

“WORKING TOGETHER FOR AGRICULTURE”
RESEARCH STATIONS ANNUAL REPORT
Activities for Calendar Year 2011



**North Carolina Department of Agriculture
and Consumer Services****“WORKING TOGETHER FOR AGRICULTURE”
RESEARCH STATIONS ANNUAL REPORT
Activities for Calendar Year 2011****Executive Summary**

Our state's economy directly benefits from research leading to increased farm income, productivity and employment opportunities. Agriculture and agribusiness continue to grow and diversify in North Carolina as a result of successful field studies at our research stations. During 2011, outreach efforts on the research stations included 325 events with 9,823 participants. Approximately 75 research scientists worked with technical staff on over 450 projects and provided training for 148 graduate students. These projects support over 70 commodities, related agribusinesses and life science industries. Partnerships with commodity-related groups continue to promote and support agricultural research, providing over \$4 million annually to agriculture related research conducted by N.C. State University (NCSU) researchers working at research stations. Additionally, of the \$67 million received for sponsored research at N.C. State's College of Agriculture and Life Sciences (CALs), approximately \$40 million has a direct impact on projects conducted on research stations or field laboratories. Enhanced working relationships, communications and strategic planning are improving resource utilization, management efficiency and the overall impact of our statewide agricultural research operations.

This annual report is provided as outlined in our 2009 Strategic Plan for North Carolina Agricultural Research Stations. The purpose is to highlight progress made toward goals identified in the plan.

Goal 1: Enhance Infrastructure for High-Quality Applied Agriculture Research**Facilities**

- An agroforestry alley cropping system utilizing loblolly pine with fescue hay, and a future silvopasture (cattle shade/pasture) site were established at Cherry Research Farm in Goldsboro. A second site is planned for 2012. Collaborators on this project include the Natural Resources Conservation Service (NRCS), N.C. A&T State University (NCA&TSU), NCSU and Cherry Research Farm.
- NCA&TSU hosted a training workshop at its University Farm in Greensboro focusing on how to build a small, inexpensive high tunnel. The high tunnel built during the workshop currently houses daylight-neutral strawberries.
- A Produce Food Safety Training Area has been established at the Horticulture Unit of the NCA&TSU University Farm, including a walk-in cooler and vegetable washing station.
- Spill Prevention, Control, and Countermeasure Plans have been completed and implemented at all NCSU owned research stations.
- State-wide research efforts are ongoing, in cooperation with the Biofuels Center of North Carolina, to develop bioenergy grasses and related production and bioprocessing systems to better serve North Carolina's long-term energy needs.
- Construction of a biodiesel pilot plant began at the Biofuels Center of N.C. This facility will allow for expansion of biofuels research and was funded by a \$52,000 grant from the Biofuels Center with additional funding provided by NCSU. Additionally, the Biofuels Center completed a strategic plan, focusing on efforts to develop infrastructure at the Oxford Tobacco Research Station.
- A master plan for approximately 100 acres at the Mountain Horticultural Crops Research Station, Mills River, was developed to best direct development of research fields, roads, irrigation systems, etc.

Staffing

- Eddie Pitzer, Research Stations division director, retired August 31. Debbie Robertson was named as interim division director in September. Dr. Sandy Stewart began as division director on December 19. Before joining the division, Dr. Stewart served as a research assistant professor and extension specialist in the Crop Science Department at NCSU, and has an extensive background in agronomic production research conducted on research stations in a number of different states.
- Input from both NCDA&CS and NCSU is provided for consideration in personnel evaluations. Additionally, superintendents of NCSU stations are evaluated jointly by NCSU and NCDA&CS administration. This process has received positive feedback from both superintendents and administration.
- Two NCDA&CS Research Stations Division employees have completed, and five others are currently enrolled, in the “Managing Effective Performance (MEP) Program” offered by the Office of State Personnel. The MEP Program provides middle managers with strategies to effectively carry out the leadership aspects of the management role.
- Three employees at Upper Piedmont Research Station in Reidsville attended and completed a cattle artificial insemination program.
- A member of the NCDA&CS Research Stations Division management team is in the process of becoming a Certified Public Manager. This process includes a major project, which will be centered on a Research Station’s area of concern to further strengthen strategic planning for the stations.

Goal 2: Ensure Efficient Research Station and Farm Management

Research Project Tracking

Research projects continue to be initiated through the Land Resource Request System or the Animal Resource Request System, and require approval by the superintendent, department head, division head, and college administration. Changes continue to be made to increase efficiency of the current land use request system and to increase prior planning relating to resource use. The on-line land use request system has been revised such that research station personnel and faculty project leaders must have planning discussions prior to submitting requests for land and resources relating to a project. These changes allow summaries of projects and objectives for enhanced management and planning across all research stations.



2011 Research Stations Project Summary

- NCSU and NCA&TSU Faculty Conducting Research on N.C. Research Stations– **75**
- U.S.D.A. Researchers Conducting Research on N.C. Research Stations - **9**
- NCSU Research Projects – **460**
- NCA&TSU Research Project – **16**
- Graduate Students conducting research on research stations – **476**
 - Animal Science 17
 - Crop Science 52
 - Entomology 20
 - Horticultural Science 25
 - Plant Pathology 17
 - Soil Science 13
 - Poultry Science 4

Total Students 148

(A 15% increase in the number of graduate students conducting research this past year.)

Research Highlights

N.C. State University

- New nursery crops have been developed that enhance the competitiveness and profitability of our \$890 million “green” industry, including new cultivars of maiden grass, dogwood, butterfly bush, redbud, hydrangea and flowering quince.
- Research at Cunningham (Kinston) and Piedmont (Salisbury) research stations has allowed 25 small-grain breeders in 15 states to improve average resistance to the common fungal pathogen *Stagonospora nodorum* in the elite wheat germplasm of the eastern U.S. for the past five years. Other studies at these stations have shown thousands of producers and crop advisors the value of integrating variety resistance and timely fungicide application for control of the potentially devastating fungal disease *Fusarium head blight*.
- Over 8,000 research plots were implemented to develop tobacco varieties that will have higher yield and quality, new technology, reduced-harm tobacco technologies, disease resistance traits and other characteristics that affect the economy of tobacco production in North Carolina. Tobacco remains vital to our state’s economy and generating \$589 million in cash receipts in 2010.
- All peanut varieties released by NCSU over the past 50 years have been developed by faculty working on research stations. N.C. State peanut variety releases have occupied the majority (roughly 70%) of peanut acreage in the Virginia-Carolina production area, which includes Virginia, North Carolina and South Carolina, for the past several years. The use of North Carolina-developed peanut varieties has been critical to this \$58 million industry.
- Early research at NCSU on the use of drip irrigation for pesticide delivery has demonstrated that this application technique is an effective alternative to sprays for controlling many insect and weed pests of vegetable crops. Drip irrigation for delivery of insecticides and herbicides represents a dramatic reduction in risks to farm workers, the environment and non-target organisms.
- The horn fly is a persistent pest of cattle on pastures throughout the United States. Management of these insects using traditional control strategies frequently fails because of insecticide resistance. NCSU scientists working at the Cherry Research Farm developed and evaluated an experimental walk-through fly-trap to reduce horn fly populations to below economic threshold levels at a cost of about 6 cents per day per herd. This technology provides needed fly relief for the organic dairy market in the southern region and reduces pesticide use for conventional dairy systems.
- NCSU scientists have developed programs for managing Palmer amaranth, most of which is resistant to commonly used agronomic herbicides, in sweetpotatoes. Much of this research was conducted on research stations located in eastern North Carolina. Over 70% of sweetpotato growers have adopted the use of this program. North Carolina ranks first in the nation in sweetpotato production, with almost 1 billion pounds grown in 2010.
- In 2010, NCSU released 19 plant varieties, including corn, oats, ornamentals, peanuts, switchgrass, tomatoes and wheat. Many of these varieties were tested prior to release at one or more of the research stations.



- Research is continuing to develop broccoli varieties suited to growing in the southeastern United States. The effort is supported by a \$3.2 million grant from the USDA, with an additional \$1.7 million in matching contributions from private-sector companies. In collaboration with five other universities and 11 companies, the project is looking for ways to grow a \$100 million broccoli industry on the East Coast. Varieties are being tested at the Mountain Research Station in Waynesville to see which varieties do well enough to be recommended to growers.

- The N.C. Layer Performance and Management Test has been on-going since 1958 in cooperation with NCDA&CS and the Primary Breeders of Commercial Egg Strains. The initial purpose of the test was to provide strain evaluations in a common environment to N.C. producers. However, in recent years it has given the industry an avenue with which to examine common problems they may experience with the environment and management of the strains of leghorns available. This test is the only one of its type remaining in North and South American and one of only five worldwide.
- Chemoprevention of ovarian cancer research is being conducted at the NCSU main campus and the Piedmont Research Station by Drs. Mozdziak, Petite and Anderson, Department of Poultry Science, NCSU. Each year in the U.S. 27,000 to 28,000 women are diagnosed with ovarian cancer and over 16,000 will die. The chicken has been shown to be a viable model for research due to their high rate of naturally occurring ovarian cancer. The epithelial cells of chicken ovaries are similar to those in humans and appear to respond to progesterone the same as humans.

N.C. A&T State University

- A 20-acre small ruminant site at Upper Piedmont Research Station was developed to support new research and outreach efforts involving goats and sheep. Faculty members from NCA&TSU will continue to use the site. University research on goat parasites is aiding the fastest-growing livestock industry in North Carolina.
- At the NCA&TSU University Farm, a small potato variety trial was conducted to evaluate/demonstrate growth, pest control and yield of three varieties on black plastic.
- Evaluation of yield and disease pressure of grafted tomatoes versus non-grafted tomatoes under high tunnel conditions is being conducted at the NCA&TSU University Farm. Additionally, applied research/demonstration of late blight disease in 17 different varieties of tomatoes is being conducted at the farm with partial external funding.
- Five varieties of bell peppers were planted on black plastic. These peppers were either trellised or not trellised in order to observe the effectiveness against sun scalding. North Carolina ranks fourth in the country in the fresh market and processing of bell peppers, generating over \$30 million in cash receipts.
- NCA&TSU researchers are evaluating day-neutral strawberries planted on bare ground or on fabric, and fertilized with fish emulsion or side-dressed with organic fertilizer.
- A preliminary evaluation of sorrel as an alternative crop and its adaptability to the region is being evaluated.
- Researchers in animal science are evaluating enzymes mixed with an experimental hog feed to aid digestion. These findings could result in better feed and healthier animals for the benefit of our \$2.2 billion hog industry.
- Swine research includes:
 1. Studies investigating the feasibility of using alternative feedstuffs to improve gut health and reduce need for antibiotics in growing pigs.
 2. Studies investigating breeds best suited for outdoor pork production systems and resulting carcass traits in North Carolina (joint effort with Center for Environmental Farming Systems - CEFS).
 3. Studies to enhance intestinal immunity of pigs with pre & probiotics to improve gut health and reduce need for antibiotics (joint effort with the Center of Excellence for Post Harvest Technology – CEPHT).
 4. Studies investigating effect of in-door vs. outdoors rearing system on respiratory health of pigs.
- Research in goats and cattle include:
 1. Studies investigating the role of genetic diversity of small ruminants (meat goats and hair sheep) and its role in natural infestation of internal parasites.
 2. Studies utilizing biotechnology tools to decipher gene expression patterns in defense against bovine mastitis.
 3. Strategies to reduce methane (greenhouse) gas emission from dairy cattle (Joint effort with the Dairy Unit of the Upper Piedmont Research Station).
- Poultry research includes studies investigating the beneficial effect of mushroom extract in reducing harmful gut bacteria (*Salmonella* sp. and *Campylobacter jejuni*), antibiotic needs and its resulting growth performance and carcass traits of broilers.



Resource Utilization

- Under the leadership of a receipt-supported forester position within the NCDA&CS Research Stations Division, the development of a comprehensive management plan for forestry resources on all properties is 75% complete. This management plan includes individual plans for each property as well as a harvesting schedule that incorporates almost 11,000 acres on all properties within the research station system. All data collection for this management plan has been completed. This 30-year plan will help best manage timber resources on all research station properties.
- At the Mountain Research Station, the Mountain Organic Research and Extension Unit has been developed as an area dedicated to organic production systems. This site is currently working on organic certification to begin trials and projects in the near future.
- Mountain Horticultural Crops (Mills River) and Horticultural Crops (Castle Hayne) research stations removed old underground petroleum storage tanks and replaced them with safe, above ground, double-walled tanks. Environmental Water Quality assessed and monitored these projects.
- Cunningham and Lower Coastal Plain research stations, located in Kinston, removed unused underground petroleum storage tanks and removed contaminated soil that was the result of an old spill.
- At the NCA&TSU University Farm, small ruminant pastures have been split for demonstration/applied research involving rotational grazing or forage testing for parasite control and new pasture swine paddocks are planned as part of an externally funded capacity building project.
- New agroforestry demonstration sites were established at the NCA&TSU University Farm in silvopasture (for livestock in cutover timber areas with black locus, green ash and moringa planted) and alley cropping (pecan trees with moringa and pigeon peas planted in the alleys.)
- At the Upper Piedmont Research Station, a 2.5 acre vineyard was recently planted that will be used to study muscadine grape varieties and their performance. Farmers will use results to assess opportunities to diversify their farms.
- Upper Piedmont Research Station provided the use of historic log barns from Chinqua-Penn Plantation to farmers selling at the Rockingham County Farmers' Market from May through October. The site includes a walk-in cooler for use by those selling meat products at the site.
- During 2011, research stations shared a variety of resources including: 40,000 bushels of corn and 885 bales of hay to support livestock operations; grew 40,000 tobacco plants and 180,000 sweetpotato plants for projects at other locations; and provided 1,305 man-hours to assist with research projects at other locations. Additionally, trucks and trailers were used to transport feed, plants, livestock and equipment which was necessary for plot preparation, planting, maintenance and harvesting.
- Plans continue for utilizing research station facilities in Kinston for developing the new NCSU AMPLIFY (Agrosphere Modeling for Producing Large Increases in Food Yield) Research Program.
- The Upper Piedmont Research Station sale barn was used for an externally funded applied collaborative research project involving Upper Mountain Research Station in Laurel Springs, which provided goats, and NCA&TSU.
- A goat artificial insemination study comparing synchronization schemes was conducted at Upper Mountain Research Station as a collaborative project with station staff (Piedmont Research Station) and NCA&TSU and NCSU faculty.



- Through the Small Farm Unit Volunteer/Community Mentor Program at Cherry Research Farm, four to six volunteers from Wayne and Wake counties spent one morning a week at the station engaged in production and harvesting activities.
- Low-growth grass plots at the Upper Piedmont Research Station are being used for demonstration and study with the N.C. Department of Transportation. Grasses that can be planted in medians or along roads that do not grow fast will save taxpayers money by reducing DOT labor costs.
- Organic crop research has been expanded at Caswell Research Station, Cherry Research Farm and Mountain Research Station using funds from a \$1.2 million U.S.D.A. grant. Corn, peanut, soybean and wheat varieties are being adapted so they can be grown organically.

- The Tidewater Research Station has enhanced its swine research program by changing to pigs with identified genetic defects. The shift in herd composition will allow the evaluation of congenital defects as part of an ongoing project between NCSU and the University of Rochester.
- Plans are continuing for the Northeast Region High School of Biotechnology and Agriscience, located at the Vernon James Center/Tidewater Research Station in Plymouth. The school will follow an early-college high-school model; students will attend the school for five years and receive a four-year high school diploma and finish two years of post-secondary or higher-education work through N.C. State University. This school will include youth from Washington, Beaufort, Tyrell, Martin and Pitt counties. The expected start date for the school is August 2012.

2011 External Funding

- In 2010-2011, the College of Agriculture and Life Sciences at NCSU received \$67 million in research awards which has increased approximately 30% over the last three years. A strong research station system is critical to support current research and future growth of research conducted by NCSU faculty.
- On November 16, the Nickels for Know-How voluntary assessment on feed and fertilizer produced and purchased in North Carolina passed with 96% of the vote. This 60-year-old program raises about \$1.2 million annually, and most of the state's research-based agricultural advances have, at some point, utilized Nickels funds. This money is collected and deposited with the N.C. Agricultural Foundation Inc., which uses a portion of these funds to support research activities at NCSU. *Source: Nickels for Know-How 2011 Brochure*
- N.C. commodity groups provided over \$4 million in support of research projects by NCSU faculty. Much of this research was conducted on research stations and grower farms across North Carolina. About \$40 million in sponsored research through the NCSU CALS has immediate or future impacts on the projects on research stations or field laboratories.
- Through a \$200,000 grant from Golden LEAF Foundation, The N.C. Strawberry Project has established a dynamic partnership between N.C. State University and Johnson & Wales University. The Piedmont Research Station is being used to breed strawberries that are adapted specifically to the state's climatic conditions and market demands. One of the goals of this program is to increase the economic value of N.C. strawberries, which produced cash receipts of \$24 million in 2010, by 25 percent.
- The NCSU IR-4 Field Research Center received approximately \$150,000 to conduct 23 pesticide trials and six crop response/performance trials. Trials involved 15 different minor crops and 14 different pest control agents. In addition, 13 performance/efficiency trials were conducted on various crops. This work will result in new registrations and reregistrations in vegetable and fruit crops for NC growers.



Goal 3: Enhance Working Relationships and Communication

- Over 100 NCSU graduate students were trained in agriculture-related fields and will become scientists and employees in the agricultural industry. These future agriculture and agribusiness leaders have first-hand knowledge of how important research stations are to North Carolina.
- An applied research and agricultural field staff training project was conducted on parasite resistance in beef cattle as part of an externally funded research grant. This was a collaborative effort among Upper Piedmont Research Station and NCA&TSU and NCSU faculty.



- The 2011 North Carolina Agribusiness Council's N.C. Ag Leaders Forum included the topic of the importance and role of research stations in the future of agribusiness. The panel included leadership from the N.C. Research Campus, NCSU, NCA&TSU and NCDA&CS. This venue allowed for the partners to communicate with agriculture and agribusiness leaders across North Carolina the value and importance of research, and the economic value of new varieties and cultivars developed and tested through this unique partnership.

- In September, N.C. A&T State University welcomed Dr. William “Bill” Randle as dean of the School of Agriculture and Environmental Sciences. In addition to experience as an instructor and administrator, Dean Randle’s curriculum vitae includes agricultural research with a focus on Vidalia onions at the University of Georgia, and the development of the “Beauregard” variety of sweetpotatoes at Louisiana State University. He also served as director of variety development for Basic American Foods, a food processing company that is among the world’s leading suppliers of dried potato and bean products. We are most appreciative of Dr. Donald McDowell for his service as interim dean, and look forward to working with Dean Randle to continue to strengthen agricultural research in our state.
- Alternative swine research was externally funded and conducted at Cherry Research Farm with NCSU and NCA&TSU faculty collaborations. This project provides opportunities for researchers to develop and demonstrate methods for production that optimize productivity and animal welfare, while minimizing environmental impacts.
- During the 2011 N.C. State Fair, research station employees manned a display at the “Cultivate A Career” exhibit to highlight agricultural research as a viable career option.
- NCA&TSU faculty and staff conducted nutrient management in high tunnel and fall tomato production research at the Small Farm Unit using funds from a competitive NCDA&CS grant at Cherry Research Farm.
- The sale barn area at Upper Piedmont Research Station hosts the N.C. Research Station-owned cattle sale, allowing for animals from the stations with cattle and the NCA&TSU University Farm to be available to producers at a single site. The sale is quite popular and allows farmers to purchase animals of different bloodlines than they would normally be able to find and afford.
- On December 14, UNC System President Tom Ross and N.C. State University Chancellor Randy Woodson visited Cunningham Research Station, providing an opportunity to highlight the partnership between our land-grant universities and NCDA&CS in agricultural research.
- Meetings of administrative representatives (NCSU and NCDA&CS) on budget matters continue to be held on a regular basis. Additional input from superintendents and faculty have occurred via meetings, telephone calls and email.

Goal 4: Strengthen Outreach, Extension and Education

- The Piedmont Research Station began a cooperative training program with two Rowan County high schools. Students enrolled in the agriculture program are given the opportunity to visit the station to participate in a short educational training session taught by an NCSU faculty member working on-site. After the training session, students apply these skills by working on the station. These students receive payment for the time worked through a cooperative effort. Training in 2011 focused on strawberry production and was provided by Dr. Jeremy Pattison.



- The Piedmont Research Station personnel are working with vocational agriculture teachers in Rowan County to provide an update on current agricultural practices. The teachers provided a list of areas they would like to learn more about. On a regular basis, a topic is selected from the list and station staff and faculty provide a short educational talk and discussion session. This allows the teachers to provide the most up-to-date information regarding agricultural practices to their students.
- In June, Commissioner Troxler hosted members of the Southern Association of State Departments of Agriculture at Upper Mountain Research Station and Tidewater Research Station. Attendees had the opportunity to learn about the diverse growing environments available to conduct projects and the vast array of opportunities in North Carolina agriculture being addressed by research stations.
- Beginning in October, the NCA&TSU University Farm is hosting three workshops for small-scale farmers and vegetable growers during the 2011-12 academic year that will be led by members of the Agricultural Research Program faculty. These workshops are designed especially for small-scale vegetable or livestock enterprises that are just getting started, as well as community gardeners, or home vegetable gardeners who want to improve production. Workshops in the series include “Record Keeping for Small Growers,” “Tools of the Trade,” and “Improve Your Soil with Cover Crops.”

- Research is conducted annually on research stations to develop appropriate strategies to manage herbicide resistant and other problematic weeds often found in corn, cotton, peanut, soybean, tobacco, vegetable and wheat production systems. These experiments include both short and long-term approaches that incorporate herbicides, tillage, and rotations as factors influencing weed management. Current Cooperative Extension Service recommendations are based on findings from trials by NCSU at research stations and on grower farms across North Carolina.
- A Small Ruminant Demonstration Site Open House was conducted on November 7, at Upper Piedmont Research Station and included a tour of facilities, educational programming and research-results presentations. Forty-one people participated in this event.
- At Upper Mountain Research Station, a demonstration of artificial insemination was conducted during a project. There were seven participants, including Cooperative Extension Service and station staff, NCA&T extension associates and faculty, and an NCSU student.
- At Cherry Research Farm, an internship program was conducted in collaboration with Wayne Community College. Five students from Wayne Community College spent 48 hours over six weeks involved in the actual functions of the Small Farm Unit, learning alternative, sustainable agriculture production and marketing.
- More than 4,000 children and adult chaperones have participated in Discover Agriculture, a program for children in their first four years of elementary school that gives them lessons in agricultural sciences and environmental studies during visits to a series of learning stations at the NCA&TSU University Farm and at the Center for Environmental Farming Systems, which is located at the Cherry Research Farm.
- Through the Shiitake Mushroom Workshop sponsored by N.C. A&T State University, 55 growers learned how to prepare wood, drill holes and install spores. New research at the farm is focusing on indoor fruiting houses that will allow for year-round production of shiitake mushrooms.
- NCA&TSU hosted Small Farm Week, which showcased lettuce variety trials and taste testing and included educational programming about sequential planting for a longer harvesting period. Additionally, Small Farm Field Day highlighted alternative crops, intercropping, alley cropping, crawfish and rice production, cover crops and heirloom tomato production. At Fall Field Day, participants learned about Asian greens, hibiscus production (as a medicinal plant for local markets), cover crops and fall tomato production in high tunnels.
- Cooperative Extension Program staff trained 69 Natural Resource Conservation Service staff in high tunnel vegetable production at the NCA&TSU University Farm Horticulture Unit.
- Eighty livestock farmers from Alabama and Tennessee visited the NCA&TSU University Farm through a tour organized through Alabama Cooperative Extension Service and Tennessee State University.
- The Upper Piedmont Research Station maintains the Chinqua-Penn education and nature trail with assistance from non-profit nature-based organizations. The trail is used for recreation, education and community involvement. The trail has been used for fundraising walks for the MS Society and the local Hospice chapter.



- Tobacco from Oxford Tobacco Research Station was used in demonstrations at the N.C. State Fair to educate attendees on how brightleaf tobacco is grown, harvested and cured.
- On August 17, the Horticultural Crops Research Station in Clinton hosted participants of the 2011 Annual Meeting of the Potato Association of America to showcase research being conducted at the station that will benefit our potato industry. Sweetpotatoes and white potatoes generate more than \$200 million of cash receipts in N.C.

- On September 8, legislative staff from the N.C. General Assembly visited Mountain Horticultural Crops Research Station to learn more about activities being conducted at that location and the importance of agricultural research.
- The research stations supported a variety of organizations through the year by providing gleaning of excess commodities. The largest recipient of commodities was the Society of St. Andrews. Local organizations such as soup kitchens, Correction Enterprises and local ministries also received commodities. Approximately 157,391 lbs of horticultural crops were donated in 2011.



Research Station Outreach

To expand outreach programs, the Research Stations Division developed and launched an on-line event report to allow tracking and evaluation of station events. These events are a collaboration between NCSU, NCA&TSU, and NCDA&CS, and their employees. In 2011 there were 325 events attended by 9,823 individuals. The table below provides a breakdown of the attendance and events conducted at the research stations and the University Research Farm.

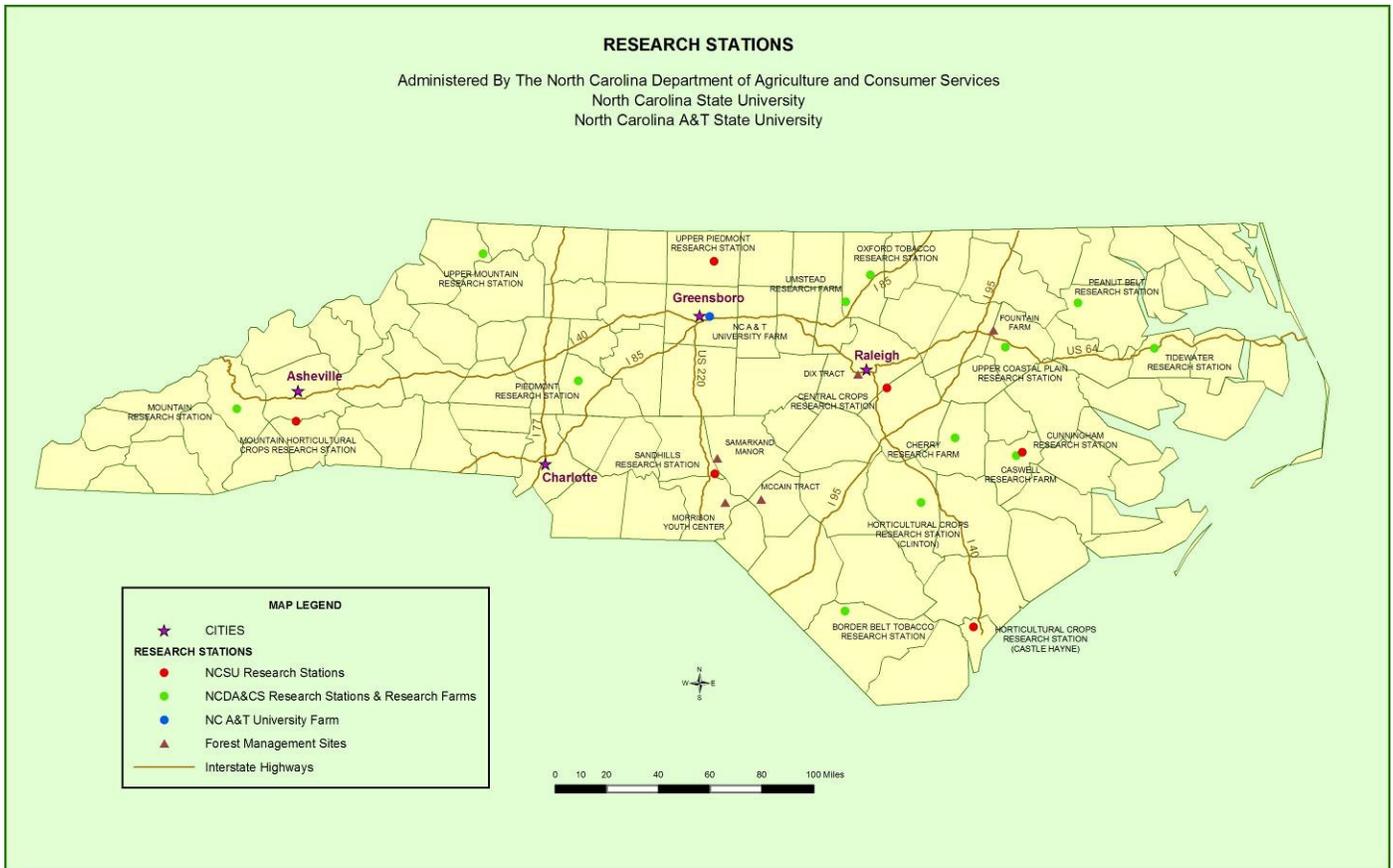
Event Type	No. of Events	No. of Participants	% of Participants per Event
Field Days	10	1191	12%
Workshops/Training	43	1,605	16%
Education	94	1,792	18%
Research Station Tours	99	1,975	20%
Youth Involvement	60	2,126	22%
Other*	19	1,134	12%

**Events and meetings related to station activities that included an opportunity to share information*

Educational Work Opportunities

The research stations frequently hire temporary employees throughout the year specifically during harvesting season to ensure that projects are completed in a timely manner. Many of these employees are students from local high schools, community colleges or universities. The students receive hands-on experience, not only in agriculture, but in implementation, management and collection of data for research projects. From January-December 2011, the Research Stations employed and trained 17 high-school and college students.





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