SOLUTIONS
for NORTH CAROLINA
The Cooperative Extension Program at N.C. A&T continues as a powerful resource for helping North Carolinians improve their lives. Even in our age of advanced technology, A&T Extension remains personal and high touch, showing up on the doorsteps of your community centers, homes, churches and schools. We’re at your farms and your gardens, planting ideas as well as seeds.

Extension is not only outstanding in the field; Extension opens doors. In this issue of Solutions for North Carolina, our annual report, we document the successes of some of our core programs and highlight the ways they have opened doors for our citizens.

You’ll meet a young Scotland County mother who has improved her parenting skills by participating in one of A&T Extension’s signature programs, Parenting Matters.

From assisting a young farmer in Orange County to grow food for direct sale in the local market to helping a young couple in Watauga County better market and diversify their farm, our outreach is helping people realize their personal goals as they also benefit their local communities.

In an urban area of Forsyth County, growers are being trained by Extension to acquire job skills in farming, but are also using those skills as an outreach to lessen food insecurity by feeding neighbors in need. You’ll learn of one grower’s specific impact in this edition.

After participating in an Extension-led healthy eating and physical activity program in Greene County, women are experiencing improved health, particularly a participant who has lost more than 20 pounds and continues to reach new goals for nutrition and physical activity.

The outreach of A&T Extension is expansive enough to accommodate youth and seniors, as demonstrated by two stories at opposite ends of our spectrum. A 66-year-old Robeson County farmer is increasing his income through a high tunnel growing system financed by a grant that Extension helped him compete for and win. And we’ve also helped equip a teenage mother in Guilford County to prepare and consume more nutritious food after participating in an Extension-led nutrition education program.

These stories are told through the lens of individuals, but the impact that Extension has on communities is extensive. The scope and breadth of our programs and our involvement in citizens’ lives reflects our mission as an 1890 land-grant university: to help North Carolinians improve their lives. From my perspective, there is no organization better suited or more successful than Cooperative Extension at providing a range of programs.
and outreach that include leadership, environmental stewardship, natural resource management, life skills and parenting, youth development, chronic-disease prevention strategies, workforce and economic development, and more.

Since Extension formally organized in 1914 to help farmers and homemakers become more successful, we have been working with North Carolinians to open the doors of opportunity. Walk through them with us to find new solutions and a brighter future.

**Dr. Rosalind Dale, Administrator**
The Cooperative Extension Program
North Carolina Agricultural and Technical State University

“Extension is not only outstanding in the field; Extension opens doors.”
SOLUTIONS for NORTH CAROLINA

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LAURINBURG — When Paula Kay McPherson lost her temper with her children, she used to be quick to yell and punish them with spankings.

“I’d get upset and just blow,” she says. “I’d go to hollering, to the point where the kids would just start crying.

“All communication would shut down.”

In 2014, as their relationship was ending, McPherson and her then-boyfriend disagreed about how to co-parent their child. A social services worker recommended that McPherson take the Parenting Matters classes taught by Sharon English, family and consumer sciences agent for North Carolina Cooperative Extension in Scotland County. McPherson agreed to attend.

Parenting Matters helps keep families together and helps reunite families when parents have lost custody of their children. Research suggests that a loving relationship with parents can have long-term health benefits for children and ultimately for society. In addition to the benefits provided to these families, the classes help reduce the need
for foster care, which in Scotland County costs taxpayers at least $475 per child, per month.

The eight-session program helped McPherson become a better, more patient parent. She and the other participants shared stories and helped one another. She learned a number of lessons, but the turning point for her came in the third of the eight classes.

That particular class focused on the idea that parents must take care of themselves as well as their children. English reminded the participants of the message airlines tell passengers before takeoff: If there’s an emergency and oxygen masks drop from the plane’s ceiling, put a mask on yourself before you put a mask on your child.

There’s wisdom in this advice, and it applies on the ground, too. “You can’t take care of your kids until you take care of yourself,” McPherson says. “I can’t take care of them if I’m not the best me I can be.”

Since participating in Parenting Matters, McPherson has learned to take better care of herself. As a result, she takes better care of her children, who now number four, ranging in age from 10 months to 7.

Recognizing that she has trouble controlling her temper, McPherson learned through Parenting Matters how to walk away from frustrating situations before they escalate. She also strengthened her support system, rebuilding bridges that had been burned. She’s now quicker to reach out to family and friends when she needs help.

English covers a wide range of topics in Parenting Matters, including how to understand children’s behavior and be a positive role model. There were small lessons also. McPherson no longer allows her children to have sugary snacks in the evenings, a change that has helped bedtimes go more smoothly.

English was impressed with McPherson’s approach to the classes. “She really applied what she learned,” English says. “She was determined to make any changes necessary to make her family stronger.”

McPherson learned more about different styles of parenting. On the spectrum of permissive to extremely strict, she worked to become a more moderate parent, somewhere in the middle. She now disciplines her older children by putting them in time out or temporarily taking away privileges, like their electronic tablets, rather than spanking.

Rather than yelling, she now has conversations with her children. The result is a closer, healthier family. “They’re not scared of me like they were when I was hollering at them,” she says. “They’re not afraid of me anymore.”

“I can’t take care of your kids until you take care of yourself,” Paula Kay McPherson says. “I can’t take care of them if I’m not the best me I can be.”
ZIONVILLE — Life on a small, diversified farm is an adventure. Against the Grain Farm, owned by married couple Holly Whitesides and Andy Bryant, is no exception.

“You’ll never know if the farm can make it unless you really give it everything you’ve got,” Bryant says. “That’s what we’re in the process of doing.”

The North Carolina Cooperative Extension in Watauga County has provided invaluable assistance to Whitesides and Bryant in their quest to grow nutritious food for their community. In addition to being fresher, their sustainably grown food supports the local economy and reduces the food system’s carbon footprint.

Agriculture and Natural Resources Agent Richard Boylan has helped the farmers refine soil management, crop diversification and marketing strategies. The couple received additional training from Boylan and Extension on profitability analysis, soil fertility, cover cropping and using organic integrated pest management practices.

Organic farmers improve yield

Holly Whitesides works with her husband, Andy Bryant, to provide fresh, local produce to their community.
“Richard and everybody over there at Extension has been an excellent partner with resources and information,” Andy Bryant says. “It’s who we call if we want a second opinion or if we’re totally stumped. I can’t say enough good things.”

When the couple bought 20 acres in 2013, the soil lacked essential nutrients, which had been extracted by previous farming. “When they took possession of the land, the issues that faced them were soil loss and lower fertility and organic matter,” Boylan says.

The farm, with about 2.5 acres under cultivation, has successfully integrated crop and livestock production to improve land management and fertility. Whitesides and Bryant raise pastured turkeys, chickens and goats, grazing them rotationally on lands improved by Extension management recommendations. Composting and reduced tilling have dramatically improved the soil.

“Richard has really helped advise us on what crops to plant and timing and disease issues – like the leaf mold we’ve had in the past,” Whitesides says.

On a recent visit, Boylan offered suggestions for dealing with the blossom-end rot damaging some of the farm’s squash and the powdery mildew threatening the 6-foot-tall sugar-snap pea plants.

Extension has supported the cultivation of new crops, too. Boylan recommended that the farm grow day-neutral strawberries, which produce berries continuously from late spring until early fall. Other varieties of strawberries produce separate harvests during the growing season. As a result, Against the Grain has strawberries when other local farms don’t. “He really helped us figure out what variety to plant and when to plant them,” Whitesides says.

The strawberries have been a hit at the farmers market in nearby Boone and a popular addition to the farm’s Community Supported Agriculture (CSA) boxes. In fact, strawberries have become the farm’s highest grossing crop.

Boylan also helped design the south-facing, lean-to greenhouse that was built on the farm earlier this year to help stagger production. In previous years, the farm had to rent greenhouse space elsewhere, costing precious time for travel as well as money.

Whitesides and Bryant appreciate all the assistance provided by Extension.

“Richard and everybody over there at Extension has been an excellent partner with resources and information,” Bryant says. “It’s who we call if we want a second opinion or if we’re totally stumped. I can’t say enough good things.”
SNOW HILL — It wasn’t magic that enabled Gladis Hernandez to lose 23 pounds in eight weeks. The weight vanished as a result of many healthy choices by the mother of three, including major changes to her diet and a dramatic increase in physical activity.

Hernandez provided the desire and willpower to change. The information and encouragement she needed came from nutrition classes offered through North Carolina Cooperative Extension in Greene County.

Struggles with extra weight are common. In North Carolina, 35.9 percent of adults are overweight and 29.7 percent are obese, according to 2015 statistics from the federal Centers for Disease Control and Prevention. There are other troubling weight-related numbers for the state’s adults:
• 42.3 percent report eating fruit less than once a day.
• 22.4 percent report eating vegetables less than once a day.
• 51.4 percent engaged in less than 150 minutes of moderate-intensity physical activity per week.

Obesity has been linked with preventable chronic diseases such as heart disease, stroke, Type 2 diabetes and some cancers. Among the nation’s adults, the medical costs associated with obesity are estimated to be almost $150 billion.

Shelina Bonner, Extension family and consumer sciences agent, taught the participants in an English as a Second Language class health lessons and healthy recipes. She used materials disseminated through N.C. A&T’s Try Healthy program, including Eat Smart, Live Strong and other resources from the U.S. Department of Agriculture.

Bonner taught participants how to cook a healthier quesadilla with chicken, peppers and onion. She and the students prepared stir fries, fruit salads, parfaits and pasta salads.

At Bonner’s urging, Hernandez cut out the three or four sodas she drank a day and increased the amount of water she drinks. She reduced the number of fried tortillas she eats and substituted chicken for red meat. She also increased the amount of fresh fruit and vegetables in her diet.

In addition to eating better, Hernandez became more physically active, starting with chair exercises taught in class, and walks around a track with her classmates at lunchtime. She added another hour of walking at home in the evenings, sometimes including her 13-year-old daughter, Jasmin.

Jasmin, who translated for her mother during a recent interview, remembers one night when they raced. “She beat me and I was dying!” Jasmin says.

Hernandez also added stationary-bike riding and weight lifting to her exercise program. She worked her way up to riding the stationary bike for 20 to 30 minutes. With weights, she started out curling 5-pound dumbbells and gradually increased the weight to 20 pounds.

Hernandez became a role model for the other students, impressing her teacher in the process.

“She beat me (walking) and I was dying!” 13-year-old Jasmin says, recounting a race with her mother.
ROWLAND — Lee Goodman, the 66-year-old owner of Earthland Farm, is always looking for a competitive advantage. Making a profit selling locally grown vegetables in Robeson County is tough during the summer, the third-generation farmer says. Competition from the county’s professional farmers and amateur gardeners is fierce. “Everybody’s got a little back-door garden,” he says.

Nelson Brownlee, an area farm management agent for North Carolina Cooperative Extension in Robeson County, helped open the door to a new opportunity for Earthland Farm by sharing information about high tunnels, hooplike frames covered in plastic. By trapping heat, high tunnels extend the growing season into cooler months.

The potential for high tunnels to generate additional revenue is a simple matter of supply and demand: Consumers will pay more for vegetables out of season when they’re harder to come by.

At Brownlee’s suggestion, Goodman attended a workshop in summer 2015 designed to link small farmers with U.S. Department of Agriculture agencies. Within months, Goodman had been approved for a federal cost-share program to install a 2,500-square-foot high tunnel and a well to irrigate it.

This addition to his farm already has paid dividends. “Last fall I planted a crop in the high tunnel,” he says. “When everyone else didn’t have crops, I had crops.”

The high tunnel allowed Goodman to grow tomatoes, lettuce, peppers, collards, cabbage and spinach in the fall and winter months. He was able to charge more, bringing in an extra $3,500.

Nelson Brownlee (right) encouraged Lee Goodman to attend a 2015 workshop where he learned more about federal programs to help small farmers.
compared with previous seasons.

“We’ve had a produce stand on Main Street for years and years, and it made money,” he says. “But last fall we made more money with it than we could make during the summer months. We had stuff that nobody else had, because we pulled it right out of the high tunnel.”

Part of Goodman’s mission is to help grow the next generation of farmers as well as plants and profits. He’s opening doors for local youths, mentoring them as they learn how to cultivate crops in the high tunnel and other valuable skills. In the process, they’re learning how to be entrepreneurs, like Goodman himself.

“He has positioned the young people very well to continue farming in the future,” Brownlee says, adding that Goodman is working with Extension to set up a 4-H Club.

Goodman also has used some of the money made with the high tunnel to purchase canning equipment for the young people to use. He sees canning as a way to reduce waste and, as with the high tunnel, to make local produce available out of season. By embracing this and other new opportunities, Goodman has become a role model for his entrepreneurship and for his partnership with the Cooperative Extension.

“He’s been able to diversify his farm operation,” Brownlee says of Goodman. “He’s been able to take the information we’ve provided through Cooperative Extension, and he’s used it to help build his operation and make his operation more profitable and sustainable.”
GREENSBORO — Two-year-old Za’kari Snipes Womack likes to paint, getting as much on himself as on the paper. He likes to ride his big wheel and chase his 3-year-old cousin.

Active and at an age-appropriate weight, Za’kari is off to a healthy start. He and his mother, Raianna Snipes, benefited from a partnership between the Expanded Food and Nutrition Education Program (EFNEP) and Nurse-Family Partnership (NFP).

Arnicia Gudger, EFNEP nutrition program assistant with North Carolina Cooperative Extension in Guilford County, taught nutrition and other health lessons to eight young moms and pregnant teens with limited resources in August and September 2015. Registered nurses made home visits through the Nurse-Family Partnership.

All the participants in the classes reported increasing the amount of dairy, fruit and vegetables in their diets. The young women who had not yet given birth all delivered healthy-weight babies and initiated breastfeeding.

Poor birth outcomes are a significant problem for Guilford County. The infant mortality rate in the county is 7.9 per 1,000 live births compared with a statewide rate of 7.2 for the years 2011-2015, according to the Guilford County Department of Public Health.

There also are persistent disparities in infant mortality based on race. For 2011-2015, the infant mortality rate in Guilford was 5.3 for
When I was younger, I had been burned across my arm, so I was scared to cook,” Raianna Snipes says. “The classes helped me get more comfortable with cooking. I came home and was more comfortable cooking on the stove.”

To help improve these outcomes, Gudger taught classes at several locations around the county. She emphasized the importance of healthy lifestyle choices during and after pregnancy using the Table for Two curriculum, developed through The Cooperative Extension Program at N.C. A&T. Among the topics were self-care, food choices and food safety. Each lesson included food preparation and light physical activity, such as chair exercises.

Snipes, who is African-American, had already given birth by the time she attended the nutrition classes at Dudley High School, where she was a junior. At first, she sat in the corner and was quiet. She was exhausted by parenthood and hesitant to talk around students she didn’t know.

Gradually, she overcame her shyness. The supportive environment created by Gudger helped Snipes overcome not only her shyness, but also her fear of cooking. Eventually, she was empowered to cook healthier meals at home.

“When I was younger, I had been burned across my arm, so I was scared to cook,” Snipes says. “The classes helped me get more comfortable with cooking. I came home and was more comfortable cooking on the stove.”

Food is a popular part of the classes. “The part that’s the most fun is the recipes,” Gudger says. “We do smoothies, quesadillas, tuna patties, stir-fries and parfaits. Once we do a recipe in class, they’re doing it at home within a week.”

Two years after those classes, Snipes is using the lessons she learned from Gudger to keep Za’kari and herself healthy. “I try to use all the information I was given,” she says, “and use it on an everyday basis.”

“When I was younger, I had been burned across my arm, so I was scared to cook,” Raianna Snipes says. “The classes helped me get more comfortable with cooking. I came home and was more comfortable cooking on the stove.”
WINSTON-SALEM — Everyone wins with a stronger local food system, delivering fresh, affordable food, Vic Jones says.

In the city’s Dreamland neighborhood, Jones is helping to build that system. A graduate of the Urban Farm School conducted by North Carolina Cooperative Extension in Forsyth County, he’s growing produce in his yard and in the gently sloped lot across the street.

He’s growing rows of tomatoes and peppers. Okra, corn, onions, potatoes, carrots and greens are coming soon. When they ripen, he’ll distribute his vegetables in a variety of ways, primarily to his neighbors.

“The biggest seller for me is hand to hand, word of mouth around the area,” says Jones, 47. “People stop by, see the food, ask if they can buy it, and I sell it to them.”

The rate of food insecurity among Forsyth County households was 16.6 percent in 2015, according to Feeding America, a nationwide network of 200 food banks. Food-insecure households lack access to sufficient affordable and nutritious food for all members to enjoy healthy, active lives. Individuals in food-insecure households tend to have diets linked to the development of chronic diseases.
of chronic diseases, such as hypertension. Ultimately, taxpayers can pay the price when treatment for limited-income patients is funded by federally subsidized programs such as Medicaid and Medicare.

“We know we need to improve food access,” says Mary Jac Brennan, the small farms horticulture Extension agent who teaches the urban farming classes. “And what better way than teaching people how to grow their own food and feed their neighbors?”

Developed in partnership with the Winston-Salem Ministers Conference and the City of Winston-Salem, the Urban Farm School covers the science of growing vegetables as well as business planning, marketing, budgeting and network development. It seeks to enroll students who are unemployed or underemployed. Most of the participants live in food deserts, where access to fresh produce is limited.

Jones and three other students participated in the first class in spring 2016. Brennan has taught the course twice since then, producing a total of 22 graduates. Jones is giving back this year by offering space on his 50-by-150-foot lot as an incubator garden for more recent graduates.

With help from Mawutor, Jones plans to grow more collard greens this year. Last year, they grew and sold 555 pounds of collards.

“Collard greens were just flying out the door,” says Jones, who aims to sell 1,500 pounds of collards in 2017. “This year, I already have people on my Facebook page asking me if I’m growing greens again, telling me they need more.”

Everyone wins, including Jones. He enjoys working the soil and watching his plants grow, even on a steamy Piedmont summer day as he wrestles a 5-horsepower tiller across his plot.

The sweat streaming down his face doesn’t prevent a broad smile. Says Jones: “I get happy out here.”
In HURDLE MILLS — Once the romance of farming wore off, Tracy Lafleur, 29, took a long hard look at what she was doing. And whether she wanted to continue farming.

The New England transplant, who had switched her college major from French literature to sustainable agriculture, decided to keep at it.

Lafleur’s decision was made easier by the support she got through North Carolina Cooperative Extension in Orange County and the PLANT@Breeze Farm Incubator.

Lafleur, a New Hampshire native, who came to North Carolina to be closer to the land and the sustainability movement in the Durham area, has lived here since 2011. After working a few years for other farmers, she decided two years ago that it was time to put what she’d learned to the test and launch Sugar Hill Produce.

Agribusiness Area Agent Mike Lanier worked with Lafleur to get her established at the Breeze Farm incubator. Lafleur now farms 2 acres of niche crops including strawberries, spinach, carrots, squash, zucchini and sweet potatoes; she also raises bees to pollinate her crops and to provide locally produced honey.

Her commitment means more access to affordable, local food for the public, as well as a role in keeping the county’s economic engine chugging along with retail sales, farm labor and taxable revenue.

“The problem is our farmers are aging out and young people are not interested in farming,” says Lanier, who helps Lafleur with marketing strategies. “The kids are not growing up on farms in this part of the state as much as they are in the eastern part of the state.

“The more local farms that we have to do this kind of farming, the more money they bring back to rural areas, which is a really big economic shot in the arm.”

Direct sale of food grown in Orange County has increased from $26,000 in 1997 to $1.4 million in 2012, the most recent year for which statistics are available.

Through the PLANT@Breeze program, Cooperative Extension has opened a door for Lafleur that includes low-cost access to the land she farms, as well as reduced-fee use of equipment. Breeze participants have use of a tractor, a greenhouse, wash stations and a cooler to store produce.

“Having this kind of support is a huge safety net,” says Lafleur, “and I certainly would not have started my own business without it.”

After buying seed, fertilizer, diesel fuel, plastic mulch and other farm supplies, Lafleur’s annual expenses weigh in at about $40,000.

Those expenses are balanced

“Having this kind of support is a huge safety net,” says Tracy Lafleur, “and I certainly would not have started my own business without it.”

Extension agent Mike Lanier (right) helped Tracy Lafleur (left) start farming at the PLANT@Breeze Farm Incubator.
against $75,000 in gross income. Lafleur sells produce at the area farmers market and also makes direct sales through a Community Supported Agriculture program where about 20 members pay her for a weekly bag of farm produce.

With every success that she has, Orange County continues to benefit, and that’s important to Lafleur. She gave up French lit for farming because she wanted to make more of an impact on the world and, more to the point, on a community. Farming and feeding her surrounding neighbors has proven to be her route to fulfillment. In moving here, Lafleur met her husband. And staying here has given her the sense of purpose that she sought.

“When I started working on farms, I was into the farm scene, and sustainability was going to be this huge movement and save the world,” Lafleur says.

Season after season of weeding carrots and spinach for 10 hours a day made her re-examine her choices.

“It hurt,” Lafleur says. “It’s climbing a mountain. Doing anything hard, you reach a point where you realize that you want to quit.

“Then you realize that you don’t have a boss standing there over you. You assess that you have the freedom to do what you want. That you’re making the decisions: what crops to grow and how to grow them. That you have a supportive crew and a supportive husband.

“Then you get your second wind.”

WHO
Tracy Lafleur
ORANGE COUNTY

BARRIER
Loss of farming in the area

DOORWAY
Extension training and the PLANt@Breeze Farm Incubator

BENEFIT
Feeding local communities
HEALTHY EATING, PHYSICAL ACTIVITY AND CHRONIC DISEASE RISK REDUCTION
A total of 178,800 contacts were made in the area of nutrition and chronic disease prevention. Through Extension in 24 counties (Alexander, Bertie, Bladen, Brunswick, Cumberland, Currituck, Gates, Graham, Guilford, Henderson, Hertford, Hoke, Hyde, Jackson, Mitchell, Montgomery, Pasquotank, Perquimans, Pitt, Rutherford, Scotland, Stanly, Swain and Vance) and EBCI, 6,105 participants increased their physical activity, and 3,707 youth and adults increased their fruit and vegetable consumption. Try Healthy, funded by the federal Supplemental Nutrition Assistance Program (SNAP), reached 8,190 participants. Try Healthy works with SNAP-eligible families to promote healthy eating and physically active lifestyles. The Expanded Food and Nutrition Education Program (EFNEP) reached 91 adults and 93 pregnant teens, and 2,442 youth. EFNEP addresses the health challenges of limited-resource families through nutrition education, cooking classes, physical activity lessons and instruction for shopping on a limited budget.

PARENTING AND CAREGIVER SKILLS
Extension made 5,330 contacts for parenting initiatives to help maintain stable home lives and advocate the well-being of children. In Forsyth, Guilford and Hoke counties, A&T Extension has helped parents find alternatives to parenting methods considered abusive. Children have also been able to decrease their stress and at-risk behaviors. Through training and help, 254 parents and other caregivers adopted positive parenting practices involving communication and discipline, and 240 adults increased their use of identified community resources to help them improve their parenting skills.

COMMUNITY, LEADERSHIP AND VOLUNTEER DEVELOPMENT
In Bertie, Edgecombe, Forsyth, Gates, Harnett, Hertford, Jackson, Nash and Swain counties, 55,819 contacts were made with limited-resource residents. Whether it was groups of adults or students, community leadership expanded to include stronger advocacy, job development and preparedness, organizational development and other advances. Through Extension’s leadership,
66 communities benefited socially, economically and/or environmentally from effective community development activities; 255 participants engaged in public dialogue and/or decision making in community-wide public policy issues; and 200 participants adopted preparedness and mitigation practices. Among youth audiences in the six counties, 25 young people either assumed or expanded leadership roles in the community. The number of adult participants acquiring the skills needed to serve as volunteers was 396. A total of 223 youth and adult volunteers served in new or expanded roles within Extension.

LOCAL FOOD SYSTEMS
Efforts to strengthen local food systems have been instrumental in helping address food insecurity as well as economic and health challenges. Farmers are engaged in new markets with consumers who desire locally produced food. Meanwhile, growers in urban areas are learning to farm produce in small areas and acquiring new job skills as they help provide access in communities where local, fresh and affordable food has been scarce. A total of 70,975 contacts were made in Anson, Bertie, Caswell, Montgomery, Orange, Person, Rowan, Stanly, Union and Vance counties. Produce gardens were started by 165 people. The counties also report 325 producers selling their agricultural products to local markets for consumption in North Carolina. In addition, those counties had 64 new farms begin selling to local markets, and 173 producers increase revenue. In all, the gross sales of local foods by the producers in those counties was reported at roughly $1.4 million.

NATURAL RESOURCE CONSERVATION
Protecting the soil, water, wetlands, woodlands and wildlife of the state and its regions is an outreach and endeavor entrusted to Cooperative Extension, among others. In Anson, Bertie, Caswell, Columbus, Hertford, Montgomery, Northampton, Orange, Person, Rowan, Stanly, Union and Yancey counties and EBCI, Cooperative Extension made a difference in protecting those natural resources. A total of 1,189 contacts were made with minority landowners. In all, 16 landowners began using agricultural and forestry best-management practices. These practices included registering property in the state’s Present-Use Value program, which can reduce tax liability, and purchasing adequate liability insurance against drought, insect damage and fungal disease. Fourteen youth and adults demonstrated increased knowledge about environmental issues and natural resources, and two landowners developed or acquired a management plan for their property.

FAMILY FINANCIAL MANAGEMENT
A total of 4,369 contacts were made in Forsyth and Guilford counties. Reports show that 1,164 people gained basic financial management knowledge and skills; 491 began to manage financial resources such as credit reports and credit scores, personal banking, identity-theft prevention safeguards and more; and 204 people accessed programs and implemented strategies to support family economic well-being.

PROFITABLE AND SUSTAINABLE AGRICULTURE
Cooperative Extension delivered educational programs to help small-scale farmers follow best-management practices to ensure their farms’ sustainability and profitability. A total of 48,056 contacts were made. Many farmers received training in high tunnel farming, a technology that allows farmers to increase profits and extend the growing season. Farmers are learning to grow tomatoes, cucumbers, bell peppers, bok choy, lettuce, spinach, and salad and green mixes. Researchers have also been working to see how the high tunnel system performs in various climate zones. In 15 counties (Anson, Ashe, Bladen, Columbus, Duplin, Forsyth, Lenoir, Martin, Robeson, Sampson, Stanly, Union, Vance, Watauga and Yancey), 1,680 crop producers adopted
20 best-management practices, including those related to nutrient management, conservation, production, cultivars, pest management (weeds, diseases and insects), business management and marketing. Nearly 1,300 participants adopted recommended climate adaptation strategies for production agriculture or natural resource management, including invasive species, pest management, pollutant loads and wetlands. Two hundred forty animal producers adopted Extension-recommended best-management practices, including those related to husbandry, improved planning, marketing and financial practices.

**FOOD SAFETY**
A total of 8,023 contacts were made in Montgomery and Scotland counties. Cooperative Extension provides ServSafe and Hazard Analysis and Critical Control Points (HACCP) training for individuals and food service employees to improve safe food handling for the prevention of foodborne illnesses. A total of 250 school personnel were trained in HACCP principles, 85 food service employees received ServSafe certification, and 66 participants were trained in safe home food handling, preservation or preparation practices.

**YOUTH DEVELOPMENT**
A total of 119,298 contacts were made in 13 counties (Anson, Beaufort, Bertie, Gates, Graham, Guilford, Jackson, Martin, Mecklenburg, Mitchell, Montgomery, Stanly and Union). Cooperative Extension delivers programs to enhance and expand youth programs and 4-H enrichment efforts to reach underserved and minority-youth audiences in designated communities. Forensic science, automotive engineering, geospatial challenges and robotics are some of the activities included in the Cooperative Extension’s 4-H STEM Program. A total of 21,561 youth increased knowledge in STEM (science, technology, engineering and math) and 636 teachers were trained in the 4-H STEM curriculum. Youth were also taught work development skills, with 4,168 youth increasing knowledge of career/employability skills and 1,038 youth increasing knowledge of entrepreneurship.
THE COOPERATIVE EXTENSION PROGRAM FACULTY

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