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United States Department of Agriculture

# URBAN AGRICULTURE TOOLKIT





# URBAN AGRICULTURE TOOLKIT

**S**mall community gardens, urban farms that span several city blocks, and intensive indoor **hydroponic or aquaculture** facilities are all examples of urban agriculture. This fast-growing phenomenon has the potential to nourish the health and social fabric of communities and create economic opportunities for farmers and neighborhoods. But it also comes with a unique set of challenges and opportunities.

Urban farmers, federal and city government agencies, and local organizations around the country have developed a variety of tools to help address those challenges and assist the growth of agriculture in cities. This toolkit makes these resources available to anyone interested in participating in urban farming.

The toolkit lays out the common operational elements that most urban farmers must consider as they start up or grow their operations. It also contains a special section on resources for developing indoor growing operations, such as aquaponic facilities. For each element, the toolkit identifies technical and financial resources that have been developed by federal, state, and local partners. While some of the elements require local-level solutions (e.g. zoning), federal programs and services can support a variety of activities related to urban farming.



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# URBAN AGRICULTURE TOOL KIT

## Starting an Urban Farm: What Are the Costs?

**S**tart-up expenses for an urban farm will vary widely by location because many of the components (such as land or utilities) are site-specific. Start-up expenses can be broken down into a few categories:

### Location

This includes acquiring the land, making sure it is zoned properly and that the necessary permits are in place, and getting an environmental assessment done. In many cases, land access and soil tests can be subsidized.

### Site Preparation

Once the land is purchased or rented and all the necessary permits and tests are clear for it to operate as an urban farm, the farmer will need to prepare the land for growing. The largest associated cost (and likely largest cost of the entire operation) will be soil, but soil prices will vary by location and volume. Other costs include fencing, signage, and getting adequate water to the site.

### Structures

This includes both infrastructure necessary for growing (such as high tunnels) and storing (such as a cooler). What types of structures will be needed will be dependent on location, types of crops grown, and desired length of growing season.

### Growing and Selling

These are the expenses that you will expect to incur in your first year of operation (as opposed to true start-up costs, which may involve additional expenses). They include traditional farming costs such as tools, growing supplies and utilities, as well as business costs like advertising and website design.

### Administrative Expenses and Operating Costs

These will be ongoing costs associated with your operation, but they are critical to take into account in year one, when you will be getting systems in place.

**Costs for Indoor Growing Facilities** The costs associated with indoor growing facilities, including aquaculture and hydroponic facilities, will be very different from starting an outdoor farming operation in the city. They will also vary widely depending on the type of facility you look to build. A large-scale aquaponic facility located in a warehouse-type building may be a multi-million-dollar investment; a small aquaponics system housed in a greenhouse could be built for a few thousand dollars, or even less if you are able to use salvaged materials.

In **Appendix B**, you will find start-up budgets compiled from several urban farms that together provide a reasonable average cost estimate for starting up in urban agriculture. Resources to finance the operation are outlined in the coming pages.



# USDA Urban Agriculture Toolkit: Summary of Key Resources

**1 Business Planning:** When you begin an urban farm, you are also starting a business. The federal Partnership for Sustainable Communities has developed an **Urban Farm Business Plan Handbook** that helps you ask critical questions about your business plans, operating strategies, and physical and human resource needs.

**2 Land Access:** Many farmers who operate in cities struggle to find and finance suitable land. Visit a local **USDA Farm Service Agency office** to inquire about FSA Farm Loan Programs that may be able to help you purchase land. Urban farmers have also had success working with their city development agencies and land trusts to identify vacant land to adopt or lease. To learn from other cities, visit the Urban Agricultural Legal Resource Library's compilation of resources on **land access for urban agriculture**.

**3 Soil Quality:** In some urban settings, soil can present unique challenges, including contamination. That makes it critical to test the quality and toxicity of the soil where you want to operate. There are tools that can help gauge whether the soil is contaminated, in its native form, or just disturbed. The U.S. Environmental Protection Agency's (EPA) **Brownfields**

**Guide for Safe Gardening Practices** provides step-by-step recommendations on how to assess the risk of soil contamination, conduct soil sampling, and perform best management practices. Contact your local **Cooperative Extension office** to learn about affordable soil tests; many urban farmers test their soil through **UMass Amherst's Soil and Plant Tissue Testing Laboratory**, which provides one of the most affordable ways for individual farmers to test for toxins in their soil. USDA's Natural Resources Conservation Service (NRCS) also provides soil survey resources including the **Web Soil Survey** which provides soil data and includes specific soil interpretations for urban soils.

**4 Water Access/Use:** Efficient water use will help keep operating costs down and help you carefully manage this limited resource. While contacting your city or local water authority may be your best available option for access to water, you can also contact your local USDA **Natural Resources Conservation Service (NRCS)** office for both financial and technical assistance to help implement conservation practices, including water-use efficiency.

**5 Capital and Financing:** Urban agriculture projects can have significant start-up costs that require access to loans, grants, and investments to get the project off the ground. Having a sound business plan can help show creditors that your operation is a worthy investment. The New Orleans **Food and Farm Network's Farm Financing Reference Manual** lists a wide variety of funding sources once a plan is in place, and USDA's **local FSA offices** can offer credit to farmers for working capital or infrastructure development.

**6 Infrastructure:** On-farm infrastructure – from high tunnels to cold storage to on-farm solar energy – can be a key part of a successful operation. NRCS offers help financing high tunnels and efficient irrigation through **local NRCS offices**. **FSA** can support cold storage through its **Farm Storage Facility Loan program**. USDA's **Sustainable Agriculture Research and Education program (SARE)** supports research and education projects for on-farm sustainable energy and season extension. And USDA's **Rural Energy for America Program (REAP)** is available to producers in both urban and rural areas to support on-farm sustainable energy projects.

**7 Market Development:** It's not enough to grow your crop. You also have to let consumers in your area know you are selling it. Urban growers are developing creative strategies to reach nearby consumer markets. USDA's Agricultural Marketing Service helps farms connect with consumers through its **Farmers Market and Local Food Promotion Program and Specialty Crop Block Grant Program**. USDA Rural Development's **Value-Added Producer Grants** are available for marketing research and development. Meanwhile, having your crops certified as organic can be an important selling point. The **National Organic Certification Cost-Share Program** provides reimbursements for up to 75 percent of the costs of organic certification, up to a maximum of \$750.

**Other helpful toolkits and guides with important information for urban farmers:**

- Cornell University's Northeast Beginning Farmers Project **Guide to Urban Farming**.
- Baltimore City Farm Alliance's Urban Agriculture **How-to Guide**.
- New Orleans Food & Farm Network **Toolbox**.
- Cornell University's Small Farms Program **Guide to Urban Farming**.





Whether it is a for-profit, a non-profit, a sole proprietorship, a partnership, or a cooperative, an urban farm will need a business plan, and urban farmers will need to understand legal issues that could affect the business.

The following pages provide detailed information on the common elements an urban farmer will need to consider as he or she starts an urban farm, followed by resources that help address each need. Each section outlines federal educational and financial resources, followed by some of the most useful non-federal resources available at the time this toolkit was developed. Appendix A of the toolkit will direct you to existing general urban farming toolkits, such as those developed by city governments. Appendix B provides cost estimates for urban farms.

Throughout the toolkit, you will find pull-out boxes containing specific information such as first steps to applying for federal funding, making your first visit to a USDA Farm Service Agency office, and resources specific to indoor agriculture operations.

- USDA's National Institute of Food and Agriculture (NIFA) offers a **Sustainable Agriculture Research and Education (SARE) Program** that showcases technical resources organized into "topic rooms." The Local Food Topic Room includes a **section on business issues**, including **business planning guides** that have been developed with support from SARE. SARE also has a **learning center devoted to value-added production**, which includes a variety of guides to business planning for farms with a value-added component. Both have resources relevant to farming in urban environments.
- USDA's **National Agricultural Library** links to full-text guides on how to start a small farm business and how to develop business and marketing plans.

### Federal Funding for Business Planning and Risk Management

- The Sustainable Agriculture Research and Education **SARE Program** provides technical assistance as well as grant funding for research and education projects in sustainable agriculture, including urban agriculture.

**Eligible applicants:** Varies depending on program; includes farmers, nonprofits, and academics in both rural and urban areas.

**Next steps:** See the box in the "Applying for a Federal Grant" section for information about first steps in applying for any federal grant. Then explore the **SARE website** and contact your **regional SARE office** for more information.

- The **Farmers Market Promotion Program and Local Food Promotion Program** (FMPP) and **USDA's Agricultural Marketing Service (AMS)** offer grants that can be used in the planning stages of establishing or expanding local food business enterprises, including in urban areas. Activities can include but are not limited to market research, feasibility studies, and business planning.

**Eligible applicants:** For-profit farms, cooperatives, producer associations or networks; nonprofit and public benefit corporations; economic development corporations; regional farmers market authorities; and local and tribal governments.

**Next steps:** See the box in the "Applying for a Federal Grant" section for information about first steps in applying for any federal grant. Then explore the **AMS website** for more information.

- Whole-Farm Revenue Protection (WFRP) provides a risk management safety net for all commodities on the farm under one insurance policy and is available in all counties nationwide. This insurance plan is tailored for any farm with up to \$8.5 million in insured revenue, including farms with specialty or organic commodities (both crops and livestock), or those marketing to local, regional, farm-identity preserved, specialty, or direct markets. For more information, visit <http://www.rma.usda.gov/policies/wfrp.html>.

### Community Educational Resources for Business Planning and Risk Management

Cornell University's Northeast Beginning Farmers Project includes a **Guide to Urban Farming**, with specific information on **Risk Assessment and Insurance**, and **Sample Business Plans**. The guide was developed in and is specific to New York, but much of the information is relevant for all urban farmers.

- The National Center for Appropriate Technology (NCAT), through programs supported by USDA Rural Development, maintains a wealth of resources related to **business planning and risk management** for small-scale, sustainable or organic farmers.
- FarmAnswers.org, a resource of the University of Minnesota, is funded by USDA's Beginning Farmer and Rancher Development Grant program (BFRDP) and serves as the national BFRDP clearinghouse. Browse its **compilation of many farm business planning guides**, including:

- **Is starting an agricultural business right for you? A guide for small prospective small farms**
- **Dig in! A guide for starting a community garden**
- **Building resilience: Small farm planning and operations**, which covers business and cash flow planning, bookkeeping, taxes, and marketing basics.

- FarmsReach has an extensive **business and financial planning toolkit** that includes software tools, fact-sheets, and online workshops.

- The Oregon State University Extension Service has created a **Whole Farm Management Planning Book** that includes worksheets to develop operations, plan marketing strategies, and manage finances.

- The Urban Agricultural Legal Resource Library, a project of the Sustainable Economies Law Center, has compiled a collection of important legal information, best practices, and supporting tools related to urban agriculture. This includes sections on:

- **Liability, Risk, Insurance.** This page answers frequently asked questions on these topics for food enterprise and urban farms.
- **Employment Laws.** A breakdown of employment structure, enforcement, laws and regulations. Includes information about volunteers, interns, legal partnerships and independent contractors.
- **Nonprofit urban farms.** This page includes guidance on a variety of nonprofit models and case studies as well as information on tax-exempt status for 501(c)(3) organizations.

- **The Community Law Center's Urban Agriculture Law Project** offers a manual that provides a detailed overview of the laws, regulations, rules, and policies involved in urban agriculture projects. While the manual was created specifically for Baltimore, many legal considerations are applicable to urban agriculture programs across the county. Topics include governance structures, land use restrictions, keeping farm animals, distributing produce, and liability, among others.

## Business Planning and Risk Management

Whether it is a for-profit, a non-profit, a sole proprietorship, a partnership, or a cooperative, an urban farm will need a business plan, and urban farmers will need to understand legal issues that could affect the business. These issues include building permits, Occupational Safety and Health Administration (OSHA) requirements, and risk management tools. Some key resources to explore as you develop your business plan and risk management strategies include:

### Federal Educational Resources for Business Planning and Risk Management

- EPA's **Partnership for Sustainable Communities - Urban Farm Business Plan Handbook** provides worksheets and questions for urban farmers to develop or revise their business plans, operating strategies, physical resource needs, and human resource needs



Land access is particularly challenging in urban areas, where vacant land suitable for farming is often not available, or land that exists is difficult to transfer to urban growers.



Access to land is one of the biggest challenges facing new farmers and farmers looking to expand their operations across the country. Land access is particularly challenging in urban areas, where vacant land suitable for farming is often not available, or land that exists is difficult to transfer to urban growers.

Some cities are developing innovative and creative strategies to connect vacant land and lots with interested farmers. Federal resources are also available to assist.

- › The Urban Agricultural Legal Resource Library, a project of the Sustainable Economies Law Center, has developed a site focused on **land access for urban agriculture**. This resource covers how to access public lands, the purposes of and best practices for land trusts, and the existing urban farming land inventories conducted in cities around the country. The website contains information regarding lease agreements and easements, particularly relevant to non-profit urban agriculture projects.
- › **Legal Tools for Urban Agriculture in Baltimore City**, Chapter 2: Land Access and Use Restrictions (pages 6-13). Lessons learned from Baltimore's promotion and encouragement of urban agriculture via land access strategies.
- › **Emory Law School's report** on urban agriculture zoning strategies from 16 cities, published in 2011, contains some innovative case studies that can be models for other cities. The Leopold Center for Sustainable Agriculture at Iowa State recently published an **updated zoning guide for urban agriculture** with information culled from 86 municipalities' zoning ordinances.
- › The Urban Agricultural Legal Resource Library, a project of the Sustainable Economies Law Center, has compiled resources related to **raising livestock and poultry in an urban setting**. It includes an overview of the types of laws that govern animal husbandry and examples of cities that have zoned to allow specific types of animals to be raised.
- › The San Francisco Urban Agriculture Alliance has a **comprehensive guide** to starting an urban farm or garden in San Francisco with a lengthy section on land acquisition. Some of the guidelines included are instructive for urban farmers in other cities.

## Land Access

### Federal Funding for Accessing Land

USDA's **Farm Service Agency provides a variety of loan programs** to support farm ownership and operation, including microloans of up to \$50,000. Loans are available to both urban and rural producers.

**Eligible applicants:** Agricultural producers. Visit your local Farm Service Agency office for more information on who qualifies as an agricultural producer.

**Next steps:** See the "Applying for a Federal Grant" section for guidance on what to expect at your first FSA visit. Your local FSA office ([map here](#)) can then talk you through farm loan opportunities that can help you secure land tenure.

### Community Educational Resources for Accessing Land

Cornell University's Northeast Beginning Farmers Project's Guide to Urban Farming includes information on **land access and tenure** and **Codes and Permits**. It includes information on land banks, rooftop access for urban farming, sample lease agreements, and land-linking services. Information is in some cases specific to New York – for instance, not all municipalities have land banks established – but some of the information is applicable to other cities. It can also provide ideas that city governments can pursue to support urban agriculture.

### First Steps: Visiting the Farm Service Agency

In order to qualify for many USDA grant and loan programs, a farmer must first visit and register with USDA's Farm Service Agency (FSA). As a new farmland owner or renter, you are encouraged to visit your local FSA office to learn about the USDA programs that can provide assistance for your operation. You do not have to own your farmland to qualify for FSA programs.

**1 Find FSA:** FSA has an office in more than 2,000 counties nationwide and in almost every rural county of the United States. Each FSA office is staffed with a dedicated team that knows the programs to help you get started as a new farmer or rancher. The offices offer financial assistance, can help to finalize your business plans, can talk to you about conservation planning, and help connect you to the Natural Resources Conservation Service (NRCS) for additional assistance with conservation planning.

To find your office, visit the web at <http://offices.sc.egov.usda.gov/locator/app>. Although appointments are not necessary, they are strongly recommended to avoid an unexpected wait.

Some offices may not offer all services. Contact your local office before your visit if you have any questions.

**2 What to bring:**  
 Proof of identity: driver's license, Social Security number/card  
 Copy of recorder deed, survey plat, rental or lease agreement of the land  
 Entities: corporation, estate, or trust documents  
 You do not have to own property to participate in FSA programs

**3 To enroll your farm, you must:**  
 Be able to identify the location of the property  
 Provide proof of legal ownership or determine who is the farm operator or owner and proof of permission to farm

Complete an **AD 2047 form**, which officially puts you into the FSA database to receive critical FSA information.

**4 FSA will then:**

- Enroll farm or ranch in the FSA database
- Assign a farm number
- Create a map outlining the farm or ranch boundaries with acreage figures
- Provide you with routine program notifications

### Tips for success:

- › Although not required, appointments are strongly recommended.
- › Report any changes to your farm operation, accounts, or ownership changes to FSA as soon as possible
- › File your acreage reports annually to maintain eligibility
- › Keep your records consistent with crop insurance: acres, shares
- › Stay current and read the newsletters

You are guaranteed to receive a Receipt for Service after each FSA office visit.



Soil Remediation may be expensive and require coordination and collaboration with environmental regulatory agencies which require significant time for urban farmers.



Ensuring healthy soils is not only critically important, but difficult in urban settings, where soil can be contaminated by multiple sources – historical use of coal for heat and cooking, pollution from industrial practices and consumer products such as leaded gasoline and lead-based paint, urban fill in low lying areas, pesticide residues, and illegal dumping. Unfortunately, soil testing may be expensive and determining what to test for may be confusing for urban farmers. Remediation may be expensive and require coordination and collaboration with environmental regulatory agencies which require significant time for urban farmers. To help to address these issues, the following resources are available:



## Soil Quality

### Federal Educational Resources for Assessing and Managing Soil Quality

USDA's Natural Resources Conservation Service has compiled a set of resources on its [Urban Soils](#) webpage. The site includes surveys, links and guides including the [Urban Soil Primer](#), an introduction to urban soils for homeowners and renters, local planning boards, property managers, students, and educators. You can also explore NRCS's [website on soil health](#). The site is designed to help visitors understand the basics and benefits of soil health—and to learn about Soil Health Management Systems from farmers who are using those systems.

› The [Cooperative Extension Service](#) is funded by the USDA's National Institute of Food and Agriculture (NIFA) and state and local partners. Each state and U.S. territory has an extension office at its Land Grant University and a network of local or regional offices. There are more than 3,000 Extension offices across the nation. Extension staff provide practical and research-based information to agricultural producers, small business owners, youth, consumers, and others in communities of all sizes. Depending on where you are located, an Extension agent may be available to provide technical assistance on soil and other issues as you develop your urban farm. Check with your

Extension office ([map here](#)) to find out which soil tests they might provide or recommend. Your local Extension office may also host workshops and other education events that you can attend. Some Extension offices have websites devoted to urban agriculture or local food systems.

- › The [U.S. Environmental Protection Agency's Brownfields Program](#) provides educational resources and guidelines for gardening on contaminated sites. It also encourages urban agriculture programs to work with local, State, or tribal brownfield programs to identify clean sites for food production and agriculture or to secure technical assistance to assess and clean proposed areas. Review its [Interim Guidelines for Safe Gardening Practices](#) for step-by-step recommendations on how to assess the risk of soil contamination on your land, how to conduct soil sampling and interpret the results, and how to conduct best management practices. EPA maps past and active brownfield grants as well as Superfund and other land cleanup programs at: <http://www2.epa.gov/cleanups/cleanups-my-community>
- › EPA's Superfund program also has established a website on Ecological Restoration that highlights the use of soil amendments and other strategies to address the stabilization of contaminated sites. Additional information can be found at: <http://www.epa.gov/superfund-redevelopment-initiative/ecological-revitalization-restoring-lands>

- › USDA's [Sustainable Agriculture Research and Education \(SARE\) Program](#) supports grants for research and education projects and technical assistance to farmers and ranchers in both urban and rural areas to help them farm more sustainably. SARE's local food reading room includes a [How-to Guide for the Aspiring Urban Micro-Agricultural Entrepreneur](#). Developed for farmers in West Philadelphia, some of the information is applicable to all urban farmers. Pages 5-12 cover soil testing.
- › [Web Soil Survey \(WSS\)](#) provides soil data and information produced by the National Cooperative Soil Survey led by NRCS and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties and anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information.

### Federal Funding for Soil Testing

The [Cooperative Extension Service](#) is funded by the U.S. Department of Agriculture (USDA) and state and local partners. Most Extension offices offer free or low-cost soil testing services to farmers, gardeners, and landowners. The benefit of in-state analysis is that fertilizer recommendations are calibrated to soils in the region but testing focuses on agronomic parameters for soil and plant health rather than environmental contamination. Not all Extension labs are able to test for heavy metals and other toxins commonly found in urban soil and this is frequently requires additional testing and cost. You can also send soil samples to another Extension office.

- Eligible applicants:** Resources available to agricultural producers and other members of the public, both rural and urban.
- Next steps:** Your local Extension office ([map here](#)) will have information on resources available to assist with soil testing, advice on soil remediation, and other technical assistance. Ask to speak with the person who is responsible for agriculture and natural resources or the Master Gardener Program. If you are a small-scale organic or sustainable farmer, [see this note](#) from the ATTRA program regarding fertilizer recommendations associated with many soil tests.
- › The [EPA Brownfields Program](#) directs funding to state, local and tribal governments – and in some cases, nonprofit organizations – for the purposes of assessing and cleaning up contaminated sites. For

individual farmers, testing and remediation of contaminated soil can be expensive; many communities have addressed the problem through an EPA Brownfields Program grant to the city for the testing and cleanup of multiple sites.

- Eligible applicants:** State, local, and tribal governments; nonprofits in some cases.
- Next steps:** Contact your EPA Regional Office ([map here](#)) to learn more about the Brownfields program. Reach out to local officials, such as your mayor's office, to encourage them to apply for a Brownfields grant to support testing and cleanup of your site and other properties in the city.
- › USDA's [SARE Program](#) provides grant funding for research and education projects related to sustainable agriculture, including soil management in urban agriculture.
- Eligible applicants:** Varies depending on program; includes farmers, nonprofits, and academics in both rural and urban areas.
- For further assistance:** Explore the [SARE website](#) and contact your [regional SARE office](#) for more information.

### Community Educational Resources for Assessing Soil Quality:

- › The ATTRA Program, supported by USDA Rural Development, maintains a [database of alternative soil testing laboratories](#) that are used to working with small-scale and organic growers. Read [this note](#) on the database before utilizing it.
- › [Soil Safety Resource Guide for Urban Food Growers](#). This report by The Johns Hopkins Center for a Livable Future covers how to investigate levels of soil contaminants in your plot and how to minimize exposure to contaminants when growing food. It provides further resources for testing, screening, and minimizing contaminant risks on your land.
- › [Urban Agriculture and Soil Contamination: An Introduction to Urban Gardening](#). This report published by the Environmental Finance Center at the University of Louisville also provides testing resources and information on soil contamination, including which crops are most suitable for growing in contaminated soils.
- › [Cornell University's Northeast Beginning Farmers Project](#) has website sections devoted to soil contamination and soil remediation.



Cleveland worked with its local food policy council and other stakeholders to develop systems that allow farmers to tap into fire hydrants for a more affordable fee



**W**ater can be difficult to access in an urban area, especially if urban farmland is not owned by the farmer. There are a number of local-level resources that have been developed to provide strategies for navigating municipal water regulations and optimizing and diversifying water collection on urban farms, as well as some federal resources.

**W**ith significant start-up costs, urban agriculture projects need access to loans, grants, and investments to get off the ground. One of the most important steps to getting financed is having a sound business plan to show how your project is a worthy investment. Here are some resources to get you started:

## Water

### Federal Educational and Funding Resources for Water

The U.S. Department of Agriculture has resources available through its **Natural Resources Conservation Service (NRCS)** to provide financial and technical assistance to help agricultural producers implement conservation practices on their farms, including water-use efficiency, through contracts up to a term of 10 years. Contracts can support, for example, a transition to drip irrigation.

**Eligible applicants:** Agricultural producers farming eligible land in both rural and urban areas. Talk with your local NRCS office for more information about who qualifies as an agricultural producer and the types of land that are eligible.

**Next steps:** Contact your local NRCS Service Center ([map here](#)) to learn about the Environmental Quality Incentives Program and other technical and financial resources available from NRCS.

### Community Educational Resources for Water

**Municipal access:** The Urban Agricultural Legal Resource Library, a project of the **Sustainable Economies Law Center**, has compiled legal information from a number of cities on water issues and strategies for urban agriculture, including water use agreements, regulations governing rainwater harvesting, and stormwater runoff regulations. The site provides several case studies as well.

- **Case study from the City of Cleveland.** Cleveland worked with its local food policy council and other stakeholders to develop systems that allow farmers to tap into fire hydrants for a more affordable fee.

### Water optimization and diversification:

- Cornell University's Northeast Beginning Farmers Project has information on **water pollution and testing** as well as **rainwater harvesting** strategies for water collection.
- **The Pacific Institute – Case Study of sustainable water use in urban agriculture in Oakland, CA.** This report explains permaculture methods to reduce and maximize water use on an urban farm. These methods include water harvesting, water retention, swales and basins, drip irrigation, and more.
- **Harvesting Rainwater for Landscape Use.** For a more technical resource on rainwater harvesting, this information was developed by the University of Arizona Cooperative Extension. The website provides diagrams and step-by-step instructions for simple and complex water harvesting systems.

## Accessing Capital and Financing

### Federal Educational Resources for Accessing Capital and Financing

**United States Environmental Protection Agency's Urban Farm Business Plan Handbook.** This handbook covers how to develop your business plan, including organization and management, marketing, operations, and financial strategies. See the appendices on pages 22 through 23 for recommendations on planning for infrastructure and equipment, manpower and workforce, regulation compliance, projecting income and expenses, risk management, and potential funding sources.

### Federal Funding Resources for Urban Farm Capital and Financing

› **FSA Farm Loan Programs.** USDA's Farm Service Agency (FSA) delivers commodity, credit, conservation, disaster, and emergency assistance programs that help improve the stability and strength of the agricultural economy. These programs are available to urban as well as rural farmers. In particular, FSA can offer credit to farmers to purchase farmland, finance annual operating expenses, or build a farm storage facility such as a cold storage unit. FSA also offers microloans of \$50,000 or less with reduced paperwork requirements.

**Eligible applicants:** Agricultural producers. Visit your local Farm Service Agency office for more information on who qualifies as an agricultural producer.

**For further assistance:** See the "Applying for a Federal Grant" section for guidance on what to expect at your first FSA visit. Call or visit your local Farm Service Agency office ([map here](#)) to explore farm loan opportunities that can help you secure land tenure.

### Community Educational Resources for Accessing Capital and Financing

› **The New Orleans Food and Farm Network's Farm Financing Reference Manual.** This comprehensive manual lists a wide variety of funding sources based on different needs and capacities. It delves into how to access financing, such as determining what program is most appropriate for a specific project and what materials are needed to apply. The New Orleans Food and Farm Network also maintains the **FarmCity Toolbox**, which includes a Funding Resource Directory and several other resources for funding.



Urban farmers, federal and city government agencies, and local organizations around the country have developed a variety of tools to help address those challenges and assist the growth of agriculture in cities.



On-farm infrastructure – from raised beds or a rooftop garden to hoop houses or on-farm solar energy – is a critical component of a successful urban farming operation and can impact the length of your growing season and your access to markets. It’s important to understand zoning codes, permitting requirements, and other local regulations that may impact your ability to build infrastructure on your farm. Financial resources will also be critical, and some are available from the federal government.



## Infrastructure

### Federal Funding Resources for Urban Agriculture Infrastructure

› **USDA’s National Institute of Food and Agriculture’s (NIFA) Sustainable Agriculture Research and Education program (SARE)** provides grants for research and education projects and technical assistance to farmers and ranchers, academics, Extension agents, and nonprofits. Many of the resources developed with this funding can also be found on the SARE website. Educational resources related to infrastructure include guides to **on-farm sustainable energy options and high tunnels and other season extension techniques**.

**Eligible applicants:** Varies; includes farmers, nonprofits, and academics in both rural and urban areas.

**Next steps:** Explore the **SARE website** and contact your **regional SARE office** for more information.

› USDA has resources available through its **Natural Resources Conservation Service (NRCS)** to support infrastructure such as high tunnels and efficient irrigation on farms, both rural and urban, through contracts up to a term of 10 years. NRCS offers both financial and technical assistance.

**Eligible applicants:** Agricultural producers farming eligible land in both rural and urban areas. Talk with your local NRCS office for more information about who qualifies as an agricultural producer and the types of land that are eligible.

**For further assistance:** Contact your local NRCS Service Center (**map here**) to learn about the Environmental Quality Incentives Program and other technical and financial resources available from NRCS.

› **USDA Farm Service Agency Farm Storage Facility Loans** support cold storage for fruit and vegetables, along with wash and pack facilities and related equipment.

**Eligible applicants:** Agricultural producers in both rural and urban areas. Talk with your local FSA office for more information on who qualifies as an agricultural producer.

**Next steps:** See the “Applying for a Federal Grant” section for guidance on what to expect at your first FSA visit. Contact your local FSA Service Center (**map here**) to learn about the Farm Storage Facility Loan program.

› **USDA’s Rural Energy for America Program (REAP)**, is available to agricultural producers in urban areas as well as rural and can support on-farm sustainable energy projects, including purchasing, installing and constructing renewable energy systems, making energy efficiency improvements, and participating in energy audits.

**Eligible applicants:** Agricultural producers in rural and urban areas. Talk with your local USDA Rural Development office to learn more about eligibility.

**For further assistance:** Contact your local Rural Development Service Center (**map here**) to learn about REAP.

› USDA’s Agricultural Marketing Service can support equipment purchases, though not brick-and-mortar construction, through its **Farmers Market Promotion Program (FMPP)** and **Local Food Promotion Program (LFPP)**. FMPP grants are used to establish or expand domestic, direct farm-to-consumer markets. LFPP grants are used in both the planning and implementation stages of establishing or expanding local and regional intermediary (non-direct-to-consumer) food business enterprises.

**Eligible applicants:** For-profit farms, cooperatives, or producer associations or networks; nonprofit and public benefit corporations; economic development corporations; regional farmers market authorities; and local and tribal governments.

**For further assistance:** See the “Applying for a Federal Grant” section for guidance on what to expect at your first FSA visit. Then explore the **AMS website** for more information.

› The **U.S. Department of Housing and Urban Development** provides **Community Development Block**

**Grants (CDBG)** to cities for the purpose of developing vibrant, livable communities. Many of these grants are used by cities for local food-related projects.

**Eligible applicants:** Municipal governments.

**For further assistance:** Talk with your city or state government about opportunities to utilize HUD’s CDBG program to support urban agriculture.

### Community Educational Resources for Urban Agriculture Infrastructure

› Cornell University’s Northeast Beginning Farmers Project has compiled **resources on season extension infrastructure**, from low tunnels and cold frames to high tunnels and greenhouses. It also provides information on **building raised beds, rooftop farming, and fencing**.

› **Cooperative Farming: Frameworks for Farming Together** is a resource developed with support from Northeast SARE. It provides guidance on how to share farm equipment and other infrastructure resources.

› Iowa State has developed a resource specific to machinery sharing, called **Machinery Sharing Manual for Fruit and Vegetable Growers**. It examines way to share purchasing and maintenance costs as well as suggestions for time management.



If you are interested in developing an indoor agricultural operation such as a hydroponic, aquaculture, or aquaponic operation, your needs will look very different from those of an outdoor urban farm. Below are select educational and financial resources relevant to indoor operations:

A number of learning centers cover sustainable agricultural production, with information that is applicable to urban growers.

Growing food (and raising animals) in an urban environment presents many challenges. To meet those challenges, there are many local and federal-level resources available to support strategies that include intensification, season extension, livestock production, and growing on rooftops or raised beds:

design at residences, gardens, and other locations. Their **publications** also provide information on using trees to improve agriculture and information on pollinators, water quality, wildlife, and more.

- **ATTRA**, the National Sustainable Agriculture Information Service, is a program developed and managed by the National Center for Appropriate Technology (NCAT) with funding from USDA Rural Development. The **ATTRA website** provides publications related to many topics relevant to small and urban farm production, including pest management, organic production, and more.

## Financing Infrastructure for Indoor Growing Environments

### Federal Educational and Financial Resources for Indoor Agricultural Systems:

USDA's **National Agricultural Library** maintains a list of educational resources for aquaponic operations, including a basic introduction to the concept, facility design, production tips, links to archived webinars, and other useful information.

The Cooperative Extension Service is jointly funded by USDA and state and local partners. Many Extension offices have aquaponic, hydroponic, or aquaculture research and demonstration sites; to find resources near you, contact your local Extension office ([map here](#)) or search "Extension + aquaponics" online.

USDA's Agricultural Marketing Service can support equipment purchases, though not brick-and-mortar construction, through its **Farmers Market Promotion Program** (FMPP) and **Local Food Promotion Program** (LFPP). FMPP grants are used to establish or expand domestic, direct farm-to-consumer markets. LFPP grants are used in both the planning and implementation stages of establishing or expanding local and regional intermediary (non-direct-to-consumer) food business enterprises.

**Eligible applicants:** For-profit farms, cooperatives, or producer associations or networks; nonprofit and public benefit corporations; economic development corporations; regional farmers market authorities; and local and tribal governments.

**For further assistance:** See the "Applying for a Federal Grant" section for guidance on what to expect at your first FSA visit. Then explore the **AMS website** for more information.

USDA Rural Development can support the purchase of land, equipment and buildings by nonprofits, for-profit businesses, or individuals through the **Business and Industry Loan Guarantee program**. This program places a priority on projects related to local food systems, and **loan guarantees for local food projects** can be made in urban areas as well as rural areas.

**Eligible applicants:** Lending institutions apply to Rural Development, which in turn provides a guarantee on the loan.

**For further assistance:** Contact your local bank to find out if it participates in the program; the bank then contacts USDA Rural Development office ([map here](#)) to learn more about the B&I program and how to utilize it.

### Community Resources for Indoor Agricultural Systems:

The ATTRA program, supported by USDA Rural Development, maintains a wealth of technical resources on **greenhouse production**, including pest management, organic greenhouse production, and transplant production, and **several resources on aquaponics**, including a basic primer on important considerations for anyone interested in starting up in aquaponics.

The University of Florida's **Small Farms and Alternative Enterprises Center** hosts a variety of aquaponics resources, including start-up guides, information on producing in aquaponics systems, applicable regulations, and food safety.

## Production Strategies

### Federal Educational Resources to Support Urban Agricultural Production

- USDA's Sustainable Agriculture Research and Education (SARE) program provides grants for research and education projects to farmers and ranchers, academics, Extension agents, and nonprofits. It features many of the resources developed with this funding in "learning centers" on the SARE website. A number of learning centers cover sustainable agricultural production, with information that is applicable to urban growers. For example, see information on **growing successfully in high tunnels** and **raising small ruminants**.

- USDA's Agricultural Research Service has developed **Virtual Grower software version 3.0**. Virtual Grower can help greenhouse growers determine heating costs, identify potential heat cost savings through different greenhouse designs, predict crop growth, assist in scheduling, make real-time predictions of energy use, and see the impact of supplemental lighting on plant growth and development. The software allows users to experiment with "what if" scenarios in a risk-free setting.

- Organic farming is a strategy that many urban gardeners and farmers are using or exploring. USDA's **Agricultural Marketing Service** "organic portal" helps you learn more about whether organic is a good option for you, and about financial and technical resources to support a transition to organic. The **Organic Resource Guide** featured on the site directs farmers to resources across USDA that can assist organic farmers and ranchers.

- The **USDA National Agroforestry Center** has a variety of educational materials on **edible woody landscapes**, which can be included in urban agriculture

### Federal Technical Resources to Support Urban Agricultural Production

- USDA's Natural Resources Conservation Service (NRCS) provides **conservation planning and technical assistance** in consultation with farmers. NRCS works with farmers to develop a schedule for implementation of conservation practices to solve a variety of natural resource concerns in both rural and urban areas.

**Eligible applicants:** Individuals or groups of decision makers, communities, conservation districts, units of state and local government, tribes, and others; and agricultural producers farming eligible land who want to voluntarily conserve, maintain, and improve natural resources. Check with your NRCS office for more information on who qualifies as an agricultural producer and the types of land eligible to participate in the program.

**For further assistance:** Contact your local NRCS Service Center ([map here](#)) to learn about the technical and financial resources available from NRCS.

- The USDA Forest Service's **Urban and Community Forestry Program** (UCF) provides financial, technical, and educational assistance to cities, suburbs, and towns to support urban tree planting and management, including urban orchard and urban agroforestry projects. Assistance is delivered to communities through state forestry agency partners.

**Eligible applicants:** Nonprofits, local and tribal governments, and academic institutions.

**For further assistance:** Connect with your state Urban and Community Forestry contact ([list here](#)) to learn more about financial and technical assistance available through this program.



The 2014 Farm Bill authorized incentives to producers who are either socially disadvantaged, limited resource, or beginning farmers and ranchers in order to provide affordable risk protection for those operations.

## Production Strategies continued

› The **Noninsured Crop Disaster Assistance Program (NAP)** covers crops commercially produced for food or fiber, and other specifically named crops (Christmas trees, turfgrass sod, etc.) that are grown in rural and urban areas.

**Eligible applicants:** Agricultural producers farming eligible land in both rural and urban areas. There is no minimum size of an operation (meaning that small urban farmers can take advantage of risk protection for their commercial operations that traditionally would not have crop insurance available to them) in order to be eligible for NAP. Further, the 2014 Farm Bill authorized incentives to producers who are either socially disadvantaged, limited resource, or beginning farmers and ranchers in order to provide affordable risk protection for those operations. While NAP does not cover home gardens (as they are not ordinarily viewed as commercial enterprises), NAP does provide risk coverage for producers who may commercially produce small crop acreage in an area for local or direct markets.

**For further assistance:** Contact your local FSA Service Center to learn about NAP and other financial and technical assistance available from FSA.

### Community Educational Resources for Urban Agriculture Production

Cornell University's Northeast Beginning Farmers Project has gathered information on **season extension, raised bed farming, container gardening, intensive growing techniques**, and a wealth of other production topics. The site also contains guidance on **raising livestock in urban environments**, which includes information on zoning ordinances for livestock in cities around New York State.

› Alliance for Community Trees has a **Community Groves program and guidebook** to help nonprofits, community leaders, and residents plan, establish, and maintain fruit and nut tree orchards at gardens, schools, parks, or vacant lots.

› **Community Food Forests** is a resource for all who are developing food forests, which combine trees, shrubs, and annual crops to produce food. Many food forests are in urban areas on public, private, or other land and have dual goals of food production and education.

## First Steps Applying for a Federal Grant

### Step 1:

#### Obtain a DUNS Number

Your entity may obtain a DUNS number in two ways:

#### By Toll-Free Telephone

Business entities may request the DUNS number by calling a toll-free telephone number: **1-(866) 705-5711**. Tell the operator that you are applying to a Federal financial assistance program and need to register for a DUNS number.

#### Over The Web

Business entities can also obtain a DUNS number through D&B's website at: <http://fedgov.dnb.com/webform>

To complete the process to obtain a DUNS number, you will need to provide the following information:

- Legal name of your business entity
- Address
- Phone number
- Name of the CEO or business owner
- Legal structure or type of business (corporation, partnership, proprietorship, etc.)
- Year the entity was created
- Primary line of business
- Total number of employees (full- and part-time)

**Note:** Obtaining a DUNS number places your organization on D&B's marketing list that is sold to other companies. You can request not to be added to this list during your application. D&B should not charge you a fee for requesting a DUNS number. You are also not obligated to purchase any of their products as a condition to obtain DUNS. It may take 2-3 days for you to obtain a DUNS number. A Frequently Asked Questions about DUNS is available at: <http://fedgov.dnb.com/webform/displayFAQPage.do>

#### What Are DUNS and SAM?

DUNS is Dun & Bradstreet's (D&B) "Data Universal Numbering System". It is a copyrighted, proprietary means of identifying business entities on a location-specific basis. A DUNS number is a unique nine-character identification number Dun & Bradstreet provides free of charge.

The System for Award Management (SAM) is the Official U.S. Government registration system. Business entities that have obtained a DUNS number must register annually on SAM to be eligible to receive financial assistance. There is NO charge to register or maintain your entity registration record in SAM.

### Step 2:

#### Register on SAM.gov

Once you have been assigned a DUNS number, **you must annually register on SAM.gov to remain eligible** to receive program financial assistance. To complete the process on SAM, you will need the same kind of information used to obtain your DUNS number as well as

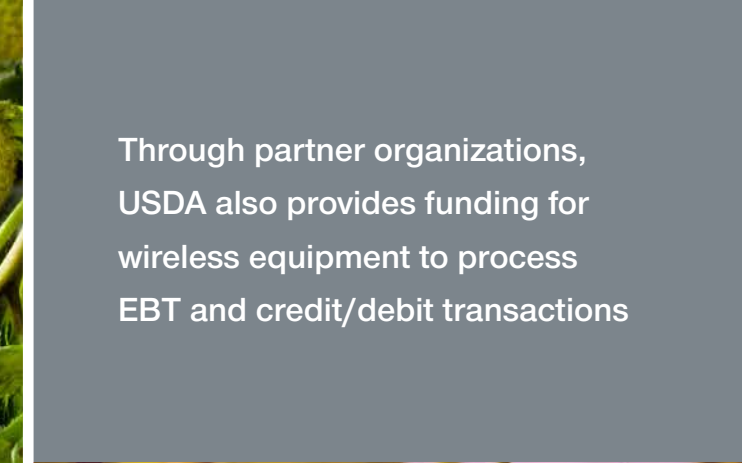
your Tax Identification Number (TIN) and other data to complete registration and reporting requirements.

Before registering, you should review the **SAM User Guide**. It can be viewed online or downloaded as a PDF. If your organization has the necessary information ready, online registration will take

about 30 minutes to complete, depending upon the size and complexity of your business entity. It may take 3 business days or up to 2 weeks before your SAM registration becomes active. If you are updating or renewing your registration information, it will take approximately 24 hours to become active.

In order to be eligible to receive financial assistance from USDA or other federal agencies, prospective applicants who are **not individuals** (e.g. nonprofit organizations, for-profit entities, academic institutions, and others with an **EIN tax identification number** from the Internal Revenue Service [IRS]) are required to obtain a **DUNS number and register annually in the SAM system**. The process to obtain a DUNS number and register on SAM.gov requires two steps.

Remember that this process can take up to 2 weeks, so allow for ample time between initiating the registration and completing your application on grants.gov. You do not need a DUNS number or register on SAM if you are an individual farmer or to obtain technical assistance.



Through partner organizations, USDA also provides funding for wireless equipment to process EBT and credit/debit transactions

Due to limited land availability and higher costs that urban growers often face, it can be difficult for urban growers to make a profit. But urban growers have ready access to consumers and are developing creative strategies to reach new markets and diversify their income streams. This section includes information on a variety of marketing tactics, as well as tips for navigating regulations.

## Market Development

### Federal Funding Resources to Support Urban Agriculture Market Development

USDA's Agricultural Marketing Service (AMS) runs the **Farmers Market Promotion Program** and the **Local Food Promotion Program**, which support education, promotion, outreach, coordination, business planning for projects such as farmers markets, mobile markets, roadside stands, community-supported agriculture programs, agritourism activities, and other direct producer-to-consumer market opportunities, as well as local food projects that are not direct-to-consumer (e.g. food hubs, farm to retail/restaurant).

**Eligible applicants:** For-profit farms, cooperatives, or producer associations or networks; nonprofit and public benefit corporations; economic development corporations; regional farmers market authorities; and local and tribal governments.

**For further assistance:** See the box on page 21 for information about first steps in applying for any federal grant. Then explore the **AMS website** for more information.

- › USDA AMS also implements the **Specialty Crop Block Grant Program**, which can be used for education, promotion, research, outreach, coordination, business planning for projects that solely enhance the competitiveness of "specialty crops," or fruits, vegetables, nuts and nursery crops. States receive funds from USDA and make awards for projects, including establishing/developing urban community gardens and urban agriculture education and promotion.

**Eligible applicants:** State departments of agriculture are eligible to apply to the USDA; however, they partner with applicants, including farmers, nonprofits, academics, and a range of others working with specialty crops. Grants must have a broad impact on the community and specialty crop industry, so projects that only benefit an individual farmer are not eligible for funding under the program.

**For further assistance:** Reach out to your **state lead** to learn more about the program and when applications will be accepted.

- › **National Organic Certification Cost-Share Program:** Provides reimbursements for up to 75 percent of the costs of organic certification, up to a maximum of \$750 per certification. Funds are made available through states, generally departments of agriculture.

**Eligible applicants:** Certified organic producers and handlers can apply for reimbursement.

**For further assistance:** Read more about the specifics such as current funding, fact sheets, and upcoming events **here**. Then contact your **state lead for the program** to learn more and apply for reimbursement.

- › USDA's Food and Nutrition Service (FNS) runs the **Supplemental Nutrition Assistance Program (SNAP) at Farmer's Markets**, which assists farmers' markets and direct-marketing farmers to become authorized to accept SNAP EBT benefits. USDA makes funds available through states to supply farmers and farmers markets with EBT equipment, which is free. Through partner organizations, USDA also provides funding for wireless equipment to process EBT and credit/debit transactions, which carries a fee.

**Eligible applicants:** Individual farmers and ranchers, nonprofit cooperatives, or farmers markets can be authorized to accept SNAP.

**For further assistance:** Read more about the program **here**. If you are interested in applying to become eligible to accept SNAP and receive equipment, you can do so through the **Farmers Market Coalition**.

- › USDA's **WIC Farmers' Market Nutrition Program (FMNP)** provides fresh, unprepared, locally grown fruits and vegetables to low-income pregnant, breastfeeding and non-breastfeeding post-partum women, and to infants and children up to 5 years of age, who are found to be at nutritional risk and who are enrolled in the WIC program.

**Eligible applicants:** Individual farmers or farmers markets can be authorized to accept the WIC Farmers Market Nutrition Program coupons, and then submit the coupons back to state agencies for reimbursement. Not every state participates in the program.

**For further assistance:** Contact your **state agency** to become authorized to accept and redeem FMNP coupons.

- › USDA's **Senior Farmers' Market Nutrition Program (SFMNP)** awards grants to states, territories, and tribal governments to provide low-income seniors with coupons that can be exchanged for eligible foods at farmers' markets, roadside stands, and community-supported agriculture programs.

**Eligible applicants:** Individual farmers and farmers markets can become authorized to accept SFMNP. The program is administered by state agencies.

**For further assistance:** Contact your **SFMNP state agency** to become authorized to accept and redeem SFMNP.

- › USDA Rural Development (RD)'s **Value-Added Producer Grants** are available for working capital, planning, marketing, and outreach. Specific funds are available for projects that focus on local and regional food and local supply networks or support beginning farmers and ranchers, socially disadvantaged farmers and ranchers, veterans, and small or medium-sized farms or ranches. Agricultural producers or producer groups are eligible to apply, including those in urban areas.

**Eligible applicants:** Agricultural producers or producer groups.

**For further assistance:** Contact your **local RD Service Center** to learn more about these grants.

### Community Educational Resources for Urban Agriculture Market Development

- › The ATTRA program, supported by USDA Rural Development, compiles resources targeted to smaller scale sustainable farmers, including those engaged in urban agriculture. Visit its **marketing portal** for information on direct marketing options, value-added activities, organic marketing, and more.

- › **Urban Guide to Farming in NY - Section IV: Making Urban Farming Possible.** Written for urban farmers in New York but relevant to those in other cities, this section of the guide covers how to price products, where to sell, marketing regulations, CSAs in the City, value-added processing, accepting SNAP, and more.

- › One way to diversify a farm's output is via a Community Supported Agriculture (CSA) program. Grow NYC has put together **tip sheets** for starting a CSA; while focused on New York City, the information is relevant for most urban environments. And USDA's SARE program supported the development of **A Multi-farm CSA Handbook** that provides guidance on cooperative marketing, a potential CSA practice for your farm.

- › With the support of USDA's Risk Management Agency (RMA), Drake Agricultural Law Center has produced **legal guides for direct farm marketing** that cover many U.S. states. Since many urban farms use a variety of direct marketing approaches, these legal issues are important to understand.

- › The New Entry Sustainable Farming Project has developed the guide **Selling at a farmers market**, which provides information to farmers on choosing a market, applying to sell at a market, designing market displays, setting prices, making sales, and keeping records.



Producing, marketing, and distributing food grown on urban land requires knowledge about agriculture, business, and finances. Ongoing training and support in these areas are critical to ensuring long-term success. These services must be accessible and affordable so that growers are able to balance professional development with day-to-day operations. The following educational and training resources can help support the growth of urban agricultural programs and businesses, and many are equally helpful for rural farm businesses.



## Training and Mentoring

### Federal Funding Resources to Support Training and Mentoring

**The Beginning Farmer and Rancher Development Program** is a competitive grant program that funds projects that provide education, mentoring, and technical assistance to people entering farming and those in the first 10 years of managing a farming operation, where “farming” includes farming, ranching, and nonindustrial private forestry. The grant program requires a 25-percent match.

**Eligible applicants:** Collaborative network of public or private entities, including nonprofits, cooperative extension, colleges or universities, or others.

**For further assistance:** Read more about the grant opportunity [here](#) and explore abstracts of previously funded projects to learn more about the type of projects supported.

➤ USDA’s Agricultural Marketing Service runs three grant programs that have supported training and mentoring efforts among other activities. The **Specialty Crop Block Grant Program** can be used for projects that solely enhance the competitiveness of “specialty crops,” or fruits, vegetables, nuts, and nursery crops. States receive funds from USDA and make awards for projects, including establishing/developing urban community gardens and urban agriculture education and promotion.

**Eligible applicants:** State departments of agriculture are eligible to apply to the USDA; however, they

partner with applicants, including farmers, nonprofits, academics, and a range of others working with specialty crops. Grants must have a broad impact on the community and specialty crop industry, so projects that only benefit an individual farmer are not eligible for funding under the program.

**For further assistance:** Reach out to your **state lead** to learn more about the program and when applications will be accepted.

The **Farmers Market Promotion Program** and the **Local Food Promotion Program** support training and technical assistance to establish farmers markets, mobile markets, roadside stands, community-supported agriculture programs, agritourism activities, and other direct producer-to-consumer market opportunities, as well as local food projects that are not direct-to-consumer (e.g. food hubs, farm to retail/restaurant).

**Eligible applicants:** For-profit farms, cooperatives, or producer associations or networks; nonprofit and public benefit corporations; economic development corporations; regional farmers market authorities; and local and tribal governments.

**For further assistance:** Applying for a Federal Grant” section for information about first steps in applying for any federal grant. Then explore the **AMS website** for more information.

➤ **The Refugee Agricultural Partnership Program (RAPP)** of the U.S. Department of Health and Human Services helps refugee farmers earn viable incomes through agriculture by providing grants to support organizations and training in topics like business practices, pest control, land financing, and selling to restaurants and farmers markets.

**Eligible applicants:** Nonprofits working with refugees engaged in agriculture.

**For further assistance:** Learn more about the program [here](#) and contact the RAPP program manager listed on the page to learn more.

### Community Resources for Urban Agriculture Training and Mentoring

➤ The ATTRA program, supported by USDA Rural Development, hosts a **list of farm apprenticeships and internships** around the country.

➤ **New Entry’s Farmer Resource Library.** An initiative of Tufts University’s Friedman School of Nutrition Science and Policy and additional partners, New Entry’s Farmer Resource Library provides training, articles, and fact sheets on several entrepreneurial aspects of urban farming – including recordkeeping, banking, and financial modeling.

➤ **BeginningFarmers.org.** This website offers a list of training and mentoring programs across the country, from in-person to online.

➤ **Cooperative Extension Offices.** Find your local university cooperative Extension office, which can provide technical assistance and ongoing training for farmers.

➤ **Creating Farmer Networks: A Toolkit for Promoting Vibrant Farm Communities.** Pacific Northwest Extension created this guide to share ways to create and maintain farmer networks for information sharing, training, and mentoring. Its development was supported by USDA’s SARE program.

While urban agriculture tends to involve open, community spaces, such programs can be threatened by vandalism and crime. The following resource provides guidance on how to prevent vandalism on your land.

## Safety and Security

➤ **Integrating Urban Farms into the Social Landscape of Cities: Recommendations for Strengthening the Relationship between Urban Farms and Local Communities.** This resource published by the Johns Hopkins Bloomberg School of Public Health discusses how to cultivate community buy-in for your urban agriculture program and use it as a way to avoid vandalism and make a meaningful contribution to your community.



## Appendix A: General Guides for Urban Agriculture

The following general guides were developed by federal or local government or community organizations and are meant to assist urban growers in thinking about the necessary steps to start their own urban agriculture operation. While several of these guides focus on a specific city, they are meant to be relevant to areas across the country.

- › USDA's [National Agricultural Library's urban agriculture page](#) is a collection of information and tools from both within and outside of USDA related to urban agriculture.
- › [The United States Environmental Protection Agency's Brownfields Program](#). This guide provides information for people pursuing agriculture projects as part of brownfield redevelopment and reuse.
- › [ATTRA, The National Sustainable Agriculture Information Service: Guide to Urban Agriculture](#). ATTRA is committed to providing high-value information and technical assistance to farmers, ranchers, Extension agents, educators, and others involved in sustainable agriculture in the United States. The website has several publications and links to organizations that provide a wealth of information on urban agriculture.
- › [PolicyLink's Growing Urban Agriculture: Equitable Strategies and Policies for Improving Access to Healthy Food and Revitalizing Communities](#). This guide outlines the policies, practices, and programs that are working to sustain urban agriculture efforts in low-income communities and communities of color.
- › [University of Missouri Extension's Urban Agriculture - Best Practices and Possibilities](#)
- › [Baltimore: Baltimore City Farm Alliance How-to Guide and the Green Registry and Green Pattern Book](#), a collaborative effort with the USDA Forest Service to map vacant land and identify productive uses for that land, including urban agriculture.
- › [Chicago: Advocates for Urban Agriculture's Resource Guide](#)
- › [Lincoln, MA: The Food Project's Urban Grower's Manual](#)
- › [Los Angeles: Cultivate LA's Assessment of Urban Agriculture in Los Angeles County](#)
- › [New Orleans: New Orleans Food & Farm Network Toolbox](#)
- › [New York City: 596 Acres: Turning Your Lot Into a Food Production Space and GreenThumb NYC's Gardener's Handbook](#)
- › [New York State: Cornell Small Farms Program's Guide to Urban Farming in New York State](#)



## Appendix B: Cost Estimates for Urban Farming

This appendix gives a broad overview of the costs associated with starting and operating an urban farm. The costs are approximate, as many of the components (such as soil or utilities) will vary by location. Below, the start-up expenses are broken down into categories:

### Location

This includes acquiring the land, making sure it's zoned properly with the necessary permits in place, and getting an environmental assessment done. In many cases, land access and soil tests can be subsidized.

### Site Preparation

Once the land is purchased or rented and all the necessary permits and tests are obtained for it to operate as an urban farm, the farmer will prepare the land for growing. The largest associated cost (and likely largest cost of the entire operation) will be soil, but soil prices will vary by location and volume. Other costs include fencing, signage, and getting adequate water to the site.

### Structures

This includes both infrastructure necessary for growing (such as high tunnels) and storage (such as a cooler). What types of structures will be needed will depend on location, types of crops grown, and desired length of growing season.

### Growing and Selling

These are the expenses that you will expect to incur in your first year of operation (as opposed to true start-up costs, which may involve additional expenses). They include traditional farming costs such as tools, growing supplies and utilities, as well as business costs like advertising and website design.

What follows is a more detailed breakdown of the expected costs of each category outlined above. Again, these are general guidelines, but they should give you an idea of approximately where and how much to budget for starting an urban farm. The Indianapolis estimate was compiled by Emily Toner, the Urban Agriculture Educator for Purdue Extension, in conjunction with Amy Matthews, owner of South Circle Farm, and Matthew Jose, owner of Big City Farms. The estimate for Chicago was compiled by Zachary Grant, the Local Food Systems and Small Farm Educator, with University of Illinois Extension, Cook County.

# Urban Farm Start-Up Cost Estimate Table: Chicago

Compiled by: **Zachary Grant, Local Food Systems and Small Farm Educator,  
University of Illinois Extension, Cook County**

This worksheet is an estimate of most of the costs for a urban farm in Year 1. The first block of costs, Urban Farm Site Preparation, describes expenses for preparing a one-acre urban plot of land for an in-ground farm. The second block of expenses describes a basic list of costs expected for the growing season. While these costs are not true "start-up" costs because they will be present every year, the costs are included here in order to represent expenses to expect in Year 1.

URBAN FARM SITE PREPARATION		Estimate
<b>PERSONNEL</b>		
Project Manager		\$7,500
	<b>Subtotal</b>	\$7,500
<b>LOCATION</b>		
Environmental assessment		\$1,000
Land acquisition		\$9,600
Site plan		n/a
Rezoning costs		n/a
Permitting		\$275
Liability insurance		\$1,000
	<b>Subtotal</b>	\$11,875
<b>PREPARATION</b>		
Signage		\$620
Fencing		\$12,353
Contamination remediation		variable
Water connection		\$6,178
Soil		\$6,786
Wood chips		
Tractor labor to spread soil and wood chips		\$6,178
	<b>Subtotal</b>	\$87,115

URBAN FARM SITE PREPARATION CHICAGO continued		Estimate
<b>STRUCTURES</b>		
Wash-Pack Station		\$2,000
Greenhouse structures and High Tunnels		\$18,000
Cooler (2 Cool Bot Rooms)		\$4,000
Outdoor storage		\$5,500
Community shade structure		\$2,500
	<b>Subtotal</b>	\$32,000
<b>URBAN FARM SITE PREPARATION ESTIMATE + remediation costs</b>		<b>\$138,490</b>
<b>GROWING &amp; SELLING DURING YEAR 1</b>		
		Estimate
Tools and growing supplies		\$12,500
Vehicle		\$5,000
Utility costs (water & electricity)		\$3,000
Accounting service		\$500
Website - hosting, upkeep, design		\$1,800
Marketing & advertising		\$500
Farmer's labor		\$45,000
Computer		\$1,000
<b>GROWING &amp; SELLING</b>		
	<b>Total</b>	<b>\$69,300</b>
<b>URBAN FARM YEAR 1 ESTIMATE + remediation costs</b>		<b>\$207,790</b>

Note: this estimate does not include contamination remediation costs. Zoning costs are also not included, as Chicago zones for urban agriculture at this time. These costs are a compiled estimate of the average cost of an urban farm in Chicago, based on data from actual farms.

# Urban Farm Start-Up

## Cost Estimate Table: Indianapolis

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This worksheet is an estimate of many of the costs for a urban farm in Year 1. The first block of costs, Urban Farm Site Preparation, describes expenses for preparing a one-acre urban plot of land for an in-ground farm. The second block of expenses describes a basic list of costs expected for the growing season. While these costs are not true "start-up" costs because they will be present every year, the costs are included here in order to represent expenses to expect in Year 1.

URBAN FARM SITE PREPARATION	Estimate
<b>PERSONNEL</b>	
Project Manager	\$7,500
<b>Subtotal</b>	<b>\$7,500</b>
<b>LOCATION</b>	
Environmental assessment	\$9,000
Land acquisition	variable
Site plan	\$5,000
Rezoning costs	\$5,000
Permitting	\$2,000
Liability insurance	\$1,000
<b>Subtotal</b>	<b>\$22,000*</b>
<b>PREPARATION</b>	
Signage	\$500
Fencing	\$10,000
Contamination remediation	variable
Water connection	\$5,000
Soil	\$50,000
Wood chips	\$0
Tractor labor to spread soil and wood chips	\$5,000
<b>Subtotal</b>	<b>\$70,500</b>

\*Note: Does not include land acquisition

URBAN FARM SITE PREPARATION INDIANAPOLIS continued	Estimate
<b>STRUCTURES</b>	
Wash-Pack Station	\$2,000
Greenhouse structures and High Tunnels	\$5,000
Cooler	\$5,500
Outdoor storage	\$5,500
Community shade structure	\$2,500
<b>Subtotal</b>	<b>\$20,500</b>
<b>URBAN FARM SITE PREPARATION ESTIMATE + remediation costs</b>	
	<b>\$138,490</b>
<b>GROWING &amp; SELLING DURING YEAR 1</b>	
	<b>Estimate</b>
Tools and growing supplies	\$15,000
Vehicle	\$2,750
Utility costs (water & electricity)	\$2,000
Accounting service	\$500
Website - hosting, upkeep, design	\$1,800
Marketing & advertising	\$500
Farmer's labor	\$45,000
Computer	\$1,000
<b>GROWING &amp; SELLING TOTAL</b>	
	<b>\$68,550</b>
<b>Total</b>	
<b>URBAN FARM YEAR 1 ESTIMATE + remediation costs</b>	<b>\$189,050</b>

**Note:** Because land access and cost varies so widely, the line item is left blank here. For reference, the Chicago estimate puts it at approximately \$10,000. Similarly, this estimate **does not include** costs for contamination remediation, due to variance. Again, this table is meant to show the estimated costs associated with each portion of starting an urban farm.

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