

NORTH CAROLINA

AG MAG



CAREERS

AGRICULTURE is North Carolina's number one industry!

- It contributes more than \$100 billion to the state's economy.
- It accounts for more than 17% of the state's income.
- More than 17% of North Carolinians work in agriculture.



VOCABULARY

These words are in bold throughout the Ag Mag, and listed here to help you learn what they mean.

Agriculturally diverse – producing many different crops, livestock, or agricultural commodities and products.

Career – a job that you have as an adult.

Cash receipts – refers to the gross income from sales of crops, livestock, and livestock produces during a calendar year.

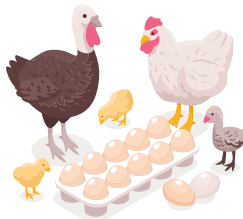


NORTH CAROLINA Agriculture Rankings

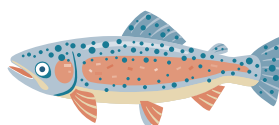
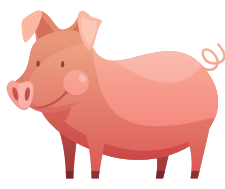
North Carolina is an **agriculturally diverse** state, meaning it produces many different crops, livestock and ag products.



North Carolina produces more tobacco, sweetpotatoes and poultry and egg **cash receipts** than any other state.



North Carolina is second in the nation in turkeys, annual pig crop, and trout sold.



North Carolina ranks third in the nation for cucumbers.



Other prominent crops and livestock in North Carolina: broilers (chickens raised for meat), peanuts, watermelons, cotton, soybeans, wheat, strawberries, corn, beef cattle, nursery and landscape plants and floriculture, bell peppers, apples, tomatoes, peaches, honey, squash, pumpkins, pecans, oysters and fish, grapes, and greens (collards, mustard, turnip, etc.).

SO...WHAT ABOUT CAREERS?

Have you ever thought about what you want to be when you grow up? When you become an adult, a **career** is a job that you have. Careers have many pathways. Here in North Carolina, many careers are related to agriculture!

In North Carolina, agriculture falls under Career and Technical Education (CTE), and you can enroll in agriculture classes in middle and high school if your school offers them.



AGRICULTURAL CAREERS

There are many agricultural careers, and many are connected! Which careers can you see that depend on each other?



FARMERS AND RANCHERS

Farmers and ranchers are responsible for planting, growing, harvesting, raising, and producing our crops and livestock. **Without farmers and ranchers, these agricultural careers would not exist!**

AGRICULTURAL BUSINESS

- Accountant
- Administrative Assistant
- Advisor
- Appraiser
- Auctioneer
- Auditor
- Attorney
- Broadcaster
- Broker
- Commodity Director
- Communications Director
- Consultant
- Contractor
- Controller
- Data Entry
- Economist
- Graphic Designer
- Information Technologies
- Journalist
- Legislative Director
- Loan Officer
- Lobbyist
- Marketing
- Office Manager
- Photographer
- Producer
- Public Relations
- Sales Representative
- Social Media Strategist
- Statistician
- Videographer



Appraiser - Agricultural appraisers determine the value of agricultural land for loan and real estate purposes. They inspect land, price equipment on the farm, or estimate the value of livestock and crops. Ultimately, they determine a value for what a farm is worth, according to market value.



Lobbyist - Agricultural lobbyists work to make sure that local, state, and national government officials hear the voices and positions of farmers and agricultural industries. They work to influence policy development and look out for the interests of who they represent.⁴

Equipment Operator - Equipment operators drive, maneuver, or control the heavy machinery, such as backhoes, tractors, dump trucks, and front-end loaders, on farms and ranches, and at warehouses and packing houses, etc.



AGRICULTURAL PRODUCTION AND MECHANICS

- Applicator
- Construction Foreman
- Drone Specialist
- Electrician
- Engineer
- Equipment Operator
- Fleet Manager
- Geospatial Analytics
- Livestock Hauler
- Maintenance
- Mechanic
- Parts Manager
- Precision Agriculture Specialist
- Production Manager
- Research and Development
- Shipping & Receiving
- Technician
- Truck Driver
- Welder



Precision Agriculture Specialist - Precision agriculture involves improving crop yields using high technology sensor and analysis tools.⁶ This technology can increase production, reduce labor, and ensure effective application of fertilizers and irrigation. A precision agriculture specialist provides support to farmers and ranchers using precision agriculture technologies on their farms.

FOOD SCIENCE

- Aquaculture
- Beekeeper
- Chef
- Chemist
- Dietician
- Fermentation Specialist
- Food Engineer
- Food Scientist
- Food Stylist
- Inspector
- Microbiologist
- Product Developer
- Quality Assurance
- Sensory Scientist
- Viticulture



Fermentation Specialist - Many of our foods require fermentation. Fermentation is the process of chemical breakdown by bacteria, yeasts, or microorganisms. Fermentation specialists work to develop and monitor the process of fermentation. Examples of fermented food: yogurt, wine, beer, cheese, vinegar, sour cream, and buttermilk.

Scan to play the Career Match Game!



ENVIRONMENTAL SCIENCES AND NATURAL RESOURCES

- Arborist
- Biosecurity Monitor
- Chemist
- Conservationist
- Entomologist
- Firefighter
- Fisheries
- Forester
- Geologist
- Groundskeeper
- Hydrologist
- Logger
- Marine Biologist
- Sawmill Operator
- Soil Scientist
- Waste Management



Inspector - There are many types of inspectors in agriculture. Health inspectors and meat inspectors are two examples. Health inspectors review the sanitary conditions of restaurants, hotels, schools, hospitals, and other public facilities. Meat inspectors ensure that meat passes quality regulations, and is contamination-free.

ANIMAL SCIENCE

- Animal Care Specialist
- Artificial Insemination Technician
- Biologist
- Breeding Manager
- Farrier
- Feedlot Manager
- Feed Mill Operator
- Farm Worker
- Geneticist
- Groomer
- Laboratory Technician
- Livestock Buyer
- Nutritionist
- Physical Therapist
- Production Supervisor
- Ranch Manager
- Technician
- Trainer
- Stable Manager
- Veterinarian
- Virologist
- Zoologist



Agricultural Pilot/Aerial Applicator - Agricultural pilots fly planes at low altitudes to apply pesticides, fertilizers or fungicides on fields. This method helps reduce the number of times a farmer has to drive over the field, which in turn, reduces soil erosion or compaction.⁴



Farrier - A farrier is a person who tends to a horse's hooves. They trim and shoe the hooves to protect them from overgrowth, splitting and other disorders. This is a pain-free process for horses—much like when we get our fingernails trimmed!

PLANT SCIENCE

- Agricultural Pilot / Aerial Applicator
- Agronomist
- Florist
- Geneticist
- Greenhouse Manager
- Horticulturist
- Irrigation Specialist
- Landscaper
- Laboratory Technician
- Microbiologist
- Pathologist
- Plant Breeder
- Plant Physiologist
- Turf Management
- Weed Scientist



Forester - The North Carolina Forest Service is housed in the Department of Agriculture, and its main goal is to ensure adequate and quality forest resources for the citizens of North Carolina. It is responsible for protecting state and privately-owned forestland from wildfires, forest pests and diseases, regulating certain open burning, and providing services and advice to forestland owners and operators. Foresters assist with all of these processes.



Entomologist - An entomologist is a scientist who studies insects. In agriculture, insects can be harmful or beneficial to farmers and ranchers. Some insects are pests and can destroy crops, while other insects may prey on pests and are considered beneficial.

EDUCATION

- Agricultural Literacy Specialist
- Biotechnology
- Career & Technical Education Director
- College Recruiter
- Curriculum Specialist
- Extension Agent
- Professor
- Researcher
- Teacher

Extension Agent - Extension agents are employed by North Carolina's land-grant universities: North Carolina State University and North Carolina A&T State University. They serve North Carolina by providing research-based knowledge to its citizens. They transform science into everyday solutions that improve lives and grow our state.

Biotechnology - There are thousands of jobs within the biotechnology field. Many of the career pathways in this Ag Mag involve biotechnology. The development of insulin, gene therapies and engineering, forensics, vaccines, and food safety require biotechnology. Even baking bread involves biotechnology! Biotechnology helps us feed the hungry, reduce our environmental footprint, and helps farmers efficiently provide our food, fiber and fuel.



Greenhouse Manager - Greenhouse managers are responsible for the daily operations of running a greenhouse or nursery. Wholesale greenhouses involve growing plants for other businesses to sell, and retail greenhouses are open to the public to buy plants. Greenhouses can be used for commercial plant production or food production.

Attention Teachers: Free Lesson Plans!



Ag Pays Career Gaming Career Trek Find Your Future Career

This Ag Mag complements and connects to the following North Carolina Standard Course of Study:

CTE and Career Pathways: Agriculture, Food, & Natural Resources (AGNR)

- English/Language Arts**
 Kindergarten RI.K.1, RI.K.3, RI.K.9
 1st grade RI.1.1, RI.1.3, RI.1.4, RI.1.5
 2nd grade RI.2.2, RI.2.4, RI.2.5, RI.2.10, L.2.4, L.2.6
 3rd grade RI.3.1, RI.3.2, RI.3.4, RI.3.5, RI.3.7, RI.3.10, RF.3.4, RF.3.5, L.3.4
 4th grade RI.4.1, RI.4.2, RI.4.4, RI.4.5, RI.4.10
 5th grade RI.5.4, RI.5.10, RF.5.5, L.5.4
 6th grade RI.6.1, RI.6.2, RI.6.3, RI.6.4, RI.6.10, L.6.4
 7th grade RI.7.2, RI.7.4, RI.7.7, RI.7.10, L.7.4
 8th grade RI.8.1, RI.8.2, RI.8.4, RI.8.10, L.8.4

- Science**
 1st grade 1.1.1
Social Studies
 Kindergarten K.G.2.1, K.H.1.2
 7th grade 7.E.11, 7.E.13
 8th grade 8.E.1.2

CAREER CORNER



Dr. Antoine Alston

Professor and Associate Dean for Academic Studies in the College of Agriculture & Environmental Sciences at North Carolina A&T State University

Tell us about how you discovered your passion for agriculture and your journey to agricultural education.

My passion for agriculture originated with my father, who was my agricultural education teacher in high school. Through his leadership and mentorship that he provided me and his other students, I was able to develop an understanding of the various career pathways that exist within the agriculture industry and the sheer importance of agriculture to mankind's survival. This background served as my foundation in becoming an agricultural educator and agricultural college administrator.

What do you like most about your job?

The number one thing that I like about my job as Professor and Associate Dean is helping develop the next generation of future leaders that will carry forth the global, food, agricultural, and environmental enterprise, ensuring that we have a sufficient and healthy food supply and environment for generations to come.

What is an average day in the life like for you?

An average day for me involves meetings with various individuals, to include students, faculty, parents, and a variety of agricultural industry representatives, addressing their various needs and issues. I also travel extensively, meeting a variety of people who have a vested interest in agriculture.



Sofia Lilly

Winemaker, Overmountain Vineyards

What do you like most about your job?

It is different every single day. On the farm, you can actually see the accomplishments of your job at the end of a day. For me, the best part is seeing the progress I'm making.

How are STEM concepts (Science, Technology, Engineering, and Math) utilized and important on your farm?

It's an everyday application for me. When I studied physics in college, I thought it was the hardest thing in the world, because I never had a real-life application to what it was. But now, when I'm on the farm and I don't have my trailer in the right position on a hill, it reminds me how I need to understand physics. Especially considering farm safety. When it comes to making wine, we follow certain types of mathematical equations that are important for keeping the wine consistent from year to year. From an agritourism standpoint, we are using technology to market our business.

What is something you wish you could tell people about your job/role, or the agriculture industry?

There is a place for every interest, and everybody in agriculture. Whether you want to be a mechanic, doctor, or even a therapist. Whether you like getting your hands dirty, or you like taking care of people's hands. We need people that want to promote agriculture and keep the world fed.



CoCo Daughtry

Communications, North Carolina Sweetpotato Commission

What do you like most about your job?

No two days are alike! Some days I may be in the field learning about the current year's crop. I may be talking to an elementary school class, teachers or registered dietitians. I could be designing a newsletter or typing meeting minutes. Sometimes, I am traveling across the country talking to chefs, writers, or consumers about our sweet crop. All of this is done to benefit our growers, who raise the most nutritious vegetable grown in our state.

What skills are most crucial in your job?

I'm a people person, which is important in this job since I may be talking to five-year-olds one day and a group of legislators the next. When I was hired, my skills in graphic design, working with boards, and writing helped me get the job. However, the most important thing is a willingness to learn. I didn't know anything about sweetpotatoes when I started, but my boss said she could teach me. So, I learned how sweetpotatoes are grown, their nutritional value, different ways to cook them, and more. In my role, all the information coming into and going out of the Commission flows through me. It's hard to communicate back and forth and cultivate relationships if you don't understand sweetpotato farming.

What is something you wish you could tell people about your job/role, or the agriculture industry?

If you ever have a question about food, ask a farmer and learn from them. Don't assume everything you read is true. If you need help finding a farmer to ask, call me!



Leah Isenhour

Quality Assurance Manager, Greenology Products, LLC

What are your main responsibilities in this role?

My main responsibilities include leading annual audits, creating quality programs for our facility, investigating solutions as the need arises, leading our production team to adopt best quality practices on the manufacturing floor, and implementing preventative control measures such as our Sanitation Program, Pest Control, Supplier Approvals, and many others.

What skills are most crucial in your job?

The most crucial skills necessary to work in quality assurance are creativity, critical thinking, teamwork, and problem solving. I use these skills on a daily basis to create quality programs that work best for the facility, as each one is extremely unique.

What is something you wish you could tell people about your job/role, or the agriculture industry?

The agriculture industry is among the most rewarding industries to be involved in professionally. Our population is ever-growing, and agriculture is presented new challenges each day. These challenges require a workforce of strongly motivated and passionate individuals who hold an inborn fondness (see what I did there?) for this industry and desire to see it adapt and thrive as our world changes. The work being done in agriculture is so important to our future, and I personally look forward to seeing a new generation of fresh minds prepared to serve such a rewarding industry.

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