Urban Agriculture Guide for San Mateo County

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1st Edition May 2020

By: San Mateo Resource Conservation District

Funded by: National Association of Conservation Districts (NACD)

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Introduction

Urban farms, community gardens, and school gardens take many forms. Some are volunteer run, some are maintained by a non-profit, while some are maintained by a school or church connected to the garden. Despite these differences many share common resource needs. There are many valuable resources out there, from where and how to get your soil sampled to what type of cover crop is best. We will provide some useful tips on what to think about as you get started, questions to ask, where to look for help, what natural resource concerns to consider and potential sources of funding.

Defining Key Terms

There are a few terms we will use throughout this guide. Following is what we mean when we use them.

Urban agriculture includes production, distribution and marketing of food and other products within the cores of metropolitan areas and at their edges. (Adapted from the American Planning Association, 2011).

An **urban farm** grows food in an urban area, on land not typically dedicated to the production of food.

A **community garden** is land gardened by a group of people, with individual or shared plots.

Compost is the biological decomposition of organic material into a useful soil amendment or fertilizer.

A **cover crop** is a crop grown for the protection and enrichment of the soil.

Mulch is material (such as decaying leaves or bark) spread around or over a plant to enrich or insulate the soil.

Different types of gardens and farms:

> **Production –** A garden or urban farm focused on the production of crops for sale or donation. Most production-focused gardens or urban farms are part of a non-profit organization and are either staffed by employees, volunteers or interns. Production-focused farms or gardens sometimes incorporate some sort of job training in their work and teach individuals how to grow and market produce.

Traditional – Garden plots are rented by individuals, families or groups. Each plot is tended by that individual or family with ownership over what is planted, how, and what they do with the harvest. This traditional type of community garden is often housed within a local city's parks and recreation department and located on public land, or under the umbrella of a local non-profit who administers the garden program. Participating gardeners often abide by a set of garden rules and pay a small fee to rent the plot from the city or non-profit.

Communal – The entire garden or farm is planted and maintained by a group. The goal of the garden or farm varies; some examples include, raising produce for those involved, donating produce to a local food pantry, educating the community about how to grow food, or providing job skills and training. It is often managed by a non-profit or a dedicated group of volunteers who make garden or farm decisions and oversee the maintenance of the land.

School-based – The garden is based at a school and supports student learning in an outdoor environment. Garden educators, teachers or parents teach students through gardening, experiences in nature, cooking, tasting, etc. Some school gardens collaborate with surrounding community members to help maintain the garden during the summer when school is not in session.

Specialty – Specialty gardens are designed with a specific theme or purpose in mind; for example, a therapy garden, hospital garden, or demonstration garden.

Some information in this guide will be helpful for community gardens or production urban farms, but most of the information will be helpful no matter type of urban agriculture venture you are starting.

Getting Started

Having community involvement, support and buy-in is crucial and will pave the way for a successful and resilient urban agriculture endeavor.

There are many things to consider in embarking on a new urban agriculture project. The first and most important place to start is with the people. You can start by answering these questions:

- ✓ *Who will be involved?*
- ✓ *Who is interested in helping get the garden or farm started and participating in it when it is up and running?*
- ✓ *Where will the garden or farm be located? (*What piece of land?)
- ✓ *What are the start-up costs?*
- ✓ *What is the purpose or mission?* (This will help inform how the garden is physically set up. If your garden or farm is focused on providing education to the surrounding community, you may want to plan for teaching and gathering space. However, if your garden or farm is specifically focused on growing as much food as possible to sell or donate, you will want to plan the space to maximize planting area.)
- ✓ *What will the membership requirements be?*

- ✓ *How will costs be established? Will there be fees?*
- ✓ *How will rules be established? What will the governance structure be?*
- ✓ *What will happen to the produce that is grown?*
- ✓ *What will the physical set up of the garden look like?*
- ✓ *What are the ways in which the surrounding community can contribute?* (Consider special skills or talents, local agencies and community-based organizations who might be able to support or utilize the area, and any available or underutilized land.)

Establishing Partnerships and Garnering Support

Community gardens provide intangible and indirect community benefits, aside from providing a place to grow healthy food.

Think about who might be able to help you achieve your goals and may have shared goals. There will likely be other people or groups interested in making the garden or urban farm a success. Here are some examples of agencies who might be able to help.

- Parks and recreation departments
- Adult activity centers
- Community centers
- Public works departments
- Community and faith-based non-profits
- San Mateo County, including its Office of Sustainability

The following cities, landowners and organizations have supported the start of gardens and urban farms on their land in San Mateo County in the past:

- San Francisco Public Utility Commission
- City of Redwood City
- St. Francis Center
- Pacifica Sanchez Library
- Peninsula Family Service
- City of Menlo Park
- Pacifica School District / Linda Mar School
- City of Hillsborough
- City of San Mateo Parks and Recreation Department
- East Palo Alto Library

Collective Roots Gardening Program - East Palo Alto

Finding and Securing Land

Consider local available land resources -- Is there a vacant lot in your community where you would like to start a garden? Does a local church have an adjacent lot that is underutilized?

Talk to your local planning department to see who owns the vacant property, look up the San Mateo County's Assessor maps online or go into the County Clerk/Assessor's office to see the maps in person.

It is important to learn about the history of the land to provide clues as to the health of the soil. The soil could be contaminated depending on its past use. Make sure to gather this information before agreeing to a land lease. It is recommended to survey the land before making or signing any agreements. Take note of the following:

- ✓ *Who is the landowner?*
- ✓ *How is the land zoned and what are the allowable uses?* (Check out Sustainable San Mateo County's 3B's report and map in References showing local residential zoning codes and how they impact a resident's ability to keep animals, bees and gardens on their property. See Appendix A to this document for a summary.)
- ✓ *What types of structures are on the land and were historically on the land?*
- ✓ *What are the site characteristics?* (soil, water, sun exposure, slope of ground, electricity access)
- ✓ *Is the land accessible and close to transit if you intend to have members or visitors?*
- ✓ *Do you need liability or other insurance in case of any accidents or injuries that take place at the garden or farm?*
- ✓ *Does anyone involved have experience with leases, agreements or property management?*

The following are important steps to better understand whether your soil is safe for planting.

- ✓ *What is the history or past use of the property?* Talk to neighbors and property owners.
- ✓ *Are there visual signs of rubbish, potential contamination or bare soil?* If there is nothing growing in an area, that could be a sign of potentially unhealthy soil and contamination.
- ✓ *Are you able to take soil samples to get the soil tested?* Urban agriculture projects are encouraged to test their soils because of the potential for heavy metals contamination based on the past use of each unique piece of land. The US Environmental Protection Agency recommends testing for pH, organic matter, nutrients, micronutrients and heavy metals including lead. There are many soil labs located in surrounding counties. As of publication, tests start at approximately $75 per sample and can go up to a few hundred dollars per sample depending on what you are testing (basic soil nutrients, organic matter and pH cost less than heavy metals). Soil sampling is a process where you gather a handful or more of soil from five different locations in your sampling area to create a composite sample. You mix that composite sample up, place it in a Ziploc bag labeled with the sampling location and send it to a lab for testing. The soil lab you choose will have specific instructions as to how to take the sample and how to package and ship it. A list of local soil labs can be found in the Resources section of this document.
- ✓ *Are you able to build raised beds out of untreated lumber or other materials?* If soil contamination is a concern or using raised beds is preferred, they can be a great option. Consider your options for building materials. If you choose to build a raised bed out of wood,

make sure to choose untreated wood because the chemicals used in treating wood can leach into soil and be taken up by plant roots. Recommended materials include untreated wood (naturally rot-resistant redwood or cedar), bricks, pavers, etc. If soil test results from your planned garden area indicate contamination in a certain area, you could also consider planting ornamentals there.

Taking soil samples at Hillsborough Harvest Garden.

However informal or formal the farm or garden is, it is best to establish a written lease or agreement for the land to be occupied by the garden. The Sustainable Economies Law Center and ChangeLab Solutions, have examples of leases and important information to include in a lease agreement. Links to these documents can be found in the References section of this guide.

In 2014 California adopted the Urban Agriculture Incentives Zone Act, creating property tax incentives for unused land to be utilized for urban agriculture once the city or county has designated an "urban agriculture incentive zone." As of publication, there has not yet been any adoption in San Mateo County. If adopted in San Mateo County it could encourage landowners to partner with urban agriculture projects.

Building a Garden or Farm

Consider what physical supplies you will need to start your urban agriculture project.

First you must decide whether the growing will take place directly in the ground or in raised beds. Raised beds are generally more costly, however if there is any chance the soil could be contaminated the safest decision is to construct raised beds. Other considerations for raised beds include the population who will be doing most of the gardening. If the garden is for an older population taller raised beds might make more sense so people do not have to bend over as much, whereas if the garden is at a school the beds might need to be shorter so children can reach the beds. Raised beds can also be built to adapt to people with disabilities and can be wheelchair accessible. If you would like to build a garden but only have an asphalt area you can build raised beds on top of the asphalt without needing access to bare ground. There are many materials to choose from to build raised beds – if you choose to build the raised beds out of wood make sure it is not pressure treated. If you choose to grow in the ground it is important to test the soil before planting or making any large improvements to the land. If the soil is safe to plant directly into you can follow a few soil health measures before planting and throughout the life of the garden. For more information check out the section on *Conserving Natural Resources*.

Potential costs associated with building the garden or farm might include:

- ✓ *equipment rental*
- ✓ *assistance preparing the area you plan to plant*

- ✓ *lumber*
- ✓ *soil, compost, and mulch*
- ✓ *seeds and plants*
- ✓ *fruit trees and larger shrubs*
- ✓ *tools*
- ✓ *fencing*
- ✓ *storage*
- ✓ *irrigation equipment*
- ✓ *water and electricity hookups*

There are resources available to help with the costs of construction and set-up. As of publication, the San Mateo County Office of Sustainability offers grants for community and school gardens. You can ask for donations from local hardware stores and garden supply companies. Your local public works or parks department might be able to help as well. You can also contact local community organizations or apply for community improvement grants. You could even try crowdsourcing for monetary donations or volunteer support. A list of further funding sources can be found in the Resources section of this document.

Natural Resource Considerations

Consider conservation for your farm or garden.

Soil Health

Soil is the foundation of any successful farming operation. While not always a problem, soil degradation can occur at urban agriculture sites. Keeping soil covered with plants or mulch protects soil, especially during heavy rains. Adding compost and using cover crop can increase the ability for soil to retain moisture, so you do not have to irrigate as much. These practices also provide useful nutrients and micronutrients necessary for plant growth. A few helpful ways to build soil health are:

- ✓ Add compost to the soil before planting
- ✓ Use cover crop in any empty or fallow soil, especially during the winter to protect the soil from harsh weather conditions and heavy rains
- ✓ Mulch around plants.

Soil Erosion

If any part of your garden is on a slope it will be important to think about preventing soil erosion so you do not lose top soil or eventually part of your land. Preventing soil erosion is also important to keep local water sources clean of potential pollutants. Key practices to help prevent soil erosion include:

- ✓ Keep the soil or ground planted so the plant roots can help keep the soil in place
- ✓ Improve soil health with compost and cover crops
- ✓ Mulch bare soil with wood chips or straw
- ✓ Monitor irrigation carefully – excess water can move loose soil.

Water

A farm or garden has the ability to conserve water and help prevent local water pollution by using water efficiently and filtering water through the soil and other permeable surfaces. It is important to think about the garden or farm's watershed. In rain events, or when garden beds are over watered it could be possible that fertilizers or excess nutrients are flowing into local water sources. Are there creeks or drainages near your site? Reducing runoff and implementing stormwater best management practices can help improve water quality. Follow these practices to conserve water and protect water quality:

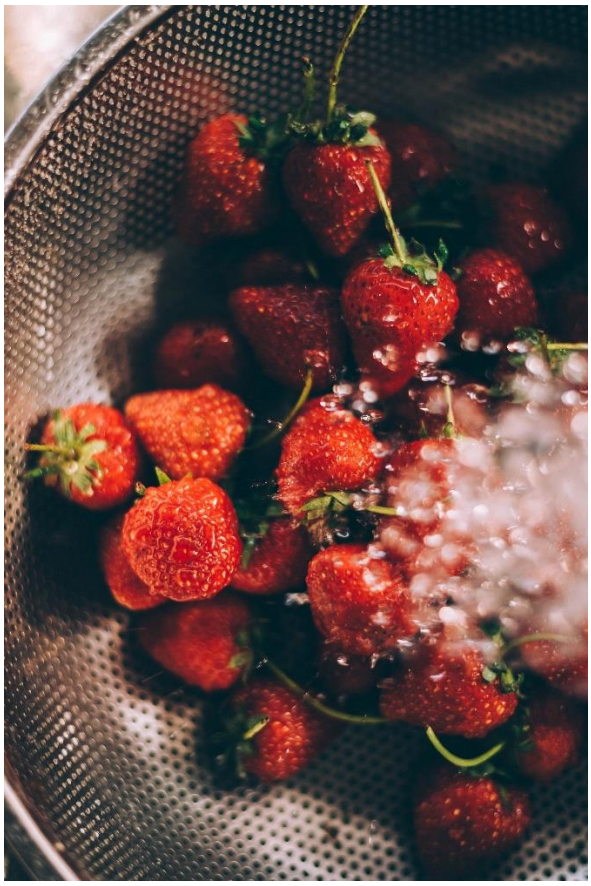
- ✓ Install drip irrigation or other drip emitters to deliver water directly to plants in amounts that the soil can absorb.
- ✓ Fertilize and applying pesticides according to directions so the appropriate amount is applied and excess does not fun off or out of your garden with irrigation.
- ✓ Utilize eco-friendly fertilizers, pesticides and herbicides whenever possible. Follow product directions to assure you apply the appropriate amount to your garden.

Wildlife

Planting a garden in an urban area can enhance habitat for wildlife in a landscape with often little natural habitat. Flowers can provide food for pollinators like bees, hummingbirds and butterflies. When plants produce seeds, it is a great opportunity to provide food for birds. Larger shrubs and trees can provide protection for birds and smaller mammals. Planting native plants can provide all of these habitat benefits.

- ✓ Consider planting a native hedgerow, a row of plants that form a line or border, if you have space – or just a few plants to provide habitat. Flowering plants will provide forage for pollinator species. Shrubs and trees will provide habitat for other wildlife like birds and small mammals. Find links to local native plant nurseries in the Resources section of this document.

Food Safety Considerations



Although community gardens and urban farms produce much smaller quantities of fresh fruits and vegetables in comparison to their larger farm counterparts, food safety is still a crucial consideration in growing food in urban areas.

Community food producers must comply with the California Department of Food and Agriculture's Small Farm Food Safety Guidelines. These guidelines provide an approach to food safety which is focused on smaller agriculture operations. A link to these guidelines can be found in the References section of this document.

Assess food safety concerns within your garden or farm by creating a food safety plan, which takes into consideration water, animals, soils, surfaces, health and hygiene. Some basic practices that will help your farm or garden stay food safe include:

- ✓ *Has the water used for irrigation and washing produce been tested for safe use?*
- ✓ *Have all gardeners received training in proper hand washing protocols? (Make sure to wash hands before starting garden work, after using the bathroom, after taking a break and especially before harvesting produce)*
- ✓ *If you plan to apply manure has it been aged for at least one year?*

- ✓ *When applying properly aged manure are you applying within a long enough window before you plan to harvest crops? (a minimum of 120 days is recommended, if not longer)*
- ✓ *When applying compost, has it been properly cured before application? (Curing is the process of allowing proper decomposition and heating to take place so pathogens are no longer present and beneficial aspects of compost are available for plants to take in)*
- ✓ *Have all gardeners received training about how to properly wash produce after harvest?*
- ✓ *Have all gardeners received training about safe and proper post-harvest storage and refrigeration?*
- ✓ *Are tools cleaned and sanitized after use?*
- ✓ *Are tools kept separate for harvest & compost/manure?*

If your garden or urban farm will sell the produce grown on site at a farmer's market you will need to acquire a Certified Producer's Certificate. If the garden or urban farm will offer a CSA program you will need to register with the CDFA. There are also special requirements for egg production and sales. See References section for resources.

Livestock in Urban Agriculture

If your community garden or urban farm is interested in keeping animals on site check your local jurisdiction's policies for poultry, livestock, or bees, and if you will need a permit to comply with any other requirements.

If you do keep animals, onsite waste management will be an important part of your food safety plan. How will you manage the manure generated on site? Manure can be a great source of soil nutrients and organic matter if managed properly. Un-composted and composted manure both have the potential to increase the presence of pathogens (although proper composting can significantly decrease the presence of pathogens) so proper management is very important.

Below are some important considerations for manure and compost management:

- ✓ Maintain a 120-day interval between incorporating raw manure into garden beds and harvesting crops with edible portions in direct contact of soil and a 90-day interval for crops that do not come into direct contact with soil.

- ✓ Maintain 131 degrees F or higher for 15 days or longer for turned compost piles (the pile should be turned a minimum of five times during that time).
- ✓ Record keeping is very important in order to track how often piles are turned, what temperature they reached and is required for organic certification. Organic certification is required if you plan to sell your produce and want to be able to say it is certified organic. If you do not plan to sell produce you can still follow organic practices without getting certified. See References section.

Conclusion

Gardens and urban farms are often thought of primarily for what is grown within the space and that is what often draws people to that space. Community gardens, urban farms and school gardens often provide much more than a space to grow plants and food. They can provide food access to nutritious food, contribute to neighborhood beautification, community cohesion and a sense of belonging. They can be a great way to get neighbors and community members working together on a common interest or goal; people who might not have met otherwise. It can be a learning opportunity and an opportunity to try something new and share what you have grown and what you have learned with others. A garden or urban farm also has the ability to teach and demonstrate ways to conserve natural resources to improve growing practices and the impact on the natural environment. The foundation for all of this is the soil and the physical space. Hopefully this guide has provided useful information to help you create the solid foundation for a productive and welcoming garden or farm.

Resources

Labs that process soil tests:

http://mgsantaclara.ucanr.edu/garden-help/soil-testing/

Nurseries for native plant selection:

Yerba Buena Nursery (Half Moon Bay)

Mission Blue Nursery (San Bruno)

Grassroots Ecology Nursery (Palo Alto)

Watershed Nursery (Point Richmond)

Central Coast Wilds (Santa Cruz)

Funding

Your local Resource Conservation District or local National Resource Conservation Service (NRCS) District Conservationist may be able to help provide funding sources for conservation practice implementation within your urban agriculture project.

Grants (Updated April 2020)

- ✓ Clif Bar Family Foundation

  http://clifbarfamilyfoundation.org/grants-programs/small-grants
- ✓ Patagonia Retail Store Grants

  https://www.patagonia.com/retail-funding-guidelines.html
- ✓ San Mateo County Office of Sustainability (scroll down to Community Garden Partnerships)

  https://www.smcsustainability.org/waste-reduction/composting/
- ✓ Grants for Public Gardens

  https://www.publicgardens.org/public-garden-funding-resources

Loans

- ✓ Farm Service Agency (FSA) Farmer must apply – non profits cannot apply. Be able to sell over $1,000 in product at farmers market or other outlet. Micro-loans under $50,000 for equipment, livestock or crop loans. Local FSA officer – Amy Catherine Davis amy.cody@ca.usda.gov – 209.722.4119

  https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/

- ✓ Equity Trust

  http://equitytrust.org/for-borrowers/

- ✓ Kiva

  https://pages.kiva.org/borrow/start

- ✓ Slow Money Northern California

  https://slowmoneynorcal.org/entrepreneurs/

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