

1974 - 75

Progress Report

WATER MANAGEMENT

The major emphasis in water management was directed to design of irrigation systems for land application of wastewater, and for irrigation of horticultural and nursery crops; educational materials for use by Extension agents and the consuming public; research on environmental modification of horticultural crops using sprinkler irrigation; trickle irrigation; and agricultural water requirements.

Most swine, poultry, and dairy farmers who are practicing terminal land application of waste waters are using sprinkler irrigation. Considerable time has been devoted to design of least cost, environmentally sound sprinkler irrigation systems for this purpose. Designs have been prepared for a variety of different types of systems with the ultimate goal being the preparation of educational materials to cover most of the wastewater situations that will be encountered in North Carolina.

A number of growers and North Carolina State University research personnel have been assisted in the design of irrigation systems for horticultural and nursery crops. This includes design of sprinkler irrigation systems for frost and freeze protection and crop cooling. Research continued on the use of sprinkler irrigation for frost and freeze protection of apples.

Trickle irrigation studies were continued on greenhouse grown crops and a mimeographed paper was prepared and distributed. In cooperation with the North Carolina Irrigation Society, an irrigation handbook was begun and it should be available for distribution sometime in late 1975.

The North Carolina Irrigation Conference has become an annual event due to industry and Extension Service attendance and participation. Proceedings of the Conference were sent to each county extension office and widely distributed in industry channels. The Sprinkler Irrigation Association Annual Technical Conference

was held in Atlanta, Georgia, in February and was chaired by the water management specialist. North Carolina was well represented with four speakers.

A study which was begun in 1971 to determine agricultural water requirements and maximum practical use of agricultural water was continued and will be completed in late 1975. This study is funded by the Office of Water Resources Research through the North Carolina Water Resources Research Institute and is co-chaired by a research staff member in the Department of Biological and Agricultural Engineering. The study was expanded to include some 35 counties in the Tar-Neuse River Basins. Results from this study will be used by a variety of state and federal agencies, plus private consultants.

The main thrust in drainage has been to prepare land-forming design for a number of producers. A computer program developed several years ago has been used for this activity.

The educational activities in water management have been expanded through the North Carolina Irrigation Society and the North Carolina Land Improvement Association. The water management specialist served as technical advisor to both of these organizations.