakota Stockmen's Association. Dr. Larry Jacobson, livestock odor management expert from the University of Minnesota, presented the section on livestock odor problems.

Throughout the year, the livestock waste specialist continued to have a number of requests to make technical presentations and to make site visits to individual farms and livestock feeding operations.