

**Agronomic Division — 1999 Annual Report**  
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*enhancing agricultural productivity and environmental quality*

During 1999, the Agronomic Division achieved the following milestones in its various capacities as a service, education, and research agency.

**SERVICE**

Agronomic specialists in each section of the division provide advice and recommendations, primarily with regard to efficient crop fertilization and effective nematode management. Within the field services section, regional agronomists are stationed throughout the state to provide on-site visits to growers; to troubleshoot crop growth problems; and to give advice on sampling, interpreting reports, and implementing nutrient management plans.

In fiscal year 1998–99, division laboratories processed more than 374,000 soil, nematode, plant tissue, waste, and solution samples. To help handle this heavy workload, the division filled two newly created Medical Laboratory Assistant positions and hired additional temporary personnel. A new Chemistry Technician III position, created to ease the workload burden, was lost to year-end state budget cuts before it was filled.

Upgrades in laboratory equipment continue to progress. The plant/waste/solution laboratory acquired a new Perkin Elmer 3300DV ICP (inductively coupled plasmaspectrometer) for more efficient analysis of essential elements and selected heavy metals in plant, waste, and solution samples. A new bulk argon tank, along with a monitoring and distribution system, was installed to help increase laboratory productivity and reduce “downtime” due to insufficient supplies of argon for all ICP units.

The waste analysis and soil testing laboratories continue to comply with environmental requirements mandated by Senate Bill 1217. Both labs operate under N.C. Department of Environment and Natural Resources' Division of Water Quality (DENR-DWQ) certification and, as such, are qualified to provide testing for animal waste permit compliance.

In cooperation with DENR's Solid Waste Section, regional agronomists monitored and sampled ashes from animal incineration sites in four counties following Hurricane Floyd. Samples were analyzed in the Plant/Waste/Solution laboratory. The resulting chemical data were forwarded to DENR to coordinate the final disposition of these materials.

New environmental regulations have increased workloads for regional agronomists. To help in this regard, Steve Dillon was hired to fill a new regional agronomist position covering Cleveland, Gaston, Henderson, Lincoln, McDowell, Polk, Rutherford, and Transylvania counties. There are now 14 regional agronomists serving North Carolina's 100 counties.

## **EDUCATION**

Agronomic division specialists and regional agronomists educate growers, homeowners, and agricultural professionals by providing advice and interpreting report recommendations. In fiscal year 1998–99, agronomic specialists consulted individually with more than 16,500 producers statewide. In addition, they conducted 43 tours of agronomic laboratory facilities for students, farmers, agricultural professionals, and 21 scientific visitors from out of state. Virtual tours of the division’s services are also available via the internet.

The division disseminates information about its services at farm shows, field days, and conferences, as well as through mass media and via the internet. Outreach this year included 28 news releases, 7 technical publications, and 21 informational displays. This fall, educational efforts focused on the effects of the flood on agriculture — including an exhibit on “Farming after the flood” developed for the Mid-Atlantic Farm Show, a fact sheet entitled “Flooded soils: tips to consider after the water subsides,” and four news releases addressing farmers’ concerns regarding the collection of agronomic samples after the hurricane.

Safeguarding environmental quality continues to be a top priority for the division. Regional agronomists helped growers develop and implement 94 animal waste management utilization plans. Agronomic personnel also continued to work with DENR’s Division of Water Quality to provide operator field training for waste water systems and biosolid management. This training is part of the state’s efforts to clean up our rivers and to more aggressively protect the environment.

## **RESEARCH**

Division agronomists and nematologists routinely conduct collaborative studies with university personnel and other specialists. In one case this year, the division provided summary data from anaerobic swine lagoon analyses to an environmental modeler with the Division of Water Quality. This information will be instrumental in estimating potential transport and “wasteload” within the Neuse, Tar-Pamlico, and Cape Fear river basins.

In fiscal year 1998-99, regional agronomists conducted a total of 120 demonstration projects in fields throughout the state. These projects were designed to optimize fertilizer rates, waste utilization, cotton tissue sampling, and use of organic amendments as nutrient sources.

In addition to these efforts, regional agronomists in the eastern half of the state began conducting a survey of selected field sites that were significantly affected by the flooding that accompanied Hurricane Floyd. This ongoing project involves using data obtained from soil samples to evaluate changes in chemical soil properties and nematode populations. The information will be useful in advising farmers about crop management strategies for the upcoming growing season.