Creating an Edible Landscape

Prepared by:

Students in FScN 4732: Food Science & Nutrition Management

Instructor: Len Marquart, Associate Professor,
Department of Food Science & Nutrition
College of Food, Agricultural, & Natural Resource Sciences

Prepared in Collaboration with:
Lisa Brodsky and Jayme Carlson
Scott County Public Health
The project on which this report is based was completed in collaboration with Scott County as part of the 2018–2019 Resilient Communities Project (RCP) partnership. RCP is a program at the University of Minnesota’s Center for Urban and Regional Affairs (CURA) that connects University faculty and students with Minnesota communities to address strategic projects that advance local resilience and sustainability.

The contents of this report represent the views of the authors, and do not necessarily reflect those of RCP, CURA, the Regents of the University of Minnesota, or Scott County.
# Table of Contents

**Policy and Ordinances**
Natalie Greytak, Miranda Olson, Jessica Dryke, Emily Davis, Mishka Bartholow, Claire Prendergast, Courtney Schlegel, Madison Powell  ........................................ pg. 1

**Best Practices**
Abigail Wege, Cecily Lindner, Madeline Servais, Claire Kalenberg, Kayleen McQuillan  ........................................ pg. 14

**Sustainability of the Landscape**
Soyeon Jung, Hannah Berg, Nabeela Khan, Vicky Lee  ........................................ pg. 25

**Budget**
Staci Gallahue, Brad Yentzer  ........................................ pg. 30

**Plant Data**
Michelle Bascom, Stephanie Druziako, Andy Monnens  ........................................ pg. 32
Scott County Edible Landscape
Policy and Ordinances

Natalie Greytak, Miranda Olson, Jessica Dryke, Emily Davis, Mishka Bartholow, Claire Prendergast, Courtney Schlegel, Madison Powell
# Table of Contents

<table>
<thead>
<tr>
<th>Contents</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philadelphia Orchard Project</td>
<td>3</td>
</tr>
<tr>
<td>Vancouver Urban Agriculture</td>
<td>4</td>
</tr>
<tr>
<td>Edible Evanston Food Forest</td>
<td>5</td>
</tr>
<tr>
<td>San Diego Urban Plantations</td>
<td>6</td>
</tr>
<tr>
<td>Quad City Food Forest</td>
<td>7</td>
</tr>
<tr>
<td>Portland Oregon Garden</td>
<td>8</td>
</tr>
<tr>
<td>Madison, Wisconsin Edible Landscapes</td>
<td>9</td>
</tr>
<tr>
<td>Summary Table</td>
<td>10</td>
</tr>
<tr>
<td>Recommendations</td>
<td>11</td>
</tr>
<tr>
<td>Resources</td>
<td>12-13</td>
</tr>
</tbody>
</table>
Philadelphia Orchard Project

The Philadelphia Orchard Project (POP) is a non-profit organization that supports a more sustainable, equitable, and ethical local food system in the city of Philadelphia. Their mission is to provide access to healthy food for low income communities. Philadelphia has one of the highest poverty rates of major US cities and the Orchard Project intends to combat this issue while promoting a more sustainable food system by utilizing some of the 40,000 vacant lots throughout the city. They partner with community groups to build orchards on empty lots in lower-income communities where there is less access to fresh fruits and vegetables. The group was started in 2007 by Paul Glover and a group of people with backgrounds in plant science, agriculture, and non-profit work. Since then they have progressed to over 60 orchards throughout the Philadelphia area.

In order to partner with POP, a possible partner must apply and be evaluated by a committee put together by the POP. This application delves into who the applicants are, what their land space looks like, what sort of orchard they envision, their budget and income, and how it will be maintained. Even though the organization works to utilize vacant lots, they require their partners to have access to the land before beginning orchard set up. They do this to avoid legal troubles because the use of vacant lots without ownership is a misdemeanor in Philadelphia as defined in 18 Pa. Cons. Stat. § 3503(b). In addition, this also allows the partners to be the stewards of their own orchards. If the group wants to gain access to a vacant lot, the city of Philadelphia leases out city owned vacant lots for about $650 per year. In order to ensure the land is not used for development after the orchard is established, partners must sign a Memorandum of Understanding with POP. This is a legal agreement defining the roles and future use of the land. POP does not require every future partner to have all of this figured out prior though; they help gain access to fire hydrants if orchards need access to water or can assist in obtaining the land.

The main duties of the orchard project comes with the set-up of the land and education of the owners. This includes designing the orchard space, providing the appropriate plant material, aiding in long term support, and serving as trainers. The funding for each orchard is done on a sliding scale based on how much each organization needs. For most, set up is fully funded. This money comes from a foundation set up by POP, corporate contributions, and program fees. After the orchard is established, POP checks in at least four times a year and provides volunteers to help with maintenance of the garden, if needed. Although, maintenance required is minimal because there are only perennials being planted which do not require the same sort of work as annual plants.
City of Vancouver Edible Gardens

In 2018, the city of Vancouver, British Columbia, Canada started the promotion of edible gardens and urban agriculture in the amended bylaws in 2018 for developmental planning. Vancouver’s intent was to promote more urban agriculture for residential development and to reduce the distance to plate, encourage social interaction, and allow more locally grown food production. Edible landscaping and urban agriculture are encouraged in areas that are easily accessible and highly trafficked for harvesting. Fruit bearing plants should not hang over public property to ensure that food is harvested without delay and to avoid attracting pests and rodents. Green roofs are options for urban agriculture in addition to storm water management and on-site composting and rain water collection. For green roofs, building design must keep in mind soil depths and load bearing capacity sufficient to allow for intensive utilization including human occupancy, gardening, and significant landscaping. Edible landscaping and urban agriculture can be incorporated as part of any landscape areas. Edible landscaping opportunities are within public spaces in specified locations based off CD-1 rezoning. The zoning specifies that any rezoning needs to keep in mind possible areas for experimenting with edible landscaping and urban agriculture by leaving areas within a building site available for those purposes. The city encourages opportunities for growing food on roofs, in courtyards, and in other open spaces around buildings. The determination of the potential location for food growth is to occur at the time of rezoning. New developments need to include areas that are available for exploring opportunities in edible landscaping and urban agriculture within both the private and public realms. This includes parks where the priority is given to locations with the highest residential density.
Edible Evanston

This organization began as a part of Evanston, Illinois’ City Council’s commitment to reduce greenhouse gas emissions. To help this mission, volunteers worked on the Evanston Climate Action Plan, leading to the formation of the Citizens Greener Evanston organization. Edible Evanston is one of the programs created by the Citizens Greener Evanston organization. Edible Evanston focuses on sustainable, local food production by creating urban farms, community gardens, greenhouses, and composting sites. They want to create opportunities for food sharing among residents; provide education on nutrition, growing food, composting, and food waste management; and develop and preserve open green spaces in the urban environment. The program is run and managed by a board of local citizens and depends on a combination of volunteer work and the New Leaf Urban Garden organization for maintenance and expansion of their food forest.

The food forest started as an orchard, created through a combined effort of Northwestern University Brady Scholars and the New Leaf Urban Garden, and supported by Edible Evanston and the City of Evanston Parks and Recreation Department. New Leaf Urban Garden provided seeds, maintenance, and harvests; while the Brady Scholars provided outreach to the local government to get permission for using the land and the community for supporting the project. This involved a lot of contact with the Parks and Recreation Department so they could give Edible Evanston the permits to use the land and water. The land, in Eggleston Park, is still owned by the local government and can and will be revoked if the Parks and Recreation Department feels it is not being used properly. Beginning in 2017, they are starting to convert the orchard to a food forest. The cost to get the orchard started was about $3,500, and the break-down of the costs can be found here, or under Edible Evanston resources as the last resource (pg.10). The costs came from purchasing trees/plants/seeds, soil/compost, tools/supplies, soil testing, water use permit, and paying an organization to maintain the orchard. To pay for expenses similar to these, Edible Evanston applies for and has been awarded a grant from the Evanston Community Foundation, which gets money for this grant from federal funds, other non-profits, and the community.

Beginning in 2016, the orchard has been renovated into a food forest, focusing on permaculture (optimizing soil health) and the addition of perennial plants that work together in symbiosis to create a healthy, sustainable landscape. For example, hazelnut trees provide a shady, moist environment for mushroom moss to thrive. To ensure that the land is used correctly, Edible Evanston has a board of committee members to oversee the process and organize events around the gardens and food forests. Because they depend on the local community to maintain the food forest, they have lots of events for the locals to interact with the food forest and get involved. Examples are Food Forest Work and Learn Days, Lessons on Permaculture, Edible Landscaping Introduction, Planting Events, Bee Fest, and the Fall Food Forest Fun Fruit Fest.
San Diego Urban Plantations

Urban Plantations was started by Karen Contreras during the most recent recession to provide food security to San Diego and Orange County. Urban Plantations is a for-profit organization, introduced on corporate campuses, in restaurants, and in residential areas. They work with restaurants to provide them with local produce, where in turn the restaurants compost the wasted food. Any viable and remaining food is used for pickling and canning. On corporate campuses, they are used to positively beautify the campus. For example, they have installed grape-covered pergola trees, redwood raised beds, and Wi-fi for employees to have a pleasant place to work outside. It has been found that people surrounded by nature are happier overall, which makes for a happier workplace. As for residential areas, the intent of the garden depends on the customer, but normally it is used for food and for beautifying their yard. In an email from Jessica Gonzalez, an employee of Urban Plantations, she states that: “their main goal is to grow real food to combat industrial agriculture and the negative impacts it has on our planet, encouraging lifestyles that exist WITH nature rather than against it.”

There is no actual permitting required. Restaurants, corporate campuses, and people in residential areas are able to install a garden simply with their permission and a signed contractual agreement. They also don’t have any zoning policies or restrictions, but if a client were to want a rooftop garden or one in an unusual area, Urban Plantations would work with the client’s engineers to ensure that everything is to code for safety reasons. Policy AB551 in California is utilized to increase the use of vacant land for urban agriculture. In one case, landowners that lease their land for urban agriculture for a minimum of five years can have a lower property tax. Urban Plantations has the agriculture incentive ordinance that cuts property taxes for vacant lots turned into gardens. These both provide incentives for land-owners and the community to give up part of their land for urban agriculture to save money. “The state legislation defines agricultural use for purposes of an Urban Agriculture Incentive Zone as: [F]arming in all its branches including, but not limited to, the cultivation and tillage of the soil, the production, cultivation, growing, and harvesting of any agricultural or horticultural products, the raising of livestock, bees, fur-bearing animals, dairy-producing animals, and poultry, agricultural education, the sale of produce through field retail stands or farms stands as defined by Article 5 (commencing with Section 47030) of Chapter 10.5 of Division 17 of the Food and Agricultural Code, and any practices performed by a farmer or on a farm as an incident to or in conjunction with farming operations.” Parcels are available for contracts if they are at least 0.1 acre in size, but no larger than 3 acres. They also must have an initial term of at least five years. If the landowner breaks their five-year contract, the must pay back the tax benefit that they received.

Edible gardens are in health and education centers in California. This gives adults and students the opportunity to witness the journey from seed to carrot. The staff at Urban Plantations teach chefs and restaurant employees how to provide supplemental garden care, such as harvesting. The overall mission statement of Urban Plantations is to: “create a world in which humans and their surrounding environment can thrive together, and our work can help restore and regenerate that balance!”
Quad City Food Forest  
Davenport, Iowa

The Quad City Food Forest is located in Davenport, Iowa. The food forest was developed with the intention to produce free food for the surrounding community to increase food security and to create education opportunities for the public about gardening. To gain the rights to the land and to decide on a final location, the founders of the project attended a public meeting with the mayor and community. The first location was nine acres and was donated to the organization by the city. This plot of land was originally vacant when the city bought out the homes there that were prone to flooding. There were no specific ordinances or policies in the city's zoning laws that mentioned food forests. Throughout the years, the food forest has expanded by making partnerships with local groups such as the Boys and Girls Club and the library to develop smaller food forests on publicly accessible land. Quad City is a non-profit group and has applied for 501(c) 3 tax exempt status. The food forest is maintained by volunteers and members of the community. To raise funds for the project, they take donations via their website. In order to keep the project sustainable, the group donates any food that is not harvested by the public to a local food bank. Also, they use a seven-layer guild system to allow for the forest to be more self-sufficient and not require as much maintenance. The plants are perennials, so that helps to keep the forest’s maintenance needs at a minimum. They try to choose plants that are more resistant to disease to ensure that the forest will continue to thrive and to minimize long-term costs.
Portland, Oregon

Oregon has been successful in its attempts to integrate food forests and urban agriculture into communities by tailoring policies and strategies to their overall ecological and socially sustainable goals for greener cities. The term *urban agriculture* includes “community and private gardens, edible landscapes, fruit trees, food-producing green roofs, aquacultures, farmers markets, small-scale farming, hobby beekeeping, food composting.” The city of Portland raised further awareness to food policy and issues by developing a “food policy council” to spread awareness to governments of food policy issues. With support from the council, Portland Commissioner Dan Saltzman proposed the inventory of all city-managed lands to be reconsidered based on appropriateness for community gardens and urban agriculture plans.

The [Digging City Project](#) helped develop potential land use goals based on current Oregon Statutes, which were accepted and advanced by the Food Policy Council to be put into action. These goals were tailored from the following Oregon state statutes:

**197.752. Urban lands available for development**

(1) Lands within urban growth boundaries shall be available for urban development concurrent with the provision of key urban facilities and services in accordance with locally adopted development standards.

(2) Notwithstanding subsection (1) of this section, lands not needed for urban uses during the planning period may be designated for agricultural, forest or other non-urban uses.

Although the future Edible Landscape in Scott County may be considered suburban agriculture, parallel policies could be adjusted based on the urban implementations in Oregon. The County Digs project in Portland promotes the ongoing process by making surplus county and tax-foreclosed properties available to local governments, community programs, and nonprofit organizations for urban agriculture purposes. A few recommendations from current policies in Portland, Oregon encourage other governments to consider land inventory to (1) align urban agriculture with related sustainability goals and (2) ensure public involvement through participation campaigns through the design of the edible landscape (3) seek continued support from expertise at institutional levels including the participation of universities.
Madison Edible Landscapes

Madison Edible Landscapes were started in 2013 by passage of ordinance 8.33 by the Madison, Wisconsin City Council. The intent of this city ordinance was to provide edible food in public spaces. The permitting system was finalized the following year. This ordinance allows residents or organizations to apply with the city for permission to plant edible plants on public land. Because of this, it is reliant on private individuals and organizations to initiate and maintain edible landscapes. Public costs include the cost of conducting the permit approval and granting access to publicly owned equipment, although no fees are charged in connection with an application or issuance of a permit. The term of each permit is determined by the department or division head, but is not less than three years. Within the language of the ordinance, permittees are encouraged to post signs in the permitted area containing information about the planting and the permittee, and stating that all fruits, vegetables, nuts and other edible plant forms are available for public harvest. All signs are reviewed and approved. The maintenance is done by permit holders. Any chemical agent, insecticide or fertilizer proposed for use by the permittee must be applied in accordance with the City's Pest Management Policy and approved prior to each and every use. When chemical agents are applied, permittees shall post a sign at the permitted area stating the type of chemical agent and date of application. The permittee shall remove all refuse and prune or remove all dead plant material from the City-owned land no later than November 15. Throughout the permit term, the permittee shall maintain the planted area in the presentable condition, consistent with the general appearance of the City-owned land in which it is located. All edible produce shall be removed promptly so as to not create a hazard or nuisance due to rotting. This policy is incredibly light on government investment and simply allows a legal channel through which interested parties can plant edible landscapes in their community. There has been limited success in implementation, as one might expect with such limited incentivization, but many fruit trees, such as the ones pictured here in Wingra Park, have been planted as a result of this policy. A similar policy would provide an avenue for interested parties to plant on public land while necessitating minimal public resources.
# Summary Table

<table>
<thead>
<tr>
<th></th>
<th>Philadelphia Orchard</th>
<th>Vancouver Urban Ag.</th>
<th>Edible Evanston Food Forest</th>
<th>San Diego Urban Plantations</th>
<th>Davenport Food Forest</th>
<th>Portland Gardens</th>
<th>Madison Edible Landscapes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intent</strong></td>
<td>Food for low-income pop, ethical food system</td>
<td>Promote urban ag., locavore</td>
<td>Education, sustainability, providing food to those in need</td>
<td>Help alive food insecurity</td>
<td>Food for community, education</td>
<td>Food for the community from open urban plots</td>
<td>Food for the community from plots community applies to use</td>
</tr>
<tr>
<td><strong>Started by</strong></td>
<td>Paul Glover and team</td>
<td>City of Vancouver</td>
<td>Citizens Greener Evanston</td>
<td>Karen Contreras</td>
<td>Chris Rice</td>
<td>Commissioner Dan Saltzman</td>
<td>Madison City Council</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>Private, Non-profit</td>
<td>Public and Private</td>
<td>Private, For-profit</td>
<td>Public, Non-profit</td>
<td>Public, Non-profit</td>
<td>Public, Non-profit</td>
<td>Private, Non-profit</td>
</tr>
<tr>
<td><strong>Permits</strong></td>
<td>POP partner, Private citizens own the land</td>
<td>Encourage citizens and businesses to grow food/create a green roof on their own land</td>
<td>In City Park, owned by the city, gives permits for the use of land and water</td>
<td>Private citizens/companies own the land</td>
<td>Under Agricultural Preservation District, in public park</td>
<td>Oregon State Statute 197.752, used to support planting gardens in open spaces</td>
<td>Citizens and Organizations get permits to grow food on public land</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Community on how to take care or orchard</td>
<td>Online info about different plants and how to take care of them, Rewilding Vancouver Action Plan</td>
<td>Events: Food forest learn and work days, permaculture lessons, edible landscape introductions</td>
<td>Gardens w/in health and education centers, for students, chefs, and business owners to learn garden care</td>
<td>Get the community involved with planting at different cites</td>
<td>Align urban agriculture with sustainability, get public involved with the design of landscapes, seek support from experts</td>
<td>Not much for education, just allowing those who want it a chance to make public land an edible landscape.</td>
</tr>
<tr>
<td><strong>Policies</strong></td>
<td>Set by people who own the land</td>
<td>Development plans for urban ag., applications for rezoning and development</td>
<td>Everyone invited to share ideas &amp; volunteer, waiver to sign, hold public meetings to make decisions</td>
<td>Provide restaurants w/ local produce, persuade companies to landscape, help residents w/ landscaping</td>
<td>Public meetings, volunteers maintain, develop more planning cicts</td>
<td>Food Policy Council (part of the local gov) develop land use goals with The Digging City Project</td>
<td>Ordinance 8.32 allows citizens to get permits to work on land</td>
</tr>
</tbody>
</table>
Recommendations

**In order to implement edible landscapes throughout Scott County, zoning regulations may need to be amended.** This process is initiated by the County Board of Commissioners, the Planning Advisory Commission, Town Boards or by application of a property owner. A zoning amendment application must be filled out and reviewed by the Township board, followed by a public hearing. The County Board may also make suggestions to the permit in order to consider the safety, health, and general well being of the surrounding community. The application process for zoning amendments can be found in Chapter 2, Section 5 of Scott County’s Zoning Ordinance NO. 3: https://www.scottcountymn.gov/DocumentCenter/View/1428/Zoning-Ordinance-No-3-

Further incorporate urban agriculture and edible landscapes into the country’s Comprehensive Plan. Currently, the Scott County’s 2040 Comprehensive Plan allows zoning changes only if the designated use is established and maintained to assure compatibility of adjacent land uses. Edible landscapes are not mentioned as a possible option to utilize land in order to benefit the surrounding community. Goal #V-23 of the plan promotes the production of locally grown food within Scott County while assisting local government to develop strategies which will promote a locally-based food production system. The overall goal of this plan, concerning land use, primarily focuses on parks, trails, and farm land. This plan could benefit with the addition of ensuring edible landscaping is addressed as a possible use of landscaping. Chapter 5 of the 2040 City Comprehensive Plan addressing Land Use and Growth can be viewed here: https://www.scottcountymn.gov/DocumentCenter/View/9037/Chapter05-LandUse_2040

Encourage innovative design of edible landscaping within new developments to maximize creative use of land. Possible locations for edible landscaping could be implemented in designated areas for agricultural preservation (shown in white), park and open spaces (shown in dark green), or incorporated in or between urban expansion, rural residential reserve, and transition areas.
Resources

Philadelphia Orchards Project
https://www.phillyorchards.org/
http://www.groundedinphilly.org/gardening-without-ownership/

Vancouver Urban Agriculture
https://bylaws.vancouver.ca/odp/EFL.pdf
https://guidelines.vancouver.ca/E003.pdf
https://vancouver.ca/files/cov/vancouver-food-strategy-final.PDF

Edible Evanston
http://edibleevanston.org/content/our-mission
https://edibleevanston.org/
https://greenerevanston.org/history-mission-and-goals
https://edibleevanston.org/initiatives/food-forest
https://edibleevanston.org/content/design-and-construction-eggleston-anniversary-orchard

San Diego Urban Plantations
http://urbanplantations.com/

Davenport Food Forest
http://www.qcfoodforest.org/home.html
https://qctimes.com/lifestyles/q-c-food-forest-takes-root/article_b84f6e3c-30e4-5d96-bf8d-0684cc1968e0.html

Portland, Oregon Overall Urban Agriculture Policy
https://www.oregonlegislature.gov/bills_laws/ors/ors197.html
Image (1) provided by Fargo Food Forest of Portland: https://sustainableamerica.org/blog/the-rise-of-community-food-forests/
Image (2) provided by City of Portland Parks & Recreation: http://seedstock.com/2014/04/10/city-of-portland-continues-long-history-of-urban-farming/
Madison Edible Landscapes
(1) The ordinance can be found at:
(2) An FAQ on the permit application can be found at:
https://www.cityofmadison.com/mayor/programs/food/edible-landscapes-permit-process
(3) Pest Management Policy can be found at:
https://www.cityofmadison.com/engineering/pesticidepolicy.cfm
Scott County Edible Landscape
Best Practices

Abigail Wege, Cecily Lindner, Madeline Servais, Claire Kalenberg, Kayleen McQuillan
Starting an Edible Landscape

- Start small -- you can always add more plants (Emily Tepe Interview, 2019)
- Consider starting with an existing landscape and slowly replacing plants rather than starting from scratch (Emily Tepe Interview, 2019)
  - Take stock of the existing landscape. Look for lackluster plants that can be replaced with varieties that have edible features. Blueberries have spring flowers, edible fruits, and a great fall color, which makes them great hedge plants (Better Homes & Gardens, 2018)
  - Photo: rhubarb surrounded by petunias to bring out the deep red and purple color (Edible Landscaping, 2010).
- Make plans before ever starting: who will manage it, what the rules and regulations will be, how it will be funded, what the goals are, how the harvest will be distributed, etc. (Weiland, Giroux, Hyman, & Lucak, 2016)
- Choose plants that grow well in the given climate, produce a high yield of crop, and withstand weather. (McDougall, 2019)

Design of Landscape

- Incorporate accessibility into the landscape design by including wide walkways and raised plant beds (Weiland et. al, 2016)
  - The photo below is an example of a raised bed designed for people with mobility disabilities (Weiland et. al, 2016):
Determine if you’re going to incorporate any architectural structures (paths, trellises, water fountain…) into the garden before you plant. It’s much easier to plant around these structures rather than adding them at a later time. (Seasoned Homemaker, n.d.)

Because plants vary in the space they take up depending on their age (think squash plants) use other things such as portable statues to fill in the awkward space while the plant is young. (Seasoned Homemaker, n.d.)

Consider how people will travel to the landscape: is there public transportation available? (Weiland et. al, 2016) Is the landscape in a walkable or bikeable location?

Incorporate benches to allow people of all ages and abilities to enjoy what the garden has to offer. (McDougall, 2019)

Locate fruit or nut trees away from driveways, patios, decks, and walkways so the fruit and nut drop doesn’t cause a mess (Better Homes & Gardens).

Environmental Considerations

- Pests:
  - Think about potential pests that could ruin your harvest and how you’re going to combat that issue. (Sacramento Hunger Commission, n.d.)
  - The best way to manage deer is with netting or a fence at least 8 feet tall, which can be difficult to do in some landscapes. Repellent sprays can also be used with frequent applications (Better Homes & Gardens, 2018).
  - To keep rabbits out, enclose gardens with chicken wire mesh fence, 3 feet tall and 1 inch thick. Ensure it’s buried a few inches below the soil to prevent the rabbits from digging into the landscape (Better Homes & Gardens, 2018).

- Space:
  - This will vary depending on what you want to grow and can range from a small pot holding herbs to something much larger. Remember that architecture can be created with supporting edible landscaping in mind, for example a trellis holding grape vines. (Sacramento Hunger Commission, n.d.)

- Water:
  - How is it going to get to the edible landscape, how easy is it to access? Is it clean? (Sacramento Hunger Commission, n.d.)

- Sunlight:
  - Is there enough/too much? (Sacramento Hunger Commission, n.d.)
  - Most edibles perform best in locations that receive six to eight hours of full sun each day (Better Homes & Gardens, 2018)
  - Put taller plants on the North side of the landscape and shorter plants on the South side for optimal sun exposure. (Diem, 2019)
● Soil type:
  ○ What is the soil composition in the area you’re looking to plant? Will compost or other components need to be added to make the area hospitable to growth? (Sacramento Hunger Commission, n.d.)

● Climate:
  ○ Determine the best plants for your area based on your growing climate. It’s best to source plants from local donations or distributors as they tend to thrive better in the specific area you’re hoping to plant them in. (Sacramento Hunger Commission, n.d.)

● Plant Choices:
  ○ Will the intended users know how to prepare and enjoy the plants that are grown? It may be a good thing to try to incorporate new produce that isn’t typically incorporated into the diet as well. (Sacramento Hunger Commission, n.d.)

● Location:
  ○ Keep in mind resident turnover rate. In low-income areas the resident turnover rate tends to be high. In order to sustain the project long term keep this in mind when determining who will care for the garden. (Sacramento Hunger Commission, n.d.) Also consider the safety of the area, such as busy streets surrounding the area that could be hazardous for children (Weiland et. al, 2016)
  ○ Consider what plants are currently growing in the area, especially problematic/overgrowing plants (Weiland et. al, 2016)
  ○ Place the landscape in an area where a lot of people can walk by and see it. Increasing awareness of the garden’s existence is crucial. Here is a photo of kale growing in a garden box on a train station platform as part of Incredible Edible in Todmorden, England. (McDougall, 2019)
Managing Edible Landscapes

- It is important to set up a management system prior to starting the garden (Weiland et al., 2016 and Emily Tepe Interview, 2019)
- Make sure that residents understand maintenance and care designations and distributions of work load. For safety reasons, advance care such as pruning and fertilizing should only be done by those in charge or specifically trained to do (Sacramento Hunger Commission, n.d.)
- Consider a ‘adopt a plant’ approach where individuals are in charge of caring for one specific plant, yet the produce is still shared communally (Sacramento Hunger Commission, n.d.)
- Create a timeline:
  - Remember that not all plants will produce the year that you plant them (ex: fruit trees) so it is important that there is a plan in place for who is going to nurture them until they begin to bear produce. (Sacramento Hunger Commission, n.d.)
  - Example timeline below (Weiland et al., 2016):

  **Sample Timeline - New Property**  
  **(Harrington Village, Champlain Housing Trust)**

  **April 1st** – Met at the garden site: Community Relations Specialist, Property Manager, Director of Development, the Maintenance Crew who would be building the beds/fence, and a non-profit garden consultant (VCGN)
  **April 3rd** – Passed out garden surveys to tenants, due April 15th, to get a head count of how many wanted to participate (a copy of the survey can be found in Resources & Appendices)
  **April 15th** – Compiled survey results (to determine how many beds to build), scheduled tree removal
  **April 23rd** – Finalized garden bed design with Property Manager and Maintenance, drew out scaled site plan, and went to Shelburne planning zoning board to check on any required permits
  **April 24th** – Tree removal completed, ordered wood for beds, started writing donation requests
  **May 4th** – Confirmed meeting room location (to have initial meeting with tenants)
  **May 6th** – Ordered soil
  **May 7th** – Passed out meeting notices
  **May 10th** – Fence and bed construction began
  **May 19th** – Had initial meeting with tenants to go over plans, hear their ideas/suggestions, etc.
  **June 3rd** – Garden workshop for tenants; picked up tool shed, picnic table, and compost; met with garden consultant (VCGN) to review site plan and made modifications to allow more space between beds
  **June 4th** – Completed beds, put together and organized tool shed, and started arranging beds
  **June 5th** – Finalized bed placement on site, soil delivered, gathered wheelbarrows and shovels
  **June 6th** – Opening day with work party to fill raised beds and plant starts and seeds!!

- Resource: The last pages of this toolkit include sample documents to be used for management (see page 59)
  - [Vermont Toolkit: Management Resources](#)
Harvesting

- Hold community discussions on food sovereignty to increase respect for the garden and its produce. (McDougall, 2019)
- Have a festival around harvest time to increase participation. (Incredible Edible, 2019)
- Some creative harvest ideas are: people take food home to cook group meals, use for cooking classes, or donate to a food shelf (Weiland et al, 2016)
- Harvest often and coordinate where the produce will go to reduce the time it will sit out (Giving Gardens)

Educational Opportunities

- Incorporating educational opportunities can be a way to increase funding for the landscape (Emily Tepe Interview, 2019)
- Incorporate cooking lessons in order to increase interest and involvement in the garden. (Diem, 2019)
- People will be more likely to participate and invest in the landscape if they feel knowledgeable and competent (Weiland et al, 2016)
- Offer internships to students (promoters, social media assistants, garden implementers, graphic designers, cooking demonstrators) to educate the community and spread awareness of edible landscapes (Backyard Abundance, n.d.).
- Consider partnering with local organizations, such as the library, University Extension programs, local health programs, Master Gardeners, etc. to host educational sessions (Weiland et al, 2016)
- When giving lessons on how to properly care for the garden, have gardening tools available to try out and incorporate hands-on experience into the lessons. (Harvest Moon Edible Landscapes, 2014)
- Possible education topics: food security/justice, basic and advanced gardening skills, food preservation, cooking with garden produce, nutrient dense foods on a budget, native plant identification, planting berries/trees, etc. (Weiland et al, 2016)
- Fritz Haeg is an artist who, in 2005, began a years-long international project called “Edible Estates,” where he turned ordinary yards into edible landscapes. He partnered with the Walker Art Center here in the Twin Cities to bring awareness to his project (Palmer, 2013).
  - In the years since Haeg’s project, there has been a steady growth in the awareness of edible landscapes in the U.S. (Parker, 2019)

Increasing Participation

- Festivals, cooking classes, tours of the community gardens (Weiland et al, 2016)
• Partner with programs that target kids such as Head Start to teach kids about landscaping and nutrition (Sacramento Hunger Commission, n.d.)
• Choose a central location so people are there frequently and recognize the effort to care for the space as well as take part in it (Natalie Nation Interview, 2019).
• Incorporating benches or seating area can help facilitate the community space aspect of the garden (Natalie Nation Interview, 2019).
• Have a balance of activities for adults and kids. For example, having wine and cooking classes for adults and having educational harvest festivals for kids. (McDougall, 2019)
• Motto: “If you eat, you’re in.” Make sure everyone in the community knows that they can use food from the gardens. Create a warm and welcoming environment (McDougall, 2019)

Food Safety

• Resource: NC State Extension: Food Safety in Community Gardens
• Use single-use gloves for harvesting or have a proper hand-washing station on site
• Make sure to use a clean, treated water source (if you wouldn’t drink the water, don’t put it on the landscape!)
• If using a compost bin, keep it as far as possible from landscape on the downhill side. Don’t use raw manure in the compost and make sure compost is heated to 130 degrees F for five days prior to adding to landscape.
• Consider alternative pest-control methods to avoid applying pesticides.
• Wash gardening/harvesting tools often and between harvesting different plants
Below is a sample map for how a garden could be set up in a safe manner (North Carolina Extension Cooperative, n.d.):

![Map of a garden setup](image)

**Budgeting**

- Consider cost of maintenance before planting (not only maintaining the area, but also if certain plants need specific maintenance practices)
- Todmorden, England: the public gardens are funded on donations alone, including those collected through speakers and tours of the gardens. (McDougall, 2019). Below is a map of Todmorden showing the Incredible Edible tour. A similar tour could be set up in the individual cities within Scott County.
References


Emily Tepe Interview [Email interview]. (2019, March 25).


Natalie Nation Interview [Email interview]. (2019, March 28).


Scott County Edible Landscape
Sustainability of the Landscape

Soyeon Jung, Hannah Berg, Nabeela Khan, Vicky Lee
Introduction

Our objective for this project is to provide information on how Scott County can ensure the sustainability of an edible landscape. We explored who will maintain the landscape, whether that be staff, volunteers, or a hybrid model, and how Scott County will ensure that there is no food waste. As a workforce, a combination of grounds workers that are hired by the county or cities within the county and volunteers that are passionate about the edible landscape can work together to maintain the landscape, but a plan for who else can take care of the landscape is needed to minimize costs and enhance community participation. We determined that a hybrid of high school students, students in CFANs majors, volunteers, and paid employees could maintain the landscape, and extra food could go to food shelf organizations and a compost bin.

Maintaining the Landscape

We researched a number of Scott County High Schools that could be interested in interacting with the edible landscape as a number of high schools have relevant classes or clubs. Agricultural or environmental courses offered in high school act as a good starting point to get students involved through class projects. Working with classes can also create extra credit and volunteering hours for students that will motivate students to get involved. Offering work in the edible landscape can also provide a project for different classes if discussed with the teacher prior to the beginning of the school year. Student organizations are a good way to offer volunteer hours for students as many student organizations are volunteer-based, such as the National Honors Society, student government, and Junior Optimist. This is a good way to get consistent volunteers throughout the year. Here is a table showing which classes and clubs would be of interest in each high school in Scott County:

<table>
<thead>
<tr>
<th>High Schools:</th>
<th>Programs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belle Plaine Senior High</td>
<td>Horticulture - Plant Science Course, Landscape Design &amp; Construction Course, Environmental Science Course, Student Council Volunteering, NHS Volunteering</td>
</tr>
<tr>
<td>Prior Lake High School</td>
<td>Environmental Science Course, Junior Optimist Club Volunteering, BNHS Volunteering, NHS Volunteering, Student Council Volunteering</td>
</tr>
<tr>
<td>Burnsville High School (nearby, but not located in Scott County)</td>
<td>NHS Volunteering, Science Club Volunteering, Student Council Volunteering, Youth Service Program</td>
</tr>
<tr>
<td>Jordan High School</td>
<td>NHS, Student Council</td>
</tr>
</tbody>
</table>
We looked into various academic programs offered at the University of Minnesota to see which students might be most equipped to work with Scott County. Based on the ranges of majors offered, we found that mainly students in the College of Food, Agricultural, and Natural Resource Sciences (CFANS) would be a good fit for working with Scott County through either a class project or an internship. Many environmental courses, labs, and agricultural courses require students to do a semester-long project that involves real-life interaction with topics related to the course. This can be a good way to obtain assistance and possibly learn new ideas from students as students will have to do reports and discussions on the project throughout the semester in order to receive academic credit. College students could also work with Scott County over the summer in an internship position, which would be a great experience from them to add to their resume. Here is a list of applicable majors that could either be involved in class projects with Scott County or may be interested in an internship with Scott County: Agricultural Education, Agricultural Communication and Marketing, Agricultural and Food Business Management, Environmental Sciences, Policy and Management, Food Systems, Forest and Natural Resource Management, Nutrition, Plant Science, Sustainable Systems Management, Applied Plant Science, and Horticulture.

We also explored a hybrid model between CFANS college students and high school students from Scott County. This model would be targeted towards high school students enrolled in specifically an environmental club or environmental/agriculture courses as it will be informationally based on environmental sustainability and not just volunteer hours. A potential model is to have 1-2 CFANS students serve as mentor leaders to lead 2-3 high school students to complete a project. The projects could include a cabbage garden, strawberry garden, applying pesticides, rotational planting, etc. They could write reports outlining their work and a rationale. The mentors and students could meet bi-weekly and keep constant contact through email or group chat. The CFANS mentors can also come to the high school students’ environmental or agriculture class to present information. Scott County will benefit from this hybrid model for a few reasons: college students will bring in new ideas and projects that Scott County may not have thought of and be beneficial for the landscape and community. Through the creation of this mentorship program, it helps the schools and students in Scott County and could bring the community together. Overall, involving CFANS students and high school students could create a consistent committed volunteering program and mentorship program, and as a result, Scott County would obtain help with the garden without having to hire more workers.

A problem that could arise is during summer months when students are not in school and out of session. However, summer is actually the best time for students to get involved. College students are always looking for summer opportunities to build their resume or get academic
credit for their internships. If presentations are made before classes end for high school students then they will be aware of the opportunity as well and can sign up for something to do during the summer. High school students are always looking for opportunities to volunteer to add to college applications and for experience as well. The summer provides a good time to get involved because neither group has to fit in academics and studying.

**Ensuring No Food Goes to Waste**

There are a few ways that Scott County can ensure that no food goes to waste. Different charitable programs in Scott County can apply to receive a share of what is grown in the landscape, and the food that is being grown can be split up among those programs in designated amounts to ensure that all food items are purposed. Another way to reduce food waste is to have a compost location where the county’s residents can drop off food leftovers and repurpose them. This is a good idea for community members because it is very uncommon for people to have a designated compost pick-up, so usually, food leftovers are thrown away and end up in a landfill. Composting is an important idea because “reducing the amount of food that ends up in the garbage could extend the life of the landfill”. It may motivate people to come to the garden to compost, and while they are there, participate in the garden or take some food home. Donating food to charities is another good way to make sure that food does not go to waste. Scott County can make a short list of shelters near the garden where they can drop off food on short notice if they have food that is about to go bad. Here is a table showing a list of local food shelves and other food resources with which Scott County can connect.

<table>
<thead>
<tr>
<th>Scott County Food Shelves:</th>
<th>Other Food Resources:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belle Plaine Food Shelf</td>
<td>Fare For ALL</td>
</tr>
<tr>
<td>New Prague Peace Center Food Shelf</td>
<td>Second Harvest Heartland</td>
</tr>
<tr>
<td>Jordan Food Shelf</td>
<td>Loaves and Fishes (Soup kitchen)</td>
</tr>
<tr>
<td></td>
<td>Ruby’s Pantry</td>
</tr>
</tbody>
</table>
Providing food to local businesses could also provide an income stream to Scott County, but it depends on how much food is left after the public has harvested food, how much food will be donated to food shelves, how much food is grown throughout seasons, etc. This is something to be figured out practically once the edible landscape has been set up. A farmer’s market stand to sell food from the landscape is another possible way to introduce an income stream into the project.

Conclusion

To summarize and connect all the ideas for sustainability, firstly CFANS students could be contacted for a mentorship program. A way to contact these students would be going into classes to make presentations or contacting the appropriate CFANS major to send out a mass email offering internships and mentorship programs. Once this program is set, college students can start contacting the high schools in Scott County and offer to present to classes for a mentorship program or possibly connect with faculty in charge of the student groups. This way Scott County can get reliable students who are willing to commit to working consistently at the edible landscape. In doing this, these groups of students can start planning for the community compost bin, connecting with food shelves, and managing food donations. Scott County can benefit from this program because it provides people to work on projects to improve the garden without pay and can also bring the community together in work. Students often bring in innovative ideas, and working in the edible landscape can stimulate their interest in community work as well. A long-term goal of this project is that this edible landscape becomes sustainable through sustained volunteer workers.
Scott County Edible Landscape Budget

Staci Gallahue, Brad Yentzer
Overview

An editable budget tool was created for the county to use in their budgetary planning for the edible landscape. The tool can be accessed via: https://docs.google.com/spreadsheets/d/1J9J-DXwBK0zMrnUk-ZPOQeqN-JQYu5HuVZfrvAOeWeI/edit?usp=sharing
Scott County Edible Landscape
Plant Data

Michelle Bascom, Stephanie Druziako, Andy Monnens
Executive Summary

Plant Data can be found at: https://docs.google.com/spreadsheets/d/1tSVuEHk0C0yht-iK74NYQ07FxkNzuashXUPICAzgz8A/edit?ts=5c9a2e63#gid=1317449815

The purpose of our project with Scott County was to continue progress on researching a comprehensive list of edible plants. The list of edible plants was started as part of Kristine Mcintyre’s graduate project. As part of her culminating experience for a Masters of Public Health, Kristine worked on creating a comprehensive list of plants that grow in a 4a or 4b hardiness zone such as Scott County. The goal was to have a list that would be able to be used for Scott County’s edible landscape as well as any other region with the same hardiness zone. A secondary purpose was to serve as a learning opportunity for us. We got to see one of the many roles that public health can take on. We also were able to take in just how much work it takes to prepare for an edible landscape, let alone to get started on it.

The goals of this project were to research several plant characteristics to assess its feasibility to include in an edible landscape. This included filling out information in an excel file with detail regarding consumption for over 700 plants. We ended up adjusting this goal to add as much detail as we could to as many plants as we could. Our unofficial goal was to complete at least 30 plants per person.

We initially divided the 700+ plants by 4 so that each student had their fair share of plants. We originally had four students in our group. One person switched groups, leaving us with three people. Once we downsized, we had to rethink our goals. With only 3 group members, we would each have around 230 plants a person. This seemed like too many plants given our short timeline. We emailed Kristine to see how long each plant should take and after she said it would take a minimum of 10 minutes per plant, we realized there was not enough time for us to complete all of the plants. Instead we asked Kristine if there were certain plants she wanted us to focus on. She asked for plants high in iron to combat iron deficiency anemia found in Scott County. She went and highlighted plants in red that we should avoid due to their low edibility rating. We made a new personal goal to complete 30 plants each since that seemed more manageable and realistic.

We chose plants based upon the criteria mentioned above, isolated edible plants which provided a moderate to high percentage of the RDA for Iron, were zone 4a/b appropriate and non-toxic, and whether or not it would actually be consumed. We tried to use our best judgement when considering which plants to select for inclusion. We omitted most non-fruit trees and we tried to include a mixture of shrubs, bushes and plants which yielded edible fruits, tubers, flowers and seeds. We were able to accomplish our goal to research 90 plants and provide a few recommendations for plants which fit all of our criteria. We will be passing this on to the next group who will look at our recommendations and begin the next stage of the development plan.

It was interesting to glimpse how dietitians are playing an ever-increasing role in communities, from health assessments to providing input on plants for inclusion into edible landscapes. This was a unique and rewarding experience that, with any luck, will serve as an exemplary model for other communities looking to incorporate edible landscapes within their communities.

Although we were a little out of our element when asked whether or not to include said edibles, we used critical thinking to consider factors such as potential hazards, which part of the plant
was edible, and the ease of plant maintenance. Overall, we feel we helped contribute in a small way to the edible plant list for Scott County.