1. Agriculture and Food Security

Purpose

Ensure the continued viability, sustainability, security, and accessibility of the food system for all in Alachua County in the face of climate change.

Promote locally produced foods and goods to reduce food distribution impacts, reach those most in need, and maximize local economic benefits.

Introduction

Agriculture, Food, and Climate

A food system encompasses all the steps and actors involved in producing, processing, distributing, and consuming food. It is a complex network that involves social, economic, environmental, and cultural factors. It is made up of several interdependent processes, including aggregation and distribution mechanisms, environmental support systems, and consumer behavior and demand.

Climate change can result in wide-ranging failures and collapse within food systems if one or more of these processes are impacted. Shifts in temperatures, precipitation, natural disasters, and the spread of diseases are all climate impacts that can disrupt the flow of agricultural goods and food systems. As a result, agricultural policies that build up supporting infrastructure, communities, and people are a critical investment to meet the coming challenges of a changing climate and ensure the continuation of a resilient food system.

Agriculture in Alachua County

Agriculture is essential to Alachua County's economy, history, and culture. According to the USDA 2022 census, Alachua County has 1,712 farms that cover 198,000 acres (see Figure 1.1). The annual market value of these farms' agricultural products is $146 million.[1] Agriculture is also

[1] USDA, County Profile, 2022

a major employer; it is the 3rd largest employment sector in Alachua County and accounts for 37,147 jobs.[2]

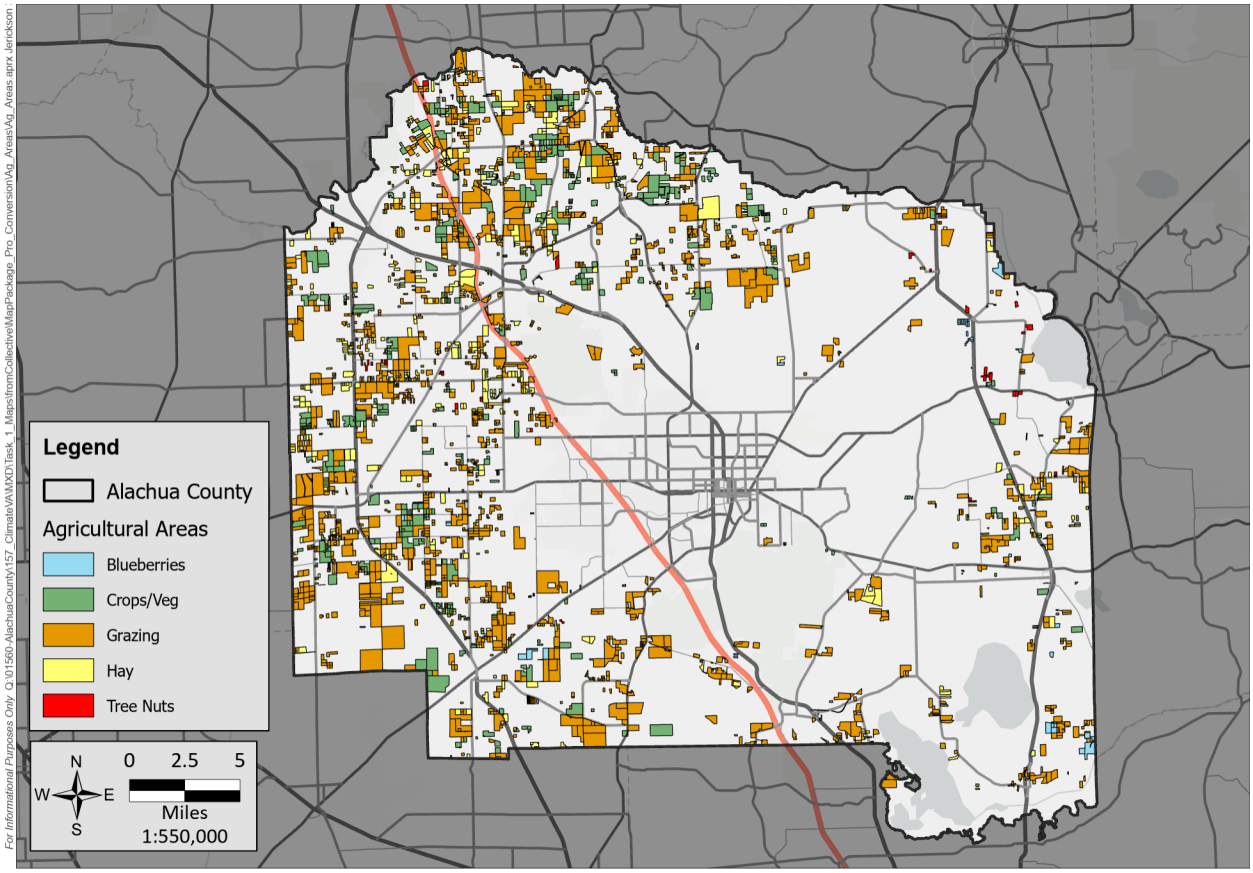

Figure 1.1: Map of Agricultural Properties in Alachua County[3]

The Alachua County Climate Vulnerability Assessment provides vital insights into the potential future of agriculture and its place in a broader food system. Due to the increase in temperatures, some agricultural products currently grown in Alachua County may no longer be suitable or may have shortened growing seasons, including snap beans and maize. Additionally, warmer nights and hotter days may increase the potential for more pests and weeds, resulting in additional pesticide and herbicide use that negatively impacts pollinators. The increase in temperatures will also have an impact on livestock as it increases the possibility of heat stress, which may impact milk production and fertility.[4]

There are concerns regarding more intense weather events, including rainfall and droughts, that could disrupt harvests and cause economic struggles. These dramatic and increasingly frequent

[2] UF/IFAS Extension Alachua County, Economic Impacts of Agriculture in Alachua County
[3] Jones Edmunds, Agricultural Risk Assessment Report, 2023
[4] Thornton et al., "Impacts of heat stress on global cattle production during the 21st century: a modelling study," *The Lancet Planetary Health,* 2022.

weather events will compound the interconnected problems of the supporting food system components: aggregation, distribution networks, and consumers. Long-term success in protecting agricultural resources and local food production within and around Alachua County requires comprehensive, interconnected strategies and a variety of crops extending beyond the current generation of farmers and ranchers.

Recent Alachua County Farm Trends

Aging Farmers

Forty percent (370 million acres) of the nation's agricultural land is owned or operated by seniors. According to the 2022 United Stated Department of Agriculture (USDA) Census of Agriculture, over 40% of farmers in Alachua County were over the age of 65.[5] In comparison, the University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) determined the average age of Florida Farmers to be 59.9 years in 2022, making the local farmer community older than the average and in greater need of succession planning services.[6] In 2022, less than 6% of Alachua County farmers were under the age of 35.[7]

As aging agricultural landowners in Alachua County prepare to retire, the future of the land they steward is at a critical turning point. How and to whom they transfer their land will enormously impact the next generation of farmers and ranchers and the opportunities available to them. Regional food systems, local economies, and climate change adaptations depend on a new generation's ability to access and steward the land well.

Loss of Small & Large Farms, Growth in Mid-Sized

The number of small farms (1 to 9 acres) in Alachua County has decreased by approximately 9% since 2017. Statewide trends are more severe: farms under 180 acres saw a 21% elimination, equivalent to 3,027 farms lost. The number of farms 1,000 acres or larger in Alachua County has declined by almost 10%. On the other hand, farms between 180-499 acres saw a 12% increase over 2017.[8]

On top of issues such as farmer age and agricultural land loss, small farmers may face market challenges in moving crops to wholesale and retail destinations. A lack of regional processing, distribution, and aggregation facilities impedes market access. As an example of a systemic disruption that can impact producer access, the COVID-19 pandemic throttled the production of out-of-region meat processing facilities. During the crisis, small ranchers could not move livestock through the food system while larger producers were able to utilize the production capabilities of

[5] *Ibid* footnote 1.
[6] Menard, Changes in the Average Age of Farmers in Southern States from 2017 to 2022, 2024.
[7] *Ibid* footnote 1
[8] *Ibid* footnote 1.

distant processing plants. More recently and locally, crop processing facilities, such as in Hawthorne, have closed. These facilities had the specialized cooling and storage spaces necessary to preserve food until it is ready to be distributed to the market. Promoting local and regional processing facilities is an opportunity to strengthen the local food supply chain.

A food system dependent on distant, centralized aggregation, distribution, and processing facilities can be a weak link for local consumers and producers. The lack of local processing, aggregation, and distribution facilities that can meet the needs of small to mid-sized producers on a regional scale makes the local food system more vulnerable to sudden shocks. It deepens the dependency on large-scale, out-of-region food suppliers.

Food in Alachua County

Food Security and Accessibility

Food insecurity occurs when households lack assured access to healthy foods. As explained previously, climate change can cause food production and distribution disruptions, increasing food insecurity in many areas.[9] Alachua County is not immune to this, as food deserts, or places where it is difficult to obtain healthy foods, persist throughout the County. In 2022, the Food Insecurity Rate in Alachua County was 13.6, which is higher than the Florida average, 13.2.[10] While it has steadily decreased over the last decade, Covid-19 introduced a shock to the economy and agricultural sector, causing insecurity and instability to the local food system. This signifies a need to increase resilience against shocks such as climate change.

Food insecurity and food deserts particularly impact low-income communities. A study by the University of Florida found several food deserts within Alachua County in areas with high concentrations of low-income housing and impoverished children.[11] Limited and inconsistent access to healthy food can cause higher levels of health issues, including obesity and cardiovascular diseases.[12]

Food waste is also a problem, with the EPA estimating that 1/3 of the food in the United States ends up in landfills.[13] Much of this food is in good condition and edible, but it is not being distributed effectively for various reasons, including the dispersion of grocery stores and dependence on large retailers that do not sell all of their produce. Diverting edible food and

[9] USDA, *Climate Change, Global Food Security, and the U.S. Food System*, 2015.
[10] Florida Department of Health, *Food Insecurity Rate,* 2023.
[11] Babb et al., "Food Deserts in Alachua County: Identifying Food Deserts and Methods for Improvement."
[12] Odoms-Young et al., "Food Insecurity, Neighborhood Food Environment, and Health Disparities: State of the Science, Research Gaps and Opportunities," 2024.
[13] City of Gainesville. *Composting & Food Waste Reduction*.

produce towards food insecure communities serves as a mechanism to serve at-risk populations as well as prevent further waste.

Alachua County Comprehensive Plan

The Alachua County Comprehensive Plan addresses the agricultural and food sectors in detail. While climate is not the Comprehensive Plan's main focus, many of its objectives, policies, and targets are in line with establishing resilient agriculture and food systems. Specific areas addressed include encouraging, promoting, and supporting:

- Sustainable local food production and processing,
- Food security and resilience,
- A local foodshed and food economy,
- The use of locally grown and/or processed foods in County facilities where food is provided,
- Community gardens and edible landscapes,
- Local, sustainable agricultural practices, including organic farming,
- Educational strategies on the benefits of purchasing locally grown and/or processed foods,
- Access to healthy, affordable, and nutritious food,
- Food security and public health by encouraging locally based food production, distribution, and choice,
- Food banks, pantries, and other sources that help provide food assistance to low-income residents,
- Partnerships with local organizations and developing standards to promote community food systems,
- Development of standards for produce stands, farmers' markets, and food cooperatives to facilitate the location of fresh produce providers within or near residential areas,
- Utilization of economic development tools, including public/private partnerships and site facilitation, to promote the location of grocery stores and Farmer's Markets in proximity to underserved areas,
- Working to implement the 2009 Hunger Abatement Plan and future updates and shall provide technical assistance for community food access studies. Seeking to eliminate food insecurity in Alachua County by 2050, and in the next 5 years, increase community partnerships to meet food security goals,
- Edible landscaping (i.e., fruit trees and shrubs) for landscaping requirements through appropriate policy and standards of the ULDC,
- The use of schools as food distribution sites to increase food security for students and families, and

- The location and expansion of sustainable food production and processing industries as part of the County's economic development efforts

The purpose of this chapter is to further the Comprehensive Plan's targets while also adding to them by incorporating a climate focus.

Past and Current Efforts

Assessment of Vulnerability to Climate Change

Alachua County has invested in researching how climate change will impact the agricultural sector. This research predicts what will happen to some of Alachua's most-grown crops through the Vulnerability Assessment. Corn, for example, is likely to experience a significant reduction in yield due to heat and water deficit stress. Livestock will also be negatively impacted as they become more prone to heat stress. Dairy cow production is likely to decline as a result. Snap peas are expected to maintain yields until 2040, while Bahia grass grown for forage is expected to do well, with increasing yields. [14]

Agricultural Runoff

Many fertilizers contain nutrients such as phosphorus and nitrogen, which can cause significant ecological damage by running off into waterways and springs. This leads to algae blooms or dead zones.

Alachua County avoids these pollutant fertilizers to minimize the effects of agricultural runoff. Notably, these policies do not impact bona fide agricultural operations, as local governments are precluded from regulating their use.[15] However, from July through February, nitrogen fertilizers are banned for residential and commercial use. All nitrogen fertilizers must be at least 50% slow-releasing. The County has also prohibited the use of phosphorus fertilizers, only allowing them under exceptional circumstances. These actions help protect Alachua's soil and surface water, springs, and clean groundwater from algae blooms (see the Water Chapter for more information).

Food Waste and Food Insecurity Driving Food System Responses

Food waste and food insecurity are interconnected challenges within Alachua County's food system. The impact of food waste on the environment and the system's vulnerability to disruptions

[14] Bermuda grasses are also used for hay production, but the report does not mention impacts to this variety.

[15] Agricultural producers are regulated by FDACS and are encouraged to enroll in BMPs

is evidenced by the increase in food insecurity during the COVID-19 pandemic. The County has key initiatives to address these challenges, including reducing food waste through the Zero Waste Initiative, supporting small farmers through grant programs, connecting local producers with institutional buyers through the Fresh Food Pathways Food Hub project, and developing the culinary workforce alongside support for small farmer value-added food production. These initiatives demonstrate a commitment to building a more resilient, secure, and accessible food system that addresses environmental and social concerns.

Zero Waste Initiative

Alachua has developed the Zero Waste Initiative in conjunction with the City of Gainesville to eliminate waste by 2040. Part of this is accomplished via outreach to businesses and food recovery organizations, learning more about their needs. By supporting several policies and the Commercial Zero Waste Ordinance, progress has been made in establishing more sustainable practices. The climate implications and strategies to address organic food waste are more comprehensively discussed in the Waste Management and Resource Consumption Climate Action Plan. Food that is wasted contributes to greenhouse gas emissions and represents a resource that could address hunger in the community, especially during times of crisis.

During the COVID-19 pandemic, food insecurity increased from 13.9% in 2018 to 15.4% in 2020.[16] This need highlighted the community food system's vulnerability to sudden shocks. Alachua County created several responses to this crisis, addressing immediate food needs, workforce, new farmer development, value-added entrepreneurship, small farmer support grants, and an ongoing study to establish a Food Hub. Food system insecurities continue year-round, and the County needs long-term, comprehensive strategies to address them.

Helping Small Farms Become More Productive

The Small Farmer Grant program financially supports small-scale agricultural producers with $5000 mini-grants.[17] Grants are used to invest capital and equipment to make these farms more financially viable. In 2025, Alachua County will distribute another $100,000 in grants.

Linking Local Producers to Big Purchasers

The Fresh Food Pathways project aims to create a thriving food hub that benefits the community, local farmers, and institutional food purchasers.[18] A food hub is an aggregation and distribution facility that emphasizes purchasing from local producers to sell to institutional purchasers, such as

[16] FLHealthCHARTS, Food Insecurity Rate, 2023.

[17] Alachua County Resiliency Office, Small Farmer Grant.

[18] Office of Sustainability, Equity, Economic and Strategic Development, Program Manager Services for Alachua County's Fresh Food Pathways Program, 2024.

the Alachua County Public Schools, County Jail, UF, UF Health, and North Florida Regional Medical Center. Kicked off in 2025, this 30-month effort will create a roadmap to a potential public-private partnership and a strategy to target supporting capital grants and appropriation requests.

Culinary Workforce and Farmer Value-Added Product Development

The Food System Workforce program involves partnerships between Working Food, community partners, and other organizations to support farmers and create employment opportunities.[19] Low-income youth are introduced to high-level culinary arts and certification programs. At the same time, local small farmers are given access to commercial kitchen space and business consultation to develop shelf-stable, value-added food products. Based on the December project update, the economic returns for the kitchen program in December 2024 were as follows: Gross revenue generated by farmers: $8,466.48. This figure represents the total income generated by the three active farmers who utilized the Working Food Commercial Kitchen during that month.

Small Garden Plots and Community Gardens

A cultural relationship to food is essential to creating a resilient food system. As practiced in World War II Victory Gardens, growing food on a small scale in community gardens or backyard plots creates affordable options for individuals while building an appreciation for the effort required to grow population-sustaining food. Across Alachua County, people utilize the UF IFAS Agricultural Extension Services, children participate in 4H Youth Clubs to learn best practices in food production, and Master Gardener volunteers work in community and school gardens.

Gainesville, Florida, boasts a vibrant community gardening scene, providing residents with green spaces to grow vegetables and engage in healthy outdoor activities. The City of Gainesville initiated its first Community Gardens Project in 1998 at Southeast Fourth Avenue. Since then, the program has expanded to include five gardens around Gainesville, thanks to the collaboration between the City of Gainesville's Parks, Recreation, and Cultural Affairs Department and the dedicated efforts of Gainesville residents. These gardens are Dreamers' Garden in the Grove Street Neighborhood, Green Acres Park Community Garden, McRorie Community Garden, NE 31st Avenue Community Garden, and SW 40th Place and SW 30th Terrace Community Garden. Gainesville has at least 12 community gardens across the city, demonstrating their importance in fostering community interaction and providing fresh produce.

Additionally, Alachua County supports agriculture through farmers' markets and pick-your-own farms, further enriching the community's access to fresh, local produce. Markets like the Haile Village Farmers Market and Union Street Farmers Market, along with farms offering organic

[19] Dixon and McLendon, Food System Workforce Development Program Mid-Project Update, 2024.

fruits, vegetables, and blueberries, provide residents with various options to engage in local agriculture. Based on these successes, farmers' markets and farm stands can now be found throughout Alachua County.

These initiatives highlight a commitment to engaging in agriculture in a way that promotes a culture of sustainability, health, and community development. They serve as models for other cities to create productive, inclusive spaces.

Agricultural Land Protection Strategies

The Board of County Commissioners, in its 2023 Strategic Guide, identified "Invest in and Protect Our Environment" as a guiding principle and has named "Continue Wild Spaces and Public Places and include agricultural lands as well" as a program action in support of this principle. These strategies recognize that development pressures and climate change impacts threaten both ecologically significant and farming lands.

Over the past 50 years, Alachua County has lost over 50% of its farmland, and much of the remaining agricultural land is at a high risk of conversion to housing and suburban development. The conversion of these agrarian lands impact local food production networks and remnant wildlife habitats, increasing stormwater runoff, pollutants transported by runoff, and water consumption. Furthermore, much of the remaining agricultural land in the western part of Alachua County contains sandy, high-recharge soils, which are essential for the future viability of the Upper Floridan Aquifer that provides fresh drinking water and feeds springs and rivers.

Through action by the Board of County Commissioners during a Special Policy meeting on February 7, 2023, an agricultural land protection strategy has been included in future land conservation priorities in Alachua County. Agricultural land protection was identified as a complement to the County's geographic-corridor-based land conservation strategy, serving to strengthen existing Alachua County Forever (ACF) program priority corridors, expand protection of water quality and aquifer recharge, and enhance protection of local food production systems through increased acquisition of conservation easements on agricultural lands (see the Natural Resources Chapter for more information on ACF).

The current framework and process for conservation land protection through the ACF program prioritizes environmentally significant lands that protect water resources, wildlife habitats, and natural areas suitable for resource-based recreation based on ranked and prioritized program "project areas." This framework includes protecting working agricultural lands that meet the ACF program mission due to location, connectivity with existing conservation lands, or other natural resource values. Expanded addition of agricultural land protection into the County's land conservation program requires a separate and defined process developed with agricultural land protection as the focus, and with farm landowners' and stakeholders' involvement and input.

In September 2024, following a year-long community engagement and strategy development process, the Board of County Commissioners approved and authorized the Agricultural Land Protection Strategy for implementation through the Alachua County Forever Program. Strategy implementation is defined through Board resolution, and initial funding and staffing for the strategy was approved by the BOCC for fiscal year 2025.

The Agricultural Land Protection Strategy established an Agricultural Land Conservation Board (ALCB). This citizen board is comprised of 9 volunteers who serve 4-year terms. Six members must have education and experience in agricultural lands management, practices, or land protection, and four members will serve citizens-at-large and represent community interests. The ALCB serves to incorporate citizen participation into Alachua County agricultural policy. It is essential that citizen and agricultural professionals' thoughts and experiences have a place in County decisions. While the ALCB is new, it has great potential to improve agricultural conservation strategies and outreach.

Agricultural Land Transfer and Succession Planning

Recognizing the multi-generational aspect of agricultural land protection, particularly regarding lands with agricultural easements, Alachua County has been awarded a grant from the American Farmland Trust to participate in the American Farmland Trust (AFT) Land Transfer Navigator Program beginning in 2024. Staff from participating Navigator organizations will be trained in land access and farm/ranch transfer facilitation to provide tailored assistance to farmers, ranchers, and landowners. Capacity grants are awarded to these entities to assist farmers, ranchers, and landowners, support their training, and build institutional capacity to invest in their land access and transfer work.

Navigators train to:

- Provide technical assistance to facilitate farm and ranch transfers.
- Reduce language, legal, cultural, and other barriers to accessing or transferring agricultural land or businesses for historically underserved farmers and ranchers.
- Connect farmers, ranchers, and landowners with regional service providers.
- Increase the role agricultural conservation easement programs and partner organizations play in facilitating the transfer of farms to a new generation.

Program Highlight

Small Farmer Grant and Uplifting Alachua County Agriculture

Launched in 2021, the Alachua County Small Farmer Grant supports local agricultural producers earning less than $250,000 in gross cash income annually. This grant is specifically designed to assist with capital equipment needs for Alachua County residents operating small-scale, commercial agricultural operations within the county.

To qualify, producers must demonstrate a gross cash income of at least $1,000 and no more than $250,000 per year from the regular harvest and sale of products intended for human consumption, such as grain, honey, fruits, vegetables, dairy, and livestock. Priority is given to applicants whose annual gross income is $75,000 or less.

As of March 2025, the Small Farmer Grant has supported 65 small farmers. Small Farmer Grant applicants come from across Alachua County. The primary goal of the program is to strengthen the economic resilience of Alachua County's local food system by investing in its small-scale agricultural producers.

Agricultural Entrepreneurship and Business Planning Education Incentive

Alachua County actively supports the professional development of small-scale agricultural producers by covering the full course fee for up to 50 individuals per year to participate in the University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) Agricultural Entrepreneurship Series and Farm Business Planning Short Course.

This educational program is designed for aspiring and beginning farmers, ranchers, and agricultural entrepreneurs seeking to build a strong foundation in farm business planning. In addition to gaining valuable skills, participants who complete the course may submit their finalized farm business plan as part of their Alachua County Small Farmer Grant application to earn additional incentive points during the scoring process.

Through this initiative, the County aims to promote farm viability, business planning, and long-term success for small producers in Alachua County.

Agritourism Workshop Series

Alachua County hosted its first Agritourism Workshop in 2022 and is planning to host the next installment in 2025. The workshop is designed for individuals involved in or exploring agritourism, including farmers, ranchers, landowners, and agricultural entrepreneurs, who are interested in generating additional income streams through on-farm experiences and visitor-based business ventures.

The County organizes this event to support local economic development by helping agricultural producers diversify their operations and strengthen their financial sustainability. The workshop

addresses critical considerations such as zoning, permitting, fire safety, marketing, and collaborative promotion. Subject matter experts from Alachua County Growth Management, Fire Rescue, and Tourism and Economic Development lead the sessions, providing attendees with direct access to regulatory guidance, public safety protocols, and marketing tools.

By facilitating these workshops, Alachua County aims to reduce barriers to entry for agritourism ventures, promote regulatory compliance, and encourage entrepreneurship in rural areas. The initiative aligns with broader County goals to enhance the resilience of the local agricultural economy and support landowners in maintaining productive, economically viable working lands.

Strategies and Action Items

Goal 1.1 – Strengthening Local Food Systems

STRATEGY 1.1.1 – Increase local agriculture's access to markets.

Strengthening Alachua County's food systems requires a combination of reducing reliance on long-distance transportation for delivering food and expanding local farmers' access to markets. The intent is to minimize the amount of distance between a farm and its consumers. This "farm to table" approach lowers GHG emissions from transporting the food and can result in a meaningful reduction and progress towards the County's net zero goals. It promotes seasonal eating, which tends to be less energy intensive and nutritionally dense than non-seasonal foods.[20] There are also immense benefits for local farmers to increase their revenue and diversify their income.[21]

Targeted programs are necessary to connect local farmers to markets. This can be done via food hubs such as the Fresh Food Pathways Project, but additional food hubs should be planned to reach more of Alachua County and more farmers. A particular focus must be put on getting fresh, local foods to food deserts to decrease food insecurity.

Table 1.1: Action Items for Increasing Local Agricultural and Food Security (Strategy 1.1.1)

Action Items	Jurisdiction	Pros	Cons	Status

[20] Bano, "Farm-to-Table: Exploring the Benefits and Challenges of Local Food Systems," 2024.

[21] *Ibid* footnote 19.

Support the development/ expansion of additional regional food hubs and processing facilities to improve local farmers' access to markets.	Alachua County Board of County Commissioners (in partnership with local farmers, institutional food purchasers, non-profits, and the private sector)	Creates local jobs, improves food security, reduces transportation emissions, and strengthens the local economy.	Requires significant investment and may face challenges in securing adequate funding and finding suitable locations.	Ongoing

STRATEGY 1.1.2 – *Incentivize climate-smart and sustainable agriculture.*

Climate-smart agriculture ensures that the local food system is resilient to shocks such as hurricanes and extreme heat. Such agricultural methods can decrease the amount of land required, incorporate mixed-uses for the land, and use more sustainable practices. Climate-smart or sustainable agriculture may include agroforestry, regenerative agriculture, precision agriculture, permaculture, aquaponics, agrivoltaics, vertical agriculture, etc. However, many of these are expensive to implement upfront, making it inaccessible for local farmers. The County can promote climate-smart agriculture by incentivizing and compensating farmers for transitioning towards sustainable, resilient farming practices.

Table 1.2: Action Items for Increasing Local Agricultural and Food Security (Strategy 1.1.2)

Action Items	Jurisdiction	Pros	Cons	Status
Create a program that incentivizes and compensates producers for enhancing ecosystem services on farming lands via climate-smart strategies, high-efficiency water resource management, and the use of recycled organic materials from the waste stream in lieu of synthetic fertilizers.	Alachua County Board of County Commissioners (in partnership with local farmers, institutional food purchasers, non-profits, and the private sector)	Enhances the economic viability of farms. Keeps local farms in production. Aligns to and compliments the County's agricultural easement initiatives.	May require ongoing funding and community engagement to ensure program sustainability.	Not Started

Goal 1.2 – Build Upon Workforce & Entrepreneurship Programs

STRATEGY 1.2.1 *– Collaborate with local and state partners to expand agricultural workforce, entrepreneurship and innovation programs.*

Increasing the amount of entrepreneurship and innovation within agricultural and food systems creates resilient solutions to climate change. Through collaborations such as those with UF/IFAS, there are opportunities to expand pilot workforce development programs to address emerging needs within the local food system. This can also counteract the ongoing issues of aging farmers and farm succession by bringing in new, young farmers or employees. Programs should focus on skills development, entrepreneurship, and climate adaptation. Alachua County can support the development of local food enterprises, particularly those owned by underrepresented populations.

Table 1.3: Action Items for Expanding Agricultural Workforce, Entrepreneurship, and Innovation (Strategy 1.2.1)

Action Items	Jurisdiction	Pros	Cons	Status
Expand the Food System Workforce Program as a high-skill jobs pipeline; include training modules on topics such as, but not limited to, food entrepreneurship, food safety certification, climate-smart agriculture, water conservation, and adapting to changing weather patterns.	Alachua County Board of County Commissioners (in partnership with CareerSource, Children's Trust, Alachua County Public Schools, UF/IFAS Extension, local community colleges, and private sector partners)	Develops a skilled workforce, supports local food businesses, and enhances the resilience of the local food system.	Requires ongoing funding, effective partnerships, and continuous evaluation to ensure program effectiveness.	Not started

"Agribusiness Incubator" program: Provide mentorship, business planning assistance, support ag-tech parks, best climate-smart practices, UF/IFAS Farm Plan adoption, and access to resources for aspiring small-scale farmers and food entrepreneurs (e.g., farmers market vendors and value-added food producers).	Alachua County Board of County Commissioners (in partnership with Food Incubators, SCORE, UF/IFAS Extension, local community colleges, and private sector partners)	Supports local farmers and businesses, emerging locally produced agricultural technology, creates jobs, and strengthens the local food economy.	Requires careful program design, risk assessment, and ongoing monitoring to ensure program effectiveness and financial sustainability .	Not started

Goal 1.3 – Commercial Organic Waste Composting & Local Fertilizer Use

STRATEGY 1.3.1 *– Incentivize the use of local organic waste compost as fertilizer on agricultural lands.*

Fertilizer for agricultural use contributes to runoff and a decrease in water and soil quality. While the County's robust fertilizer code applies to all fertilizer applicators in the unincorporated and incorporated areas of Alachua County, there are still opportunities to minimize its use by replacing it with compost. Using compost as fertilizer has also been shown to enhance soil health.[22] Transitioning to compost fertilizer at an agricultural scale can maximize sustainable farming practices and, if using local compost, decrease the amount of food waste produced by the County (see the Waste Chapter for individual/residential composting goals). Using locally produced compost also supports local businesses and contributes to a circular economy (see the Waste Chapter).

Table 1.4: Action Items for Incentivizing Local Compost and Local Fertilizer (Strategy 1.3.1)

Action Items	Jurisdiction	Pros	Cons	Status
Pilot Program for Commercial Food Waste Collection & Composting	Alachua County Solid Waste & Resource Recovery Department in	Reduces landfill waste and greenhouse gas emissions.	Requires initial investment in infrastructure and logistics.	Not started

[22] UF/IFAS Extension, *Composting for the Home Gardener.*

	collaboration with local businesses and a private sector composting facility.	Creates a market for local composting businesses. Provides valuable data for future program expansion.	May require financial incentives for businesses to participate. Needs to ensure proper food waste separation and contamination control.	
Facilitate connections between local farmers and compost producers.	Alachua County Board of County Commissioners (in partnership with UF/IFAS Extension, NRCS, and local farmers)	Promotes sustainable agricultural practices. Reduces reliance on synthetic fertilizers, improving environmental quality. Supports local businesses and strengthens the local economy.	May require financial resources for incentive programs. Requires ongoing outreach and education efforts to encourage farmer participation.	Not started
Develop a program to incentivize local farmers' use of locally produced compost (e.g., grants, cost-sharing programs)	Alachua County Board of County Commissioners (in partnership with UF/IFAS Extension, NRCS, and local farmers)	Promotes sustainable agricultural practices. Reduces reliance on synthetic fertilizers, improving environmental quality.	May require financial resources for incentive programs. Requires ongoing outreach and education efforts to encourage farmer participation.	Not started

Educate farmers on the benefits of compost (improved soil health, reduced reliance on synthetic fertilizers, improved water retention)	Alachua County Board of County Commissioners (in partnership with UF/IFAS Extension, NRCS, and local farmers)	Promotes sustainable agricultural practices. Reduces reliance on synthetic fertilizers, improving environmental quality. Supports local businesses and strengthens the local economy.	May require financial resources for incentive programs. Requires ongoing outreach and education efforts to encourage farmer participation.	Not started

Goal 1.4 – Build a Local Food System Culture through Engagement and Agritourism

STRATEGY 1.4.1 *– Develop a Farm to Table education program in Alachua County.*

Local food systems are strengthened and reinforced by support from the community. Several community groups and initiatives already exist in Alachua County to promote local food systems, educating citizens on the benefits of buying local produce and strengthening the local agricultural sector. Through collaboration with such groups, the County recommends the development of a Farm to Table education program to integrate knowledge of the local food system into the education system. Learning about sustainable farming practices, local produce, and the health benefits of eating locally from a young age can foster a new generation of engaged, well-informed citizens.

Table 1.5: Action Items for Developing a Farm to Table Program in Alachua County (Strategy 1.4.1)

Action Items	Jurisdiction	Pros	Cons	Status
Integrate farm-to-table education into school curricula (e.g., gardening programs, nutrition education, cooking classes using local ingredients).	Alachua County Public Schools, in partnership with the Children's Trust,	Increases awareness and appreciation for local food among youth.	Requires ongoing funding and coordination between multiple stakeholders.	Not started

	UF/IFAS Extension, local farmers, food incubators, and community organizations.	Promotes healthy eating habits. Fosters a connection between students and their local food sources.	May require teacher training and curriculum development.	
Organize field trips to local farms for students to learn about food production and connect with farmers.	Alachua County Public Schools, in partnership with the Children's Trust, UF/IFAS Extension, local farmers, food incubators, and community organizations.	Increases awareness and appreciation for local food among youth. Promotes healthy eating habits. Fosters a connection between students and their local food sources.	Requires ongoing funding and coordination between multiple stakeholders. May require teacher training and curriculum development.	Not started
Develop educational resources for teachers and students on topics such as sustainable agriculture, food systems, and the importance of supporting local farmers.	Alachua County Public Schools, in partnership with the Children's Trust, UF/IFAS Extension, local farmers, food incubators, and community organizations.	Increases awareness and appreciation for local food among youth. Promotes healthy eating habits. Fosters a connection between students and their local food sources.	Requires ongoing funding and coordination between multiple stakeholders. May require teacher training and curriculum development.	Not started

STRATEGY 1.4.2 *– Promote Agritourism in Alachua County.*

Agritourism presents an opportunity to increase revenue for local farmers while promoting the local culture of Alachua County. Agritourism generated over $630 million in economic impact for Alachua County in 2021.[23] Having a well-established agrotourism sector can also preserve these lands, addressing the 50% loss in farmland in the last 50 years. More emphasis must be put into boosting the agritourism sector by increasing farms' visibility and promotion.

Table 1.6: Action Items for Promoting Agritourism in Alachua County (Strategy 1.4.2)

Action Items	Jurisdiction	Pros	Cons	Status
Develop and promote agritourism trails and maps highlighting local farms, farm-to-table restaurants, and other agritourism destinations.	Alachua County Board of County Commissioners (in partnership with farms, restaurants, breweries, UF/IFAS Extension, municipalities, and private sector partners)	Boosts local tourism and economic development. Provides additional income streams for farmers. Promotes awareness of local agriculture and its importance to the community.	Requires ongoing marketing and promotional efforts. May require additional resources for infrastructure development at some farm locations.	Not started
Organize annual "Agritourism Weeks" or festivals to showcase local farms and connect visitors with the agricultural community.	Alachua County Board of County Commissioners (in partnership with farms, restaurants, breweries, UF/IFAS Extension, municipalities, and private sector partners)	Boosts local tourism and economic development. Provides additional income streams for farmers. Promotes awareness of local agriculture and its importance to the community.	Requires ongoing marketing and promotional efforts. May require additional resources for infrastructure development at some farm locations.	Not started

[23] "Alachua County Agritourism Conference," 2022.

Encourage the development of unique agritourism experiences (e.g., farm stays, farm-to-table dinners, educational workshops).	Alachua County Board of County Commissioners (in partnership with farms, restaurants, breweries, UF/IFAS Extension, municipalities, and private sector partners)	Boosts local tourism and economic development. Provides additional income streams for farmers. Promotes awareness of local agriculture and its importance to the community.	Requires ongoing marketing and promotional efforts. May require additional resources for infrastructure development at some farm locations.	Not started

Goal 1.5 – Expand Protection of Agricultural Lands

***STRATEGY 1.5.1** – Implement Agricultural Land Protection Strategy under the Alachua County Forever Program to increase conservation of farmlands through acquisition of agricultural conservation easements.*

Similar to the threats posed to environmentally significant conservation lands, agricultural lands are also under threat from development and other pressures. Development of agricultural lands impacts local food production networks, remnant wildlife habitat, and increases stormwater runoff, pollutants transported by runoff, and water consumption. Furthermore, much of the remaining agricultural land in the western part of Alachua County contains sandy, high recharge soils, which, as mentioned previously, are essential for the future viability of the Upper Floridan Aquifer.

The Climate Vulnerability Assessment identified the multiple policy, planning and finance actions recommended to help manage impacts from climate change on agricultural lands, workers, crops and practices. The implementation of an agricultural land conservation strategy will help ensure the diverse landscape of Alachua County is preserved into the future. This is one of the measures Alachua County can use to effectively address the impacts of climate change, mitigate risks, and enhance the quality of life for current and future residents.

Table 1.7: Action Items for Implementing Agricultural Land Protection Strategy (Strategy 1.5.1)

Action Items	Jurisdiction	Pros	Cons	Status

Implement the Agricultural Land Protection Strategy in accordance with Board Direction established through Board Resolution.	Alachua County	Protection of agricultural land; preservation of agricultural jobs; preservation of Alachua County Culture	None.	Emergent
Acquire agricultural land conservation easements on priority lands within the County, in partnership with willing landowners.	Alachua County	Protection of agricultural land; increased partnership with local farmers	Cost; landowner pushback	Current with emerging expansion

Triple Bottom Line

People

Investing in local agriculture bolsters community health in a variety of ways. Small farms, farmers markets, community gardens, and other local food sources promote access to fresh produce and other healthy foods, decreasing food insecurity and food deserts in Alachua County. The nutritional quality of local produce tends to be higher than produce brought from long distances, which lose some nutritional value.[24] Additionally, when farmers transition away from synthetic fertilizers or pesticides, people are less exposed to chemicals.[25]

Farmers, volunteers, students, or communities who participate in growing food also benefit from physical activity and better mental health. These gardens are not only about food production; they are spaces where residents can cultivate friendships and enjoy the therapeutic benefits of gardening. They offer an educational opportunity for families to teach their children about gardening and support local agriculture, enriching the community's social fabric and promoting sustainable living practices. They also preserve agriculture as an essential part of Alachua County

[24] *Ibid* footnote 19.
[25] *Ibid* footnote 19.

culture. Incorporating such values and practices into the school system can foster the next generation of agriculture farmers, entrepreneurs, innovators, and culinary professionals.

A pressing issue after natural disasters is the availability of food. Local agriculture supplies a reliable source of food when supply chains are disrupted due to events like pandemics and natural disasters.[26] As climate change impacts grow more intense, ensuring a strong, resilient food system can provide people with nutritious food when it would otherwise not be available.

Profit

The benefits of a strong agricultural sector are Countywide. By increasing farmers' access to markets, they can sell more agricultural products, generating more profit. This is especially beneficial because, according to the 2022 USDA Census, 44% of farmers make less than $2,500 in value of sales, and 65% of farmers make less than $10,000 in value of sales.[27] It provides opportunities not only to increase their profit, but to expand their agricultural production. Agriculture in Alachua County has produced over $280 million in business sales, and every dollar in sales generates $1.80 for other sectors in the local economy. [28] Additionally, more access to markets and sales allows farmers – especially those who are older – to have the opportunity to hire farmworkers or begin the next generation of farmers. Every job in agriculture in Alachua County generates another 1.12 jobs.[29]

The viability of these farms and jobs is dependent on how they react to future climate impacts. Increasing the number of farmers who use climate-smart farming techniques can ensure that agriculture remains resilient against shocks, protecting farmers' jobs, livelihoods, and the sector as a whole.

Promoting agritourism also has economic benefits. As mentioned, agritourism generated over $630 million in economic impact for Alachua County in 2021, showing the potential to earn more if the industry has the proper foundations, infrastructure, and marketing. This is valuable not just for farms, but for the general tourism, ecotourism, and recreation industries within Alachua County. Visitors would also support local restaurants and other services.

Those not working in the agricultural sector can also benefit due to the decreased costs in local food items. Minimizing factors such as travel can decrease the price of local produce and crops. Promoting community gardens and farmer's markets also makes food more economically accessible by providing lower-cost goods compared to large, commercial retailers.

[26] Papanek et al., "Social and Community Benefits and Limitations of Urban Agriculture."
[27] *Ibid* footnote 1.
[28] Florida Farm Bureau, "Alachua County Agricultural Stats"
[29] *Ibid* footnote 27.

Planet

Protecting agricultural lands via easements has immense environmental benefits. It promotes carbon sequestration not only because many farmlands are surrounded or close to forests or wetlands but also because healthy soils store carbon in the form of organic matter. Such protections prevent these lands from being developed, which would increase GHG emissions and eliminate crucial carbon sinks within the County.[30]

Protection of agricultural lands also protects pollinators, an often-overlooked aspect of agriculture. Pollinators are necessary for the functioning of entire ecosystems, but climate change, development, and lack of pollinator plants threaten them.[31] Many crops commonly grown in Alachua County are reliant on pollinators for adequate yields. These include squash and pumpkins, blueberries, strawberries, watermelons, cucumbers, specialty citrus, eggplant, field tomatoes, green beans, and peppers. Beyond these specific crops, it's worth noting that pollinators are crucial for the reproduction of about 75% of flowering plants and nearly 75% of crops that people rely on for food. This highlights the broad impact of pollinator health on agriculture in Alachua County and beyond. Transitioning from synthetic fertilizers to local compost can also protect pollinators because many of those fertilizers are detrimental to them.

Community Engagement

Florida Master Gardener Volunteer Program

This program, run by the University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS), trains volunteers to provide horticultural education to residents. Educating friends, families, and neighbors is a significant first step towards getting involved in community gardens and encouraging residents to grow their produce.

Composting

Alachua County has several composting services available to the public:

- Beaten Path Compost has two drop-off locations at 409 SW 4th Ave and 231 NW 10th Ave.
- Gainesville Giving Garden has a drop-off location at 225 NW 12th Ave.

[30] American Farmland Trust, "AFT Releases New Paper on the Climate Benefits of Agricultural Conservation Easements," 2024.

[31] United States Department of Agriculture, "Wildlife and Pollinators."

- UF Field and Fork Farm has a drop-off location at 2656 Museum Road.
- UF Student Compost Cooperative has a drop-off location at the Energy Research and Education Park.
- Find composting locations at a local community garden.

Alternatively, wire compost bins are available for free by collecting free wire rolls at the Alachua County Public Works Office at 5620 NW 120th Lane.

Support Local Farmers and Dietary Changes

Individuals can support local farmers in a variety of ways. Attending and shopping at farmer's markets is an easy way to get access to local agricultural products such as vegetables, eggs, and meats. The following is a non-exhaustive list of farmers' markets in Alachua County:

- **Alachua County 441 Farmers Market** – Saturdays from 8:30 am – 12:30 pm
- **Haile Plantation Farmers Market** – Saturdays from 8:30 am – 12:00 pm
- **High Springs Farmers Market** – Fridays from 3 pm – 7 pm.
- **Union Street Farmers Market** – Wednesdays from 4 pm – 7 pm
- **Grove Street Farmers Market** – Mondays from 4 pm – 7 pm

Dietary changes can also make a difference in individual carbon footprint. As mentioned, buying local minimizes the transportation of goods, avoiding transportation-related GHG emissions. It also avoids purchases from large-scale or industrial farms, which produce more GHG emissions (mostly from land use change) and require more fertilizer and pesticides than the typical small farm in Alachua County. There are further opportunities to lower individual carbon footprint by decreasing the amount of meat a person consumes and eating more vegetables and legumes.[32]

[32] Gibbs and Cappuccio, "Plant-Based Dietary Patterns for Human and Planetary Health," 2022.

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