Virginia Cooperative Extension
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Urban Agriculture in Virginia: A Landscape Report

Authored by William McCausland, Masters Student, Department of Agricultural, Leadership, and Community Education, Virginia Tech; Kim Niewolny, Professor, Department of Agricultural, Leadership, and Community Education, Virginia Tech; Briana Stevenson, National Urban Agriculture Coordinator, Small Farm Outreach Program, Virginia State University; and Danielle Freeman-Jefferson, National Urban Agriculture Administrative Assistant, Small Farm Outreach Program, Virginia State University

Executive Summary

This report examines the current state of urban agriculture, its historical development, and its role in addressing food production, food access, and sustainable development in cities across the United States, with particular attention to Virginia. Drawing on academic literature and project-based experience, this assessment situates urban agriculture as a key component of developing and sustaining healthy food systems, encompassing the cultivation, processing, and distribution of food in urban and peri-urban areas (Pradhan et al., 2023). It further highlights its environmental, social, and economic benefits, including increased access to fresh food, stronger community engagement, and reduced transportation impacts, all of which contribute to more sustainable local environments (Halvey et al., 2021; Yan et al., 2022; Gunapala et al., 2025).

This assessment also highlights the historical ties between urban agriculture and food movements, drawing attention to disparities in land access, food availability, and financial and infrastructure investments that impact communities (Larson et al., 2009; Alkon & Agyeman, 2011; Dobele & Zvirbule, 2020). It also traces the evolution of urban agriculture in Virginia, where these activities remain important but are often underrepresented in formal data, especially in regions such as Richmond, Hampton Roads, and Roanoke (USDA, 2016).

In addition to reviewing the literature and providing a brief historical context, this document outlines activities and findings from the *Advancing Urban Agriculture and Sustainable Food Systems in Virginia Initiative*, including input from statewide listening sessions conducted by project partners—Virginia Tech (VT), Virginia State University (VSU), the Farm Service Agency (FSA), and community collaborators. These findings address the needs of urban growers across the Commonwealth. Together, these components offer insight into the opportunities and challenges shaping the future of urban agriculture in Virginia and establish a foundation for informing policy, programming, and partnership development.

What is Urban Agriculture?

Urban agriculture refers to the cultivation of crops and the raising of animals within urban areas (Opitz et al., 2016). It has gained popularity as a strategy to increase access to fresh, healthy food in cities and to improve community engagement (Cohen & Reynolds, 2015; Lovell, 2010; Sadler et al., 2015). The Food and Agriculture Organization's (FAO) Urban and Peri-Urban Agriculture Sourcebook defines the concept as follows:

"While there is no universally agreed-upon definition of urban and peri-urban agriculture (UPA), a great variety of agriculture practices are covered within and surrounding the boundaries of cities,16 which compete for resources (land, water, energy, labor) and serve other purposes to satisfy the requirements of the urban population. Important UPA sectors include horticulture, livestock, fodder and milk production, aquaculture and forestry. Also included are non-wood forest products, as well as ecological services provided by agriculture, fisheries and forestry; therefore, the term UPA should be understood to be inclusive unless otherwise specified" (FAO et al., 2022, p 9).

The FAO provides a more expansive definition that situates urban agriculture as occurring within or on

the periphery of towns, cities, or metropolitan areas; it involves the cultivation, processing, and distribution of a diversity of food and non-food products, the reuse of human and material resources found in and around urban areas, and the provision of these resources, products, and services primarily to those same areas (FAO et al., 2022, p. 9).

Urban agriculture also broadly describes the cultivation, processing, and distribution of agricultural products within urban and suburban areas. Examples include community gardens, rooftop farms, hydroponic, aeroponic, and aquaponic systems, as well as vertical farming operations (Dobele & Zvirbule, 2020). Academic interest in urban agriculture has largely focused on its benefits and motivations for participation. Urban agriculture offers a range of advantages to individuals and communities, including increased access to fresh and healthy food for low-income residents (Corrêa et al., 2020; Gunapala et al., 2025). It also fosters community engagement by creating opportunities for collective action. In addition, urban agriculture can enhance environmental sustainability by reducing long-distance food transportation and lowering the land required for agricultural production (Gunapala et al., 2025).

However, gaps in the literature remain. Scholars are increasingly examining how to develop comprehensive urban agriculture policies that encompass a range of practices, from inner-city allotments and community gardens to peri-urban and off-ground cultivation systems (Halvey et al., 2021; Cassatella & Gottero, 2025). Additional gaps persist in understanding the social, environmental, and economic dimensions of urban agriculture, as well as the institutional frameworks that govern it (Fei et al., 2025).

History

Urban agriculture has a long history, serving as a prominent method of food production within early urban settlements across many societies. As cities developed, they often co-evolved alongside agricultural practices that helped sustain growing populations. Food production has historically been integrated into urban landscapes, ranging from 19th-century livestock operations in cities such as New York and Chicago to intensive gardening systems in Paris (Philpott, 2010). This integration highlights the enduring role of urban agriculture in enhancing food security and supporting local economies within urban environments.

Urban gardening and farming have frequently emerged in response to periods of crisis. For example, during the 1890s and the Great Depression, “relief gardens” were established through organizations such as Vacant Lots Cultivation Associations to provide unemployed individuals with access to land for food production (Corrêa et al., 2020; Dobele & Zvirbule, 2020). However, urban agriculture declined in the mid-20th century as industrial farming and fossil fuel–based transportation systems reshaped food production and distribution. A revival began in the 1970s, with community gardens emerging in economically disadvantaged urban areas (Philpott, 2010). During this period, urban agriculture became closely linked to social movements focused on increasing social wellbeing, community health, and food access. Community gardens served as sites of grassroots organizing and neighborhood revitalization, particularly in low-income communities and communities of color. These spaces provided not only fresh food but also opportunities for community empowerment and responses to urban disinvestment (Dobele & Zvirbule, 2020).

Today, urban agriculture is increasingly recognized as a contributor to sustainable urban development, offering benefits such as improved food access, waste reduction, community building, and the provision of ecosystem services (Gunapala et al., 2025). While cities will continue to depend on rural food systems, integrating agriculture into urban environments may enhance resilience and sustainability. In recent years, however, urban agriculture has faced challenges associated with increasing urbanization and land scarcity (Parece & Campbell, 2017; Parece et al., 2017). As of 2026, less than 3% of total U.S. land is devoted to urban use (Callahan, 2026). These constraints on land and resources have renewed interest in urban agriculture as a strategy to address food insecurity and support more sustainable communities. The following sections examine urban agriculture from a spatial perspective, with particular attention to Virginia, assessing its current state, associated benefits, ongoing challenges, and the role of the USDA Farm Service Agency (FSA).

Illustrations and Examples of Urban Agriculture

Urban agriculture is a place-based strategy frequently associated with efforts to address food access, disparities in food systems, and the rise of urban food deserts (Githinji, 2016; Santo et al., 2016; Van Veenhuizen, 2014; Peters, 2011). It has also served as a platform for grassroots political efforts focused on land access and economic disparities. However, these spaces have faced political contestation, particularly during the 1990s, when developers and policymakers increasingly viewed them as real estate assets (Horst et al., 2017; Sbicca, 2018; Fantini, 2023).

Urban agriculture takes diverse and innovative forms, which can broadly be categorized as either commercial or community-based. Commercial urban farms typically operate under economically viable business models, providing employment, food production, and educational opportunities. In contrast, community-based urban gardens create spaces for local residents to engage in individual and neighborhood development, with profit not serving as the primary objective (Rangarajan & Riordan, 2019). These gardens allow residents to collectively cultivate land, enhance food access, and strengthen community cohesion.

Additional forms of urban agriculture include rooftop gardens, which maximize underutilized rooftop space and often incorporate hydroponic or aquaponic systems. Hydroponics enables soil-free cultivation using nutrient-rich water, while aquaponics integrates plant and fish production within a symbiotic system (Sayara et al., 2016). Urban farms, frequently operated by nonprofit organizations, make use of vacant lots for small-scale commercial production. Vertical farming systems grow crops in stacked layers, optimizing limited urban space. Together, these varied approaches contribute to sustainable and locally responsive food systems (Gunapala et al., 2025)

Many urban agriculture initiatives are grassroots in nature and are shaped by broader power dynamics and policy frameworks (Alkon & Agyeman, 2011; Contesse et al., 2018). As a result, urban agriculture is influenced by both federal and local policies that affect land use and resource allocation. Given ongoing concerns about food insecurity and economic instability, expanding urban food production is increasingly important from a policy perspective (Gunapala et al., 2025). Vacant lots, schoolyards, parks, rooftops, and other underutilized urban spaces present significant opportunities for agricultural use. Beyond food production, urban agriculture enhances neighborhood aesthetics, fosters community cohesion, and creates educational and employment opportunities (Fei et al., 2025). It also supports entrepreneurship through farmers markets, Community Supported Agriculture (CSA) programs, and direct sales to restaurants. Furthermore, improved access to fresh, nutritious food can help address diet-related health concerns, including chronic illness and fatigue (Pradhan et al., 2023). This section examines urban agriculture from specific perspectives and impacts, including participation at local and regional levels in Virginia, as well as broader systemic challenges and opportunities.

Opportunities and Benefits of Urban Agriculture

Environmental Sustainability

The environmental dimensions of urban agriculture are widely recognized. Transitioning from industrial agriculture to more sustainable urban agricultural systems can help reduce the environmental impacts of food production (de Oliveira Alves, 2022; Wakuru, 2013). By utilizing already developed spaces, urban agriculture limits the need to convert undeveloped land into farmland (Fei et al., 2025). Due to spatial constraints, these systems often rely on low-input practices that minimize the use of heavy machinery and synthetic chemicals. Although this approach can present certain challenges, it may also result in higher yields on smaller plots compared to large-scale farming methods (Wakuru, 2013). Moreover, these practices can contribute to reduced greenhouse gas emissions and more efficient resource use within urban environments (Pradhan et al., 2023).

Due to space constraints and cost considerations, urban agriculture often incorporates best practices such as crop rotation, composting, and the use of biofertilizers to enhance soil fertility while reducing reliance on nitrogen-based fertilizers and synthetic chemicals (Yan, 2022; Mougeot et al., 2005). Organic methods, commonly employed in these

systems, also help protect water resources by preventing contamination from chemical inputs (Sivaranjani & Rakshit, 2019). Compost-based fertilizers are used in urban agriculture to reduce landfill waste by repurposing organic materials such as food scraps and yard debris. Additionally, urban agriculture practices can help mitigate climate change by lowering greenhouse gas emissions through reduced transportation, limited mechanization, and decreased reliance on synthetic fertilizers. The emphasis on locally grown food further reduces the need for packaging and long-distance distribution (Sims et al., 2015).

Expanding access to fresh food within neighborhoods may also reduce vehicle trips to grocery stores, further lowering emissions (Kafle et al., 2023). Beyond these environmental benefits, urban agriculture also contributes to neighborhood revitalization by improving aesthetics, fostering community engagement, and facilitating the cleanup of vacant or contaminated land. Increased vegetation can also reduce urban heat island effects and improve air quality (Tsilini et al., 2015).

Community-Centered Impacts

For some, supporting and strengthening connections within urban agricultural systems in the United States can promote greater socioeconomic inclusion while helping ensure that future generations have access to adequate natural resources (Horst et al., 2017). Enhancing quality of life and increasing property values in urban areas can also strengthen community ties and provide residents of economically distressed neighborhoods with opportunities for revitalization (Gunapala et al., 2025). Others further contend that urban gardens provide residents with the opportunity to experience the benefits and satisfaction associated with producing nutritious food within their own communities (Ponce & Donoso, 2009; Gunapala et al., 2025).

Food access and food security are important community-centered benefits of urban agriculture. For example, urban agriculture enhances food security by promoting self-sufficiency among urban residents (Pradhan et al., 2023). Whereas more than 50% of Americans once lived in rural areas or on farms and relied on locally produced food, approximately 80% now reside in urban environments (U.S. Census Bureau, 2022). Consequently, food must be transported over long distances to reach urban populations. At the same time, many Americans live below the poverty line and depend on emergency food assistance, a condition exacerbated by ongoing economic challenges (Bacon et al., 2024). As food shortages become more likely, urban agriculture underscores the importance of access to land for local food production. Individuals who can use land to grow their own food may increase their self-sufficiency, while low-income urban residents without such access may face greater vulnerability. Rising food prices may further intensify existing socioeconomic disparities. To that end, urban gardens promote self-reliance by enabling residents to produce food using locally available resources. In under-resourced urban neighborhoods—often characterized by poverty, limited services, unemployment, and higher crime rates—urban agriculture can help disrupt cycles of decline. By transforming vacant lots into productive spaces, urban gardens foster community engagement, strengthen neighborhood pride, and cultivate a sense of collective ownership.

Urban agriculture also helps reduce social disparities by increasing access to fresh, healthy food. Many low-income households struggle to afford nutritious options (Gunapala et al., 2025), and even when cost is not the primary barrier, access to high-quality food in urban areas is often limited. As food scarcity intensifies and production costs rise, the nutritional quality of diets among economically disadvantaged populations may continue to decline (Bacon et al., 2024). Access to healthy food is a critical component of sustainable communities. Urban gardens help address this challenge by enabling residents to produce and share food locally.

Local/Regional Food Supply

Local and regional food systems play an important role in shaping the long-term sustainability of urban agriculture. Transitioning to urban agricultural systems that make use of already developed land can help conserve undeveloped land for future generations. As urban sprawl and industrial agriculture continue to encroach on fertile land, sustainable urban agriculture offers a strategy for preserving natural resources while maintaining food production capacity (Tabrez, 2025). Access to urban-produced food is closely tied to the economic realities of urban farming operations. Building coalitions to secure political and financial support is

particularly important, alongside efforts to address the root causes of food insecurity through social services (Daftary-Steel et al., 2015).

Local and regional food systems are strengthened by the contributions of urban agriculture. Urban farms do more than produce food; they generate social benefits, support shared community resources, and strengthen connections to nature, education, and food literacy (White, 2018). While urban agriculture alone may not eliminate food insecurity, it plays an important role in supplementing local food supplies, improving access to fresh foods, and contributing to broader community health outcomes.

Economic Growth Opportunity

Sustainability requires integrating economic development with environmental protection and responsible resource use (Barrier, 2017; Jawahir & Bradley, 2016; Song et al., 2019). It also involves consideration of both present and future resource needs. As global consumption rises alongside population growth, pressure on natural resources intensifies, raising concerns about long-term ecological limits. Urban agriculture can contribute to sustainable economic development by enhancing urban productivity and creating workforce development opportunities. These initiatives can provide job training and skill-building for urban residents while supporting income generation through the sale of locally produced food via farmers markets, Community Supported Agriculture (CSA) programs, and other distribution channels.

Innovative models that integrate food assistance programs with urban agriculture, such as community-based food production initiatives, can improve access to nutritious food while supporting community engagement and skill development for economic growth (Horst et al., 2024). These approaches offer multiple benefits, including expanded food access, strengthened social networks, and increased community pride. They also create opportunities for workforce development by providing hands-on training in food production, entrepreneurship, and local food distribution. Additionally, converting vacant lots into productive agricultural spaces can reduce municipal costs associated with maintenance, waste management, and crime prevention in underutilized areas. Urban agriculture may also contribute to rising property values and increased local economic activity, potentially generating additional tax revenue in historically disinvested neighborhoods.

Existing research further suggests that the economic viability of urban farms often depends on revenue streams beyond direct sales, making public and private investment critical. Such support enables urban farms to balance production goals with broader community benefits. Civic engagement also plays a key role; evidence from New York City shows that participation in advisory processes can influence policy decisions and help protect urban farms from development pressures (Campbell, 2016).

Urban Agriculture in Virginia

Agriculture is Virginia's largest private industry, generating an annual economic impact of $82.3 billion and supporting more than 381,800 jobs statewide. Combined, the agriculture and forestry sectors contribute approximately $105 billion and 490,000 jobs to the Commonwealth's economy, despite the fact that less than 15 cents of every consumer food dollar goes to the farmer (USDA, 2016, 2017). Virginia is home to 43,225 farms, with an average farm size of 181 acres, and farmers have an average age of 58.5 years.

In terms of gender representation, approximately 36% of primary farm operators in Virginia are women. Despite the scale and importance of the agricultural sector, urban agriculture remains underrepresented in the state. The USDA National Agricultural Statistics Service (NASS) does not currently distinguish urban agricultural operations in its census data, making it difficult to accurately assess the scope and contribution of urban agriculture across Virginia.

Nevertheless, urban agriculture represents an emerging and growing movement in Virginia, aimed at increasing access to fresh food, promoting sustainable practices, and supporting community and economic development (Nadal et al., 2015). These efforts take many forms, including community gardens, rooftop farming, and small-scale market gardening (Cumbers et al., 2018; Parece et al., 2017). According to 2007 census data, more than 8,000 urban farms were identified in the Washington–Arlington–Alexandria metropolitan

area (Ryan-Simkins, 2025). Many of these operations focus on serving low-income communities by improving access to fresh, locally produced food.

Brief History of Urban Agriculture in Virginia

Urban agriculture in colonial Virginia has strong roots from early settlements. Thomas Jefferson's agricultural experiments at Monticello in the late eighteenth and early nineteenth centuries illustrate efforts to integrate food production, horticulture, and innovation within settled landscapes (Williams, 1975). Later in the 1860s, cities like Richmond, Petersburg, Norfolk, Alexandria, and Wheeling developed slowly over time due to increased urbanization. Food production was closely integrated into daily life in towns and cities; residents commonly maintained household gardens and processed small livestock for income and subsistence. Development continued after the Civil War with the expansion of railroads and urban growth (VMHC, 2026).

Throughout the 20th century, urban agriculture expanded in response to social and economic challenges. Community gardens and neighborhood-based food production initiatives helped supplement food supplies during periods of hardship and were later revitalized through grassroots efforts in cities such as Richmond, Lynchburg, and Charlottesville (Corrêa et al., 2020). In recent years, urban agriculture in Virginia has become increasingly connected to food access, community development, and sustainability efforts. Local organizations, nonprofit groups, and extension programs now support the growth of community gardens, urban farms, and educational initiatives across the Commonwealth, particularly in areas experiencing food insecurity (Martin, 2020). These efforts highlight how urban agriculture functions not only as a method of food production but also as a strategy for strengthening community resilience and capacity.

While urban agriculture in Virginia has significant historical and cultural importance, it has also developed within the context of persistent challenges. Many urban environments continue to be shaped by the legacy of redlining, which contributed to long-standing patterns of urban poverty, institutionalized racial segregation, and discriminatory neighborhood investment practices (Adkins, 2021). These structural inequities have had lasting effects on food access and food production. Redlining has influenced patterns of neighborhood development, limiting access to essential resources such as healthy food outlets and land suitable for cultivation (Li & Yuan, 2022).

Historically disinvested neighborhoods often experience reduced access to supermarkets, higher poverty rates, and greater exposure to environmental hazards, all of which contribute to food insecurity (Shaker et al., 2023). These same structural barriers also constrain urban agricultural potential by reducing green space, degrading soil quality, and creating zoning and infrastructural limitations. The persistence of these conditions across urban areas in Virginia and beyond reinforces cycles of disadvantage, shaping both food access and local food production capacity (Shaker et al., 2023).

As discussed previously, urban agriculture has emerged as an important strategy for addressing food insecurity shaped by structural factors such as redlining by increasing local food production and strengthening community resilience (Siegner et al., 2018). In Virginia, urban agriculture initiatives across various cities aim to counteract cycles of disinvestment by developing community gardens and urban farms that expand food access and create opportunities for local food production. However, the legacy of redlining continues to influence where these initiatives can thrive, as historically under-resourced neighborhoods often face greater constraints related to land access, infrastructure, and investment.

Despite these challenges, urban agriculture remains a promising approach for addressing the underlying causes of food insecurity and strengthening local food systems (Shaker et al., 2023; Siegner et al., 2018). The following paragraphs provide a snapshot of urban agriculture initiatives across Virginia and highlight how they have contributed to positive change within their respective communities.

Urban Agriculture in Virginia Cities

Across Virginia, urban agriculture initiatives have emerged in several cities as community organizations, nonprofits, and local governments

work to improve food access, support neighborhood revitalization, and promote sustainable food systems. For example, Norfolk has seen significant growth in urban agriculture through partnerships between municipal agencies and community groups aimed at increasing access to fresh food in densely populated areas. The city's Grow Norfolk initiative supports community gardens and urban farms by providing resources, education, and access to underutilized land for cultivation (City of Norfolk, 2024). Additionally, projects such as the Downtown Norfolk Community Garden, established in 2021, have transformed vacant lots into raised-bed gardens where residents grow produce and participate in community-based food production (Downtown Norfolk Community Garden, 2021).

Urban agriculture in Roanoke has also developed through health-focused, community development, and nonprofit initiatives. For example, Carilion Clinic's Urban Farm at Morningside Park was established as both a community garden and an educational farm after community health assessments identified poor diet and limited access to fresh produce as significant concerns (Cayne, 2019). Additional efforts, such as the One Valley Urban Gardening Initiative, aim to transform vacant lots in Northwest Roanoke into productive urban farms that expand food access while providing job training and educational programming (One Valley, 2023).

Richmond and Petersburg are two additional centers of urban agriculture in Virginia, supported by numerous nonprofit and community-led initiatives. In Richmond, Shalom Farms operates an urban production site that grows and distributes fresh produce while hosting community events and educational programs (Shalom Farms, 2024). The nonprofit Happily Natural implements urban farming and food distribution initiatives focused on increasing access to fresh produce, supporting Black farmers, and strengthening community-led food systems (Happily Natural Day, 2023).

Nearby in Petersburg, Tyrone Cherry III, through the Petersburg League of Urban Growers (P.L.U.G.), has developed programs that train community members in gardening and small-scale farming while expanding access to locally grown produce through neighborhood-based growing spaces (Cherry III, 2022).

Urban agriculture in Charlottesville has expanded through community-based organizations focused on improving food access and supporting underserved populations. Cultivate Charlottesville engages residents, particularly youth and public housing communities, through programs such as the Urban Agriculture Collective and the City Schoolyard Garden, which provide garden-based education and fresh produce for families experiencing food insecurity (Cultivate Charlottesville, n.d.; Cultivate Charlottesville, 2024). Similarly, New Roots in Charlottesville, a program of the International Rescue Committee, connects refugees and new Americans with community gardens and agricultural education, increasing access to fresh food while supporting local economic participation (Immigration & Refugee Service, 2021).

Urban agriculture in Washington, D.C., is supported by a combination of municipal programs and community-led initiatives that enhance food access and education. The Department of Parks and Recreation manages community gardens and shared farming spaces where residents grow and distribute fresh produce (DPR, 2026). Programs such as Rooting DC connect growers, nonprofits, and educators to share knowledge, while initiatives like the Neighborhood Farm Initiative and Bridge Park Plots offer hands-on gardening education and support neighborhood-based food production (DOEE, n.d.; Smithsonian Gardens, 2014; Building Bridges DC, n.d.).

While these examples of urban agriculture initiatives represent only a fraction of the work occurring across Virginia, many more continue to emerge as awareness grows regarding the importance of urban agriculture as a community-based practice. Together, these efforts reflect a broader shift toward localized food production and community resilience, highlighting the expanding role of urban agriculture in shaping more sustainable and connected communities. The role of the USDA and universities in advancing urban agriculture in Virginia will be expanded in the next section.

Advancing Urban Agriculture and Sustainable Food Systems in Virginia Initiative

The *Advancing Urban Agriculture and Sustainable Food Systems in Virginia Initiative* is a cooperative agreement funded by the USDA Farm Service Agency (FSA) and co-led by Virginia Tech's Center for Food Systems and Community Transformation and Virginia State University's Small Farm Outreach Program, in partnership with the Virginia offices of USDA FSA and Natural Resources Conservation Service (NRCS), Cooperative Extension, and community leaders under the guidance of a farmer-practitioner advisory group. The project seeks to serve urban growers across the Commonwealth. As a unique partnership, the project seeks to serve urban growers across the Commonwealth. At the time of writing, the Farm Service Agency (FSA) contact for the Virginia service center is Urban County Executive Director (CED) Mallenia "Renee" Foster, and Natural Resources Conservation Service (NRCS) contacts include Urban Conservationist Tatiana Gil and District Conservationist Michael Combs.

Partners, Purpose, and Objectives

As part of the USDA Farm Service Agency's Urban and Innovative Agriculture Community-Based Organization Fund, this cooperative agreement brings together partners from academia, community-based organizations, and government agencies. Co-led by Virginia Tech's Center for Food Systems and Community Transformation and Virginia State University's Small Farm Outreach Program, the initiative aims to advance urban agriculture programming across Virginia.

This project responds to a national effort led by the USDA Farm Service Agency (FSA) to support urban growers through education, technical assistance, and outreach programming. Its purpose is to equip both new and established urban farmers, commercial growers, and market gardeners with the tools, capacity, and skills needed to effectively access and utilize USDA programs and services from a holistic food systems perspective. The primary objectives outlined in the cooperative agreement include:

- Build organizational, farmer, and agency capacity to assist urban farmers in Virginia
- Increase understanding of urban agriculture in Virginia
- Increase knowledge, awareness, and participation in USDA programs
- Support urban farm expansion and soil health-friendly practices
- Increase access to USDA programs for all urban farmers and growers.

Project Activities

Regional Convenings and Trainings

Several convenings and trainings have resulted from the *Advancing Urban Agriculture and Sustainable Food Systems in Virginia Initiative.* Throughout the project timeline, partners have held regular virtual monthly meetings to coordinate progress, align goals, and plan outreach activities. These planning meetings have contributed to key outcomes, including collaborative planning for in-person sessions from 2023-2026. Project subcommittees and the advisory group have also convened to support ongoing efforts, such as conducting site visits for mini-grant recipients, maintaining communication with project teams, and compiling performance reports across the initiative.

Several urban agriculture information sessions were held to connect farmers with USDA resources and local support systems. Successful in-person sessions took place in Richmond and Fairfax, Virginia, bringing together farmers, USDA representatives, and project staff to share knowledge and expand access to resources. To increase access, online sessions were also held.

Project team members also engaged in extensive outreach through conferences, tabling events, and national exchanges to raise awareness and disseminate information. This included participation in the Virginia Association for Biological Farming (VABF) conference, Virginia Small Farm Conference, NuAG listening exchanges, and various other community events.

In addition, team members contributed to the development of the Central Virginia Urban Farm

Fellowship led and hosted by Happily Natural Day. The second cohort of this training program was launched in October 2025, and included sessions on topics such as food systems, planting techniques, soil health, water management, and composting. The fellowship has since graduated, providing participants with hands-on learning experiences and a strong foundation in sustainable urban agriculture practices.

In Petersburg, Virginia State University (VSU) and Petersburg League of Urban Growers (P.L.U.G.) also conducted numerous workshops, trainings, and outreach efforts in collaboration with partners. Collectively, these activities reached more than 650 urban growers through over 40 training and outreach events, including workshops, on-farm mentorship, pest management, and raised-bed gardening. Participants reported gaining practical skills and increased awareness of available agricultural resources.

Urban Agriculture Mini-Grants

One objective of the *Advancing Urban Agriculture and Sustainable Food Systems in Virginia Initiative* was to launch an urban agriculture mini-grant program. A total of seven organizations across Virginia received funding following the submission and approval of the mini-grant outreach plan to the USDA. Each recipient demonstrated progress and success. Although the project team began developing a second round of mini-grant funding opportunities, these efforts were impacted by the federal government shutdown in 2025. A later section of this report provides a detailed overview of the seven mini-grant projects and highlights their outcomes and successes.

2025 Urban Agriculture Summit

As this landscape assessment is intended to serve as a public outreach resource providing an in-depth overview of the history and continued development of urban agriculture in Virginia, it is important to highlight the planned convening of urban farmers in April 2025. From April 4–6 in Richmond, Virginia, the 2025 Urban Agriculture Summit, led by Dr. Leonard Githinji of Virginia State University and members of the project team, brought together stakeholders committed to advancing urban farming, sustainability, and agriculture across the Commonwealth.

The summit, themed "Creating Resilient, Healthy, and Sustainable Communities through Urban Agriculture," welcomed approximately 150 participants, including more than 100 urban farmers, gardeners, activists, and community leaders from across Virginia. Supported by a planning committee composed of Virginia Tech and Virginia State University project team members, the event fostered meaningful collaboration, networking, and dialogue within the urban agriculture community. Highlights included six keynote speakers, research and abstract presentations, and a series of field visits showcasing innovative urban agriculture initiatives in Richmond. The summit was made possible through the cooperative agreement and the support of 14 partner organizations, reflecting strong cross-sector engagement in advancing urban agriculture statewide.

Together, these coordinated efforts aim to build long-term capacity, promote participation in USDA programs, and strengthen the sustainability and resilience of Virginia's urban agriculture sector. The initiative supported social, economic, and environmental improvements by fostering partnerships, enhancing communication, and expanding access to agricultural resources.

Urban Agriculture Stakeholder Input

One goal of the *Advancing Urban Agriculture and Sustainable Food Systems in Virginia Initiative* is to engage urban agriculture stakeholders in shaping project development while sharing information about activities that support urban agriculture across Virginia. To advance this goal, the project team conducted regional listening sessions, along with joint activities such as conference-based outreach sessions and fireside chats. These efforts were designed to gather feedback and better understand the current conditions, needs, and experiences of urban farmers and growers throughout the Commonwealth.

Examples of these events include the Virginia Cooperative Extension Farm-to-Table Conference (December 2023), the Virginia Biological Farming Association/Virginia State University Small Farm Outreach Summit (January 2024), and the Virginia Biological Farming Association Conference (2025). The insights gathered from these sessions provide a clearer understanding of the landscape of urban agriculture in Virginia. In these sessions, facilitators from the project team posed four guiding questions:

1. Where are the main hubs of urban agricultural activity in your region?

2. From your perspective, how can the USDA foster positive relationships with urban producers?

3. What advice would you give to USDA FSA to better support urban producers?

4. What additional assistance would support your urban agriculture production (from FSA, supporting organizations, or academia/research)?

Overall, participants emphasized the need for clearer definitions and more targeted support for urban agriculture, including tailored training programs and expanded access to loans and grants designed specifically for urban operations. Identified training needs included education and technical assistance in value-added products, alternative production methods (such as vertical farming and hydroponics), and business and financial management. Participants also expressed a strong need for improved infrastructure to support urban agriculture systems.

The following section highlights illustrative quotes shared by participants across these sessions, focusing on the need for land access, infrastructure, and long-term business sustainability for urban agriculture success:

"Support with land access, maybe buy land to rent to growers. Market building + consumer education. Business incubators for food processing and value-added products or access to commercial kitchens."

"How producers envision ways to support themselves in addition to grants, long-term sustainability (economic and environmental), projections, years out, business, technical assistance."

"Basic financial literacy training on lending terms, the loan process, and financial management."

"Infrastructure and distribution help, cold storage, commercial kitchen, Carver Center model, youth education and environment, community grocer, donation-based"

Participants also highlighted the need to improve the accessibility and usability of USDA resources, particularly with regard to website navigation and clarity of information. Strengthening relationships between USDA agencies and urban growers emerged as another key theme, with participants emphasizing the importance of site visits, engagement with community leaders, and enhanced training for USDA staff on available programs and services. The following section outlines key themes related to policy barriers, USDA accessibility, and relationship building, illustrated through selected quotes:

"Municipal regulations were identified as a significant barrier, particularly zoning policies that restrict certain urban agricultural activities."

"Government ordinance changes; connection, education, marketing training online and website building; human dynamics; affordability of product for community; profitability for farmers; community listening sessions."

"Addressing zoning, specific zoning for agriculture in urban areas."

"City ordinances and zoning, chickens, bees, livestock, orchards, self-determination, and food sovereignty."

"Relationships are as important, or more important, than programs, need to partner with local groups who have those connections; need to rebuild trust in government."

"Come see our farm, spend the day with us."

"Adapt requirements of mainstream USDA programs for farm services, marketing, and food system infrastructure to better serve micro-farms in urban environments with high-density, diverse crop production."

"Outreach to raise awareness about USDA programs."

Additional themes related to USDA relationship building included the importance of prioritizing culturally relevant training opportunities and providing targeted support for historically under-resourced communities, as well as fostering greater collaboration both within USDA agencies (e.g., between FSA and NRCS) and with external partners.

Participants also identified key hubs of urban agriculture activity in Virginia, including Richmond, Charlottesville, Hampton Roads, Roanoke, and Northern Virginia, where efforts range from school and community gardens to educational farms, farmers markets, and home-based food production. The following section features participant quotes that reflect themes of community partnerships, education, and support for urban communities across Virginia:

"Community partnerships; better ways to support value-added production; tax incentives; access to land, equipment, and capital."

"Get local schools, universities, and colleges involved."

"Targeted training and grant opportunities for under-resourced communities."

"Youth urban agriculture education."

Feedback gathered during the listening sessions and conference-based discussions highlighted several consistent priorities among urban agriculture stakeholders across Virginia. Participants emphasized the need for improved land access, greater investment in infrastructure, enhanced business development support, and training and outreach tailored to the realities of urban agricultural production. They also frequently raised barriers related to zoning, municipal ordinances, and access to USDA programs, along with the need for stronger relationship-building between USDA agencies and urban growers. In addition, participants underscored the importance of community partnerships, urban agriculture education, youth engagement, and targeted support for historically under-resourced communities to strengthen urban agriculture systems across the Commonwealth.

The Role of USDA in Virginia Urban Agriculture

This collaborative project includes Virginia Tech and Virginia State University as lead institutions and engages partners from Virginia Cooperative Extension, USDA Farm Service Agency (FSA), and USDA Natural Resources Conservation Service (NRCS), along with urban farmers, community garden leaders, and service providers who serve on advisory committees. These partnerships ensure that diverse perspectives inform the development of resources and programming. By leveraging the strengths of land-grant universities, federal agencies, and local stakeholders, the project seeks to foster a more productive urban agriculture landscape in Virginia.

The role of the USDA Farm Service Agency (FSA) in this initiative merits specific mention. The United States Department of Agriculture (USDA) first authorized funding for urban agriculture through the 2018 Farm Bill. This legislation was established by the Office of Urban Agriculture and Innovative Production (OUAIP), along with grant programs and a federal advisory committee, to guide implementation. Between 2020 and 2023, OUAIP has funded more than 180 grants and 80 cooperative agreements, totaling over $50 million across 43 states and Puerto Rico (USDA, n.d.).

The USDA Farm Service Agency (FSA) has partnered with Virginia Tech, Virginia State University, Cornell University, and Time, Inc. to also launch and support urban agriculture service centers in 27 pilot cities nationwide through the National Urban Agriculture Initiative (NuAg). These centers aim to support urban, small-scale, and innovative producers nationally.

In Virginia, the USDA FSA plays a significant role in both national and state-level efforts. Dr. Ron Howell, Former State Executive Director of the USDA Farm Service Agency in Virginia, served in this position from 2022-2026. The newly appointed State Executive Director in Virginia is Wilmer Stoneman, who was designated in January of 2026. Dr. Ron Howell has over 12 years of experience in higher education and government service; under his leadership, the Virginia FSA office worked to expand outreach and participation in USDA programs. Under Dr. Howell's leadership, these efforts included establishing service centers and leveraging federal resources to better meet the needs of urban growers in Virginia and nationally.

USDA FSA and NRCS Resources

In addition to grants offered through the Office of Urban Agriculture and Innovative Production, urban growers can access a variety of existing USDA programs after obtaining a farm number. These include:

- Noninsured Crop Disaster Assistance Program (NAP): Covers crops not eligible for traditional crop insurance.

- Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish Program (ELAP): Offers financial aid to producers who suffer losses from specific adverse conditions not covered by other USDA disaster assistance programs.

- Climate-Smart Agriculture and Farm Loan Programs: offer financial support to farmers and ranchers seeking to adopt climate-smart practices.

Opportunities for Beginning and Historically Under-resourced Urban Growers

Beginning farmers, ranchers, and historically under-resourced producers may qualify for additional USDA support after completing the CCC-860 certification. Relevant programs include:

- Beginning Farmer and Rancher Development Program

- Outreach and Assistance for Socially Disadvantaged and Veteran Farmers and Ranchers Program (2501 Program)

The USDA defines beginning farmers and ranchers as individuals who have operated a farm or ranch for 10 years or fewer (Ahearn & Newton, 2009). Historically under-resourced producers include individuals who have experienced systemic barriers based on race, ethnicity, or gender. These groups include African Americans, American Indians, Alaska Natives, Hispanic Americans, Asian Americans, Pacific Islanders, and women (USDA CIG, n.d.).

Opportunities for Urban Conservation through CSP and EQIP

Urban growers are also eligible for conservation programs administered by the Natural Resources Conservation Service (NRCS), including:

- Conservation Stewardship Program (CSP): Provides technical and financial assistance to support and enhance all conservation practices.

- Environmental Quality Incentives Program (EQIP): Assists producers in implementing environmentally beneficial practices.

Additionally, the Regional Conservation Partnership Program (RCPP) promotes collaborative conservation efforts by providing funding and technical support for partnerships that implement conservation strategies on a regional scale (USDA, 2026).

FSA and NRCS Programs and Resources for Urban Farmers

Below is a list of USDA programs offered by the Farm Service Agency (FSA) and the Natural Resource Conservation Service (NRCS) for urban farmers to consider to support their farming operations:

Noninsured Crop Disaster Assistance Program (NAP), Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish Program (ELAP), and Climate-Smart Agriculture and Farm Loan Programs: https://www.fsa.usda.gov/resources/programs?assistance_type%5B0%5D=13

Conservation Stewardship Program (CSP): https://www.nrcs.usda.gov/programs-initiatives/conservation-stewardship-program

Environmental Quality Incentives Program (EQIP): https://www.nrcs.usda.gov/programs-initiatives/environmental-quality-incentives-program

Regional Conservation Partnerships Program (RCPP): https://www.nrcs.usda.gov/programs-initiatives/regional-conservation-partnership-program

Learn how to register for a farm number to participate in USDA programs: https://www.farmers.gov/working-with-us/USDA-service-centers#how-to

Virginia Urban Agriculture Mini-Grant Vignettes

A key component of the Advancing Urban Agriculture and Sustainable Food Systems in Virginia project is the inclusion of the 2024–2025 mini-grant recipients. These capacity-building mini-

grants are designed to strengthen local food systems, improve access to resources, and expand opportunities for urban growers.

The goal of the mini-grant program is to support individuals, organizations, and community-based groups already engaged in urban agriculture. Selected projects received awards ranging from $5,000 to $15,000. This funding aligns with the USDA Farm Service Agency's broad definition of urban agriculture, which includes farming, gardening, and other food production activities in urban and peri-urban areas.

The program was developed in response to the recognition that many urban farmers and community-based organizations are already carrying out impactful work but often lack the financial and technical resources needed to expand or sustain their efforts. By investing in local initiatives, the mini-grant supports collaboration among growers and educators while addressing challenges such as food insecurity, limited land access, and the need for best agricultural practices in urban contexts.

The mini-grant program supported seven projects across Virginia during a 12-month funding cycle. The timeline began in May 2024 with a call for proposals, followed by a performance period from October 14, 2024, to November 13, 2025, and final reports due on December 15, 2025.

As part of the program, site visits were conducted between June and July 2025 to assess project progress and the effectiveness of the mini-grants. These visits informed the development of vignettes included in this assessment, which serve as tools for promotion and knowledge-sharing (see Appendix). The following summaries highlight each project's activities, use of funding, and contributions to advancing urban agriculture in Virginia.

New Roots Farm Global Urban Agriculture Project (International Rescue Committee)

The New Roots Farm Global Urban Agriculture Project, led by the International Rescue Committee (IRC) in Charlottesville, supports refugees and new Americans through a well-established network of community gardens. With more than ten years of operation and five sites across Charlottesville and Albemarle County, it is the region's largest nonprofit-led community gardening initiative. Through mini-grant funding, the IRC invested $15,000 in infrastructure improvements to enhance operational efficiency, improve quality of life for participating farmers, and strengthen household food security.

Figure 1. New Roots Farm Global Urban Agriculture Project Vignette. (Kim Niewolny, Virginia Tech)

Growers from more than twenty countries cultivate culturally significant crops, with many maintaining plots for multiple years. The primary eight-acre site borders the Rivanna Trail and lies within a floodplain, requiring adaptive strategies such as trenching, raised beds, and vertical growing techniques. Plot types vary, with private plots priced at three cents per square foot and plots near centralized water systems priced at five cents per square foot. Governance is democratic, with members voting on decisions affecting the garden.

As part of the statewide initiative, New Roots contributes to expanding organizational capacity, improving land access, and connecting under-resourced growers with USDA resources. Future priorities include strengthening distribution channels, installing a solar-powered water pump, and securing more resilient land following flood impacts in 2018. Additional goals include improving tool access and bulk seed purchasing.

Figure 2. New Roots Farm Global Urban Agriculture Project Vignette. (Kim Niewolny, Virginia Tech)

Healthy Pantry (SERVE Inc.)

Healthy Pantry SERVE, led by SERVE Inc. in Stafford, is a long-established organization providing USDA Foods and nutritious produce to low-income households at no cost. Supported by a $15,000 investment from the mini-grant program, SERVE expanded its efforts to increase the production and distribution of locally grown food by integrating urban agriculture into its food assistance model. Over its 45-year history, SERVE has grown to serve more than 55,000 individuals, operating seven days a week with the support of over 2,200 monthly volunteers.

Figure 3. Healthy Pantry SERVE Vignette. (Kim Niewolny, Virginia Tech)

Grounded in a "Food Is Medicine" approach, SERVE prioritizes fresh, locally sourced, and culturally relevant foods. More than half of its distributed produce is fresh, totaling over 1,090,000 pounds in 2025. Partnerships with regional farms support seasonal supply, while healthcare partnerships enable the acceptance of food prescriptions.

SERVE also operates a Mobile Pantry that delivers food to households and community sites. With a small staff supported by volunteers, the organization emphasizes accessibility, dignity, and community impact while continuing to expand its role in local food systems.

Figure 4. Healthy Pantry SERVE Vignette. (William McCausland, Virginia Tech)

Enhancing the Sustainability of Urban Agriculture in Northwest Roanoke (One Valley, Inc.)

This project, led by One Valley, Inc., aims to strengthen community engagement, increase local food production, and improve orchard management in Northwest Roanoke. Supported by $14,900 in mini-grant funding, the initiative builds on One Valley's mission to reclaim urban land through community-driven agriculture.

Figure 5. One Valley Urban Agriculture Project Vignette. (Kim Niewolny, Virginia Tech)

The organization manages multiple growing sites, including the 8th and Gilmer Garden and the Carver Garden, both of which supply local food pantries and community members. Educational programming

extends to youth through initiatives such as the Villa Heights Children's Garden and a two-year Urban Agriculture Training Program.

Due to limited cold storage, produce is distributed directly to community partners. One Valley employs practices such as permaculture design, composting, and crop rotation. Future goals include expanding volunteer capacity, improving infrastructure, and increasing land access.

Figure 6. One Valley Urban Agriculture Project Vignette. (William McCausland, Virginia Tech)

Chimborazo Playground Community Garden Urban Greenhouse (Verdant Virginia)

This project, led by Verdant Virginia in Richmond, focused on constructing a solar-powered greenhouse and water-harvesting system to improve sustainability and extend the growing season. Supported by a $5,000 mini-grant, the initiative builds on the long-standing Chimborazo Playground Community Garden, established in 2009.

Figure 7. Chimborazo Playground Community Garden Vignette. (Kim Niewolny, Virginia Tech)

The garden includes over forty raised beds maintained by approximately 80–90 gardeners. Participants contribute volunteer hours, and the site supports a variety of activities, including food donation programs, pollinator habitats, and community foraging.

The addition of renewable energy infrastructure and water management systems will enhance year-round production and reduce operational costs. Future goals include expanding educational programming and improving infrastructure.

Figure 8. Chimborazo Playground Community Garden Vignette. (William McCausland, Virginia Tech)

Water Access and Conservation Project at the Mosby Justice Garden (Richmond Food Justice Alliance)

This project focuses on improving water access and promoting conservation practices to support urban agriculture and strengthen community resilience in Richmond. Supported by a $13,610 mini-grant, the initiative contributes to broader efforts to address food access challenges and support community-led land stewardship.

Figure 9. Mosby Justice Garden Vignette. (Kim Niewolny, Virginia Tech)

Located in the Mosby Court neighborhood, the garden serves as a hub for food production, environmental education, and community engagement. Since its establishment in 2021, the site has grown into a center for programming and resource distribution, including a weekly farmers market.

Youth engagement is a central component of the project, with participants taking on leadership roles and engaging in adaptive agricultural practices. Looking ahead, the initiative aims to strengthen infrastructure, expand youth education, and deepen community engagement, continuing to serve as a model for community-led urban agriculture.

Figure 10. Mosby Justice Garden Vignette. (William McCausland, Virginia Tech)

Building Capacity for Community Urban Gardening at Farmer Street Park in Petersburg (Building ANU Foundation Inc.)

Building ANU Foundation focuses on establishing an educational urban garden to support long-term community growing efforts. Supported by $10,961 in mini-grant funding, the project is located in Farmer Street Park, where a new garden is strengthening community connections through urban agriculture. Nicole and Craig Tucker, longtime Petersburg residents and founders of the Building ANU Foundation, identified a need to preserve community spaces and create opportunities for neighborhood engagement through gardening. Through a Community Development Block Grant, they improved the local basketball court and playground and partnered with the Director of Parks and Recreation to install eight raised beds and a water retrieval system.

The initiative's long-term goal is to develop a neighborhood food bank, though the garden has already become a safe and welcoming space for residents. Current features include raised beds, a pergola connected to a refillable water station, and newly planted fruit trees. Their effort demonstrates how urban growers can access institutional support, build partnerships, and adopt sustainable practices to strengthen local food systems.

Nicole and Craig have received assistance from Virginia State University and have engaged a wide range of community stakeholders, including police and fire departments, Parks and Recreation, City Council members, first responders, incarcerated individuals, and neighborhood residents. Beginning in early 2024, they gathered community input, and by November, construction and planting were underway. Despite having no prior gardening experience, their work reflects a strong commitment to community improvement and aims to inspire broader participation. Beyond managing the garden, they maintain the surrounding park, organize community events, conduct grassroots fundraising, deliver food to elderly residents, and coordinate service opportunities.

Figure 11. Farmer Street Park Building ANU Foundation Vignette. (Kim Niewolny, Virginia Tech)

Future goals include expanding agricultural production, developing youth programs for at-risk children, increasing educational offerings, and improving community health outcomes. Their work highlights how urban gardening and community engagement can contribute to neighborhood revitalization and stronger social connections.

Figure 12. Farmer Street Park Building ANU Foundation Vignette. (William McCausland, Virginia Tech)

Proposal to Revitalize 31st Baptist Church Urban Farm (NANIH Farm and Garden Inc.)

This project, led by NANIH Farm and Garden, Inc., seeks to re-engage church members and the surrounding Richmond community in supporting this historic farm through initiatives such as establishing a farm store, mobilizing volunteers, and offering free educational workshops. Supported by $15,000 in mini-grant funding, the project represents a new phase of stewardship beginning in 2024 through a partnership with Patrick Johnson, a longtime permaculturist and urban grower.

Located in Richmond's historic Church Hill neighborhood, the farm is being restored as a productive, community-centered space grounded in ecological sustainability. The church has leased the land to Johnson, who is revitalizing production areas, installing new infrastructure, and implementing sustainable growing practices. With more than three decades of experience, including Peace Corps service, graduate training in international agriculture at Cornell University, and work with Virginia State University's Small Farm Outreach Program, he has introduced practices such as intercropping, cover cropping, soil conservation, and rainwater harvesting.

Figure 13. 31st Baptist Church Urban Farm Vignette. (Kim Niewolny, Virginia Tech)

With support from the mini-grant, the farm contributes to efforts to expand capacity and connect urban growers with USDA resources. Planned improvements include a walk-in cooler, a second greenhouse, and a farm stand. A key goal is to engage the church's approximately 750 members, many of whom are older adults, through targeted outreach, discounts, and food access programs. By fall 2025, the project aims to add 1,000 square feet of new growing space and fully integrate farm operations into church life.

Although independently managed, the farm collaborates with community partners, including a local beekeeper who maintains on-site hives, and utilizes shared resources such as water access. A farmers' market is already in operation, with produce distributed locally. The revitalization reflects a renewed commitment to sustainability, community well-being, and urban food access.

Figure 14. 31st Baptist Church Urban Farm Vignette. (William McCausland, Virginia Tech)

Issues for Future Considerations

Despite the increasing adoption of urban agricultural practices in Virginia and beyond, the field of urban agriculture continues to face several challenges worth noting for future consideration. These include tensions related to land use and urban planning, the impacts of gentrification, and concerns that urban agriculture may unintentionally reinforce existing disparities by disproportionately benefiting well-resourced organizations (Cohen & Reynolds, 2014; Hawes et al., 2022).

Land access remains a significant challenge and may contribute to the displacement of lower-income residents. While urban agriculture is often presented as a broadly beneficial approach—capable of improving food quality and affordability, reducing environmental impacts, strengthening community cohesion, and enhancing resilience—many of its underlying dynamics remain insufficiently examined (Mougeot, 2005; Hodgson et al., 2011).

Several questions persist: How does urban agriculture fit within broader patterns of urban development? Is access to land for food production distributed fairly? Are designated growing spaces in new developments sufficient to support meaningful food production? And how is urban agriculture recognized and supported by policymakers? (Hodson & Marvin, 2009; Whitehead, 2013; Duží et al., 2017; Malan, 2015).

Additionally, some argue that urban agriculture can be incorporated into broader systems of capital accumulation, reinforcing market-driven development patterns (McClintock, 2010). Policies centered on economic growth, the privatization of public space, and disinvestment in neighborhoods may further contribute to uneven distributions of benefits and risks (Tornaghi, 2014; Hawes et al., 2022). As urban agriculture continues to expand in areas like Virginia, it remains closely linked to broader discussions of sustainability, resilience, and urban planning.

Conclusions

Urban agriculture represents a promising approach to addressing food production goals across Virginia. While challenges persist, a growing number of initiatives throughout the Commonwealth demonstrate the potential of urban agriculture also to improve access to fresh, locally grown food, promote sustainable practices, and support local economic activity.

Urban agriculture also plays an important role in enhancing quality of life in Virginia's urban communities. By creating spaces where residents share resources, knowledge, and food, these efforts help build stronger community connections. Increased access to locally grown food can improve dietary quality while supporting local and regional food systems. In addition, these practices contribute to community resilience.

Over the long term, expanding urban agriculture in Virginia has the potential to strengthen local and regional food production and distribution, particularly during periods of disruption. However, continued research, education, investment, and policy development will be critical to addressing existing barriers and supporting the sustained growth of urban agriculture across the Commonwealth.

Recommendations

Based on the findings of this assessment, several recommendations emerge to strengthen urban agriculture in Virginia. Urban farmers would benefit from expanded access to technical assistance tailored to the unique conditions of urban production, including farming in limited space, resource constraints, and the need for diverse production systems. Key areas of support include business

planning, conservation compliance, small acreage growing methods, and improved navigation of USDA programs. Continued investment in peer learning networks, urban agriculture hubs, and community-led training can further enhance knowledge sharing and capacity building.

Future research should focus on improving data collection related to urban agriculture, including developing more accurate methods for identifying and tracking urban farming activities across the Commonwealth. Additional research is needed to understand better the networks connecting urban farmers and how these relationships influence knowledge exchange, resilience, and collective action. Expanding research on the role of urban agriculture within Virginia's local and regional food systems will also help clarify its contributions to food security and community wellness.

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References

Adkins, A. (2021, August 31). Award-winning Mapping Inequality project on redlining expanding to more than 200 cities. *College of Liberal Arts and Human Sciences at Virginia Tech*. https://liberalarts.vt.edu/news/articles/2021/08/award-winning-mapping-inequality-project-on-redlining-expanding-.html

Ahearn, M., & Newton, D. (2009). *Beginning farmers and ranchers*. Economic Research Service. https://www.ers.usda.gov/publications/pub-details?pubid=44397

Alkon, A. H., & Agyeman, J. (Eds.). (2011). Cultivating food justice: Race, class, and sustainability. MIT Press.

Bacon, C., Gleicher, A., McCurry, E., & McNeil, C. (2024). Toward a justice approach to emergency food assistance and food waste: Exploring pantry–urban gardener partnerships in California's Santa Clara County. *Journal of Agriculture, Food Systems, and Community Development, 13*(3), 177–198.

Barrier, E. B. (2017). The concept of sustainable economic development. In *The economics of sustainability* (pp. 87–96). Routledge.

Building Bridges DC. (n.d.). *Bridge Park plots: Urban farms and gardens*. https://buildingbridgesdc.org/building-bridges-farm/farm-locations/

Campbell, L. K. (2016). Getting farming on the agenda: Planning, policymaking, and governance practices of urban agriculture in New York City. *Urban Forestry & Urban Greening, 19*, 295–305.

Cassatella, C., & Gottero, E. (2025). Integrating urban and peri-urban agriculture in planning systems: Barriers, policy tools and recommendations. *Planning Practice & Research, 40*(4), 683–716.

Cayne, L. (2019). Carilion's urban farm officially opens for its first full season. *WDBJ7*.

Cherry III, T. (2022). *Community urban agriculture and food access initiatives in Petersburg, Virginia*. https://www.growwiththeplug.org

City of Norfolk. (2024). Grow Norfolk: Urban farms and gardens program—City of Norfolk.

Cohen, N., & Reynolds, K. (2015). Resource needs for a socially just and sustainable urban agriculture system: Lessons from New York City. *Renewable Agriculture and Food Systems, 30*(1), 103–114.

Contesse, M., Van Vliet, B. J., & Lenhart, J. (2018). Is urban agriculture urban green space? A comparison of policy arrangements for urban green space and urban agriculture in Santiago de Chile. *Land Use Policy, 71*, 566–577.

Corrêa, C. J. P., Tonello, K. C., Nnadi, E., & Rosa, A. G. (2020). Seeding the city: History and current

affairs of urban agriculture. *Ambiente & Sociedade, 23*, e00751.

Corrêa, M., Dobele, L., & Zvirbule, A. (2020). Urban agriculture and community gardens as responses to economic crises and food insecurity. *Sustainability, 12*(15), 1–16.

Cultivate Charlottesville. (n.d.). *Mission & programs*. https://cultivatecharlottesville.org/mission/

Cultivate Charlottesville. (2024). *Urban agriculture collective*. https://cultivatecharlottesville.org/urban-agriculture-collective/

Cumbers, A., Shaw, D., Crossan, J., & McMaster, R. (2018). The work of community gardens: Reclaiming place for community in the city. *Work, Employment and Society, 32*(1), 133–149.

Daftary-Steel, S., Herrera, H., & Porter, C. M. (2015). The unattainable trifecta of urban agriculture. *Journal of Agriculture, Food Systems, and Community Development, 6*(1), 19–32.

de Oliveira Alves, D., & de Oliveira, L. (2022). Commercial urban agriculture: A review for sustainable development. *Sustainable Cities and Society, 87*, 104185.

Dobele, M., & Zvirbule, A. (2020). The concept of urban agriculture: Historical development and tendencies. *Rural Sustainability Research, 43*(338), 20–26. https://doi.org/10.2478/plua-2020-0003

DOEE (Department of Energy & Environment). (n.d.). *Rooting DC*. https://doee.dc.gov/service/rooting-dc

Downtown Norfolk Community Garden. (2021). *Our story*.

DPR (Department of Parks and Recreation). (2026). *Community gardens and communal farms*. https://dpr.dc.gov/page/community-gardens

Duží, B., Frantál, B., & Rojo, M. S. (2017). The geography of urban agriculture: New trends and challenges. *Moravian Geographical Reports, 25*(3), 130–138.

FAO, Rikolto, & RUAF. (2022). Urban and peri-urban agriculture sourcebook: From production to food systems.

Fei, S., Wu, R., Liu, H., Yang, F., & Wang, N. (2025). Technological innovations in urban and peri-urban agriculture: Pathways to sustainable food systems in metropolises. *Horticulturae, 11*(2), 212.

Ghose, R., & Pettygrove, M. (2014). Actors and networks in urban community garden development. *Geoforum, 53*, 93–103.

Githinji, L. (2016). Sustainable and urban agriculture program (SUAP) at Virginia State University (p. 46).

Gunapala, R., Gangahagedara, R., Wanasinghe, W. C. S., Samaraweera, A. U., Gamage, A., Rathnayaka, C., et al. (2025). Urban agriculture: A strategic pathway to building resilience and ensuring sustainable food security in cities. *Farming System, 3*(3), 100150.

Happily Natural Day. (2023). *Happily Natural urban farm and community food initiatives*. https://www.happilynaturalday.org

Halvey, M. R., Santo, R. E., Lupolt, S. N., Dilka, T. J., Kim, B. F., Bachman, G. H., et al. (2021). Beyond backyard chickens: A framework for understanding municipal urban agriculture policies in the United States. *Food Policy, 103*, 102013.

Hawes, J. K., Gounaridis, D., & Newell, J. P. (2022). Does urban agriculture lead to gentrification? *Landscape and Urban Planning, 225*, 104447.

Hodgson, K., Campbell, M. C., & Bailkey, M. (2011). *Investing in healthy, sustainable places through urban agriculture* (pp. 1–16). Funders' Network for Smart Growth and Livable Communities.

Horst, M., McClintock, N., & Hoey, L. (2017). The intersection of planning, urban agriculture, and food justice: A review of the literature. *Journal of the American Planning Association, 83*(3), 277–295.

Immigration & Refugee Service. (2021). *New Roots in Charlottesville*. https://www.rescue.org/announcement/new-roots-charlottesville

Jawahir, I. S., & Bradley, R. (2016). Technological elements of circular economy and the principles of 6R-based closed-loop material flow in sustainable manufacturing. *Procedia CIRP, 40*, 103–108.

Kafle, A., Hopeward, J., & Myers, B. (2023). Modelling the benefits and impacts of urban agriculture: Employment, economy of scale and carbon dioxide emissions. *Horticulturae, 9*(1), 67.

Larson, N. I., Story, M. T., & Nelson, M. C. (2009). Neighborhood environments. *American Journal of Preventive Medicine, 36*(1), 74–81.e10. https://doi.org/10.1016/j.amepre.2008.09.025

Li, M., & Yuan, F. (2022). Historical redlining and food environments: A study of 102 urban areas in the United States. *Health & Place, 75*, 102775.

Lovell, S. T. (2010). Multifunctional urban agriculture for sustainable land use planning in the United States. *Sustainability, 2*(8), 2499–2522.

Malan, N. (2015). Urban farmers and urban agriculture in Johannesburg: Responding to the food resilience strategy. *Agrekon, 54*(2), 51–75.

Martin, J. (2020). Urban ag center growing a sense of community. *Virginia Cooperative Extension, Virginia State University*. https://www.ext.vsu.edu/connection-winter-2020/urban-ag-center-growing-a-sense-of-community

McClintock, N. (2010). Why farm the city? Theorizing urban agriculture through a lens of metabolic rift. *Cambridge Journal of Regions, Economy and Society, 3*(2), 191–207.

Mougeot, L. J. (Ed.). (2005). Agropolis: The social, political, and environmental dimensions of urban agriculture. IDRC.

Nadal, A., Cerón Palma, I., Cuerva Contreras, E., Gabarrell Durany, X., Josa Garcia-Tornel, A., Rieradevall Pons, J., et al. (2015). Urban agriculture in the framework of sustainable urbanism. *Temes de Disseny, 31*, 92–103.

One Valley, Inc. (2023). *Urban gardening initiative*.

Opitz, I., Berges, R., Piorr, A., & Krikser, T. (2016). Contributing to food security in urban areas: Differences between urban agriculture and peri-urban agriculture in the Global North. *Agriculture and Human Values, 33*(2), 341–358.

Parece, T. E., & Campbell, J. B. (2017). Geospatial evaluation for urban agriculture land inventory: Roanoke, Virginia, USA. *International Journal of Applied Geospatial Research, 8*(1), 43–63.

Parece, T. E., Serrano, E. L., & Campbell, J. B. (2017). Strategically sitting urban agriculture: A socioeconomic analysis of Roanoke, Virginia. *The Professional Geographer, 69*(1), 45–58.

Peters, K. A. (2011). Current and emerging issues in the new urban agriculture: A case study. *Journal of Food Law & Policy, 7*, 297.

Philpott, T. (2010). The history of urban agriculture should inspire its future. *Grist Magazine*. http://staging.community-wealth.org/sites/clone.community-wealth.org/files/downloads/article-philpott.pdf

Ponce, M., & Donoso, L. (2009). Urban agriculture as a strategy to promote equality of opportunities and rights for men and women in Rosario, Argentina. In *Women feeding cities* (pp. 157–166).

Pradhan, P., Callaghan, M., Hu, Y., Dahal, K., Hunecke, C., Reußwig, F., et al. (2023). A systematic review highlights that there are multiple benefits of urban agriculture besides food. *Global Food Security, 38*, 100700.

Rangarajan, A., & Riordan, M. (2019). The promise of urban agriculture: National study of commercial farming in urban areas. Cornell Small Farms Program.

Ryan-Simkins, K. (2025). Where are urban farms and community gardens? Examining sociodemographic and neighbourhood characteristics associated with urban agriculture in Ohio. *Local Environment*, 1–20.

Sadler, R. C., Arku, G., & Gilliland, J. A. (2015). Local food networks as catalysts for food policy change to improve health and build the economy. *Local Environment, 20*(9), 1103–1121.

Sayara, T., Amarneh, B., Saleh, T., Aslan, K., Abuhanish, R., & Jawabreh, A. (2016). Hydroponic and aquaponic systems for sustainable agriculture and environment. *International Journal of Plant Science and Ecology, 2*(3), 23–29.

Shaker, Y., Grineski, S. E., Collins, T. W., & Flores, A. B. (2023). Redlining, racism and food access in US

urban cores. *Agriculture and Human Values, 40*(1), 101–112.

Shalom Farms. (2024). Our programs and production sites.

Siegner, A., Sowerwine, J., & Acey, C. (2018). Does urban agriculture improve food security? *Sustainability, 10*(9), 2988.

Sims, R., Flammini, A., Puri, M., & Bracco, S. (2015). *Opportunities for agri-food chains to become energy-smart*. FAO.

Sivaranjani, S., & Rakshit, A. (2019). Organic farming in protecting water quality. In *Organic farming: New advances towards sustainable agricultural systems* (pp. 1–9).

Smithsonian Gardens. (2014). *The Neighborhood Farm Initiative*. https://gardens.si.edu/collections/community-of-gardens/

Song, X., Zhou, Y., & Jia, W. (2019). How do economic openness and R&D investment affect green economic growth? *Resources, Conservation and Recycling, 146*, 405–415.

Tabrez, Z. (2025). Sustainable cities: Enhancing food systems with urban agriculture. *Discover Food, 5*(1), 173.

Tsilini, V., Papantoniou, S., Kolokotsa, D. D., & Maria, E. A. (2015). Urban gardens as a solution to energy poverty and urban heat island. *Sustainable Cities and Society, 14*, 323–333.

U.S. Census Bureau. (2022). *Nation's urban and rural populations shift following 2020 Census*. U.S. Department of Commerce. Retrieved May 22, 2026, from https://www.census.gov/newsroom/press-releases/2022/urban-rural-populations.html

USDA CIG. (n.d.). *Historically underserved producers*. Natural Resources Conservation Service. https://cig.sc.egov.usda.gov/historically-underserved-producers

USDA. (2026, April 29). *Regional Conservation Partnership Program (RCPP)*. Natural Resources Conservation Service, U.S. Department of Agriculture. https://www.nrcs.usda.gov/programs-initiatives/regional-conservation-partnership-program

USDA. (n.d.). *Urban agriculture and innovative production grants*. https://www.usda.gov/topics/urban/grants

Van Veenhuizen, R. (Ed.). (2014). Cities farming for the future: Urban agriculture for green and productive cities. IDRC.

VMHC. (2026). *Urbanization in Virginia*. Virginia Museum of History & Culture. https://virginiahistory.org/learn/urbanization-virginia

Wakuru, M. (2013). Urbanization and its impacts to food systems and environmental sustainability in urban space. *Journal of Environmental Protection*.

Wang, N., Zhu, L., Bing, Y., Chen, L., & Fei, S. (2021). Assessment of urban agriculture for evidence-based food planning. *Sustainability, 13*(6), 3234.

White, M. M. (2018). Freedom farmers: Agricultural resistance and the Black freedom movement. UNC Press Books.

Williams, D. H. (1975). *Historic Virginia gardens*. University Press of Virginia.

Yan, D., Liu, L., Liu, X., & Zhang, M. (2022). Global trends in urban agriculture research: A pathway toward urban resilience and sustainability. *Land, 11*(1), 117.

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