

**NC STATE**

EXTENSION

A man wearing a blue short-sleeved button-down shirt, dark jeans, a brown belt, and a red baseball cap is standing in a field of tall, green hop plants. He is holding a branch of a hop plant with several green hop cones in his right hand, raised towards his head. The background shows more rows of hop plants under a clear blue sky.

# **Building On Strong Foundations**

**2021 ANNUAL REPORT**





## OUR MISSION

NC State Extension extends research-based knowledge to all North Carolinians, helping them transform science into everyday solutions that improve their lives and grow our state.

## OUR VISION

We are the model of excellence in non-formal, research-based education that advances agriculture, the environment, human health and well-being, youth and communities, while creating prosperity for all North Carolinians.





## MESSAGE FROM THE DIRECTOR

In 2021, North Carolina communities found themselves in a familiar situation, working to recover and find a way forward during another year of uncertainty and stress. We encountered similar challenges within Extension, as our experts across the state continued to adjust, adapt and persevere in both their professional and personal lives.

It's a story many of us have in common since "coronavirus" entered the lexicon. And while we may not have gotten the ending we expected yet, we've had the opportunity to write new chapters and create our own narrative.

Despite the circumstances, our more than 1,000 Extension experts continued to innovate their programming and address local needs for diverse audiences. They are the heroes in our story, defying the odds to deliver more than 17,000 educational activities via nearly 8,000 programs across all 100 counties and the Eastern Band of Cherokee Indians.

Extension directly connected nearly 1 million people with timely local programming this past year. Another 3.4 million people connected with our resources through Extension's 200-plus websites and other digital platforms.

I'm proud of our people, and our partners, who kept their noses to the grindstone and eyes on the future. If the last couple of years have taught us anything, it's that change doesn't happen overnight.

By building upon strong foundations across the state today, Extension is helping to lead North Carolinians toward a brighter tomorrow.

Extension's story in 2021 was one of resilience and leadership. As for that ending, well, every story has its challenges and plot twists. It's all about the journey and the people we impact along the way.

Moving forward, we must operate with patience, purpose and strategy. Extension will continue meeting people where they are today, so every North Carolinian can tell a success story tomorrow.



**A. Richard Bonanno**

Director, NC State Extension

Associate Dean, College of Agriculture and Life Sciences

***"By building upon strong foundations across the state today, Extension is helping to lead North Carolinians toward a brighter tomorrow."***

A. Richard Bonanno

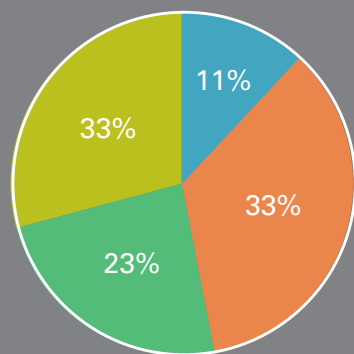


Discover more about our impact at [go.ncsu.edu/ExtensionImpacts](https://go.ncsu.edu/ExtensionImpacts).

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## EXPENDITURES



Federal	\$11M
State	\$33M
County	\$23M
*Other	\$33M
<b>TOTAL</b>	<b>\$133.5M</b>

\*Grants, contracts, donations, etc.



**101**  
Local Centers



**1,100+**  
Experts



**200+**  
Websites

## Partnership for the People

As a land-grant university, NC State has a unique and important obligation to serve our state through Extension. It's what sets us apart from other universities.

Working alongside the U.S. Department of Agriculture's National Institute of Food and Agriculture (USDA-NIFA), N.C. A&T State University, local governments, and industry and community partners, we help create economic, societal and intellectual prosperity across North Carolina.

With roots in every county, this strategic network of partnerships and technical expertise is called **N.C. Cooperative Extension**.

**\$2.1  
Billion**

Extension's annual economic impact on North Carolina



**27-1  
ROI**

Economic return on government investments

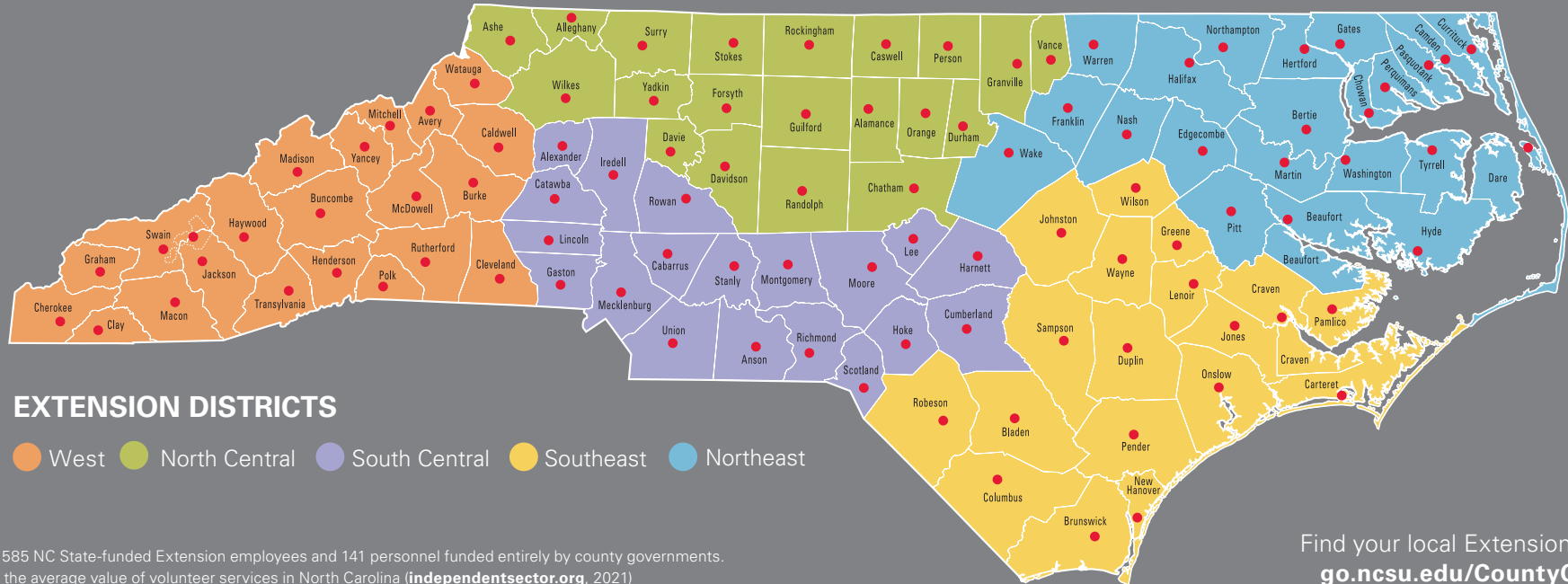


Discover more at [go.ncsu.edu/About-Extension](https://go.ncsu.edu/About-Extension).

# Extension Is Everywhere for North Carolina

NC State Extension offers locally focused services in every county and the Eastern Band of Cherokee Indians. Local centers house <sup>^</sup>**726 Extension professionals**, while another **426 faculty and staff on NC State's campus and across the state** work with Extension in some capacity.

Extension's impact is greatly enhanced by a broad and loyal base of volunteers. In 2021, \*Extension volunteers donated nearly \$10 million worth of time to support our programs.



<sup>^</sup>Includes 585 NC State-funded Extension employees and 141 personnel funded entirely by county governments.

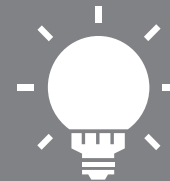
\*Based on the average value of volunteer services in North Carolina ([independentsector.org](https://independentsector.org), 2021)



Extension delivered more than  
**17,000**  
educational activities statewide



**3.4M**  
visitors to Extension websites  
**8.4M**  
total pageviews



Extension offered nearly  
**8,000**  
programs across every county



**144**  
new Extension publications  
**4,000+**  
total publications available at  
[go.ncsu.edu/Extension-Publications](https://go.ncsu.edu/Extension-Publications)

# Transforming Rural North Carolina Communities

Our statewide network of centers and expertise uniquely positions Extension to support rural communities. By building inclusive partnerships and innovative solutions, we transform and promote economic prosperity for rural North Carolina.

**Of the state's 100 counties, 78 are considered rural, according to the N.C. Rural Center.**

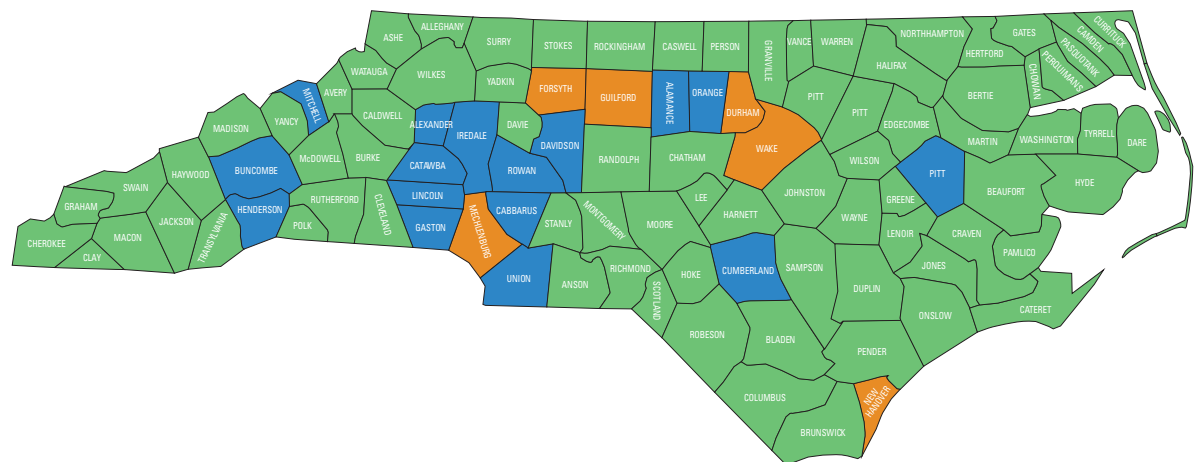
Through efforts like Cultivate NC, NC AgVentures, local food programming, broadband access and digital literacy education, and the Farmworker Health and Safety Education Program, Extension facilitates job creation, builds sustainable agriculture and local food economies, promotes access to new technologies, and helps protect farmworkers while increasing farm productivity and profits for our rural communities.

## Among our contributions in rural areas:

- > Extension delivered nearly **12,000** educational activities to roughly **300,000** people in rural counties
- > **42,951** Extension best management practices (related to production, pest control, business management and more) adopted by crop producers
- > **139** new farms began selling into rural markets
- > **7,510** youth gained key career and employability skills through Extension 4-H programs
- > **17,266** participants increased their consumption of fruits and vegetables



*Through efforts like the Women's Cattle Handling Program, created to promote self-confidence for women in the cattle industry through hands-on educational opportunities, Extension strives to enrich lives and support economic growth in our rural communities.*



- **RURAL COUNTIES**  
78 counties with an avg. population density of 250 people/sq. mi. or less
  - **REGIONAL CITY and URBAN COUNTIES**  
16 counties with an avg. population density between 250 and 750 people/sq. mi.
  - **URBAN COUNTIES**  
6 counties with an avg. population density that exceeds 750 people/sq. mi.



# Meeting The Needs of Growing Urban Populations

In North Carolina's six urban counties, home to well over one-third of the state's population, Extension has embraced the opportunity to address an array of issues for large and diverse audiences. Whether it's on the farm or in the city, we extend knowledge, enrich lives and grow our state.

## Growing Food Security

Give a person a fish, and you feed them for a day. Teach a person to fish, and you feed them for a lifetime. It's a wonderful piece of proverbial wisdom. But what if you don't live on the coast, or have access to a well-stocked lake?

In neighborhoods in Durham County where food security is an issue, Extension staff and partners have reworked the adage for an urban setting. It goes something like this: Give a limited-resource family a visit to the food pantry, and you've put a much-needed meal on the table. Teach them how to garden, and you've met long-term food and nutrition needs.

Extension's Durham County Center and local partners established six new community gardens for families living in public housing. All six locations received raised garden beds,

plants and technical support by Extension agents and Master Gardener<sup>SM</sup> volunteers.

"These gardens help connect folks to their food sources, enrich health and build community," said Cheralyn Berry, Extension Family and Consumer Sciences agent in Durham County. "It is an honor for us to be a part of these communities in this way."

When the first garden was ready to be installed, Extension staff and volunteers fashioned beds that are accessible to gardeners of all ages and abilities, and delivered them to the different sites.

"I helped put worms in the garden for the first time in my life," said Kim Wicks, one of the residents.

"I planted a whole bunch of plants and I also fertilized the beds. I got my hands dirty. It felt good!"

As the gardens grow, Extension will continue to provide technical support and look for opportunities to support other urban nonprofits in starting their own gardens.



*Extension staff in Durham County worked with volunteers, including Mr. Green and Ms. Joyce Briggs, to establish community gardens for local residents living in public housing.*

## Extension Programming in Urban Areas



### FOOD and AGRICULTURE

- > Increasing agricultural awareness
- > Tailoring gardening and food production services to urban environments
- > Strengthening local food systems



### NATURAL RESOURCES

- > Promoting water conservation and protecting water quality
- > Improving waste management practices
- > Developing and maintaining a healthy tree canopy in urban environments



### HEALTH and NUTRITION

- > Promoting healthy lifestyles and providing nutrition education to decrease risk of chronic disease
- > Improving food access and educating families on food safety and preservation
- > Certifying retail food managers in food safety practices



### 4-H YOUTH DEVELOPMENT

- > Teaching life skills and developing future leaders
- > Strengthening STEM education and preparing underserved youth for college and careers
- > Promoting healthy minds and bodies through holistic wellness strategies



### FAMILIES and COMMUNITIES

- > Increasing food security and leading emergency food relief
- > Promoting physical, mental, environmental, social and financial wellness
- > Building capacity of local nonprofits to address critical community issues

# Extension In Your Neighborhood

## NORTHEAST

- > Counties: 22
- > Households: 743,614
- > Food Insecurity: 13.5%
- > Farms: 5,410
- > Ag Cash Receipts: \$2.2B
- > ^Extension Employees: 113
- > Extension Activities: 3,856

## NORTH CENTRAL

- > Counties: 20
- > Households: 973,674
- > Food Insecurity: 15.2%
- > Farms: 14,643
- > Ag Cash Receipts: \$1.4B
- > ^Extension Employees: 128
- > Extension Activities: 5,268

## SOUTHEAST

- > Counties: 18
- > Households: 598,413
- > Food Insecurity: 16.4%
- > Farms: 7,657
- > Ag Cash Receipts: \$4.5B
- > ^Extension Employees: 136
- > Extension Activities: 3,002

## SOUTH CENTRAL

- > Counties: 19
- > Households: 1,215,097
- > Food Insecurity: 14.3%
- > Farms: 9,920
- > Ag Cash Receipts: \$2.4B
- > ^Extension Employees: 103
- > Extension Activities: 3,196

## WEST

- > \*Counties: 22
- > Households: 464,564
- > Food Insecurity: 16.6%
- > Farms: 8,788
- > Ag Cash Receipts: \$599.1M
- > ^Extension Employees: 105
- > Extension Activities: 2,432

\*Includes the Eastern Band of Cherokee Indians

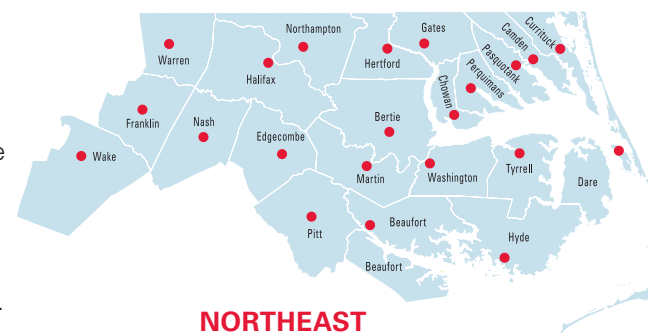
^Not including personnel that are funded entirely by county government



## Hometown Hero | Regina Moseley

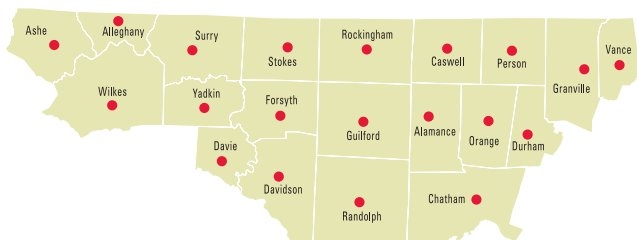
The solution to pandemic-imposed restrictions was simple: transition from in-person to virtual interactions. Simple to say, that is. Navigating the digital world presented new challenges. Regina Moseley, Extension's Family and Consumer Sciences agent in Nash and Edgecombe counties, enthusiastically embraced those challenges, creating innovative ways to connect people with Extension programs. Her ongoing efforts include educational videos archived to YouTube, and hosting events via Facebook Live and Zoom. "She has really pushed herself out of her

comfort zone to keep her program outreach strong," said Sandy Hall, director for Extension's Nash County Center. "This is only a glimpse of the great work Regina does to make a difference with the people she serves."



## NORTHEAST

## NORTH CENTRAL



## Hometown Hero | Danny Lough

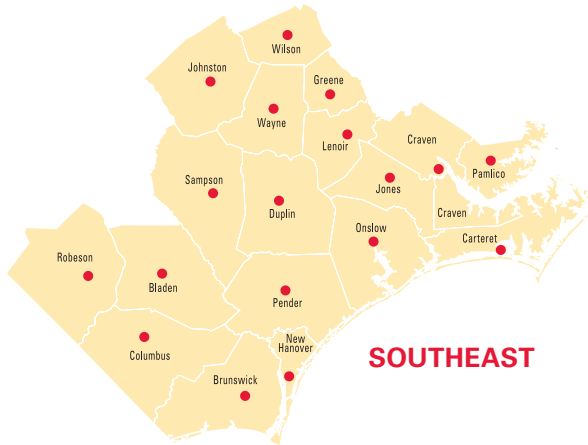
When Danny Lough was told to go home because of pandemic restrictions three weeks after being hired as Extension's 4-H agent for Davie County, he didn't let that dampen his enthusiasm. He created online events and classes and made important contacts. When restrictions were lifted, Danny was ready. He established new programs – including a 4-H horse club and a homesteading-focused club – and recruited new members. "Danny exudes positivity and it is widely recognized and greatly appreciated by fellow staff," said Colleen Church, Extension director for Davie County. "In less than 18 months and during a pandemic, Danny has persevered, pushed ahead and made positive impacts to benefit Davie youth and local communities."





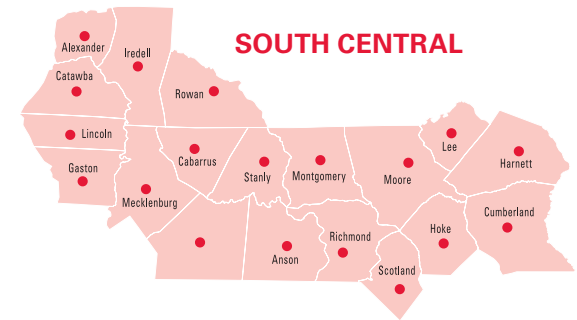
## Hometown Hero | **Tim Britton**

In a year that demanded creativity to respond to a hybrid world that was opening up in some areas and remained locked down in others, Tim Britton excelled. Tim, Extension agent for agriculture and field crops in Johnston County, offered online and in-person options to assist growers with earning continuing education for their pesticide licenses. He was instrumental in a drive-through operation at the Johnston County Livestock Arena where producers could receive PPE and cleaning supplies, and as well as Extension publications. He also personally delivered other items and educational materials throughout the county. "He is valued and appreciated by farmers in Johnston and surrounding counties and his co-workers," said Bryant Spivey, director of Extension's Johnston County Center.



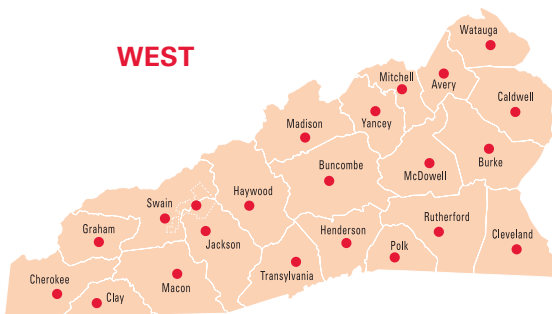
## Hometown Hero | **Celeste Neumann**

Technology was a wonderful tool when in-home visits were severely restricted, but like Extension agents throughout the state, Celeste Neumann was thrilled to go back to face-to-face meetings when restrictions were lifted. Neumann is the Parents As Teachers (PAT) coordinator and bilingual educator for Extension's Hoke County Center. She was a valuable resource to the migrant community, translating information about COVID-19 testing and vaccinations, and connecting families to community resources. At Christmas, she delivered food, clothing and toys donated to the Extension center to local families. "Celeste's work truly exemplifies Extension's value," said Howard Wallace, director of the Hoke County Center.



## Hometown Hero | **Jerry Moody**

About 30 events were already scheduled for the new community center under construction next to the N.C. Cooperative Extension office in Avery County as the grand opening approached in December 2020, including the annual meeting of the N.C. Christmas Tree Association. It would also be available for birthday parties, weddings and other events. But perhaps its greatest value in 2021 was for something unplanned – a clinic providing mass COVID-19 vaccinations. Jerry Moody, director of Extension's Avery County Center, said his entire staff played the role of Hometown Heroes for their efforts "to organize, make appointments, check the individuals in at the door and provide some comic relief." About 5,000 people were vaccinated in the spring, including 686 migrant workers holding H-2A visas.



# Translating Cutting-Edge Research Into Practical Applications

NC State Extension structures our efforts within three core areas where we are most needed, best equipped to provide solutions, and can make the greatest impacts on the state's communities and economy. We grow North Carolina with programs and partnerships focused on agriculture, food and nutrition, and 4-H youth development.



## FEEDING OUR FUTURE

NC State Extension keeps North Carolina's \$96 billion agriculture industry – the state's leading economic sector – healthy and sustainable by connecting growers with research-based information and technology.

- > **245** county employees
- > **9,344** educational activities offered
- > **201,475** participants engaged in program activities
- > **3,720** farms and others in the local food supply chain that increased revenue



## IMPROVING OUR HEALTH

Extension helps people make healthier decisions, reduce their risk of chronic disease, and live better lives through programs from gardening and nutrition to local food systems and food safety.

- > **101** county employees
- > **3,195** educational activities offered
- > **64,358** participants engaged in program activities
- > **292,944** participants increased their knowledge of safe home food handling, preservation or preparation



## ENRICHING OUR YOUTH

Extension's 4-H program addresses the diverse issues and backgrounds of today's youth, helping to grow hundreds of thousands of youth into healthier, more involved citizens and future leaders.

- > **102** county employees
- > **4,272** educational activities offered
- > **146,517** youth participated in 4-H activities
- > **14,046** youth gained career/employability skills

Note: An additional 137 NC State employees are affiliated with other / multiple program areas locally (not included above), while another 141 Extension employees are funded entirely by our county partners.



## ANNUAL SPOTLIGHT:

# Enhancing Science-Based Solutions

**The mission of NC State Extension is to transform science into everyday solutions that grow North Carolina. When it comes to agriculture and food, that mission is getting a huge boost from the North Carolina Plant Sciences Initiative (N.C. PSI).**

Agriculture in the 21st century comes with a series of complex issues, including a rapidly growing population, less farmland, and emerging crop diseases and pests. Through N.C. PSI, and working alongside partners in the private, public and non-profit sectors, NC State University is redefining research and taking on agriculture's grand challenges with interdisciplinary, team-based science.

Extension plays a vital role as local conduit, helping to identify timely issues and opportunities, while translating the resulting knowledge into practical applications for farmers and agricultural entities statewide.

"Extension needs research in order to be successful," NC State Extension Director Richard Bonanno said. "We pride ourselves in our mission of transferring research-based knowledge to the public."

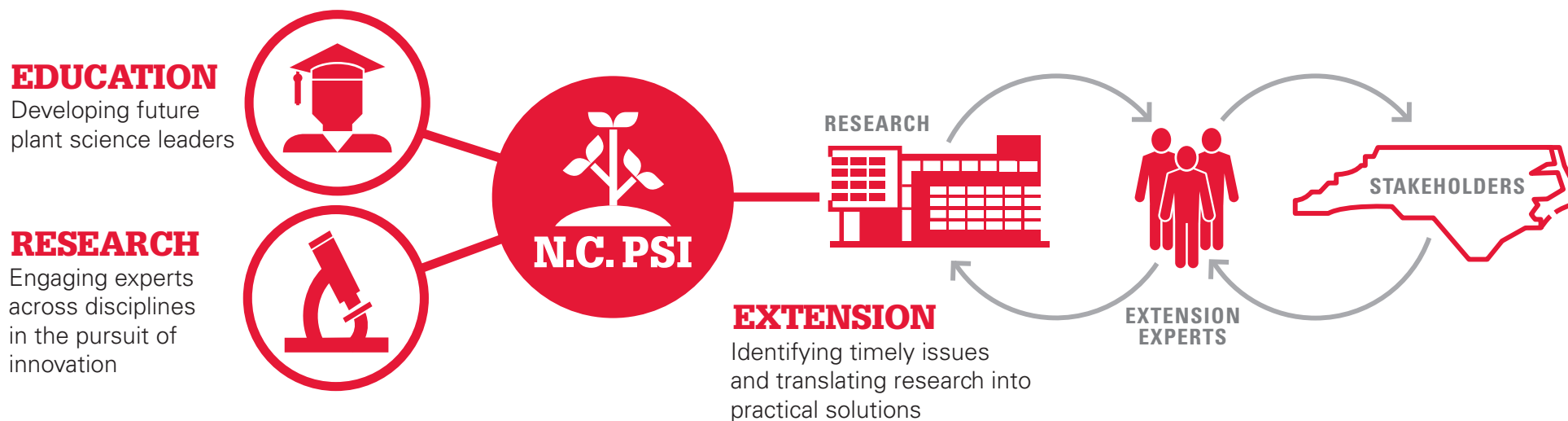
This spring, the work moves into a state-of-the-art research building in the heart of NC State's Centennial Campus. The building will feature high-tech labs and spaces for collaboration and education.

"The plant sciences building and N.C. PSI are aimed at connecting a wide variety of researchers from the college and beyond to solve the great challenges of agriculture," Bonanno said. "This is an opportunity for us to go even beyond our current capabilities."

The building will house researchers from NC State along with some of the brightest from industry and government agencies, all helping to advance N.C. PSI's vision to be the world's premier plant sciences enterprise. On a practical level, that means research and innovation to increase crop yields, create new varieties, extend growing seasons, enhance agricultural and environmental sustainability, and improve as well as produce new technology.

"We want to make sure researchers are connected to the farmers, to address the problems," Bonanno said. "Extension's job is to get that information back to the producers and bring valuable discoveries to market that make an impact and change lives. It only makes the future brighter to feed a world with a larger population with less agricultural land on it."

Discover more about the N.C. Plant Sciences Initiative at [go.ncsu.edu/NCPSI](https://go.ncsu.edu/NCPSI).





# Teaching Digital Literacy On the Farm

**Broadband access has become a necessity in today's world, but as of the end of 2021, nearly 1.1 million North Carolina households (27% of the state) lacked access to high-speed internet.**

"Do you care about the environment or the food you eat or the clothes you wear? Because connectivity and technology on the farm impacts your everyday life in more ways than you might think," said Jason Ward, NC State Extension specialist in agricultural engineering. "If we don't have good connectivity, people in our rural communities, who have great insight and innovation to share, may not have the ability to deliver meaningful solutions in a meaningful way."

Federal and state grants are helping to add infrastructure and connect more communities, but that's only part of the solution.

"The other part is we need a toolkit for digital literacy and skills," said Kenny Sherin, director of Extension's Randolph County Center. "You can get the connectivity, but it's not going to do any good if people don't know how to use it. Farmers, ranchers, they're going to need to learn new digital skills to use the technology being deployed all around them."

In March 2021, Sherin became Extension's first Broadband Access and Education Coordinator, a position added primarily to help farmers bridge the digital divide, innovate the food supply and efficiently get their goods to market.

Extension's digital literacy toolkit includes lessons in productivity tools such as accounting software, spreadsheets, online banking, email marketing, website building and even advanced skills like coding and cybersecurity. It also encompasses exciting, cutting-edge technology such as automated moisture meters in grain storage facilities, using data from drones to monitor crops, and temperature and air quality sensors in swine and poultry production.

"Farmers are some of the most creative and innovative people," Sherin said. "They're going to be able to use these resources to make their products better."

Discover more at [go.ncsu.edu/TeachingDigitalLiteracy](https://go.ncsu.edu/TeachingDigitalLiteracy).





# Building a Stronger Agricultural Future

**Extension develops and implements better agricultural products and practices, while providing growers and agribusinesses with resources they need to continue producing high-quality, economically significant crops and livestock.**

## N.C. Agriculture Industry

Agriculture remains North Carolina's largest industry, generating **\$96B** annually while employing roughly **18%** of the state's workforce. It's the **No. 3** most diverse agriculture economy in the country, with more than **80 commercial crops** and a large animal agriculture presence.

- > **789,000** jobs
- > **46,000** farms
- > **8.4M** acres
- > **#1** in sweet potatoes, tobacco and poultry/egg cash receipts
- > **#8** in livestock cash receipts
- > **#9** in all commodity cash receipts

## Boosting Vaccine Education

To educate North Carolina farmworkers about vaccination, Extension launched a new program called Get Informed and Decide (Me Informo y Decido). The Extension Farmworker Health and Safety Education Program drew from its experience in educating farmworkers about preventing the spread of coronavirus and in distributing PPE to train more than 600 farmworkers and deliver train-the-trainer events to 28 agencies statewide.

Meanwhile, Extension was tapped to play a leading role in a nationwide vaccine education effort in rural America. Lindsey Haynes-Maslow, Extension

specialist in the Department of Agricultural and Human Sciences at NC State, is helping guide national market research for a CDC-funded effort being delivered by the USDA. Each of these efforts represents timely, collaborative programming to protect our agricultural workers and economies.

[go.ncsu.edu/NationalVaccineEducation](https://go.ncsu.edu/NationalVaccineEducation)

## NC Farm School Is in Session

Extension's NC Farm School takes a unique entrepreneurial approach to help new and established farmers use their land for sustainable agribusinesses. In 2021, the program continued to make good on its mission to increase the number of successful farms in the state. Moving forward, Extension aims to establish local farm school programs in each of its five districts, providing opportunities for all North Carolinians, from recent college graduates to military veterans, to develop prosperous agricultural ventures.

[go.ncsu.edu/FarmSchoolinSession](https://go.ncsu.edu/FarmSchoolinSession)

## Exporting Manure for Money

Through a new USDA-NRCS Conservation Innovation grant, NC State Extension and research specialists are partnering with the N.C. Foundation for Soil & Water Conservation and Phinite Inc. on a low-cost method to dry swine sludge for easy transport and fertilizer blending. If successful, the project could turn a nagging concern into a potential revenue source for producers

[go.ncsu.edu/ManureforMoney](https://go.ncsu.edu/ManureforMoney)



## Connecting Consumers to Agriculture

From farmers markets and strawberry you-pick operations to potato chip production and emerging markets like hops and hemp, Extension's Homegrown video series connects an increasingly young, urban-centric generation to the importance of agriculture and Extension in their daily lives.

In 2021, audiences watched our videos nearly 90,000 times, consuming more than 2,500 hours of Homegrown features. Additionally, roughly 60,000 people visited our website, exploring nearly 100,000 pages.

Leveraging our vast network of expertise, Homegrown will continue to showcase how the foods and products that enrich our daily lives journey from farms to families.

Discover more:

[go.ncsu.edu/Homegrown](https://go.ncsu.edu/Homegrown)



# Leading Families On the Path to Better Health

**Libraries are filled with books that can feed the imagination, enrich the soul and supplement the education of the reader. In Cleveland County, library patrons can also check out something that can help feed families, enrich bodies and provide supplemental nutrition.**

A Steps to Health grant allowed Extension to partner with the Cleveland County Library System to develop a seed library, capitalizing on an increased interest in home gardening.

“We will be able to help individuals and families learn more about how plants grow, healthy eating, community resources such as N.C. Cooperative Extension and the Foothills Farmers Market, and involve our volunteer groups in new ways as we enrich our community with the seed library,” said Nancy H. Abasiekong, Extension FCS agent in Cleveland County.

The seed library kick-off in November hosted nearly 1,000 attendees through a hybrid event involving in-person attendance and digital participants through Facebook.

Steps to Health is NC State’s Supplemental Nutrition Assistance Program-Education (SNAP-Ed). The goal is to encourage people to make healthy food choices within a limited budget and choose physically active lifestyles. Steps to Health reached 1,273 participants at 78 sites in 2021.

The Expanded Food and Nutrition Education Program (EFNEP) enrolls low-income school-aged youth and families with children to address economic, health and food insecurity challenges. As peer educators, EFNEP personnel teach nutrition classes to help families and youth safely prepare healthy meals, increase physical activity and save on food costs.

EFNEP educators employed a hybrid model in 2021 to serve people in 42 counties, including 1,233 families that enrolled in one or more food assistance programs and 9,032 youth who participated in 4-H EFNEP.

Read more at [go.ncsu.edu/PathtoBetterHealth](https://go.ncsu.edu/PathtoBetterHealth).





# Promoting Better Health Through Food and Nutrition

## Food Safety

There are around 48 million cases of foodborne illness each year in the United States, notwithstanding a pandemic that continued to disrupt food supply chains and alter how we cooked and consumed food in 2021. Extension played a crucial role throughout in providing families, growers and businesses with best practices for managing food safety risk.

- > **26M** digital media contacts through video views and interviews
- > **506,260** on-demand food safety video views
- > **1,027** Extension consumer food safety resources developed (social media images, factsheets, documents) in four languages
- > **3,979** food handlers or managers increased their knowledge and skills of safe food handling
- > **745,454** individuals reached via Safe Plates Food Safety Information Center social media campaigns

Find food safety resources at [go.ncsu.edu/FoodSafetyatHome](https://go.ncsu.edu/FoodSafetyatHome) and [go.ncsu.edu/FoodCoVNET](https://go.ncsu.edu/FoodCoVNET).

## Consumer Food Preparation and Preservation

Consumer programs focus on food preparation and preservation skills that help promote healthy eating through evidence-based information and food safety guidance. Programs such as Extension Master Food Volunteers, Safe Plates, Med Instead of Meds and Cook Smart, Eat Smart teach healthy and safe food preparation techniques.

- > **292,944** consumers increased their knowledge of safe home food handling, preservation or preparation practices
- > **18,700** participants learned how to prepare and preserve local foods
- > **22,878** adults increased their consumption of fruits and vegetables

## SNAP-Ed (Steps to Health)

The Supplemental Nutrition Assistance Program – Education (SNAP-Ed) promotes improved access to healthy food and lifestyles for limited-resource individuals and families nationwide. NC State's SNAP-Ed program is called Steps to Health. The program empowers youth and adults to make healthy choices through nutrition education in schools, community centers, early childhood education centers, congregate meal sites and more.

- > **10,720** participants impacted by changes made to systems and the food environment
- > **4,683** residents impacted by positive changes in housing communities, community centers, and faith settings
- > **4.5M** impressions from social media campaigns
- > **47% of youth** and **50% of adult participants** increased physical activity

## EFNEP

The Expanded Food and Nutrition Education Program (EFNEP) is a federally funded program conducted through Extension. EFNEP improves the health of limited-resource youth, families with children and pregnant teens through practical education on nutrition, healthy lifestyles and food safety.

- > **1,233 families** served in 42 counties
- > **9,032 participants** in 4-H EFNEP
- > **97%** of participants **improved dietary intake**
- > **85%** of participants now **participate in daily physical activity**
- > **96%** of participants **practice better food resource (financial) management**
- > **91%** of participants **improved their food safety habits**

Learn more about EFNEP's annual impact at [go.ncsu.edu/EFNEP2021](https://go.ncsu.edu/EFNEP2021).



# 4-H Helps Create Happy Campers, Responsible Youth

**Summer camp is the most anticipated event of the year for many 4-H'ers. It's a chance to get outside, to have fun, to learn and to create memories and friendships that can last a lifetime.**

In-person camping returned at Extension's 4-H centers in Tyrrell, Rockingham and Richmond counties in 2021, with appropriate protections and protocols to mitigate the risk of coronavirus. There was no need for the virtual camps of 2020, but because those programs had been so successful, 4-H staff looked for ways to incorporate them into education and outreach programming.

4-H packaged a set of experiential environmental education curriculum into virtual learning classes. Topics included astronomy, sharks teeth and fossils, and predator and prey relationships. Virtual field trips included coastal ecology, beaver pond excursions and pine forest ecology. Extension is working with

Streamable Learning to provide these classes to school districts all over the country.

The experiential curriculum is just one example of innovative 4-H programs implemented and improved upon when families and teachers needed the most support.

When schools reopened across the state, the demand for programming grew at 4-H afterschool sites. In Cabarrus County, program assistant Beverly Bollenbecker obtained a large grant to offer hundreds of STEM kits.

4-H programs in Orange, Durham, Person and Caswell counties partnered to conduct the first 4-H Feather

Classic program. Participants received six chicks in June and raised them until they exhibited their laying hens in Roxboro in October. Along the way, they participated in virtual webinars on biosecurity, poultry handling and poultry care.

In Wake County, 4-H partnered with the COVID Youth Council, which equips youth to be peer educators about the virus. In the fall, the group filmed TV spots for the N.C. Department of Health and Human Services promoting COVID safety practices to high schoolers attending high school football games.

Discover more at [go.ncsu.edu/4-H\\_Camps](https://go.ncsu.edu/4-H_Camps).





# Serving Youth and Families, Making the Best Better

Building on the digital innovations of recent years, Extension's 4-H programs approached 2021 with a return to in-person events and meetings, coupled with a continuation of the best online practices adopted during the pandemic shutdown.

Among the hallmarks of 2021 was the return of youth statewide to Extension's three 4-H residential camps: Betsy-Jeff Penn, Camp Millstone and the Eastern 4-H Center. **Overnight camping programs hosted 588 youth in 2021**, while **2,787 youth participated in camping programs overall**.

## 4-H by the Numbers

From young cloverbuds to college-age students, 4-H'ers are involved in activities that instill confidence and life skills, as well as equip them for leadership roles wherever life may take them. Across the state, 4-H offers specialized clubs such as horsemanship and robotics among many others, along with more generalized clubs that focus on community service. And 4-H plays an increasingly valuable role in STEM education through both individual clubs as well as public and private schools.

- > **325** 4-H clubs maintained in North Carolina
- > **146,517** youth participated in 4-H activities
- > **8,136** adult volunteers supported 4-H
- > **4,810** N.C. teachers trained in or used 4-H STEM curriculum in the classroom
- > **8,784** youth participated in instructional TV/video/web programs

## Growing the Leaders of Tomorrow

Extension 4-H professionals work with North Carolina's youth "to make the best better," equipping them with the confidence and knowledge to make a difference in the world.

- > **14,046** youth gained career/employability skills
- > **12,775** youth increased their knowledge, attitudes, skills and/or aspirations regarding leadership

Support N.C. 4-H camps at [go.ncsu.edu/ExtensionGift](https://go.ncsu.edu/ExtensionGift).





**Extension faculty and staff in the College of Natural Resources (CNR) are committed to solving natural resources challenges by helping communities, businesses and citizens to manage and sustain our shared environment.**

# Protecting Our Shared Environment

In 2021, Extension staff in CNR worked with our partners to enable North Carolinians to make informed decisions concerning the management, enhancement and enjoyment of their forests and other natural resources through research-based information and education.

## Extension Forestry

- Partnered with the U.S. Forestry Service and NCDA&CS to educate nearly 64,000 North Carolinians about two invasive species: the spotted lanternfly and the Asian longhorn beetle.
- Trained more than 600 Extension agents and partner personnel in healthy forest management and identification of invasive pests, leading to better management of 328,000 acres of forest.
- Educated 4,500 landowners, land managers, community leaders and others on the role of fire science, wildland fire and prescribed fire in forest management.

## Wood Products Extension

- Delivered 13 in-person meetings (sponsored by a USDA Forest Service Wood Innovation grant) to 180 individuals, targeting the wood products supply chains in each of North Carolina's 13 NC Forest Service regions.



- Offered a workshop to educate participants on the state of the hardwood lumber industry and connect Southeast hardwood lumber exporters with international buyers.
- Educated 20 business owners, fireplace vendors and foresters about the firewood industry through the NC-VA Firewood Business Workshop. This ongoing project was funded with a \$24,000 Extension grant.

## Tourism Extension

- Continued to develop and support the Vacationer Supported Agriculture (VSA) initiative under Extension's Local Foods Program. The effort raised more than \$91,000, supported 69 farmers from 11 counties, served 1,331 vacationers, and educated more than 54,000 vacationers about local foods and visiting local farms.

- Connected farmers and chefs through tourism experiences combining food and farming through the Fork2Farmer Program. The program engaged 102 farmers from 12 counties and reached more than 30,000 views through 27 short videos on YouTube and Facebook, as well as virtual farm tours.
- Implemented the N.C. Oyster Trail Project involving development of a white paper and multiple outreach efforts. Presentations reached 30 mariculture farmers, trail members and volunteers. The project has received significant attention through local and state media.



Agritourism is a way to immerse yourself in the beauty and splendor of North Carolina agriculture - discover more at [go.ncsu.edu/Homegrown-Agritourism](https://go.ncsu.edu/Homegrown-Agritourism).



# A System of Solutions Across the State

NC State Extension serves as a bridge between North Carolinians and our state's preeminent research university. We put research into action, delivering practical solutions across the state through our vast network of partnerships, local centers and digital platforms.

## 1 IDENTIFY ISSUES

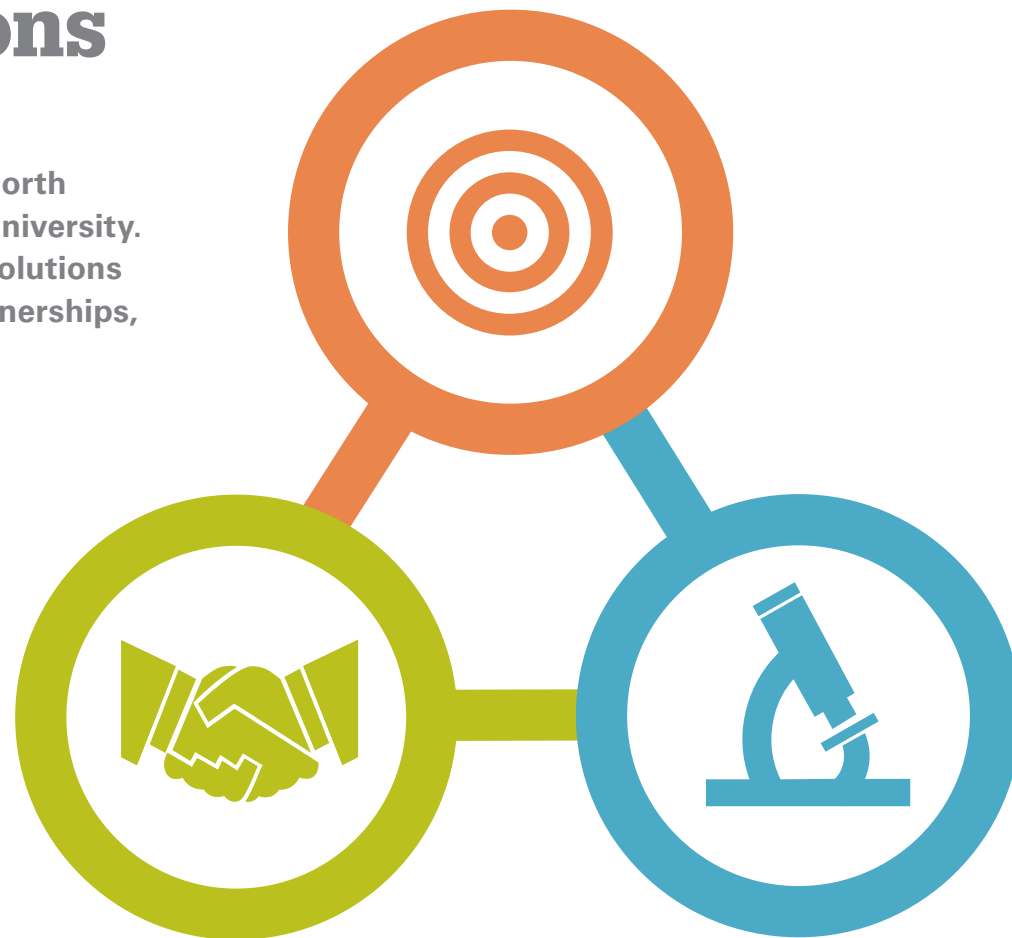
Extension experts in every county engage with farmers, businesses and families to determine local needs

## 2 RESEARCH SOLUTIONS

County agents collaborate with campus specialists, applying science and technology to better understand and address local issues

## 3 TRANSFER RESULTS

Extension delivers research-based tools and solutions back to communities, translating knowledge into everyday applications



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# NC STATE EXTENSION

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