Assessment of Pitt County's Community Food System



Acknowledgments

I want to thank Zac Hackney for his support in connecting me with the Pitt County Farm and Food Council and for sharing his insights about the local food environment.

Thank you to the Pitt County Farm and Food Council members for letting me participate in your meetings and interview members and providing feedback on the assessment drafts. Your collaboration has been crucial to this project.

A special thanks to Dee Dinsdale, Kahla Hall, Hillary Gallagher, Matt Stevens, Taneisha Armstrong, Will Brown, Mary Worsley, Anne Parker Chambliss, JT Tyndall, Brandon Garris, and the local food hub operators for participating in the interviews. Your input has been invaluable.

I also want to thank Napoleon Wallace for recognizing the need for an updated assessment and his efforts to advance food justice efforts in the community.

Finally, I appreciate the Gold Post Commissary Kitchen for commissioning this assessment. Your support made this project possible.

Thank you all for your help and dedication to improving the Pitt County food environment.

Researcher

Dr. Olivia Whitt is an experienced educator and researcher in Health Promotion, Education, and Behavior. She earned her Doctorate from the University of South Carolina and currently teaches at the University of North Carolina's MPH@UNC program, East Carolina University's Health Education and Promotion program, and East Carolina University's Master of Public Health program. Dr. Whitt has a strong background in community nutrition, having helped complete the Assessment of Pitt County's Community Food System in 2016 and evaluate South Carolina's SNAP-Ed policy, system, and environmental changes.

Email: orw914@gmail.com

LinkedIn: www.linkedin.com/in/olivia-whitt9014



Table of Contents

Acknowledgments	2
Researcher Bio	2
Background	4
Introduction	4
What is a Food System Assessment?	5
Whole Measures for Community Food Systems Assessment Categories	9
Justice and Fairness	7
Strong Communities	10
Healthy People	11
Thriving Local Economies	14
Sustainable Ecosystems	17
Vibrant Farms	19
Recommendations	23
Food Hub	23
Food Hubs and Food Waste	23
Food Hub Funding	24
Food Hub Appendix	26

Background

This assessment is based on the six different categories of the food system (Justice and Fairness, Strong Communities, Vibrant Farms, Healthy People, Sustainable Ecosystems, and Thriving Local Economies) outlined in the Whole Measures for Community Food Systems framework, which was designed by the Community Food Security Coalition in 2009. Initially completed in 2016, the data indicators in this assessment were chosen to create a baseline measurement of a community's food system. The analysis is meant to provide broad ideas around strengths, opportunities, weaknesses, and threats to help inform the Pitt County Farm and Food Council as it engages in strategic planning around food system development. Overall, this assessment is designed to encourage people to think about food, agriculture, and community health from a whole systems perspective. The 2024 assessment seeks to update those measures and highlight trends or changes since 2016. Data was collected from secondary sources like the Census/NC Agriculture Census, County Health Rankings, and ECU Health. In addition, qualitative interviews were conducted with food council members to better understand how these local food systems interact.

Introduction

The Pitt County Food and Food Council (PCFFC) is working to establish and maintain relationships among diverse organizations and community members to strategically shift our food system to one more supportive of the local community. Food Councils include representatives from all parts of the local food supply chain, which provides an opportunity to address community food system betterment on a macro level.

Pitt County Farm and Food Council Mission:

The Pitt County Farm and Food Council promotes a healthy, sustainable, equitable and economically viable community food system. By fostering a network, we initiate, support, and promote programs and policies that educate the community, diminish food disparities, and protect farmland.

Pitt County Farm and Food Council Vision:

Our vision is for Pitt County to be an informed, engaged, and healthy community with access to nutritious food and a commitment to continuously improving our community food system.

So, to better understand our community food system, Olivia Whitt, a professor and researcher at East Carolina University, with the help of PCFFC members, completed this assessment in May 2024. Members of the PCFCTF represent several sectors of the local food system with representatives from local farming, ECU Health, NC Cooperative Extension, the Food Bank of Central and Eastern NC, the Pitt County Health Department, Aramark at ECU, Veteran's Affairs, and the religious community.

What is a Food System Assessment?

A food system assessment is a collaborative process that examines a broad range of food system-related data to inform actions for improving a community's food system.



The process of conducting a food assessment involves identifying the specific quantitative data points to collect, collecting the quantitative data, confirming quantitative data trends with stakeholder interviews, developing a system for organizing the data, sharing the findings, and using the findings to guide future planning and decision-making. Our assessment for Pitt County uses the Whole Measures for Community Food Systems framework. This is intended to encourage community members to think about Pitt County's food system from a whole systems perspective. The specific data indicators that were collected are organized into the following whole measures: Vibrant Farms, Community Health, Sustainable Ecosystems,

Thriving Local Economies, Strong Communities, and Justice and Fairness. The analysis portion of the assessment outlines strengths, weaknesses, opportunities and threats facing the different parts of Pitt County's community food system.

A food assessment is a relatively quick way to create a shared understanding of the realities of Pitt County's food system. This assessment was not intended to be extensive or comprehensive, but rather, serve as a way to start telling the story of what is going well, what is not going well, what changes have been made, what trends are apparent, and what measures are still needed to tell the story of Pitt County's community food system.

The purpose of this food system assessment was to engage key stakeholders in an analysis of Pitt County's community food system. We believe that this baseline assessment has the potential to result in many positive changes in our community by:

- Fostering an awareness and understanding of our community food system;
- Identify possible gaps in information
- Identify strengths, weaknesses, opportunities and threats facing our community food system
- Creating alignment, building connections, and encouraging collaboration across multiple sectors that influence our community food system
- Guiding priority-setting, strategic planning, and decision-making
- Measuring progress, tracking change, and evaluating impact over time

Whole Measures for Community Food Systems Assessment Categories

Justice & Fairness

Strong Communities

Healthy People

Thriving Local Economies

Sustainable Ecosystems

Vibrant Farms

Justice and Fairness

Fair food and farms come from food systems deliberately organized to promote social equality, justice, worker rights, and health through all activities. Achieving justice and fairness is an ongoing and evolving process involving many members of a community. It is a process that cultivates appropriate venues to recognize and dismantle unjust systems and that works to create alternative just systems.

A food system that is just and fair:

- 1. Provides food for all
- 2. Reveals, challenges, and dismantles injustice in the food system
- 3. Creates just food system structures and cares for food system workers
- 4. Ensures that public institutions and local businesses support a just community food system.

Strengths

- ❖ 49 official partners of the Food Bank that operate as a food pantry
- ❖ More than 6 community gardens with a number of small gardens located in West Greenville (Census Tracts 7.01 and 7.02), the most economically disadvantaged census tracts in Pitt County
- ❖ More than 175 SNAP retailers throughout the county
- ❖ Leroy James Farmers Market accepts SNAP/EBT benefits and offers Double Bucks. With Double Bucks, SNAP participants can double their purchasing power for up to \$20/visit/month.
- ❖ Multiple faith organizations provide food to individuals with low socioeconomic status (SES)
- ❖ Pitt County Schools Summer Meals program provides free breakfasts and lunches at 15 school sites to children regardless of income levels (5-site increase since 2016)
- ❖ Pitt County has a federally funded educational program called EFNEP (Expanded Food and Nutrition Education Program). In 2023, 676 adults and youth participated and 82% of program participants improved their diet quality.
- ❖ The Pitt County Council on Aging has a Meals on Wheels program which delivers meals to the home-bound elderly, ages 60 and over, who are unable to prepare their own meals and have no one else to do it for them.
- Ripe for Revival, a mobile food market, sells in Greenville and Farmville every week
- ❖ Veggies for Vets is a gardening program that provides fresh produce to a micro pantry within the Veterans Affairs Health Care Center for veterans in the area.
- ❖ The Food Environment Index has increased since 2016 indicating that there is an increase in healthy food retailers compared to unhealthy food retailers within the county
- ❖ Farmers Market reopened and is more accessible for those with disabilities
- ❖ Since 2018, ECU has offered the William-Ross Purple Pantry which offers food

and hygiene items for students in need

Weaknesses

- ❖ Limited public transportation
- ❖ Lost long-time Community Garden Technician who provided technical support for community garden start-ups and operations
- ❖ Food banks and most of their official partners are not open after business hours or on weekends so the working poor are often not able to receive the supplemental nutrition they need.
- ❖ The number of food deserts has increased since 2016 and so has the number of people living in those food deserts.
- ❖ The average cost per meal has increased almost 33% since 2016. While the cost of living has increased throughout NC, Greenville is now above the state average.
- ❖ Though Pitt County's Cooperative Extension offers several nutrition education programs, some programs cost money which may exclude those with the greatest need
- ❖ According to Feeding America's "Map the Meal Gap", 76% of people who are food insecure in Pitt County are eligible for government assistance. Food insecurity has remained stable since 2016.
- ❖ The summer meals program for children is limited to those who are aware of the program and are able to get to one of the distribution sites
- ❖ Pitt County is perceived to be in an exclusionary spot for state grants and initiatives. Pitt County doesn't have as many resources to implement innovative solutions, nor does it have the greatest food access need compared to other North Carolina counties.

Opportunities

- ❖ Create an organized network with the Faith Organizations to encourage collaboration with food pantry/food bank partner efforts within the faith community
- Regularly offer and promote the program More in My Basket which helps SNAP and WIC-eligible participants apply for food and nutrition services, in addition to teaching them how to optimize their food budget
- Create a network for student volunteers to assist with community gardens and food bank partners
- ❖ Build and leverage a local foodhub that utilizes FarmsSHARE and the Healthy Opportunities Pilot that delivers a free box of locally-grown produce and protein to households in need
- Re-expand GREAT bus routes to include weekend service and add a stop to the Farmers Market

Threats

- ❖ Grant and budget funds that were increased during COVID are starting to cut back
- * Trust within the low SES populations for future projects and initiatives. Previously,

- when grant money was pulled or the funding otherwise ended, strong community ties were not maintained
- ❖ Nationally, all-time Consumer Price Index was up 3.5% from March 2023 to March 2024
- ❖ Family Dollar is set to close 1000 stores nationally. There are 14 Family Dollars in Pitt County serving rural or food desert areas.

Partners Working in this Field

Food Bank of Central and Eastern NC: A nonprofit organization that provides food for people that are food insecure in 34 NC counties.

ECU Health: Provides medical care for 29 counties in Eastern North Carolina. Helps support local initiatives that benefit the health of the community.

East Carolina University: A public research university located in Greenville. Conducts public health and justice-related initiatives within the county. Aramark supplies food at ECU dining halls

Pitt County Health Department: Provides clinical and community services to protect, promote, and assure the health of all people in Pitt County.

More research needed

- Qualitative and quantitative data on barriers to receiving food assistance from those who are SNAP or WIC eligible
- ❖ Formal participant evaluation of food justice efforts like mobile markets and Fresh Bucks

FOOD ACCESS/SECURITY			
Census Tracts That Are "Food Deserts"	9 1		
Number of People Living in Food Deserts	49,450 (28.7%) ¹		

	North Carolina	Pitt County	Pitt County Prior Data
Food Environment Index Rating	6.6 ²	7.0^{3}	6.1 ³
Limited Access to Grocery Store	7%² (2015)	9.23% ³ (2015)	8.65%³ (2010)
Food Insecurity Rate	11.8 ² (2021)	13.1% ³ (2021)	21.1% ³ (2016)
Number of People	1,248,800 ² (2021)	22,320 ² (2021)	35,400 ³ (2017)
Child Food Insecurity Rate	15.4% ⁴ (2021)	20.9%4 (2021)	21.7% ⁴ (2017)
Number of Children	353,450 ⁴ (2021)	7,640 ⁴ (2021)	8,380 ⁴ (2017)
Estimated Food Assistance Eligibility Among Food Insecure People	70% income eligible ² (2021)	76% income eligible³ (2021)	75% income eligible ³ (2017)
Eligibility Among Food Insecure Children	70% income eligible ² (2021)	71% income eligible ⁴ (2021)	67% income eligible ⁴ (2017)

Average Cost per Meal	\$3.51 ² (2021)	\$3.74 ³ (2021)	\$2.82 ³ (2017)
Additional Money Required to Meet Food Needs	\$774,541,000 ² (2021)	\$14,749,000 ³ (2021)	\$17,018,000 ³ (2017)

FOOD ASSISTANCE						
Year North Carolina Year Pitt County						
SNAP Participation	2022	15% ¹	2019	15% ²		
WIC Participation	2023	229,075 ³	2010	4,125 ⁴		
Percent SNAP Eligible Participating	2019	52.6% ⁴	2019	56.2% 4		
Median Income for people on Food Stamps	2023	\$18,753 ⁵	2023	\$18,633 ⁵		
Children receiving free and reduced school meals	2021	57.7% ⁶	2021	66.6% ⁶		

Food Banks of Eastern and Central North Carolina	Year	Pitt County
Meals Provided	2023	12,587,828 ⁸
Total pounds of food distributed	2023	8,261,602 ⁸

¹https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas/

²https://www.ecuhealth.org/wp-content/uploads/2022/09/2022-Pitt-County-CHNA-Final.pdf

³https://fns-prod.azureedge.us/sites/default/files/resource-files/27wilatest-2.pdf

https://www.ecuhealth.org/wp-content/uploads/2020/11/2019-Pitt-County-CHNA FINAL.pdf

⁵https://statisticalatlas.com/county/North-Carolina/Pitt-County/Food-Stamps#overview

⁶https://datacenter.aecf.org/data/tables/2239-students-enrolled-in-free-and-reduced-lunch-detailed/2/any/false/1769,1696,1648,1603,1539,1381,1246,1124,1021,909/any/4682

⁷http://www.nutritionnc.com/wic/wicworks.htm

⁸https://foodbankcenc.org/about-us/locations-contact-info/greenville/

Strong Communities

Food can be a common and unifying force socially, culturally, and spiritually. A strong food system builds strong communities across class, race, age, education, and other social categories. Cultivating leadership from within a community and forging relationships based on characteristics such as trust, respect, and transparency can strengthen resilience, build capacity, and enhance engagement for change toward a shared vision of the whole community.

A food system that builds strong and resilient communities:

- 1. Improves equity and responds to community food needs
- 2. Contributes to healthy neighborhoods
- 3. Builds diverse and collaborative relationships, trust, and reciprocity
- 4. Supports civic participation, political empowerment, and local leadership

Strengths

- ❖ Large Faith community, which not only increases social capital, but also the community engagement efforts within the county
- * Residents of Pitt County believe that the area is relatively safe and is good place to raise children
- ❖ Policy developers and political leaders who are invested in the improved health of the county
- ❖ Increased community-building efforts within the food system, like the Farm and Food Celebration event
- ❖ Belvoir Elementary, Bethel School, Grifton School, Stokes School, Falkland Elementary, Northwest Elementary, and South Greenville Elementary have been awarded USDA Fresh Fruit and Vegetable grants. Students receive snack-size fresh fruits and vegetables along with direct nutrition education several times a week
- ❖ ECU Sustainability and Love A Sea Turtle have developed gardens at several Pitt County schools and created a beehive at the Greenville Montessori School
- ❖ Many community "champions" who want to spear-head health programs or otherwise serve the people of Pitt County

Weaknesses

- Currently, the PCFFC has limited representation of partners and key informants that represent outskirt areas of the county
- ❖ No "Farm to School" program

Opportunities

- Create opportunities for the average resident of Pitt County to get involved with food initiatives and action groups
- ❖ Leverage partnerships with school groups like ROTC to assist with nutrition

- efforts within the county
- Develop a community website that specifically highlights local nutrition efforts and news

Threats

❖ Pitt County is ranked in the Top 5 counties in North Carolina for 'brain drain'. Young people and skilled professionals often move from Pitt County to more urban counties for greater job opportunities

Partners Working in this Field

Pitt County Schools Child Nutrition Program: Provides nutrition education to children and families throughout the school year, in addition to a countywide summer feeding program.

ECU Health: Provides medical care for 29 counties in Eastern North Carolina. Helps support local initiatives that benefit the health of the community.

Pitt Partners for Health: A community partnership with local representatives that are dedicated to improving the health of Pitt County residents.

Immanuel Baptist Church: A food bank partner that provides boxes of food to those in need.

Love A Sea Turtle: A community garden and orchard that serves as a hub site for youth-led environmental initiatives.

More research needed

- ❖ Discover the resident awareness and use of community gardens, especially in West Greenville.
- ❖ Identify variables and data sources that could serve as indicators of healthy neighborhoods, strong community-oriented schools, and faith communities
- Create a database of food and nutrition community partners and services

Healthy People

Community and individual health includes our physical, social, mental, emotional, and spiritual well-being. All of these dimensions are intrinsically connected to food and the food systems. For example, engaging with community members at farmers' markets promotes our social connectedness. Learning to prepare our own food contributes to our mental development and enhances our resiliency. Growing food helps develop our physical and spiritual awareness as we connect to larger natural systems. Whole communities need whole people and community food systems that increase access to healthy food while also cultivating broader dimensions of health.

A food system that promotes healthy people:

- 1. Provides *healthy* food for all
- 2. Ensures the health and wellbeing of all people residing in Pitt County
- 3. Connects people and the food system, from farm to fork
- 4. Connects people to local farms and promotes health and wellness

Strengths

- ❖ ECU Health funds multiple programs that not only provide food, but also nutrition education
- ❖ Pitt County's Cooperative Extension offers Faithful Families, a package program that leverages faith-based organizations to teach a health and obesity prevention curriculum
- ❖ Pitt Partners for Health is the county-wide collaborative that actively responds to the compelling health needs of Pitt County residents

Weaknesses

- ❖ There is a strong cultural preference for sugar-sweetened beverages which increases the risk of chronic health conditions like Type 2 Diabetes
- Greenville consistently ranks in the top 50 quick-service restaurant users per capita nationally and these restaurants are usually significantly more calorie-dense than homecooked meals
- Limited public transportation
- ❖ The Pitt County obesity rate is higher than the state average, with both county and state percentages increasing over time

Opportunities

- ❖ Offer Cooperative Extension programming and resources in Spanish
- ❖ The Medical Food Pantry provides a food box for food-insecure patients at Vidant Medical Center, however picking up the box may be overlooked in the discharge process. Delivering the box to the patient's home may increase program utilization.
- * Explore funding opportunities for grants that exist in addition to ECU Health
- * Discovering health opportunities, coalitions, and organizations often relies on word

- of mouth. Establishing an updated online presence or resource can connect community members and partners more effectively.
- ❖ Secure increased input from underserved community members through advisory councils, listening session, or other means on food related issues

Threats

❖ Easy access to unhealthy foods and the perception that fast food and the food sold at grocery stores are often less expensive than fresh, healthy food

Partners Working in this Field

Food Bank of Central and Eastern NC: A nonprofit organization that provides food for people that are food insecure in 34 NC counties.

ECU Health: Provides medical care for 29 counties in eastern North Carolina. Helps support local initiatives that benefit the health of the community.

East Carolina University: A public research university located in Greenville. Conducts public health and justice-related initiatives within the county.

Pitt County Planning and Development: Develops and implements plans and policies related to land development to strengthen the sustainability of the county.

Pitt County Health Department: Provides clinical and community services to protect, promote, and assure the health of all people in Pitt County.

Pitt County Schools Child Nutrition Program: Provides nutrition education to children and families throughout the school year, in addition to a countywide summer feeding program.

NC Cooperative Extension - Pitt County: An extension of a state program that offers different opportunities to increase the profitability and sustainability of Pitt County's food system.

More Research Needed

❖ Discover where residents are obtaining nutrition education

HEALTHY PEOPLE					
	Year	Pitt County	Year	North Carolina	
Child Obesity Rate (Ages 2-4)	2018	15% ¹	2012	14% ¹	
Adult Obesity Rate	2023	36% ²	2023	34% ²	
Rate of Diabetes	2019	11.9% ³	2023	12.4% ⁴	
Percent of Adults Who Do Not Consume Fruits or Vegetables 5 or More Times a Day	2021	89.1%(Region 9 & 10) ⁵	2021	89.2% ⁵	
Percent of Adults Who Do Not Consume Fruit One or More Times a Day	2021	42.4%(Region 9 & 10) ⁵	2021	40.3% ⁵	
Percent of Adults Who Do Not Consume Vegetables One or More Times a Day	2021	15.1%(Region 9 & 10) ⁵	2021	18.0% ⁵	
During the past 30 days, how often did you drink sugar-sweetened beverages? (1-6x/week)	2021	35.6%(Region 9 & 10) ⁵	2021	28.7% ⁵	
Percent of Adults That Participate in 150 Minutes (or vigorous equivalent minutes) of Physical Activity per Week	2021	44.3%(Region 9 & 10) ⁵	2021	45.2% ⁵	

¹https://www.communityclinicalconnections.com/wp-content/themes/cccph/assets/downloads/panresources/CountyDataProfile Pitt by PAN Region 2018-1003.pdf

³ https://healthycommunitiesnc.org/profile/geo/pitt-county#:~:text=Diabetes%20in%20the%20Region&text=In%202019%2C%20the%20percentage%20of,Pitt%20 Tract%204%20(3.3%25).'

² https://www.countyhealthrankings<u>.org/explore-health-rankings/north-carolina/pitt?year=2023</u>

⁴ https://diabetes.org/sites/default/files/2024-03/adv_2024_state_fact_north_carolina.pdf

⁵ https://schs.dph.ncdhhs.gov/data/brfss/2021/nc/nccr/DAILY 5.html

Thriving Local Economies

Thriving local economies depend upon the ecological integrity of the earth, its ecosystem, and species living within those ecosystems. Thriving local economies form decisions that ensure the well-being of future generations. They account for hidden costs in decision-making and work to build systems that regenerate output (wastes) into input (resources). Thriving local economies may utilize decentralized, participatory, and democratic processes designed to be informed by diverse community members and based upon a community's assets.

A food system that promotes thriving local economies:

- 1. Creates jobs and builds long-term economic vitality within the food system
- 2. Builds local wealth
- 3. Promotes sustainable development while strengthening local food systems
- 4. Includes infrastructure that supports community and environmental health

Strengths

- * There is an increased demand for fresh, local, and organic produce
- ❖ Restaurants are increasingly supplying their restaurants with more local foods and are interested in networking with Pitt County farmers
- ❖ The development of Downtown Greenville's Partnership has brought new businesses to the area, many of which are locally owned restaurants
- ❖ Pitt County is part of the Visit NC Farms App which connects residents to local farms and markets

Weaknesses

- ❖ Approximately .90 fast food restaurants per 1,000 people significantly higher than surrounding peer counties. This competes with the local food industry in both convenience and price.
- ❖ It is challenging for the local farmer to make a living with farming alone. Many have a full-time job in addition to farming
- ❖ Though local farmers markets provide an opportunity for farmers to sell their products, several farmers believe that profits gained are minimal and not worth the effort
- ❖ Economic Research Service data from the Department of Agriculture is outdated and data trends have likely changed since 2016

Opportunities

- ❖ Create a network between local restaurant owners and local farmers so farmers have a consistent buyer and restaurants have a consistent seller
- ❖ Encourage restaurants to offer unique dishes that utilize local produce not frequently sold at markets. This can provide new growing opportunities for local farmers and a marketable dining experience for "foodies"

- ❖ Develop a certification or designation for restaurants that buy 50% or more of their ingredients locally and promote restaurants that meet this standard
- ❖ Reach out to more local farmers so they are aware of networking events like the Farm and Food Celebration Dinner
- ❖ Partner with mobile markets to provide cooking demonstrations or recipe cards that incentivize local produce purchases
- ❖ Advertise Visit NC Farms App so residents are aware of this resource
- ❖ Provide marketing assistance to local farmers so they can capitalize on the growing consumer interest for local produce and meats

Threats

- ❖ It is difficult to create economies of scale for the local, small farmer, making local produce sometimes more expensive. It will be important to remind people of the benefits of local food
- * Rapid inflation cuts residents' budgets and limits their ability to shop locally

More Research Needed

- ❖ Discover barriers to local food supply at restaurants
- Survey awareness of Visit NC Farm App

THRIVING LOCAL ECONOMIES				
	Pitt County	North Carolina		
Poverty Rate	19.5% (2022) ¹	12.8% (2022) ²		
Child Poverty Rate	21.5% (2022) ³	17.2% (2022) ⁴		
Income Inequality Ratio (Ratio of Household Income at the 80 th percentile to income at				
the 20 th percentile)	5.6 ⁵	4.8 5		
Employment Rate	59.7% (2022) ¹	59.2% (2022) ²		
Employed Persons	87,020 ⁶	5,074,600 ⁷		
Unemployment Rate	4.1 ⁸	3.5 7		
Per Capita Income	\$32,224 ¹	\$37,614 ²		
Median Household Income	\$54,915 (2022) ¹	\$67,481 (2022) ²		

	Pitt County		
Year	2016	2011	
Grocery Stores	27 ⁹	26 ⁹	

Grocery Stores/1000 people	0.15 ⁹	0.15 ⁹	
Convenience Stores	84 ⁹	80 ⁹	
SNAP-Authorized Stores	165.67 (2017) ⁹	144.17 (2012) ⁹	
SNAP-Authorized stores/1000 people	0.93 (2017) ⁹	0.84 (2012) ⁹	
WIC-Authorized Stores	37 ⁹	30 ⁹	
Fast Food Restaurants	165 ⁹	149 ⁹	
Percent of Restaurants that Are Fast Food	56.5% ⁹	55.6% ⁹	
Full-Service Restaurants	127 ⁹	119 ⁹	
	Never = N/A 10		
	A few times a year = 15.6% ¹⁰		
Farmers market shoppers: How often in the	Once a month = 10% 10		
past 12 months did you shop at a farmers' market or roadside stand? (Eastern NC)	2-3 times per month = 10.9% ¹⁰		
	One time per week = 40.5% ¹⁰		
	2 or more times per week = 19.1% ¹⁰		

¹ https://data.census.gov/profile/Pitt_County,_North_Carolina?g=050XX00US37147

² https://data.census.gov/profile/North_Carolina?g=040XX00US37

³ https://datausa.io/profile/geo/pitt-county-

nc#:~:text=Children%20in%20Poverty,poverty%20in%20Pitt%20County%2C%20NC.

⁴ https://ncbudget.org/nc-budget-tax-center-releases-analysis-of-new-povertydata/#:~:text=The%20poverty%20rate%20for%20children,of%20hardship%20in%20the%20state.

⁵ https://www.countyhealthrankings.org/health-data/north-carolina/pitt?year=2015

⁶ https://fred.stlouisfed.org/series/LAUCN371470000000005

⁷ https://fred.stlouisfed.org/series/NCPITT7URN

⁸ https://www.bls.gov/eag/eag.nc.htm#eag_nc.f.p

https://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas.aspx
 https://nutritionj.biomedcentral.com/articles/10.1186/1475-2891-13-1

Sustainable Ecosystems

Sustainable, balanced ecosystems are built upon interdependent relationships, depend upon clean air and water and healthy soil, and provide the foundation for all life. Developing whole communities and strong, just food systems means honoring this interdependence and enhancing ecological integrity through our actions. A sustainable food system depends upon a sustainable ecosystem and produces, processes, and distributes food in a way that supports and enhances rather than destroys ecological systems.

A food system that supports sustainable ecosystems:

- 1. Sustains and grows a healthy environment
- 2. Promotes an ecological ethic
- 3. Enhances biodiversity
- 4. Promotes agricultural and food distribution practices that mitigate natural resources depletion
- 5. Enhance greater production with smaller environmental footprint
- 6. Promote profitability

Strengths

- Social consciousness, both politically and economically, for sustainability efforts in local food systems
- ❖ Local farmers have utilized grants like the Environmental Quality Incentives Program (EQIP) through the USDA and Brighter Future Fund through the American Farmland Trust to integrate conservation efforts on their farmland
- ❖ Food waste from small-scale markets and pantries is minimized and excess nearspoilage food is often donated to local animal farmers for feed

Weaknesses

- ❖ Few farms practice sustainable farming methods such as organic farms, pastureraised animals, and alternatives to farm pesticides
- ❖ Terra Bella serves as the only local composting solution in the county and primarily serves Greenville's residential and commercial area
- ❖ Organic farming can lead to higher costs which are often put on the consumer
- ❖ Trends suggest that the number of Pitt County farms is decreasing, but the size of farms is increasing

Opportunities

- ❖ ECU's \$1 million grant-funded project called Climate-Responsive Opportunities in Plant Science strives to assist small and underserved farms with farm management practices that protect the environment
- ❖ Develop connections in the restaurant/grocery sector and share eco-friendly

business practices

* Assist producers with certifications needed to sell products in more markets

Threats

 Increased development puts a strain on local environmental resources and drainage systems

Partners Working in this Field

Pitt County Soil and Water Conservation District: Works with USDA, Natural Resources Service, and other agencies to reduce soil and nutrient loss and drainage problems within the county.

Pitt County Planning and Development: Develops and implements plans and policies related to land development to strengthen the sustainability of the county.

Coalition for Healthier Eating: An organization that strives to educate consumers about the benefits of eating healthy and sustainably produced food.

NC Cooperative Extension - Pitt County: An extension of a state program that offers different opportunities to increase the profitability and sustainability of Pitt County's food system.

USDA – Natural Resources Conservation Service: Provides US farmers with financial and technical assistance to voluntarily implement conservation efforts.

USDA – Farm Service Agency: Administers farm commodity, crop insurance, credit, environmental, conservation, and emergency assistance programs for farmers.

Terra Bella Compost: Offering residential and commercial composting services

More Research Needed

- Determine what sustainability practices restaurants and food supply stores are using
- * Reveal what assistance farmers need to apply for USDA conservation grants

Vibrant Farms

Vibrant farms are central to the health and vitality of community-based food systems. While diverse in scale, methods, corps, and markets, farms that contribute to whole communities often embody practices that eliminate or minimize pesticides, support biodiversity, promote humane treatment of animals, and provide both safe and just working conditions. Vibrant farms are often local farms that shorten the gap between farmer and consumer and actively contribute to sustaining and revitalizing regional food systems and economies. The continuation of traditional farms and practices, multigenerational family farms, and support for young farmers and immigrant farmers are essential to the future of farming, and food for all.

A food system that promotes healthy, vibrant farms:

- 1. Supports local, sustainable family farms to thrive and be economically viable
- 2. Protects and cares for farmers and farm-workers
- 3. Honors stories of food and farm legacy through community voices
- 4. Respects farm animals

Strengths

- ❖ Pitt County has a strong agricultural heritage and there is tremendous cultural respect for farming, farmers, and farmland
- * Robust and active 4H youth programs
- ❖ Growing season in Pitt County lasts 215 days annually
- ❖ Pitt County experiences 48.24 inches of rainfall annually
- ❖ The number of small farms (0-9 acres) has almost doubled since 2016
- ❖ Pitt County continues to offer the Voluntary Agricultural District Ordinance which protects farmland from non-farm development
- ❖ There are several grants and educational opportunities in place to support young or new farmers such as NC AgVentures, Farm School, and FarmStart

Weaknesses

- ❖ Many of crops that are sold are non-consumable or is feed for livestock
 - ➤ Only 4% of Pitt County farms are dedicated to fruits and vegetables
- ❖ Limited diversity exists in the farming industry
- ❖ There is no farming equipment rental or sharing program
- ❖ Animal farmers travel several counties away for slaughter and processing services
- ❖ Increased traffic congestion makes it challenging to maneuver large farming equipment

Opportunities

Collaborate with ECU to expand educational initiatives similar to NC State's Parks Scholarship Learning Lab I: Food Insecurity and Loss of Agricultural Land in North Carolina to spark undergraduate curiosity about local food system challenges

- ❖ Create resource sheets that connect new farmers to eligible resources and grants
- Support agrotourism efforts which include connecting farmers with public schools to offer meaningful and educational field trips
- Prioritize the preservation of agricultural land in zoning and development efforts
- ❖ Work with farmers to create succession plans as a way to maintain farmland

Threats

- ❖ Pitt County is at risk to lose 16,300 acres of farmland by 2040 to commercial, industrial, and residential uses
- Urban expansion and rural neighborhood development with septic drainage systems diminish quality farmland area

Partners working in this field

Pitt County Soil and Water Conservation District: Works with USDA, Natural Resources Service, and other agencies to reduce erosion and drainage problems within the county.

NC Cooperative Extension - Pitt County: An extension of a state program that offers different opportunities to increase the profitability and sustainability of Pitt County's food system.

USDA – Natural Resources Conservation Service: Provides US farmers with financial and technical assistance to voluntarily implement conservation efforts.

USDA – Farm Service Agency: Administers farm commodity, crop insurance, credit, environmental, conservation, and emergency assistance programs for farmers.

More research needed:

- ❖ What are the greatest barriers to farming and what can the county do to decrease those barriers?
- ❖ How can farmers expand agrotourism efforts or partnerships with schools?

VIBRANT FARMS

Data from 2022 Census of Agriculture. Census taken every 5 years (years ending in 2 and 7)

	North Carolina (2022)	Pitt County (2022)	Pitt County (2012)
Total number of farms	42,817 ¹	367 ¹	391
1-9 acres	4,754 (11.1%) ¹	55 (15%) ¹	27 (6.9%)
10-49 acres	16,911 (39.5%) ¹	91 (24.8%) ¹	109 (27.88%)
50-179 acres	13,119 (30.6%) ¹	78 (21.3%) ¹	103 (26.34%)
180-499 acres	4,612 (10.8%) 1	78 (21.3%) ¹	68 (17.39%)
500-999 acres	1,600 (3.7%)	14 (3.8%) 1	26 (6.65%)
1000+ acres	1,821 (4.3%) 1	51 (13.9%) 1	58 (14.83%)
Total cropland	4,880,656 ¹	122,879 acres ¹	131,703 acres
Total harvested cropland	4,353,455 ¹	117,951 acres ¹	129,519 acres
Median size of farm	48 acres ¹	84 acres ¹	84 acres
Family or individual owned	35,740 farms (83.5%) ³	252 farms (68.7%) ³	298 farms (76.2%)
Total market value of agricultural products sold	\$18,692,574,000 ⁵	\$366,740,000 ⁵	\$215,908,000
Total market value of crops sold	\$4,714,749,000 ⁵	\$120,972,000 ⁵	\$111,214,000
Farms with net cash gains	19,558 (43%) ⁵	224 (61%) ⁵	214 (55%)
Farms with net cash losses	25,810 (57%) ⁵	143 (49%) ⁵	177 (45%)
Total number of farm operators	73,977 ³	621 ³	583 -
Average age of principal operator	58.1 ³	55.8 ³	56.5
Average years on present farm	21.0 ³	21.4 ³	22.2
Farmers on present farm for 2 years or less	4,257 ³	85 ³	7
Average years on any farm	22.8 ³	23.13 ³	24
Farmers on any farm for 5 years or less	11,354 ³	100 ³	5
Farming is the operator's primary occupation	31,159 (43%) ³	298 (48.9%) ³	232 (39.8%)
Principal operator lives on farm operated	51,272 ³	389 ³	252
Total number of female operators	24,160 (33.3%) ³	205 (33.7%) ³	136 (23.3%)
Operator is non-white minority	6.4% ³	5.8% ³	3.79%
Spanish, Hispanic, or Latino	1,007 ³	14 ³	3
American Indian or Alaska Native	890 ³	_ 3	0
Asian	367 ³	1 ³	1 ·
African American	1,891 ³	16 ³	11
Hired farm labor:	55,536 workers (10,464 farms) ⁷	1,053 workers (129 farms) 7	1,305 workers (178 farms)
Payroll	\$932,713,000 7	\$18,379,000 ⁷	\$18,365,000
Migrant workers	19,323 (1,607 farms) ⁷	543 (45 farms) ⁷	555 (43 farms)
Unpaid workers	31,534 (14,044 farms) ⁷	179 (106 farms) ⁷	290 (139 farms)
Crop land treated with:			
Fungicide	626,889 acres ⁹	26,324 acres ⁹	21,981 acres 1

Herbicide	3,897,836 acres ⁹	116,084 acres ⁹	113,694 acres ¹⁰
Insecticides	1,611,584 acres	62,906 acres ⁹	79,073 acres ¹⁰
Nematicide	637,548 acres ⁹	29,156 acres ⁹	29,267 acres ¹⁰
Fertilizer	3,256,663 acres	110,630 acres ⁹	101,361 acres ¹⁰

¹ https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1, Chapter_2_County_Level/North_Carolina/st37_2_001_001.pdf

² https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1, Chapter_2_County_Level/North_Carolina/st37_2_001_001.pdf

³https://www.nass.usda.gov/Publications/AgCensus/2022/Full Report/Volume 1, Chapter 2 County Level/North Carolina/st37 2 045 045.pdf

⁴ https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/North_Carolina/st37_2_002_002.pdf

⁵ https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1, Chapter_2_County_Level/North_Carolina/st37_2_004_004.pdf

⁶ https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/North_Carolina/st37_2_045_045.pdf

⁷ https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1, Chapter_2_County_Level/North_Carolina/st37_2_007_007.pdf

⁸ https://www.agcensus.usda.gov/Publications/2012/Full Report/Volume 1, Chapter 2 County Level/North Carolina/st37 2 007 007.pdf

⁹ https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_2_County_Level/North_Carolina/st37_2_040_040.pdf

¹⁰ https://www.agcensus.usda.gov/Publications/2012/Full Report/Volume 1, Chapter 2 County Level/North Carolina/st37 2 052 052.pdf

Recommendations

Food Hub

Despite increased food justice efforts, including the establishment of the Pitt County Farm and Food Council, several census tracts in Pitt County remain food deserts (see Figure 1). Since 2016, three additional tracts have been added as food deserts, and approximately 35,000 more residents now live in areas with low access to healthy food. While various strategies exist to address this issue, one emerging solution is the creation of a food hub.

Food hubs act as a bridge between local food producers and consumers. While they can function solely as resource connectors, they often operate as aggregation and distribution centers. They purchase produce or protein from local small to mid-sized farms, provide refrigeration and packaging for these items, and distribute them within the community. Ultimately, the goals of all food hubs are to support local farmers and increase access to healthy food. These objectives can be achieved in various ways, with most food hubs across North Carolina offering some form of a community-supported agriculture (CSA) box (see Table 1).

Currently, the only food hub in the county is the Farmville Food Hub, established in 2023 and located in a suburb of Greenville. This food hub is unique because it does not have a physical location; instead, it operates more as a collaborative network connecting farmers, food bank partners, and consumers. The county's next closest resource to a food hub is Ripe for Revival's pay-what-you-can mobile market. This Rocky Mount-based mobile market visits Farmville (First Christian Church) and Grifton (Grifton Mission Ministries) on Wednesdays and Greenville (Pitt County Council on Aging) on Thursdays. Ripe for Revival recognizes the financial cost of hosting the mobile markets and is looking to establish refrigeration hubs in major cities in eastern North Carolina.

A food hub is the most appropriate recommendation for the area of development near W. 5th St. given that other efforts such as food pantries, community gardens, and soup kitchens are already available within walking distance (See Figure 2). In addition, food hubs present a unique opportunity by providing an equitable solution to healthy food access. CSA boxes can be sold to consumers for profit or distributed for free to households in need through grant programs such as FarmsSHARE. Food hubs can also leverage Pitt County's growing farm-to-table restaurant scene. Approximately twelve restaurants currently purchase local produce and protein, but farmers and community stakeholders have noted that one small farmer alone often cannot supply the volume required by a restaurant. A food hub can act as a distributor between farms and restaurants, streamlining the process so that farmers and restaurant owners only need to coordinate with a single contact.

Ultimately, a food hub in Greenville has the potential to address some of the food inequities still present in the county while also utilizing the agriculture and farming resources within the community.

Food Hubs and Food Waste

Reducing food waste and getting fresh produce to partners, pantries, or people in need was a priority for most food hubs. There were several different ways that food hubs achieved this. One way is through CSA <u>online ordering</u>. Food hub clients would select their preferences for the boxes and food hub operators would only pick up "claimed" items from farmers. Another way food hub operators reduced food waste was to interview their CSA partners and ask farmers to only produce

culturally accepted food items. To reduce waste for the farmer, food hub operators frequently purchased items that were not farmers market perfect but were not deemed "seconds" (fruits or vegetables that may be slightly discolored or have blemishes). If, on the rare occasion, a food hub had excess produce they would donate items to local food pantries, homeless shelters, or soup kitchens. If the excess items were overripe, most would donate the produce to local hog farmers for feed. Of the food hubs interviewed, only two food hubs have a composting program on-site.

Food Hub Funding

A common theme from Food Hub operators was having multiple funding streams. While most food hubs were exclusively grant-based, some generated income by selling CSA boxes or produce through a market structure at the food hub. Offering a CSA box for purchase, not only generated some revenue but also served as an opportunity to reduce stigma for clients participating in FarmsSHARE. FarmsSHARE is a grant opportunity through Carolina Farm Stewardship Association (CFSW) which Blue Cross and Blue Shield of North Carolina and the Blue Cross and Blue Shield of North Carolina Foundation primarily fund. Through this program, households receive a free box of locally grown produce and proteins sourced from small, sustainable North Carolina farms. Often the FarmsSHARE box, like the CSA box, is delivered directly to the household, addressing transportation limitations. Sixteen food hubs serve 75 counties in North Carolina, but two of Pitt County's neighboring counties, Lenior and Craven, are not serviced. This is a missed opportunity since Lenior has one of the highest rates of food insecurity and percent limited access to healthy foods in the state. In addition, Craven County, is faring worse than the average county in North Carolina for health outcomes.

Another newly available funding opportunity is the Healthy Opportunities Pilot (HOP) through the North Carolina Department of Health and Human Services (NCDHHS). This national program connects Medicaid participants with free non-medical resources related to housing, food, transportation, and interpersonal safety. For the food arm, NCDHHS partnered with three food hubs across the state. Similar to the FarmsSHARE model, these hubs offer a free box of locally grown produce and proteins from small farmers. However, instead of being reimbursed through a grant, food hubs collect reimbursement through Medicaid insurance. Pitt County is currently being served by Working Landscapes in Warren County, but neighboring counties in the southeast (Jones, Lenior, Wilson, Wayne, Duplin, and Sampson) are not being served and have some of the highest rates of Medicaid enrollees for the state. Food hub operators at the three pilot sites were excited to offer HOP but noted that billing required more human resources and that insurance reimbursement was not immediate. They suggested that other food hubs offering this service have capital on hand to pay farmers.

Other funding opportunities are provided below:

<u>National Civilian Community Corps</u> – Funded by AmeriCorps. One of the grant focus areas includes "urban and rural development". Partnering with Veterans Affairs can assist with funding for food hub positions. The application deadline is in October.

<u>Creating New Economies Fund</u> – Funded by the Conservation Fund, provides direct investment in community-based efforts like farmers markets. Information about the grant cycle is offered in

January of every year. Grants average \$8,000-\$12,000

<u>Community Benefit Grants Program</u> – Funded by ECU Health, extends funding to organizations that address social determinants of health, chronic disease prevention, substance misuse, and behavioral health. Calls for letter of intent are issued in November or December each year. Grant funding is usually for less than \$50,000 per organization.

Golden LEAF Foundation – Funded by the federal State Fiscal Recovery Funds through the North Carolina Department of Agriculture and Consumer Services. Grant funds assist organizations in becoming eligible partner agencies of a North Carolina food bank or expand the capacity of current partner agencies of a North Carolina food bank. Applications are due in March.

<u>Healthy Food Financing Initiative Planning Grant Program</u> – New grant program un the expanded America's Healthy Food Financing Imitative. Funds are to be used implantation and planning activities including assessments, site planning, and community engagement activities. Applications are due in June.

<u>The Cannon Foundation</u> – Funded by Cannon Mills Company. In eastern Carolina, the Cannon Foundation has extended 45 grants totaling \$2,872,144. Qualifying organizations must be well established with at least five years of successful operations to be considered. Applications deadlines are in March, June, September or December.

Food Hub Appendix

Figure 1. Food Desert Map Overlay

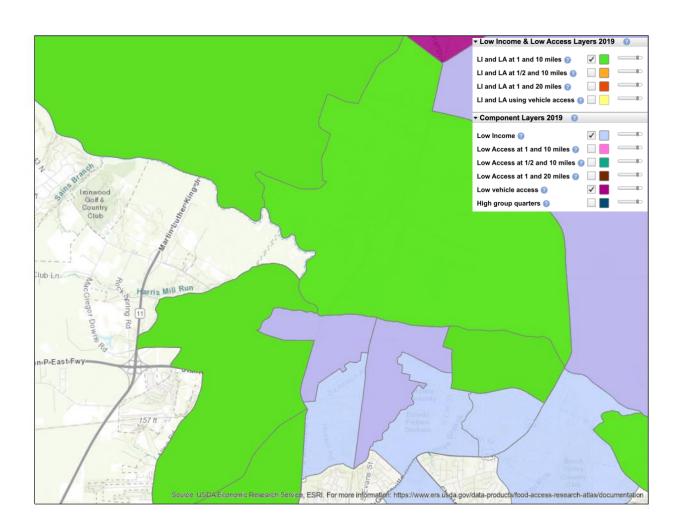


Figure 2. Map of Food Resources in Area of Interest

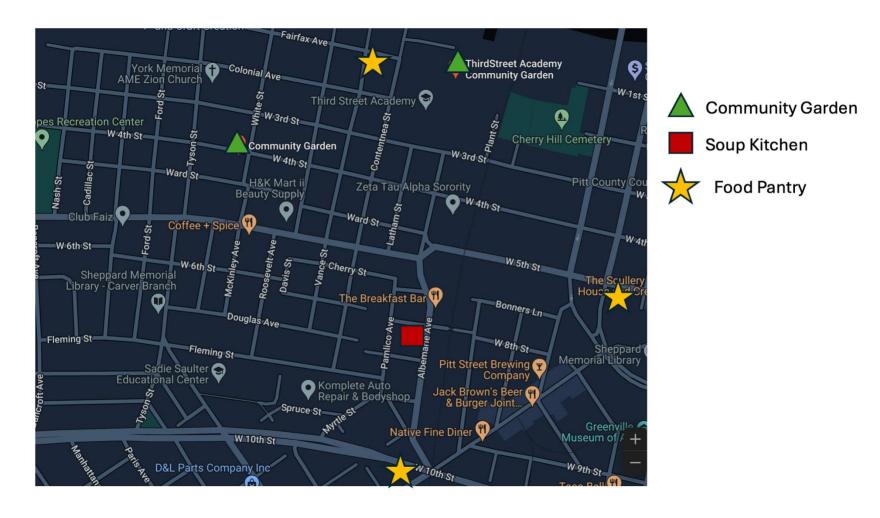


Table 1. Food Hub Services and Summary

Food Hub Service	Summary	Food Hubs Providing Service	Specific Programs	Other Notes
Fresh Food Access	Buying produce from local farmers and distributing to households in need. Food can be distributed directly via CSA boxes similar to the direct sales model or indirectly to local community centers and pantries Increasing affordability and accessibility of foods by providing SNAP/EBT and partnering with SNAP-Ed efforts Donation stations at farmers markets. Patrons at farmers market would donate money at the market and foodhub volunteers would purchase food to be distributed at local food pantries	 Black Farmers Market Conetoe Family Life Center Farmers Foodshare Feast Downeast Freshlist Foothills Food Hub Glow House Agriculture High Country Food Hub Men and Women United Sandhills Aginnovation Center Tall Grass Food box The Produce Box Tractor Food & Farms Operation Spring Plant WNC Farm to Table 	 FarmsSHARE Fresh Bucks Program Richmond Fresh 	 FarmsSHARE is funded by the Carolina Farm Stewardess Association. FarmsShare reaches 75 counties including Pitt County but not neighboring counties – Lenior and Craven. Accepting Fresh Bucks doubles the value of SNAP/EBT (up to \$20 once per market day/month) for the purchases of fresh fruits and vegetables.

		Working Landscapes	
Direct Sales - Businesses	Purchasing local food from farmers at wholesale and selling to businesses (local restaurants) for profit	 Feast Downeast Men and Women United Tractor Food and Farms 	
Direct Sales - Consumers	Purchasing food from local farmers at wholesale and then selling the produce for profit at farmers' market, mobile farmers market, or via CSA/VSA boxes	 Black Farmers' Market Farmers Foodshare Feast Downeast Freshlist High Country Foodhub Men and Women United Tall Grass Foodbox The Produce Box Tractor Food and Farms WNC Farm to Table 	 Client preference vs food availability is determined using Harvie.farm platform for some food hubs VSA boxes are like CSA boxes but target vacationers visiting

Farmer Technical Assistance	Aiding farmers with farm planning, conservation, grant writing, equipment rental, or business administration	 Black Farmers' Market Conetoe Family Life Center Blue Ridge Women in Agriculture Farmer Foodshare Feast Downeast Foothills Food Hub High Country Food Hub Men and Women United Sandhills Aginnovation Center Tractor Food and Farms Operation Spring Plant WNC Farm to Table Working Landscapes 	 GAP Certification Soil Health Program Commercial Kitchen 	Partnership for Climate-Smart Commodities is a pilot program that provides technical assistance to farmers in reducing their carbon footprint of agriculture MCF-reseas Salvadates MCF-reseas Salvadates
Farm to School	Buying, processing, and distributing local foods to schools	 Working Landscapes 	 NC Farm to School Program 	• NC Farm to School does require sourcing farms to be GAP certified.
Food as Medicine	Licensed medical providers either	• Farmer Foodshare	Novant Health	Through <u>Medicaid</u> <u>Healthy Opportunities</u> ,

	provide a voucher or referrer low-income patients to a food hub to use nutrition as a supplement chronic disease treatment	 Feast Downeast Foothills Food Hub High Country Food Hub Men and Women United Tractor Food and Farms 	prescription vouchers • Medicaid Health Opportunities Pilot • Root Causes • Produce for Peds	healthy food boxes are delivered to referred Medicaid patients with two more social determinant of health needs. The boxes are billed through Medicaid insurance. Pitt County is part of the 5 year pilot program through • Root Causes is a Duke University incubator program that allows students to work on health intervention research. They focus on how clinics can create partnerships to address health determinants
Local Food Education/Promotion - Schools	Delivering fruit and vegetables to local elementary schools that accompany food education lessons taught in class	Working Landscapes	What's Growing On?	
Local Food Education/Promotion – General Public	Providing educational resources, recipies, taste testing, or cooking demonstrations to the public	Famer FoodshareFeast Downeast		

Senior Food Programs Providing free or low cost locally sourced food to seniors through CSA boxes or mobile markets that are located at senior centers Cooking meals and with locally sourced famers that are directly delivered to seniors or senior centers in need	 Feast Downeast Men and Women United Sandhills Aginnovation Center Tractor Food and Farms Working Landscapes 	
---	---	--