

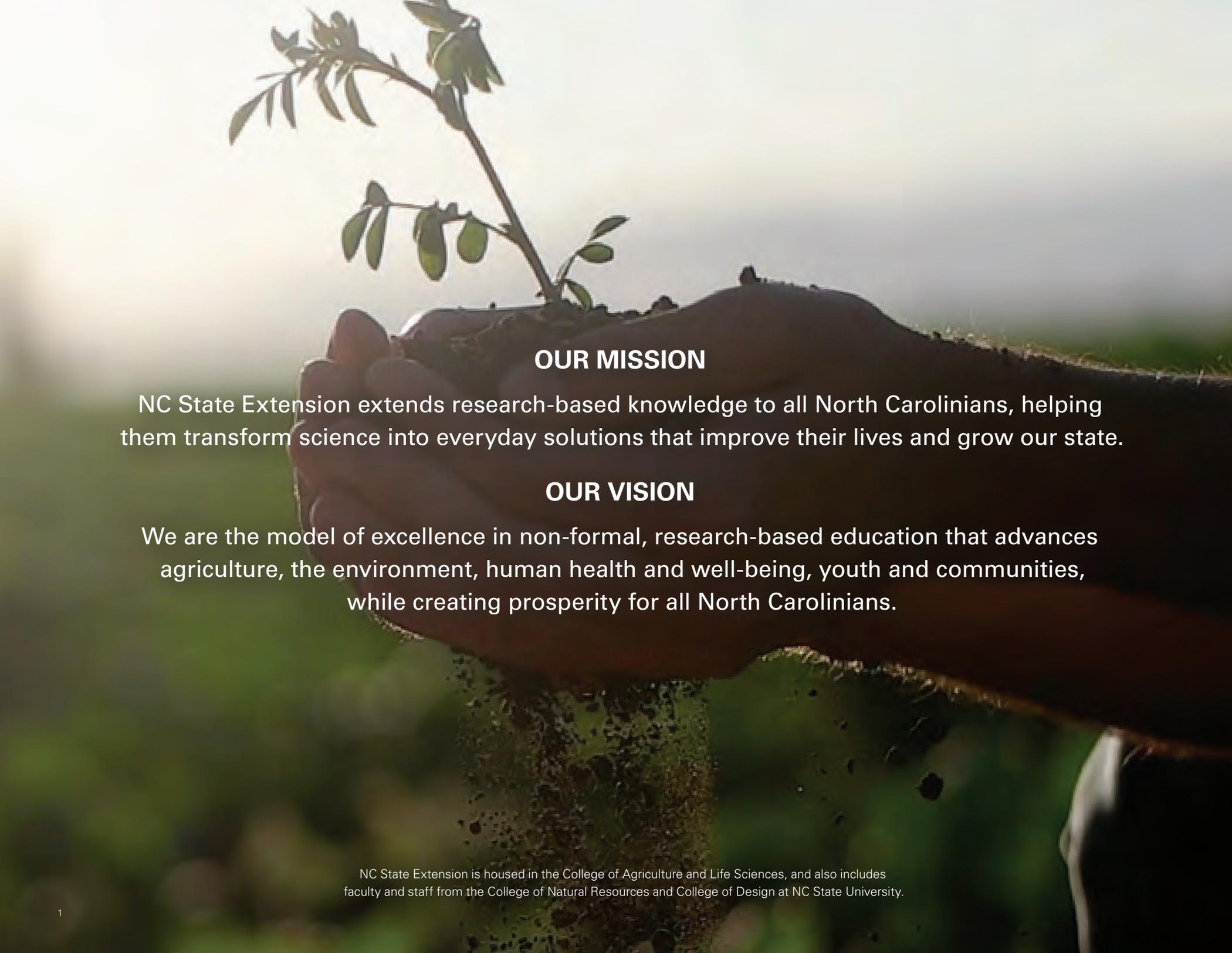
**NC STATE**

EXTENSION

**NC STATE** EXTENSION

Extension In Your Home

**2020 ANNUAL REPORT**

A close-up photograph of a hand holding a small, green seedling with dark soil. The background is a soft-focus landscape with a bright light source on the left, creating a hazy, golden atmosphere. The hand is positioned in the lower center, with the soil mound resting on the palm. The plant has several small, oval-shaped leaves.

## **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

At NC State Extension, we improve lives and grow North Carolina. While the past year presented extraordinary challenges — from COVID-19 and economic hardships to natural disasters and social and political discord — we never stopped delivering on our promise.

From Murphy to Manteo, including all 100 counties and the Eastern Band of Cherokee, over 1,000 NC State Extension professionals rose to the occasion, demonstrating unprecedented flexibility for unprecedented times.

When the pandemic took hold, we connected with audiences in new and innovative ways, utilizing tools and technology that transported Extension into homes, businesses and communities. Rural and urban, small and large, high-tech and high-touch.

We operated a little differently in 2020, but the business of the day remained unchanged. As did the outcomes. Despite reduced in-person programming, Extension still offered nearly 20,000 educational activities, transitioning programs to virtual platforms and expanding our reach to more than 3 million people through our websites.

Among many meaningful efforts throughout the year, Extension

- > Promoted farmworker safety as N.C. agriculture continued to feed concerned citizens;
- > Provided overwhelmed parents and teachers with virtual 4-H curriculum;
- > Nurtured a new wave of interest in cooking and gardening;
- > Helped North Carolina restaurants and shops reopen safely; and
- > Stood side-by-side with local communities, supporting them in their time of need.

Along the way, we affirmed that the indomitable spirit and tireless commitment of our faculty and staff are unmatched. Moving forward, we will continue to extend knowledge, enrich lives and support North Carolinians in the ways they need us most.

Because at NC State Extension, we never stopped growing North Carolina, and we never will.



**A. Richard Bonanno**

Director, NC State Extension

Associate Dean, College of Agriculture and Life Sciences

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



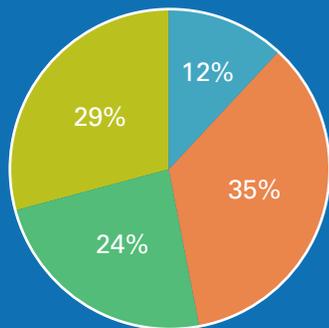
***“Extension meets  
people where they are,  
wherever they are.”***

A. Richard Bonanno

## TABLE OF CONTENTS

Our Mission	1
Message from the Director	2
Extension Is Everywhere for N.C.	3-4
Driving Rural Economies	5
Growing Urban Opportunities	6
In Your Neighborhood	7-8
Core Areas   Impact Summary	9
Partnerships Pave the Way	10
Agriculture	11-12
Food and Nutrition	13-14
4-H Youth Development	15-16
Natural Resources	17
A System of Solutions	18

## EXPENDITURES



Federal	\$15.7M
State	\$43.8M
County	\$30.3M
*Other	\$36.7M
<b>TOTAL</b>	<b>\$126.5M</b>

\*Grants, contracts, donations, etc.

## OUR ROOTS



**101**

Local Centers



**1,100+**

Experts



**200+**

Websites

## OUR RESULTS



**27-1 ROI**

Economic return on government investments

**\$2.1 Billion**

Extension's annual economic impact on North Carolina

**\$36 Million**

Tax revenue generated

## Partnership for the People

Essential to Extension's mission to grow the state is our collaboration with the U.S. Department of Agriculture's National Institute of Food and Agriculture (USDA-NIFA), N.C. A&T State University and local governments across the state. This strategic partnership is called **N.C. Cooperative Extension**.

Together our network of partnerships and technical expertise helps to create economic, societal and intellectual prosperity in every corner of the state.

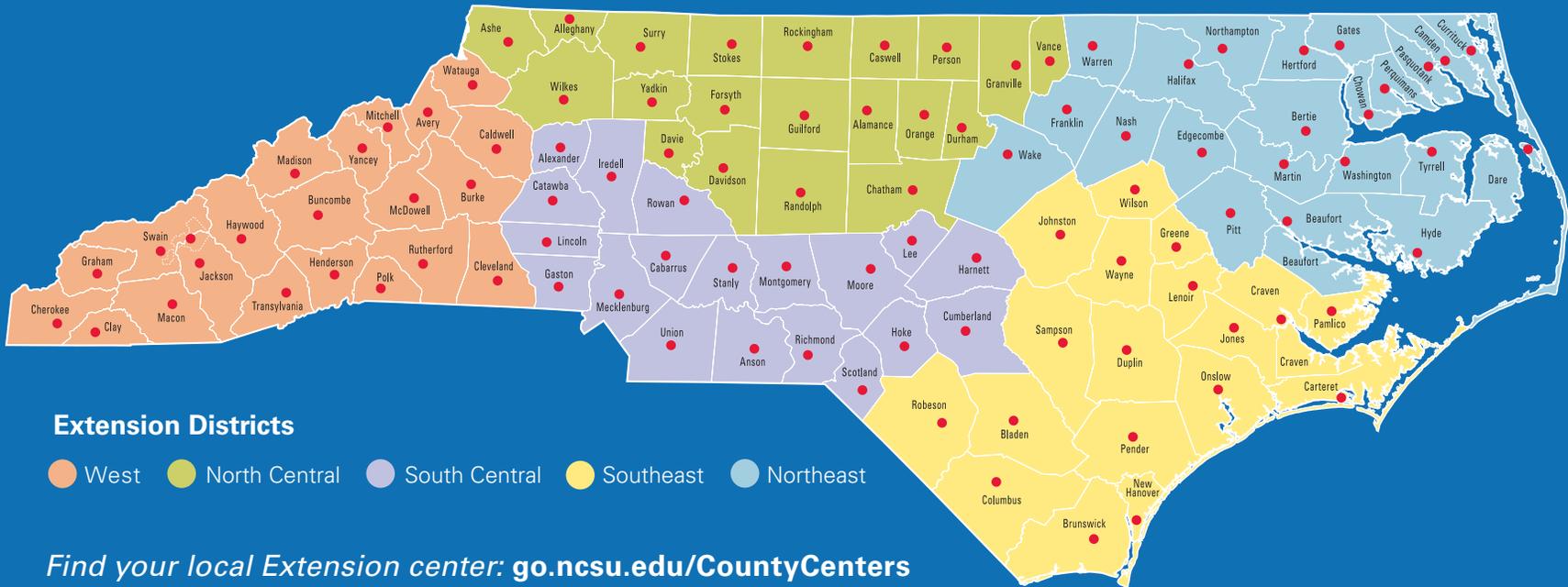
Discover more at [go.ncsu.edu/About-Extension](http://go.ncsu.edu/About-Extension).

# Extension Is Everywhere for North Carolina

NC State Extension offers locally-focused services in every county and the Eastern Band of Cherokee. Local centers house **775 NC State professionals**, while another **363 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 2020, \*Extension volunteers donated over **\$11 million** worth of time to augment our services.

*\*Based on the national average value of volunteer services (independentsector.org, 2018)*



Our Extension professionals delivered

**~20,000**

educational programs statewide, many of them virtually



**3.1M**

Visitors to Extension websites

**8.3M**

Total pageviews



Expanded our social media following to

**~28K**

across Facebook, Twitter and YouTube

# Extension Drives Rural N.C. Economy

Extension's statewide network of centers and partnerships uniquely position us to support North Carolina's rural communities, where the majority of our food and agricultural products are produced.

***Of the state's 100 counties, 80 are considered rural, according to the \*N.C. Rural Center.***

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

## Progress Through a Pandemic

Against the backdrop of a pandemic, the importance of Extension's services in rural communities was magnified in 2020, as farmers and consumers alike relied on Extension's guidance to navigate challenges created by COVID-19.

- > ^Extension provided educational services to more than **500K** North Carolinians in rural counties
- > **478** new farms began selling into rural markets with Extension's assistance
- > **73,008** crop producers adopted Extension best management practices (related to production, pest control, nutrient management and more)
- > **25,877** program participants increased their consumption of fruits and vegetables
- > **10,460** youth in rural areas gained key career and employability skills through Extension 4-H programs



Employees from Extension's Johnston County Center distribute personal protective equipment (PPE) like face masks to help farmworkers and others during the COVID-19 pandemic.

\*N.C. Rural Center defines rural counties as those with an average population density of 250 people/sq. mi. or less

^Participants in limited face-to-face programming like events, trainings and workshops

## Connecting Rural Communities

North Carolina is changing rapidly, a global pandemic notwithstanding. By investing in digital infrastructure at Extension county centers, research stations and field labs, the College of Agriculture and Life Sciences (CALs) is ensuring that key facilities will help keep agriculture and rural communities growing.

In 2020, Extension continued to upgrade its county centers to broadband internet with the N.C. Research and Education Network, having now expanded the service to 24 counties, all in rural areas. These Extension centers promote access to 21st century solutions vital to growing local communities and economies.

Several of the 18 research stations also incorporated high-speed fiber internet, including the Central Crops Research Station in Johnston County. Dr. Chris Reberg-Horton, Extension organic cropping specialist, is already using the station's new network as part of a StressCam project that tracks drought stress in corn and soybeans. Results from the project will help inform production practices for farmers across the region.



# Meeting The Needs of Growing Urban Populations

North Carolina's ^six urban counties, home to well over one-third of the state's total population, continued to grow in 2020. This growth is expected to continue, challenging Extension staff to identify and implement creative ways to reach and support a customer base that is, at times, generations removed from agriculture.

Extension has embraced an increased population size and density, greater diversity of residents and the complex organizational environment of N.C. urban centers, where multiple partners often work toward similar goals. The additional challenges presented by the COVID-19 pandemic have brought an even greater emphasis on community partnerships as Extension staff lead the way toward serving vulnerable populations.



*In Wake County, multiple groups of sororities and fraternities worked with Extension to put together personal packages of PPE for community members in vulnerable populations.*

## N.C. Urban Counties

Durham  
Forsyth  
Guilford  
Mecklenburg  
New Hanover  
Wake

## Regional City and Suburban Counties

Alamance	Henderson
Buncombe	Iredell
Cabarrus	Lincoln
Catawba	Orange
Cumberland	Pitt
Davidson	Rowan
Gaston	Union

## Extension Programming in Urban Areas



### FOOD and AGRICULTURE

- > Increasing agricultural awareness
- > Tailoring gardening and food production services to urban environments
- > Strengthening local food systems
- > Promoting farmland and open space preservation



### 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 decreasing risk of chronic disease via nutrition education
- > Educating families on food safety, food preservation, nutrition and physical activity
- > Certifying retail food managers in food safety practices
- > Improving food access



### 4-H YOUTH DEVELOPMENT

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



### FAMILIES and COMMUNITIES

- > Increasing food security
- > Leading emergency food relief
- > Promoting physical, mental, environmental, social and financial wellness
- > Building capacity of local non-profits
- > Leading collective impact initiatives to address critical community issues

<sup>^</sup>N.C. Rural Center-defined counties where the average population density exceeds 750 people/sq. mi..

# Extension In Your Neighborhood

## Southeast

- > Counties: 18
- > Households: 311,962
- > Food Insecurity Rate (2020 Projected): 18.9%
- > Farms: 7,657
- > ^Extension Employees: 147
- > Extension Programs: 4,180

## South Central

- > Counties: 19
- > Households: 598,35
- > Food Insecurity Rate (2020 Projected): 16.9%
- > Farms: 9,920
- > ^Extension Employees: 120
- > Extension Programs: 5,954

## Northeast

- > Counties: 22
- > Households: 353,302
- > Food Insecurity Rate (2020 Projected): 13.7% - 24%
- > Farms: 5,410
- > ^Extension Employees: 124
- > Extension Programs: 4,323

## North Central

- > Counties: 20
- > Households: 486,837
- > Food Insecurity Rate (2020 Projected): 17.4%
- > Farms: 14,643
- > ^Extension Employees: 129
- > Extension Programs: 3,177

## West

- > Counties: 22
- > Households: 232,282
- > Food Insecurity Rate (2020 Projected): 17.9%
- > Farms: 8,788
- > ^Extension Employees: 113
- > Extension Programs: 1,621

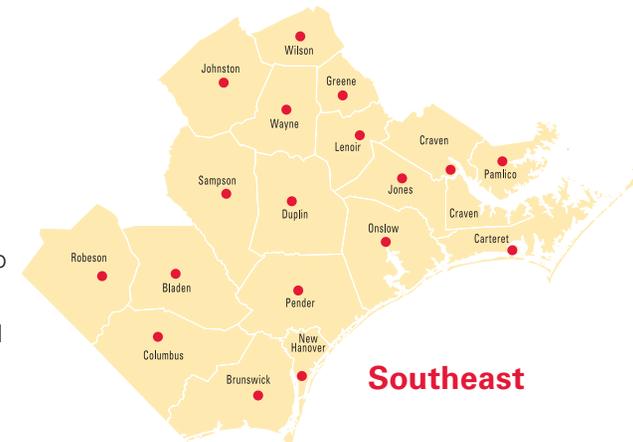
Select data provided as ranges to account for Wake County stats, which are generally an outlier in the region.

^Not including personnel that are funded entirely by county government

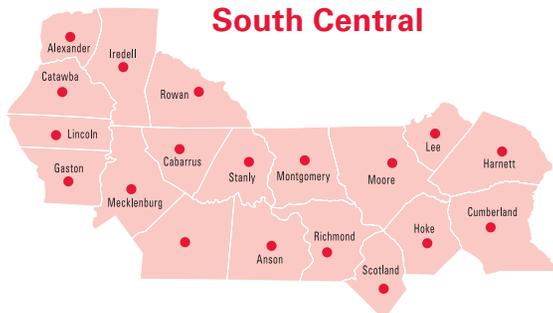


### Hometown Hero | Michelle Estrada

If you were to identify an individual who gives of herself for the good of others, you would find Michelle Estrada. An Extension FCS agent in Wayne County, “Michelle is a selfless individual that has the passion and vision to overcome adversity and achieve success at the highest level,” according to Kevin Johnson, director of Extension’s Wayne County Center. That determination was on full display in 2020, as Michelle quickly transitioned to virtual platforms to curb the impact of COVID-19, partnering with colleagues to produce high-quality, high-impact programs that have reached new audiences. Michelle is a vital resource, delivering educational resources to thousands of local citizens – particularly minority populations and at-risk communities – on eating mindfully and maintaining a healthy lifestyle. “Michelle is a rare gem and the epitome of an excellent adult educator,” added Kevin.



Southeast



South Central

### Hometown Hero | Zach Troutman

Among the many changes brought about by the pandemic, 2020 saw a surge in interest in home cooking. But with culinary literacy at an all-time low, Zach Troutman, Extension FCS agent in Lincoln County, was dealing with a tall order. Often collaborating with colleagues (and enhancing their local efforts), Zach delivered virtual demonstration-style workshops that have been recognized throughout the state. The sessions covered a broad range of topics, from cooking with herbs and using pressure cookers to food safety and the Med Instead of Meds diet. Despite the challenges of online delivery, Zach facilitated active discussions of recipes, cooking techniques and nutrition, with many participants noting significant changes to their eating and lifestyle habits during a time when personal health was at a premium.





**Hometown Hero | Crystal Smith**

Crystal Smith, Extension director for Warren County, has served as Co-Feeding Coordinator as part of the county’s Pay It Forward program since the early days of the pandemic in April 2020. Last year, the group reformatted its educational component to address COVID-19, while giving each family PPE along with food items and gifts to help them through challenging times. In addition to her full-time Extension duties, Crystal says that “serving as a Co-Feeding Coordinator has helped me to grow professionally and personally. The role has also allowed me to leverage Extension resources to break down barriers, grow new relationships, provide valuable education and resources to families, and secure support for ongoing programs.”



*Working with local partners, Crystal Smith (at far right), helps lead community efforts to support limited-resource families.*

**Hometown Hero | Ginger Cunningham**

COVID closed Extension’s Chatham County Center for much of 2020, but that didn’t stop Ginger Cunningham, county Extension director, and her team from embracing the true meaning of community service. With the odds stacked against her, Ginger prioritized the needs and well-being of staff, engaging her team in regular remote check-ins and family meetings. By fostering a family environment, Ginger helped the team maneuver myriad challenges, from navigating the office closure and a crippling cyber attack to managing remote work, personal health concerns and family obligations – all while continuously caring for the community. “I’m so proud of our team and the extraordinary work we’ve done bringing the university to people in new and meaningful ways,” Ginger said.



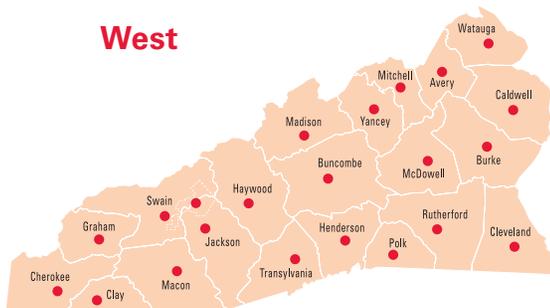
*Ginger Cunningham (top center), has placed personnel first during the pandemic, scheduling regular wellness check-ins.*

**North Central**



**Hometown Hero | Charlie Godfrey**

Extension 4-H Youth Development Agent Charlie Godfrey faced 2020 knowing that he would have to be flexible and creative to continue meeting the dynamic needs of Cleveland County youth and families. By transitioning all 4-H activities online, Charlie expanded his audience and kept youth, parents, volunteers and community partners engaged. Responding to the need for hands-on educational activities at home, he distributed vegetable seeds and gardening instructions to 1,000 students through the school system’s free lunch distribution program. He also strengthened collaborations with local organizations and county government, while equipping teachers with 4-H resources, leading an online community forum on racial equity and staffing the county’s COVID-19 helpline to schedule vaccination appointments.



**West**

# 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.



## FEEDING OUR FUTURE

NC State Extension keeps North Carolina's \$92 billion agriculture industry—the state's leading economic sector—growing and sustainable by connecting growers with research-based information and technology.

- > **238** county employees
- > **14,641** educational activities offered
- > **625,672** participants engaged in program activities
- > **92,219** Extension best management practices adopted by farmers
- > **2,033** farms adopted regular use of appropriate PPE following program participation



## IMPROVING OUR HEALTH

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

- > **111** county employees
- > **1,394** educational activities offered
- > **491,275** participants engaged in program activities
- > **55,797** participants increased their knowledge of safe home food handling, preservation or preparation
- > **120,000** adults increased their fruit and vegetable consumption



## 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.

- > **117** county employees
- > **2,750** educational activities offered
- > **7.6M** number of times youth participated in 4-H activities
- > **12,423** youth gained career / employability skills
- > **60,110** youth increased their knowledge in STEM (Science, Technology, Engineering, Math)

*Note: An additional 167 NC State county employees are affiliated with other/multiple program areas (not included above), as well as 142 Extension employees that are funded entirely by county governments.*

## ANNUAL SPOTLIGHT:

# Partnerships Pave the Way Through Pandemic

Providing services to all 100 counties in “normal” times takes the tireless efforts of more than 1,000 NC State Extension employees. Factor in an unprecedented public health emergency, and what Extension accomplishes across the state is both urgent and essential.

But we don’t do it alone. Extension relies on extensive partnerships – from local governments and community organizations to state agencies and associations – to facilitate meaningful change in our communities.

***“The role of connector is absolutely vital, and that role has expanded for us during the pandemic.”***

Kathy Williams, Extension director in Wake County.

- > COVID-19 was declared a pandemic just as the spring growing season kicked off in North Carolina, introducing a novel infectious disease and a new degree of vulnerability to farmworkers. Working with the N.C. Department of Health and Human Services and other state agencies, Extension assisted in distributing personal protective equipment (PPE) to farmworkers, including nearly 1 million masks, while providing COVID-19 education and tools. [go.ncsu.edu/1M-Masks](https://go.ncsu.edu/1M-Masks)
- > NC State Extension’s Safe Plates program has developed more than 150 educational resources that have been adopted by dozens of partnering institutions in at least 40 states. The team is also helping to revive North Carolina’s \$21 billion restaurant industry, partnering with multiple state agencies to launch Count On Me NC. Designed to help food businesses safely reopen and operate amid the pandemic, the program has certified around 7,500 businesses, while another 14,555 businesses were in progress at the end of 2020. [go.ncsu.edu/Count-On-Me-NC](https://go.ncsu.edu/Count-On-Me-NC)



- > The closing of schools statewide was a major blow to many economically disadvantaged parents struggling to feed their families. But through strong partnerships and dedicated staff, local Extension centers were crucial in addressing child and family nutrition issues throughout the state. Extension’s Wake County Center, alongside 55 food security partners and community leaders, distributed more than 7 million meals at 212 locations from March through December. And in Montgomery County, where 74% of students receive free or reduced lunch, Extension partnered with Communities in Schools to provide 12,000 meals to students in need. [go.ncsu.edu/Extension-Food-Insecurity](https://go.ncsu.edu/Extension-Food-Insecurity)

- > NC State Extension’s COVID-19 website is a one-stop shop for research-based resources that assist North Carolinians in adjusting to their “new normal.” The site shares tools and updates from Extension experts and our partners to help individuals and families, farmers and agribusinesses, communities and leaders address the many COVID-19 challenges. Launched in March, the site served over 100,000 pageviews to more than 30,000 users in 2020. [go.ncsu.edu/ExtensionCOVID19](https://go.ncsu.edu/ExtensionCOVID19)



*Despite working remotely during the pandemic, Judy Moore (on computer screen) still provides personal “face-to-face” service to staff and visitors at Extension’s Lincoln County Center.*

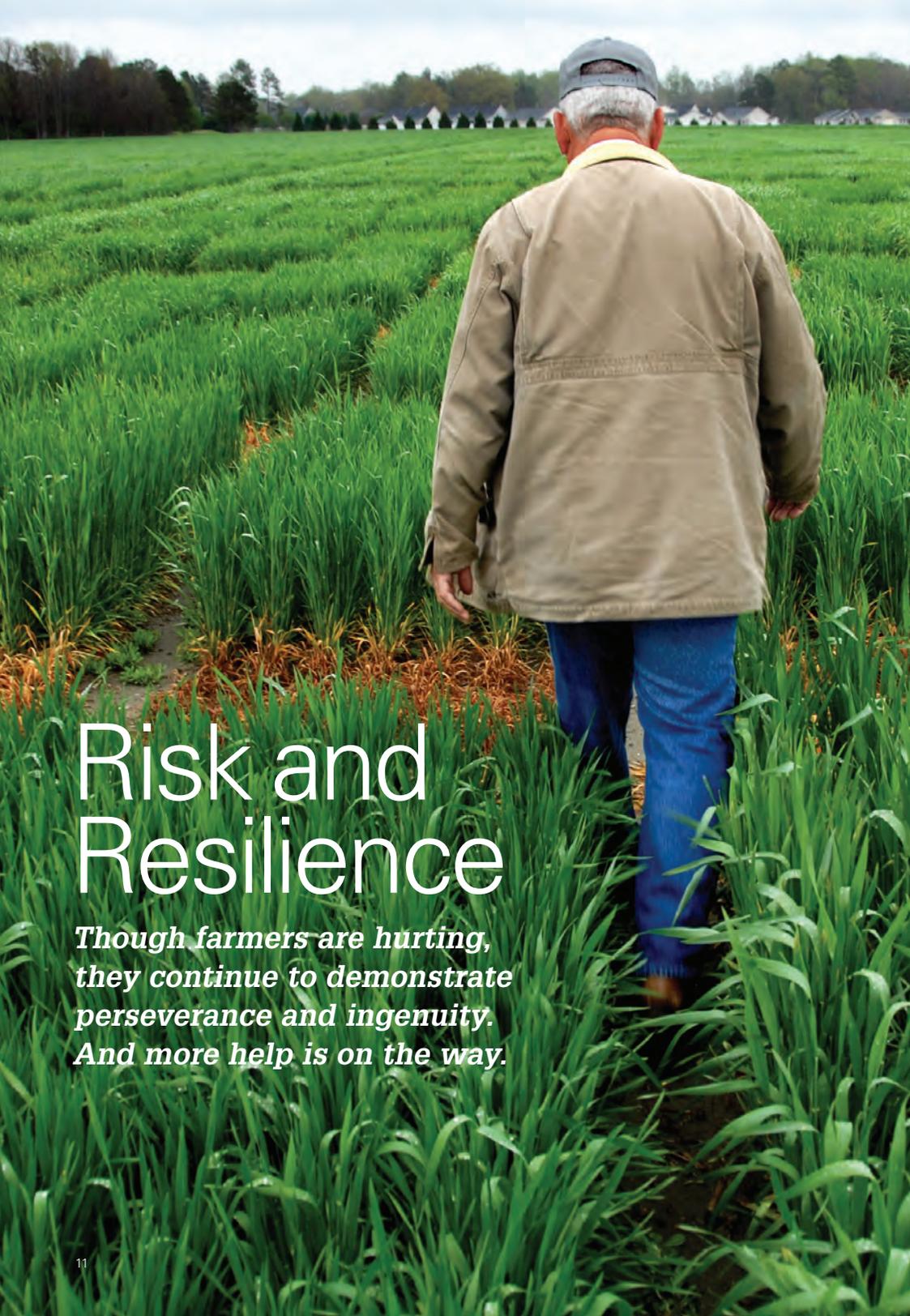
## Reimagining “Face to Face”

Judy Moore has worked from home through most of the COVID-19 pandemic. Yet she’s still been able to offer timely face-to-face service without risk of infection, acting as a virtual receptionist for Extension’s Lincoln County Center.

When a client enters the office, an automatic sensor alerts Judy at home. She immediately appears on screen and has a real-time, two-way conversation with the client, putting them in touch with the appropriate agent or guiding them to materials.

Judy also has maintained her role as an essential resource for the office through the use of a second computer with remote access to her office desktop. This has allowed her to access files, programs and even prepare and print documents for the Lincoln staff.

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



# Risk and Resilience

*Though farmers are hurting, they continue to demonstrate perseverance and ingenuity. And more help is on the way.*

Risk is an everyday reality for farmers, according to Nick Piggott, NC State Extension specialist. Farmers must contend with weather, tariffs and trade wars, emerging pests and pathogens, and now a new threat: COVID-19.

As restaurants, schools and universities closed, scaled back or moved online due to the pandemic, futures prices for agricultural commodities nosedived. COVID-19 rocked the meat industry. Processing plants closed or slowed production as workers got sick and companies implemented safety measures. From April to June 2020, processing capacity was down as much as 40% for pork and beef, Piggott said.

Prices and production aren't the only problems. Farming and stress have long been synonymous, but today, the stress is getting worse, creating dangerous, sometimes life-threatening situations. Farmers' mental health has become a major focus for Extension, which together with East Carolina and N.C. A&T State universities operate the N.C. Agromedicine Institute.

The partnership addresses the health and safety risk faced by farmers, foresters and fishermen, their families and communities. Together they're raising awareness among health-care professionals, agricultural lenders and Extension agents, while providing resources for farmers experiencing anxiety or depression.

"Asking for help is a sign of strength, not weakness," says Rich Bonanno, NC State Extension director. "We support one another like a family, and this situation calls for community as much as any I've seen."

Though farmers are hurting, they continue to demonstrate perseverance and ingenuity. And more help is on the way.

Beyond public funds that are providing pandemic relief to the agricultural sector, CALS Dean Richard Linton says pairing the internet with advanced data sciences could help farmers make better real-time production decisions, down to the square inch. A proposed Future Ready Farms network would help connect farmers with the state's 18 agricultural stations and shepherd them through the growing pains of rural broadband infrastructure.

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



# Building a Stronger Agricultural Future

NC State Extension develops and implements better agricultural products and practices, while providing growers and agribusinesses with the 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 **\$92.7B** annually while employing nearly **18%** of the state's workforce. Our's is the third most diverse agriculture economy in the country, with more than **80** commercial crops and a large animal agriculture presence.

- > **772,000** jobs
- > **85%** of N.C. farms are family/individual operated
- > **46,200** farms
- > **#1** in sweet potatoes, tobacco and poultry/egg cash receipts
- > **8.4M** acres
- > **#8** in livestock cash receipts
- > **#9** in all commodity cash receipts

## Transforming Field Days

The pandemic threatened to put the brakes on invaluable Extension events across the state, including the highly anticipated 50th annual Blackland Farm Managers Tour. Other on-site events throughout the state, like field days, farm tours and research demonstrations, faced a similar fate in 2020. Undeterred, Extension experts adapted and transitioned many programs to virtual platforms, keeping farmers connected to expertise and research they depend on while engaging new audiences. Extension also curated a Virtual Events library covering a wide variety of crops and topics.

[go.ncsu.edu/Virtual-Extension](https://go.ncsu.edu/Virtual-Extension)

## Protecting Farmworkers: The Pandemic Dilemma

Each year, North Carolina agriculture depends on 70,000 to 80,000 farmworkers across the state. As the public was being told to practice social distancing last spring, these workers were on the job, often in close quarters, producing and packing our food. Leveraging its vast network of partners, NC State Extension has played a vital role in helping agribusinesses keep workers safe while empowering farmworkers to protect each other. As the rollout of COVID-19 vaccines continues, Extension will remain a key player in farmworker health during the pandemic. [go.ncsu.edu/Protecting-Farmworkers](https://go.ncsu.edu/Protecting-Farmworkers)



## Supporting the Food Supply Chain

When the pandemic created pinch points in the national food supply, particularly at food processing plants, the impact was felt from the farm to the consumer. NC State Extension joined North Carolina's frontline effort to address food production and distribution issues across the state, helping to ensure that all North Carolinians were fed and that the links in the state's food supply chain remained strong. [go.ncsu.edu/Extension-Food-Supply](https://go.ncsu.edu/Extension-Food-Supply)

## Asking for Help Is a Sign of Strength

These days, farmers face a rising tide of issues that can erode mental health and well-being, and that of their families. In a world where anxiety and stress are too often accepted as a normal part of the job, COVID-19 poses a new and dangerous threat to farmers' mental health.



Watch as Rich Bonanno, NC State Extension director and lifelong farmer, discusses farmer stress at [go.ncsu.edu/Farm-Stress-Video](https://go.ncsu.edu/Farm-Stress-Video).

The North Carolina Agromedicine Institute – a partnership between NC State, East Carolina and N.C. A&T State universities – is working to address farm stress and provide farmers with resources to help them tackle issues of anxiety or depression.

Find farm stress resources at [go.ncsu.edu/Farm-Stress-Program](https://go.ncsu.edu/Farm-Stress-Program).

If you or a farmer you know needs help, don't wait, call the National Suicide Prevention Hotline at **1-800-273-TALK (8255)** or text **741741** to the Crisis Text Line.

# Extension Leads Food Safety Far and Wide



While restaurants waited out mandatory closures due to the coronavirus pandemic, Extension personnel were inundated with questions from restaurateurs about how to safely reopen once they got the green light. How could their staff protect both themselves and returning customers while restoring consumer confidence?

Extension food safety experts became the drivers behind an evidence-based, educational program for restaurants, hotels and other food businesses. Count On Me NC, with funding from the N.C. Department of Health and Human Services and backing of the N.C. Restaurant and Lodging Association and Visit NC, comprises a suite of best practices for reopening and operating food service businesses.

Prior to reopening, 16,595 employees and 7,541 establishments were certified using Extension-developed training modules. An additional 14,555 businesses were either registered or in progress.

Count On Me NC constituted not just practical safety education for food service workers, but also acknowledgement of a business's accountability to the public. The certification positions them as businesses committed to the highest levels of sanitation and guest safety during COVID-19.

Meanwhile, NC State Extension distributed 160 COVID-19 resources, in English, Spanish, Creole and Mandarin, that were branded or co-branded for use in at least 40 states, and social media exposure exploded.

Extension is now integral to an NC State University team leading a \$1 million National Institute of Food and Agriculture two-year research program on COVID-19 food safety that will investigate issues from field to fork. Among other topics, collaborators will quantify viral transfer to and from hands, foods and surfaces, as well as test the virus' persistence on foods, packaging and food preparation surfaces.

Read more at [go.ncsu.edu/Food-Safety-Leaders](https://go.ncsu.edu/Food-Safety-Leaders).



# 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 disrupted food supply chains and altered how we cook and consume food in 2020. Extension has played a crucial role in providing families, growers and businesses with best practices for navigating COVID-19 and managing food safety risk.

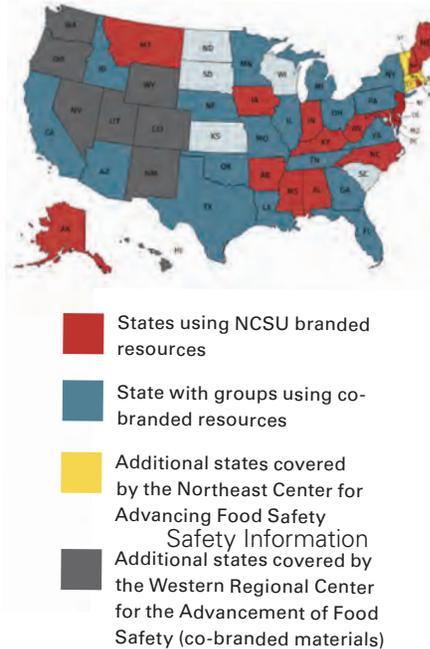
- > **93.6M** digital media contacts
- > **160** NC State Extension COVID-19 resources developed (in 4 languages)
- > **706** COVID-19 resources produced for 20 partners
- > **~500K** individuals reached via Safe Plates Food Center social media campaigns

Find COVID-19 food safety resources at [go.ncsu.edu/COVID19-FoodSafety](https://go.ncsu.edu/COVID19-FoodSafety).

## 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.

- > **55,797** consumers increased their knowledge of safe home food handling, preservation or preparation practices
- > **36,240** participants learned how to prepare local foods, including home food preservation techniques
- > **120,000** adults increased their consumption of fruits and vegetables
- > **2.1M** pounds of local food donated for vulnerable populations



## 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. While 2020 was a challenging year for all, Steps to Health quickly shifted all program delivery to a virtual format, continuing to make a difference in the fight against food insecurity.

- > **5,460** participants in Steps to Health (4,900 youth and 560 adults)
- > **538** partnering organizations
- > **28,364** educational contacts made statewide
- > **352,250** impressions from social media campaigns

## EFNEP

The Expanded Food and Nutrition Education Program (EFNEP) is a federally-funded Extension program that provides practical education on nutrition, healthy lifestyles and food safety for limited-resource youth, families and pregnant teens. EFNEP utilized a variety of strategies to reach low-income audiences with nutrition education. Although enrollment did not increase in 2020, outreach did.

- > **2,053** and **10,731** youth enrolled in EFNEP
- > **3,177** low-income adults not enrolled in EFNEP participated in live-remote and online lessons
- > **65,140** individuals viewed nutrition information via social media

EFNEP, with Extension's Local Foods and Steps to Health programs, reached **102,000** families with nutrition and food safety information through **264** emergency food distribution sites.

Learn more about EFNEP’s annual impact at [go.ncsu.edu/EFNEP2020](https://go.ncsu.edu/EFNEP2020).



# Embryology Goes Live on Facebook

Hatch day in Julie Warner's classroom at East Rockingham Elementary School arrived not a moment too soon. After 21 days of waiting, her second-graders finally got to meet their fuzzy chicks and continue the scientific observations that are part of their 4-H embryology curriculum. Unfortunately, they and other students statewide were sent home indefinitely just days later due to the coronavirus pandemic. Many students involved in other embryology classes had to abandon eggs in incubators in hundreds of empty classrooms.

Like heroes, 4-H agents stepped in to take the classes online and the incubators into Extension offices across the state. Courtney Stanley, an Extension 4-H agent in Johnston County, was determined to make sure the show would go on. She created a Facebook livestream that allowed her to teach the curriculum, answer questions and virtually show students the incubation and hatching process. By the end of March, the Facebook Live page had reached 90,000 individuals and been shared nearly 500 times.

4-H's embryology class has become a go-to course of study for many of the state's public and private schools. It has alignments with science and language arts curriculum standards. Youngsters dissect fertilized and unfertilized eggs, learn the parts of the egg in its different stages, practice taking measurements in both inches and centimeters, and draw approximate comparisons with other kinds of eggs. They also write descriptions of colors, sounds, textures and activity.

4-H curriculum like embryology is implemented through the cooperation of teachers, volunteers and 4-H agents working through 101 local North Carolina Cooperative Extension centers statewide. It not only sparks experiential learning in the classroom, it also exposes some children to 4-H for the first time.

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



# Serving Youth and Families Through Challenging Times



2020 was a difficult year for everyone, with children among those experiencing the most dramatic changes. Youth watched as schools closed, clubs and activities were canceled, and friends and loved ones were separated as a result of COVID-19.

***Striving to bridge the gap and return some sense of normalcy to young lives, NC State Extension 4-H staff quickly transitioned an array of activities and programs to virtual platforms.***

Within one week of the forced school shutdowns, for example, the team launched 4-H Spark, a daily virtual program that supports teachers and parents with online STEM curriculum. 4-H agents, program staff and volunteers statewide supplemented that outreach with online programs and club meetings.

## **4-H Annual Contacts**

- > **224,533** direct contacts (limited in-person events early in the year)
- > **3,899,985** digital media contacts (4-H websites, social media, Zoom)
- > **35,680,287** mass media contacts (coverage via TV, radio, magazine, etc.)

## **Growing the Leaders of Tomorrow**

Extension 4-H professionals work with North Carolina’s youth “to make the best better,” in good times and in bad, equipping them with the confidence and knowledge to make a difference in the world.

- > **554** 4-H clubs maintained in North Carolina
- > **12,423** youth gained career/employability skills
- > **15,363** youth demonstrated increased knowledge of natural resources and environmental issues
- > **33,273** youth improved their knowledge of local food and agricultural systems
- > **8,749** youth increased their knowledge, attitudes, skills and/or aspirations regarding leadership

## **4-H is a national leader in STEM education (Science, Technology, Engineering, Math)**

- > **60,110** youth gained valuable knowledge in STEM fields
- > **1,603** teachers used 4-H STEM curriculum in their classrooms

## **Cultivating Citizenship Through Camps**

For more than 80 years, 4-H camps have strengthened the foundations of the diverse communities they serve while instilling valuable, lifelong lessons in campers. While the pandemic did not allow youth to attend summer camp in person in 2020, staff at three N.C. 4-H camps – Betsy-Jeff Penn, Camp Millstone and Eastern 4-H Center – were busy supporting 4-H’ers statewide with virtual programming. Among the highlights was a free, family-oriented virtual campout that hosted **550+** families from **79** North Carolina counties and **17** U.S. states.

Help secure the future of these camps for generations and ensure a healthy, fit and responsible North Carolina for years to come!

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



# Protecting Our Shared Environment

***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 natural environment.***

In 2020, Extension staff in CNR quickly adapted to guidance and restrictions resulting from the COVID-19 pandemic, meeting the needs of clientele and carrying out critical Extension activities during challenging times, while supporting non-Extension colleagues and partners with virtual technology guidance and expertise.

## **Extension Forestry**

- › Conducted a webinar series empowering over 2,000 woodland owners to make better informed decisions concerning the management of their land.
- › Used virtual platforms to provide education and leadership for more than 1,500 landowners, wildland fire professionals and others across the region.
- › Adapted program materials for virtual platforms, including digital newsletters, Extension county center webpages and a video farm tour, in place of traditional face-to-face Christmas tree grower meetings.
- › Supported more than 230 environmental educators with online professional development workshops through N.C. Project Learning Tree.

## **Wood Products Extension**

- › Transitioned 13 meetings to address forest product marketing issues (identified by the N.C. Wood Product Industry) to a virtual format for 138 individuals.
- › Partnered with the N.C. Natural Science Museum to present a virtual mass timber program for 70 participants (another 200 watched a YouTube recording).
- › Provided a lumber drying short course to 21 participants, who estimate an average of \$540,000 in improved lumber quality and throughput resulting from the course.

## **Tourism Extension**

- › Partnered with Recreation Resources Services to deliver a program to 62 participants that helped communities and festival planners both continue to develop events through the pandemic, as well as celebrate culture and identity while supporting local businesses and entrepreneurs.
- › Facilitated a multi-day virtual workshop for 30 National Park Service staff to assess the sensitivity of archeological sites to climate change impacts.
- › Provided a virtual presentation for the National Park Service's Vanishing Treasures Program on adaptation of planning tools for historical and archeological resources.



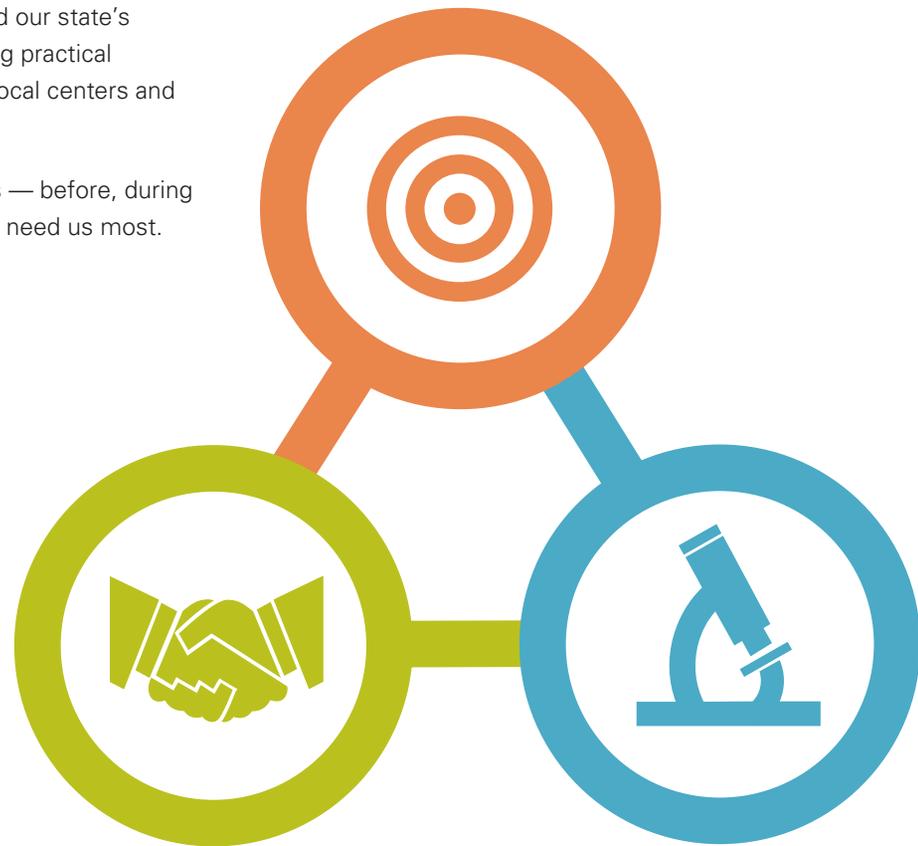
**Agritourism is a way to immerse yourself in the beauty and splendor of North Carolina agriculture - discover more at [go.ncsu.edu/Homegrown-Agritourism](https://go.ncsu.edu/Homegrown-Agritourism).**

# A System of Solutions

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.

Extension is committed to engaging and inspiring all North Carolinians — before, during and long after the pandemic — serving communities in the ways they need us most.

- 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 recommendations back to the communities, translating knowledge into everyday applications



## EXTENSION ADMINISTRATION

### Dr. Rich Bonanno

Director, NC State Extension  
Associate Dean, CALS  
abonann@ncsu.edu  
919-515-1372

### Dr. Sarah Kirby

Assistant Director, NC State Extension  
State Program Leader, FCS  
sdkirby@ncsu.edu  
919-515-9154

### Dr. Dale Monks

Associate Director, NC State Extension  
State Program Leader, ANR/CRD  
cdmonks@ncsu.edu  
919-515-2811

### Dr. Mike Yoder

Associate Director, NC State Extension  
State Program Leader, 4-H  
mjyoder@ncsu.edu  
919-513-3509

# NC STATE EXTENSION

[extension.ncsu.edu](http://extension.ncsu.edu)

## CONNECT WITH EXTENSION



[extension.ncsu.edu](http://extension.ncsu.edu)



[@NCEExtension](https://www.facebook.com/NCEExtension)



[@NCEExtension](https://twitter.com/NCEExtension)



[/NCEExtension](https://www.youtube.com/NCEExtension)

**Sign up for news and topical updates at [go.ncsu.edu/ExtensionSubscribe](http://go.ncsu.edu/ExtensionSubscribe)**

NC State Extension provides equal opportunity and affirmative action efforts, and prohibits discrimination and harassment based upon a person's age, color, disability, family and marital status, gender identity, genetic information, national origin, political beliefs, race, religion, sex (including pregnancy), sexual orientation and veteran status.

*500 copies of this public document were printed at a cost of \$2.67 per copy.*