

## **Bringing Food Home:**

Blending Art and Urban Agriculture at Detroit's Heidelberg Project

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"We hope for better things; it shall rise from the ashes." Speramus meliora; resurget cineribus

Coined by Father Gabriel Richard in 1805, Detroit's city motto, "Speramus meliora; resurget cineribus," has both reflected and foretold the story of a city that has seen more than its share of hardship. The motto originally recalled the devastating 1805 fire that burned much of the city to the ground. Today, after more than 61% of its population has left and the city stands as a hollowed out shell of its former self, the motto couldn't be more relevant.

The 2010 census revealed that the dramatic exodus from Detroit after its industrial collapse was even greater than predicted: just over 713,000 residents remain in the city (U.S. Census Bureau 2010), down from nearly 2 million in 1950 (Gibson 1998). The leftover stretches of vacant land pose an enormous challenge to the residents and city officials who are forced to manage with what remains. While many in the city see this empty land as a stark reminder of the vibrant neighborhoods that were lost, an increasing number of Detroiters see a more productive, hopeful future: the potential for urban farming. With over 40 square miles of vacant land to work with (Gallagher 2008), urban farms are restoring many of the city's abandoned lots and parks to productivity and bringing Detroit residents new pride and fresh, healthy food.

Paralleling the growth of urban farms is an emerging movement of grassroots urban art projects. Experimental artists have been drawn to the city because of its plethora of cheap houses and "anything-goes" attitude. Many of these new projects are built upon the shoulders of a Detroit icon, the 25-year old Heidelberg Project. This two-block long environmental artscape was created by the artist Tyree Guyton in response to the urban blight that had begun to



3.1 Empty land in central Detroit

take over his neighborhood after the 1967 riots. Built on the vacant land of his community, Guyton used scavenged materials and his signature painted polka dots to engage visitors in a dialogue on pain and loss, as well as hope and renewal.

Until now, the rise of urban farms and public art in Detroit were largely independent. The research and design exploration described in this paper attempts to merge the two movements through the creation of an urban farm at the Heidelberg Project, one component of a new neighborhood revitalization vision called the Heidelberg Cultural Village. In keeping with Guyton's philosophy of using art as a catalyst for change, the proposed Heidelberg Urban Farm incorporates art and creative expression into every facet of its design, construction and visual character. This approach demonstrates the potential for art-based urban agriculture to increase neighborhood investment in the long-term evolution of the project and opens up possibilities of how urban farming could serve as a nexus for other forms of neighborhood redevelopment.



# A Brief History of Community Gardens

Coincidentally, the historic roots of community gardens in the United States can be traced back to the late 1800s in Detroit (Milburn and Vail 2010). Due to a standstill in manufacturing, an economic depression plunged many into poverty and unemployment all over the country. In the spring of 1894, Detroit mayor Hazen S. Pingree began a program he called "Relief by Work," better known as Pingree's Potato Patches. Recognizing the need for both work and food, Pingree organized a citywide effort to allow the poor and unemployed to cultivate some of the nearly 8,000 acres of land that was idle and unused in the city (Pingree 1895).

In the middle of June 1894, ads were placed in newspapers asking for money and seeds, as well as

land that could be cultivated. Land was offered at more than sufficient quantities, in parcels from a single lot to a hundred acres apiece. Land was plowed and staked off into parcels from 1/4 to 1/3 of an acre—large enough for a family to raise potatoes to last through the winter and enough vegetables for the summer (Pingree 1895). The majority of poor families who took advantage of the opportunity already knew how to farm, but those who didn't were given instruction. The first year, they harvested



3.2 Potato harvest in 1896

large crops of potatoes, squash, turnips, sweet corn, tomatoes, beans, and other vegetables. Despite the poor soils, late start to the gardens, and nine weeks of drought, Pingree Potato Patches were a great success. About \$14,000 of food, mostly from potatoes, was harvested at a cost to the city of only \$3,000<sup>1</sup> (Pingree 1895).

The following year saw even greater yields and higher participation; over 1500 plots covering 455 acres were under cultivation, nearly all within city limits. The money raised from these farms saved taxpayer

1 Equivalent to roughly \$350,000 of produce from a \$75,000 investment in 2011 dollars.

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3.3 WWII gardening poster

3.4 Victory gardeners with their bounty

dollars as no able-bodied person received aid from the Poor Commissioner without first cultivating land. The Poor Commissioner motto stated plainly: "He who will not work shall not eat" (Pingree 1895, 176). Pingree and his potato patches became a model of urban agriculture for other struggling cities, and similar plans were adopted with varying degrees of success in Omaha, Buffalo, Minneapolis/St. Paul, Boston, and New York City.

Since that time, Bassett (1981) describes the cyclical interest and disinterest of community gardens as "movements," responding to social or economic hardship, interest in nature, urban beautification, patriotism, or healthy food production. Wartime movements, like the Liberty Gardens in WWI and Victory Gardens during WWII, encouraged citizens on the home front to "hoe for liberty" and cultivate much-needed food in a time of severe shortages (Bassett 1981). The recruitment of "soldiers of the soil" prompted millions of Americans to grow food in their backyards, schools, and vacant lots, and changed the perception of gardening from an activity for the poor to a noble and patriotic effort. At the height of the Victory Garden movement in 1944, 20 million gardens produced 40% of the vegetables consumed in the US (Bassett 1981). However, when the war ended and prosperity returned, vacant land that was once given freely for gardening was taken back and saved for a more lucrative use.<sup>2</sup>

Present-day community gardening is rooted in the community garden movement and environmental activism of the 1960s and '70s. The driving force behind these gardens is largely the same as today's: economic necessity, urban disinvestment, and most notably, rising environmental concerns (Bassett 1981).

<sup>2</sup> According to Bassett (1981), the rise and fall of community garden movements is less a response to diminished interest in gardening, but rather the unavailability of vacant urban land.

The publication of Rachel Carson's *Silent Spring* in 1962 and the Clean Water Act in 1972 prompted an increase in environmental awareness and activism that, in some cases, lead to an interest in local, sustainable, and chemical-free food.

But it's not just these issues that sustain interest in community gardening. Numerous publications have praised community gardening for its ability to improve physical and mental health, increase access to healthy food and better nutrition, improve neighborhood safety, provide opportunities for community development, and build social capital (Wakefield et al. 2007). Social capital is a common goal for many neighborhood revitalization projects, because the term refers to building a social network that works together to effect mutual, positive change. Reischl, and Allen (2010) credit community and pride, and boosting morale amongst residents. Lovell (2010) cites multiple ecological and cultural functions of gardens, including the conservation of biodiversity, microclimate control, preservation of cultural heritage, and improved neighborhood aesthetics. Particularly relevant to Detroit, however, is the role community gardens can play in improving the local food system.

# Food in Detroit

Food is not hard to come by in Detroit; the average family would only have to travel a few blocks to purchase some type of food (Gallagher 2007). The issue lies in the type of food available. According to a 2007 report, over half a million Detroiters live in a food desert—areas that have an imbalance of food options. This means that the nearest grocery store is at least twice as far away as the nearest fringe retailer like fast food restaurants, convenience stores, or liquor shops, where fresh and healthy options are extremely limited. As a result, residents living in food deserts are statistically more likely to suffer or die prematurely from a diet-related disease (Gallagher 2007).

Urban agriculture can be part of the solution to increase food security and improve community health (Bellows, Brown, and Smit 2003). The availability of fresh produce in a food desert is the most obvious benefit of urban agriculture (Whelan et al. 2002), putting consumers in close proximity to the production of food. By engaging in agriculture, participants learn about food production and become more



3.5 Access to fresh, healthy food is limited in Detroit

aware of the overall food system (Lyson and Raymer 2000), which could then lead to healthier food choices. The act of gardening itself is also associated with "satisfying labor, physical and mental relaxation, socializing, and a means to produce food and beauty" (Bellows, Brown, and Smit 2003, 6).

Detroit is uniquely positioned to be a pioneer in urban agriculture due to its incredible amount of vacant land (Mallach et al. 2008). Figure 3.6 shows the sheer size of Detroit's city boundaries. San Francisco, Boston, and Manhattan can all easily fit within Detroit's 139 square miles with room to spare. At the time of the first publication of this figure in the Detroit Free Press in 2008, more than 30% of the city, or 40 square miles, were vacant-roughly the footprint of San Francisco. Since 2008, another 220,000 people have left the city. According to the 2010 census, Detroit's current population sits just above 713,000 people (U.S. Census Bureau 2010). For a city that was built to support nearly 2 million in 1950 (Gibson 1998), its area and infrastructure are vastly out of scale for the 39% of the population that remains today.

#### Comparing Detroit to three other major cities



3.6 Detroit's oversized city footprint



3.7 Ribbon farm plots along the Detroit River, 1749 (Dunnigan 2001)

#### Unprecedented white flight to the

suburbs in the 1950s coupled with the collapse of the auto industry and Detroit's manufacturing economy can be blamed for much of the population decline (Fine 1989). But before the rise and fall

of Detroit's industrial legacy, the city was home to fertile ribbon farms that lined the Detroit River (Dunnigan 2001). Recently, many have been taking steps back in that direction. Urban farms and a network of garden support organizations are cropping up all over Detroit, returning fresh food and a new hope to a city that could use a little of both.

The Garden Resource Program is a collaboration of some of the largest urban farming organizations in the area: Greening of Detroit, Detroit Agriculture Network, EarthWorks Urban Farm, and the Michigan State University Agricultural Extension. Since 2003, this collective has provided resources, education, and support to hundreds of home, school, and community gardens in the city. In 2009, over 263 community gardens, 55 schools, and 557 families received seeds and locally grown transplants from the organization, together producing over 163 tons of food. In addition to material support, the Garden Resource Program offers over 50 educational workshops a year, a nine-month Urban Roots Community Gardening Training Program, and an urban beekeeping program (GRP 2011).



3.8 Malik Yakini at D-Town Farm

D-Town Farm is one of the largest urban farms in Detroit, and is run by the Detroit Black Community Food Security Network (DBCFSN). According to its founder, Malik Yakini, this four-acre organic farm is a "community selfdetermination project" (Yakini 2010). DBCFSN seeks to address Detroit's food insecurity on four levels: through citywide food policy, a food-buying coop, youth education, and the establishment of the urban farm (White 2010). Like many urban farms in Detroit, secure land tenure was a serious

problem for D-Town Farm. Before settling into their current location in Rouge Park, they were forced to move twice. In June of 2008, after two years of meetings and negotiations with the city, DBCFSN signed a license that gave them use of the land for 10 years (DBCFSN 2011). Today, D-Town Farm demonstrates how a community-run organic garden can put unused land to productive use and can serve as a source of income for farmers (Yakini 2011). Produce from D-Town farm is currently being sold onsite at Rouge Park and at Eastern Market, Detroit's oldest and largest public market.

The Catherine Ferguson Academy (CFA), a high school for pregnant and parenting teens, has two acres of farm west of downtown. Under the direction of science teacher Paul Weertz, students at CFA care for goats, chickens, ducks, a horse, beehives, an orchard, and vegetable gardens (DPSb). For over fifteen years, Weertz has used his agriscience class to connect urban students to nature and food. He and other CFA faculty developed the farming curriculum to meet three main objectives: teach proper nutrition and parenting skills, give inner city students first-hand farm experience, and increase understanding of

rural America and where food comes from (Burgmaier 2004). Because of this farm, all CFA students have access to the fresh produce that is often too scarce or too costly for teens in Detroit. This is particularly important because 80% of the student body at CFA qualifies for free or reduced school meals (DPS*a*). While the farm has played its role in launching CFA into the media spotlight, most notably through the 2009 documentary Grown in Detroit, the school is faced with an uncertain future. Robert Bobb, the Detroit Public Schools' Emergency Financial Manager has slated CFA for closure during the summer of 2011, despite strong public outcry.



3.9 Catherine Ferguson Academy



3.10 John Hantz at his home garden

A completely different approach to urban farming in Detroit is Hantz Farms. This Detroit-based for-profit company wants to take urban farming to a citywide scale and is trying to buy up thousands of acres of vacant land to create the world's largest urban farm (Hantz Farms Detroit 2011). However, two years after John Hantz originally announced his plans, there is still little to show of the farm. This controversial project has been slowed down by two major barriers:

Michigan's Right to Farm Act and the uncertainty surrounding Mayor Dave Bing's Detroit Works Project (Berman 2011). The Right to Farm Act was originally enacted in 1981 to shield rural farmers from nuisance lawsuits coming from residents surrounding existing farms. Allowing commercial farming within the city therefore removes the rights of residents to complain about the sights, smells, and noises coming from these agricultural activities. In addition to this state act, Detroit is currently not zoned for agriculture —so far, urban farms in the city are operating "under the radar" of current policies (City of Detroit Planning Commission 2010). The other obstacle, the Detroit Works Project, is an essentially "right-sizing" initiative that seeks to restructure city infrastructure to better serve its reduced population. Mayor Bing is hesitant to sell large areas of land to Hantz Farms before the Detroit Works plans are finalized (Berman 2011).

In addition to these larger projects, numerous single-family and neighborhood farms exist throughout the city, from single lots to entire blocks. However, the unique context of the Heidelberg Project provides opportunities to create an urban farm distinct from any others in the city.



## The Heidelberg Project + Cultural Village

The Heidelberg Project sits within the McDougall-Hunt neighborhood on the lower east side of Detroit, one of the oldest African-American neighborhoods in the city. While once a thriving community of entrepreneurs, musicians, and autoworkers, the neighborhood suffered during the race riots of 1943 and again in the social uprising of 1967, events which many feel the city never recovered from (Shibley et al. 2005). Residents who had the financial resources left the neighborhood in droves—taking their businesses and jobs to the suburbs and leaving behind a fragmented and disenfranchised population (Shibley et al. 2005).

Tyree Guyton, who grew up on Heidelberg Street, witnessed the rapid decline of his neighborhood. Faced with the increasing blight and abandonment, Guyton responded with art. In 1986, Guyton assembled the scavenged remains of his neighborhood onto vacant houses, turning dangerous abandoned buildings into sculptures. In Guyton's mind, he was taking what was discarded by society and turning it into something beautiful (Shibley et al. 2005). Throughout the project's controversial history—some see junk where others see art—the installations have been torn down and rebuilt on two separate occasions in the 1990s.

Through his work, Guyton provokes thought, promotes



3.12 Guyton and the Heidelberg Project

discussion, and inspires action to heal broken communities. Now in its 25th year, the internationally renowned Heidelberg Project is the third most visited cultural attraction in Detroit and receives over 275,000 visitors annually. The Heidelberg Project is also a 501(c)(3) non-profit organization that seeks to "improve the lives of people and neighborhoods through art" via community development, arts education, and youth organizing (Heidelberg Project 2011).

The Cultural Village expands the scope of the Heidelberg Project, weaving Guyton's art and message into a long-term vision for neighborhood redevelopment. Since the spring of 2010, five University of Michigan Master of Landscape Architecture students under the direction of Lead Project Designer, Professor Beth Diamond, have been researching and designing the first iterations of this vision. In addition to the urban farm, site plans for the Cultural Village include a healing garden, a sculpture park, and a community arts center—The House That Makes Sense—that will serve as the anchor for a new commercial corridor.

The Heidelberg Project is an ideal location for an urban farm due in part to its proximity to Detroit's



3.13 Elements of the proposed Heidelberg Cultural Village





3.14 Heidelberg Urban Farm context

3.15 Existing planters at Heidelberg

Eastern Market. Eastern Market is a six-block public market that has been feeding Detroit since 1891 and draws upwards of 40,000 people each Saturday (Detroit Eastern Market 2011). For the first time last summer, Eastern Market set up a produce stand on Heidelberg Street that started the conversation among residents and visitors about access to fresh, local food. Now, Eastern Market has identified Heidelberg as a potential site for expansion as they look to increase their market gardens around the city.

Creating a farm at the Heidelberg Project can also build upon the seed of garden interest already evident on site. The brightly painted sides of a few wooden planters tuck in beside Guyton's art installations along Elba Place. Just across Ellery Street is "Farmer John," a neighborhood resident whose 1/8-acre garden overflows with vegetables and cotton each summer (Heidelberg Project n.d.). Building off these existing gardens, and using the energy and momentum of the Heidelberg Project, plans for the Heidelberg Urban Farm seek to combine art and farming into a space where residents are empowered to cultivate food, create art, and nourish their community.

## Public Art + Food in Practice

Art has the ability to change the way people look at reality (Matilsky 1992), making art a powerful force in urban revitalization and the transformation of cities. However, the role of public art is undergoing a transformation of its own, moving from traditional civic monuments towards a more "socially inclusive and aesthetically diverse practice" (Sharp, Pollock, and Paddison 2005, 1014). According to Americans for the Arts, community art programs have proved to be a potent force in neighborhood development by building social capital, actively engaging diverse groups of residents, and physically transforming public spaces to encourage civic dialogue (AFA 2007). By drawing upon the skills and imaginations of residents, community art reflects the uniqueness of the neighborhood where it was conceived. Together, the creativity of individuals can be transformed into a greater public good while building social capital and working towards the attainment of important community goals (Guetzkow 2002).

Inclusive art projects emphasize the process, not the product. Including others in the process of creating art allows participants to find their voice, validate their own history and traditions, and establish identity (Bischoff 2009). Participation also fosters a sense of ownership and pride, and can improve physical and psychological well-being (Guetzkow 2002).

The individual and neighborhood benefits of community art projects very much parallel those benefits that result from community gardening, however, not much formal research has been done looking at how the two intersect. Mostly art makes its way into the garden through painted fences, statues, or recycled planters. Some gardens elicit contributions from local artists to create intricate gates, sculptures, arbors, or murals. All of these additions to the garden help establish a garden's identity and sense of place (Walter 2003).



3.16 Inclusive public art can reflect the community

For the Heidelberg Urban Farm, art is incorporated as an organizing element of the garden, not simply as an addition to the space. This is a concept with precedents in the contemporary landscape: Public Farm 1 and the Curtis '50 Cent' Jackson Community Garden, both in Queens, New York.

#### Public Farm 1

In the summer of 2008, New York-based Work Architecture Company took art and agriculture to new heights by creating a 30-foot tall temporary working farm at the Contemporary Art Center in Queens. The towering structure was made out of cardboard tubing and featured more than 50 varieties of fruits and vegetables (Andraos and Wood 2010). Marcel Van Ooyen, Executive Director of The Council on the Environment of New York City and consultant to Public Farm 1, said of the project, "People think farming is farming, architecture is architecture, and art is art, but this project blurred the lines between those things in ways that were really accessible" (Andraos and Wood 2010, 156). Through this project,



3.17 Public Farm 1 merged art and farming in Queens, NY

3.18 Visitors enjoy PF1

New Yorkers were introduced to a very innovative type of urban farming, and a very productive form of architecture.

Designing a way to introduce art and food together in an attractive and interactive way was key. Elodie Blanchard, the fabric consultant for the project, said Public Farm 1 "was a truly beautiful structure... If you lost the design of it, then people wouldn't get as interested, and then it wouldn't have been as good" (Andraos and Wood 2010, 163). The unique design of this farm is what made people flock to visit it by the thousands. Fritz Haeg, author of *Edible Estates*, noted that Public Farm 1 was not a solution to a problem or a literal vision of a possible future, but rather "handmade piece of pragmatic poetry" (Haeg 2010, 11). It was different enough to attract attention, beautiful enough to get people excited, and interesting enough to challenge the way people thought about farming in the city.

Despite being an intriguing look at how art and farming can meet, Public Farm 1 was never meant to be a permanent fixture; by the end of the summer the project was completely dismantled and recycled.

#### Curtis '50 Cent' Jackson Community Garden

A more recent and more permanent look at how art can be incorporated into community gardens can be found at the Curtis '50 Cent' Jackson Community Garden (CJCG) in Queens, New York. This 10,000 square-foot garden was designed by Walter Hood and built through the collaboration of Bette Midler's New York Restoration Project and rapper 50 Cent's G-Unity Foundation. Midler and her foundation have been revitalizing neglected neighborhood parks around New York since 1995; recently, according to



3.19 Rapper 50 Cent and the New York Restoration Project collaborated to create a unique community garden

the New York Times, she has been "courting imaginative designers to enlarge the scope of community gardens" (Raver 2008). Midler, understanding that community gardens should be much more than simply a place to grow food, said that "everyone who has a stake in the garden is able to use it the way they want to: some want to grow fruits and vegetables, others want a quiet place, some want to play ball. So all these things have to be taken into consideration" (Raver 2008).

Hood insisted that public spaces should reflect the culture of the community, saying "artists who are involved in making these places are responsible for elevating communities and their environments to a level of artistic beauty that really connects people to the world around them" (G-Unity Foundation 2011). At CJCG, art is indistinguishable from functional garden features—six ten-foot-tall blue rainwater collectors funnel water from overhead structures into a 1,500-gallon underground cistern, eliminating the need for gardeners to hook up hoses to a fire hydrant across the street. For the raised wooden planter boxes, Hood used simple geometric forms and planted them with a combination of colorful ornamentals, neat boxwood edges, and edibles.

CJCG successfully demonstrates that growing vegetables "doesn't mean you have to be in this hard agricultural space" (Hood in Raver 2008). By creating a multi-use garden that responds to the needs of the community, this garden is an inspirational example of how art and farming can create a beautiful and functional community asset.



# Programmatic and Design Goals

The design for the Heidelberg Urban Farm builds off the precedents of successful community art projects and community gardens to create a space with several goals:

- 1. Increase access to fresh, healthy food and connect people to their food source
- 2. Provide opportunities for diverse contributions from the community
- 3. Put vacant lots to productive use in a way that reflects the aesthetic and philosophy of the Heidelberg Project
- 4. Serve as a new model for urban agriculture in Detroit that challenges the way people think about farming in the city



3.20 Elba-Ellery Park today

# Current Site Conditions

The site for the 1.88-acre farm is situated in four segments along Elba, a one-block-long street with extremely high vacancy. At the southwest corner of the site is Elba-Ellery Park, a narrow grassy lot that contains several raised planting beds and some of Guyton's

Heidelberg Project installations. There is also a small playground with swings and a jungle gym adjacent to the block's one remaining resident. Across the street are five empty residential lots and one of Guyton's painted houses. This edge of the urban farm will adjoin a new sculpture garden being designed as part of the larger Cultural Village.

Northeast of the occupied home are ten more lots, all currently empty and minimally maintained. The site also borders Mt. Elliott, where it abuts an existing dry cleaner. The final segment of the farm, currently an open stretch of lawn adjacent to a small church, stretches across Mt. Elliott. Directly south of the farm site is the future commercial corridor, also part of the planned Heidelberg Cultural Village. In total, this farm will cover nearly two acres and replace an underused park and 25 empty parcels of land.

No soil testing has been done at this time, but property that once contained buildings with lead paint are at a high risk for soil contamination (Murphy 2009). Because Elba-Ellery Park is too narrow to be zoned for housing, it is unlikely that structures were ever put on this land; therefore, soil contamination is likely less of a problem here than elsewhere on the site. Before any planting begins, soil must be tested and remediated as necessary.

## **Design Explanation**

Because the project site is long and narrow, the design will be discussed in three segments starting from the southwest on Elba Place and moving northeast (Fig. 3.21).



3.21 Design for the Heidelberg Urban Farm



3.22 Zoomed in planview of the children + demonstration garden

#### Zone 1: Children's Garden and Demonstration Garden

The west portion of the site contains the Heidelberg Urban Farm's berry patch, children's garden, demonstration area, and goat playground.

Radiating beds of soft fruits and berry bushes, such as strawberries and raspberries, surround an existing, mature tree **1**. Crops here can be planted directly into the ground, since there is a lower risk of soil contamination in the undeveloped park space. A fruit tree-lined path leads visitors to a two-story lookout tower **2** that affords views over the long strips of annual grains and corn **3**. The first floor of the structure can be used for storage. Moving under the row of planted arbors brings people into the central area of the children's garden.

Providing children with their own, hands-on garden space encourages them to make good food choices from an early age, and also fosters an environment for experimental learning, a love of the outdoors, stimulating social interaction, and cultural exchange (National Gardening Association 2011). In the middle of the children's garden is a small glass greenhouse <sup>4</sup> that showcases colorful fruits and vegetables year-round. A series of small, outdoor activity areas spread out from this point, all framed by low raised beds constructed out of a variety of different recycled materials. A metal canopy along the herb garden edge <sup>5</sup> provides some shade for the outdoor classroom space, large enough to seat 35-40



3.23 Perspective looking into the children's garden

people. Beyond that, the keyhole garden <sup>(4)</sup> demonstrates how planting space can be maximized by reducing path area (Hemenway 2009). A small builders garden <sup>(7)</sup> tucks into the very back of the site, where children have the opportunity to build and destroy the creations they make out of sticks, bark, pinecones, and other natural materials. A small hillock for active play borders the building garden. The last area in the children's garden builds off the work of Heidelberg resident artist Tim Burke. The central focus of this space is a sculptural tree <sup>(3)</sup> that holds up baskets overflowing with potted strawberries, flowers, and upside down tomatoes. Similar to Burke's guardrail flower sculpture that is currently on exhibit at his outdoor Heidelberg Street studio, this metal tree could be created out of recycled materials and be a playful example of where food can grow.

A 2,000-square foot goat playground ? and demonstration garden sit across the street from the children's area. Detroit municipal code currently forbids keeping goats in the city (City of Detroit 2011); however, the Catherine Ferguson Academy has already set the precedent for keeping goats and other farm animals in town. Cob walls frame the goat area on two sides and shape the sculpture garden space directly to the east. Metal fencing forms the third, arcing edge of the pen and will allow visitors to see into the goat exercise yard. The farm could start with two female Nigerian Dwarf Dairy Goats, known for their high milk yield and quiet disposition. Each animal needs 16 square feet of shelter and 250 square



3.24 Guyton's clock house as it is today

3.26 PVC pipe planting wall

feet of exercise space (Lost City Goats 2011), meaning the goat population could expand to eight animals as the farm grows.

The demonstration garden 0 sits to the west, showing that vegetables grow essentially wherever you let them—in traditional raised planters, stone herb spirals, and even up and over one of Guyton's painted houses. The garden contains a covered gathering area and storage shed 0, with a path leading to Guyton's clock house. Playing off of Guyton's theme, raised planters are segmented into wedges like the hours on a clock 0. As the hour segments move from the ground to the side of the house, PVC piping and old gutters allow these lines to extend along the face of the building and over the roof. On the far side of the house, the line of vegetation zigzags back to the ground in a planted PVC pipe wall 3.

The clock house is currently vacant; as the farm builds up around it, the house can either stay unoccupied or be renovated to accommodate a farmer-in-residence on the site. Finally, garden scraps and goat waste can be composted in bins directly behind the building <sup>12</sup>.



3.27 Zoomed in planview of the central gardens and greenhouses



3.28 Detroit's 1807 Woodward Plan (Dunnigan 2001)



3.29 Recycling concrete for planter beds

#### Zone 2: Central Gardens and Greenhouses

Due to its visibility along Mt. Elliott Street and its proximity to the future commercial corridor, the central gardens and greenhouses are the Heidelberg Urban Farm's most public face. The design for this area plays off of the hub-and-spoke street layout of Detroit's 1807 Woodward Plan (Dunnigan 2001). Raised planter beds ①, created from recycled concrete, scavenged sheet metal or painted wood, radiate out from vertical farm kiosks ②. These kiosks showcase vertical farming techniques, collect solar energy on their roofs, and channel rainwater overhead into a central water cistern and circular greenhouse. The interior kiosk space can also be used for tools and storage.

The central feature of this area is a large circular greenhouse 3, which can showcase hydroponic farming or simply serve as a passive solar greenhouse and educational space. In addition to the circular structure, five more passive solar greenhouses 4 would provide 3,000-square feet of space to extend the growing season and provide indoor storage. A solar shade canopy attached to one greenhouse would be an



3.30 Looking towards the central greenhouse

ideal place for volunteers or trainees to get out of the sun over lunch or before a training workshop.

Moving west from the radiating beds, a gazebo shelter and three wide grassy steps <sup>5</sup> provide more resting space. Round stock tanks offer a different type of raised planting bed. Nearby, a flexible open space <sup>6</sup> allows planting or installations to change yearly, depending on the visiting farmer/artist-in-residence.

A large swath of grains and corn **?**, orientated for maximum solar exposure, creates a sense of movement in the wind. If soil contamination is a problem here, planting sunflowers or other known phytoremediating species could help remove contaminants from the soil. Phytoremediation would be a low-cost and easily implemented intervention for cleaning up large areas of soil; however, it may take several years to ensure



3.31 Stock tank planters



3.32 Inoculated mushroom logs

soil is clean enough for agricultural activity (Turner 2009).

Finally, in the shadiest corner of the garden is the mushroom and chestnut farm. According to the Michigan State University Extension, chestnuts are Michigan's most commercially viable nut (MSUE n.d.). The foliage from these nut trees <sup>(3)</sup> can help to shade oak logs <sup>(9)</sup> that are inoculated with shiitake and oyster mushroom spawn. Growing mushrooms is a relatively low-cost endeavor that requires a lot of labor. However many Michigan shiitake growers are rewarded with high demand and high retail prices for fresh mushrooms (Kidd 1998). The adjacent building can be used as a workspace and storage area for both operations.





3.33 Zoomed in planview of the community orchard and kitchen

#### Zone 3: Community orchard and kitchen

The final portion of the farm contains the community orchard, kitchen and patio, and honey house. Painted hubcaps created by local schoolchildren lead visitors through the fruit orchard 1 towards the covered, outdoor dining area 2, where youth learning about preparing fresh food serve up delicious meals for the community. An apiary alongside a new kitchen 3 brings honey production to the farm, and the structure adjacent to the kitchen will accommodate the processing of honey for sale 4. Cut flowers 5 will be grown in a garden next to the honey house to be sold at the market just east the farm



3.34 Entrance to the community orchard and gathering space

site in the commercial corridor. The form of this flower garden, along with the spiral of grasses and lawn 6, fits into the adjacent design of the market and plaza space.

# Planting at the Farm

Although the design described above suggests some of the more permanent elements of the Heidelberg Urban Farm, most of the garden is intended to be planned and planted anew by the community each year. The raised bed layout provides an empty framework for gardeners to decide which fruits and vegetables will be grown every season, allowing an ever-changing palette of plants to reflect the culture, creativity, and aesthetics of the community and provide ongoing opportunities for participants to shape the space (Saldivar-Tanaka and Krasny 2004). Suggested fruits and vegetables that are appropriate for Michigan's climate are listed in Appendix A.

# Physical Design Analysis

A paper by Milburn and Vail (2010) identifies four factors that can contribute to functional community garden design: site selection, accessibility, garden spaces, and site elements. The design of the Heidelberg Urban Farm addresses all of these factors.

#### Site Selection

The site for the Heidelberg Urban Farm is in an already vacant area that will not require the removal of

any structures, which is ideal. It is also a sunny location with plenty of light throughout the day. While the site contains several large canopy trees, most of these can be preserved; in fact, several of these trees have been specifically worked into the design of the farm.

Locating the garden within walking distance of the primary gardeners is also important; Milburn and Vail (2010) note that most participants should be located within a quarter to half mile from the site. The garden's proximity to the Heidelberg Project ensures that it sees plenty of foot traffic.

Published literature suggests that the long, linear shape of the garden is less than ideal; Mathers (2007) writes that a compact square or circle shape is the best way for gardeners to share central resources and maximize community interaction. However, the lengthy street frontage of the Heidelberg Urban Farm may prove to be an asset by providing easy vehicular access for moving soil, plants, and equipment across the site. In order for gardeners to have easy access to storage and equipment, these resources are available in multiple locations across the Heidelberg Urban Farm. Gathering spaces for community interaction also occur throughout the site.

Access to water is another crucial factor in successful community gardens (Milburn and Vail 2010). In the Central Garden area, the cistern beneath the circular greenhouse can be the primary source of water. While costly, other sources of water will likely need to be installed to ensure that no part of the garden is beyond 50' of a water source. The water meter from Guyton's clock house could be a water source for the display garden, and the fire hydrant at the children's garden could be a temporary source until a water meter can be installed. The orchard may be able to use the water hookup at the existing house adjacent to the site to the east until the new kitchen and honey house are constructed.

Land tenure, currently one of the biggest challenges for community gardens in Detroit, will not be a problem for the Heidelberg farm. The Heidelberg Project already owns or is in the process of acquiring all the vacant lots within the proposed site boundaries of the farm and will have permanent control over them.

#### Accessibility

To ensure that the garden is a welcoming place for everyone in the community, it needs to be accessible to people with a range of abilities and ages (Payne and Fryman 2001). This includes ensuring that there are areas for people to sit or lean, canopy for shade, stable surfaces, barrier-free access to planting areas, appropriately sized pathways, and planting areas that accommodate height and reach limitations (Friends of Troy Gardens n.d.). The layout and materiality of the farm design accommodates these concerns by allowing for raised beds to double as 18"-tall seat walls. There are also gazebos, indoor shelters, structural

canopies, and tree cover that can provide shade on a hot day. All central pathways through the garden are 5' or wider, while smaller paths through garden beds are 36", wide enough to accommodate a wheelchair (U.S. Department of Justice 2010). These paths can be made of an ADA-accessible material such as compacted gravel. Finally, the variety of heights, shapes and widths of the planting beds ensure that there are plenty of options for those gardeners with limited reach—all radiating raised planting beds in the Central Garden are only five feet across and allow for access on both sides.

#### Garden Spaces

The garden is a great place for people to meet and interact, and designing spaces to facilitate this interaction can make the garden a valuable asset to the community (Milburn and Vail 2010). The Heidelberg Urban Farm provides a variety of gathering spaces in each section of the garden, ranging from shade canopies to gazebos to public greenhouse areas. In addition to the largest gathering space in the community orchard, there is also a stretch of lawn in the children's garden and in the Central Garden that could be used for classes, parties, or other events.

The importance of gathering spaces in a garden cannot be undervalued, as they create a sense of place, build identity, and increase social capital among gardeners (Payne and Fryman 2001). These are spaces for daily socializing, special events, and cultural celebrations—activities that, in turn, strengthen the fabric of the neighborhood. In a study of Latino gardens in New York City, garden participants preferred spending time



3.35 Making seed bombs at the Georgia Street Community Garden

in the community garden over a nearby park; the garden is the environment they helped shape, and the structures there were ones they had a hand in building (Saldivar-Tanaka and Krasny 2004). The New York City gardens included in the study were home to Christmas celebrations, dance performances, outdoor theater, and musical events. Other activities, such as voter registration and health fairs, were also held in these gardens (Saldivar-Tanaka and Krasny 2004). Gathering spaces have been included in the design of the Heidelberg Urban Farm without presupposition of what the garden participants will want them for, and the form of these spaces may develop over time.



3.36 Gardeners shape their own space in the community

#### Site Elements

Milburn and Vail (2010) cite that the most important and common site features of a community garden are tool sheds, signs and information, fencing, and public art. At the Heidelberg Urban Farm, storage for tools and other equipment is accommodated in several different areas across the site—because of the farm's linear form, multiple locations for these resources have been provided. While signs and fencing were

not addressed in the layout of this farm, it is important to consider how their aesthetic and location can both provide information to passersby and encourage interest. While fencing can maximize safety and minimize vandalism, the Heidelberg Urban Farm has been designed with the intention that there will be no exterior fence between the sidewalk and the garden. The decision to keep the farm area open and accessible reflects the same openness of the art installations at the Heidelberg Project. Guyton has been working in the community for 25 years and it is hoped that the same respect for his outdoor artwork will translate to the farm as well. Fencing off the farm, which was designed to draw people into the site and encourage visitors to engage with the space, sends a message directly in opposition to Guyton's foundational philosophy. Further, because the garden is part of the larger Heidelberg Cultural Village, there will be plenty of visitors and many eyes available for surveillance, which can help improve the safety and maintenance of the garden.

Milburn and Vail (2010) discuss art as an added feature to the garden that can allow gardeners to shape their space. In the case of the Heidelberg Urban Farm, art is prevalent throughout the space and is reflected in all parts of its visual character. Rather than just allowing for certain areas to be decorated with sculpture or murals, the garden beds themselves can be works of art created from the discarded remains of the neighborhood.



3.37 Murals are a traditional way art is incorporated into gardens

## Programmatic Analysis

The Heidelberg Urban Farm was designed to provide the framework that would empower people to grow food and create art in a way that would build social capital and community pride. Specifically, the four overarching goals mentioned previously and repeated here were considered during the programmatic design of this space:

- 1. Increase access to fresh, healthy food and connect people to their food source
- 2. Provide opportunities for diverse contributions from the community
- 3. Put vacant lots to productive use in a way that reflects the aesthetic and philosophy of the Heidelberg Project
- 4. Serve as a new model for urban agriculture in Detroit that challenges the way people think about farming in the city

This section will examine how these goals are met through the design of the Heidelberg Urban Farm.

#### Increase access to fresh, healthy food and connect people to their food source

The Heidelberg Urban Farm provides nearly two acres of space to grow food and participate in the farm's planting, cultivation, harvest, and consumption of fresh produce. A study conducted in Flint, Michigan found that adults who participated in community gardening consumed 1.4 more fruits and vegetables per day than those who did not participate (Alaimo et al. 2008). The authors also found that community gardens offer a potential source of nutrition intervention because they address a barrier that some urban residents face when trying to eat a healthy diet: limited availability to fresh produce (Alaimo et al. 2008). Quite simply, growing food at the Heidelberg Urban Farm will increase the access to and availability of fresh, local produce.

However, a 2010 study found that simply increasing access to healthy and nutritious food does not necessarily increase consumption, particularly for low-income households (Walker, Keane, and Burke 2010). What needs to come hand-in-hand with food access is food literacy, or the knowledge to make informed decisions about food choices (Foresight 2011). Darrin Nordahl describes in his book, *Public Produce:* 

...to be able to see, and eventually recognize, food in all stages of plant development, all around us, is akin to immersion education for a foreign language. Our new language of public produce could become both the medium and the object of instruction in a nation where few have ever had an opportunity to see produce in its native habitat, much less pluck it from the vine. Food does not have to be eaten to have value. Just being able to see the bounty and diversity of edibles in our environments can be educational and may prompt diversity in our diet, while making us more food fluent. (2009, 117).

The visibility and potential for education and interaction at the farm could be instrumental in increasing food literacy by connecting people to their food source, thereby helping people make more informed food choices. The very presence of the farm has value, but having opportunities for interaction increases that value even more. Educational and community events held in the garden can increase understanding and acceptance of food grown at the farm. The Heidelberg Project has a wide network of volunteers, and the farm could be the site of volunteer meetings, harvest festivals, and yearly celebrations. The biennial Dancing on the Streets Festival held at the Heidelberg Project could also be an opportunity to introduce people to the farm and increase interest in the food and activities happening there.



3.38 Painting planters at the Heidelberg

# Provide opportunities for diverse contributions from the community

The purposeful combination of art and farming is a powerful one that can activate more members of the neighborhood than either element alone. Elders can to teach novice gardeners how to farm, since many of Detroit's residents have roots in the agrarian south (Owens 2008). Since 1992, youth have been learning to farm from experienced residents with the Gardening Angels through the Detroit Summer program, a multicultural and intergenerational organization that fosters the "youth-led movement to rebuild, redefine, and re-spirit Detroit from the ground up" (Detroit Summer 2006). Pairing young and old community members together creates a partnership that trains future community leaders and builds transgenerational relationships and ensures all age groups are

invested in the quality of life within the neighborhood (Rhea 2004). Those participants without green thumbs who grew up around Guyton and his painted polka dots may feel more compelled to contribute to the garden artistically. Creating one space that provides opportunities for both farming and art could provide the most benefits to the widest range of people.

Because many fruit and vegetable plants are annuals, there will be significant opportunities for people to contribute to the garden every year. By participating in the planting, people can shape the physical look of the garden. They can also help decide the types of food they would like to grow and eat, making the garden a true reflection of the community that builds and tends it.

The growth and ultimate size of the farm will depend on community interest and participation levels. Therefore, the farm can start out small, serving as an outlet for existing organizations like the Greening of Detroit and Earthworks Urban Farm. As interest grows, so too can the farm. Paralleling the Heidelberg Project's visiting artist program, a visiting farmer in residence could live on the site. Because the Heidelberg Project is already an established non-profit institution with considerable neighborhood connections and resources, their large group of volunteers, active youth organization, and educational programming could all be integral to the farm's success.

*Put vacant lots to productive use in a way that reflects the aesthetic and philosophy of the Heidelberg Project* The 700,000-plus residents who remain in Detroit must deal with the abandonment and blight of their city on a daily basis; putting the vacant land surrounding the Heidelberg Project to active and productive use could dramatically improve the way residents value their community. In a study by Armstrong (2000), having a community garden nearby improved the attitude of residents towards their neighborhood in 51% of the gardens. Transforming vacant land into a verdant garden makes a strong statement about the productivity that can bloom from the emptiness left behind in the city, and the integration of recycled and repurposed materials reflects the artwork of Guyton himself.

While the Heidelberg Urban Farm reflects the unique character and creativity of the Heidelberg Project, Walter (2003) found that successful community gardens are less about grand design and more about facilitating a dialogue where the community identifies, prioritizes, and visualizes its own space. The question is: what happens when the community is largely made up of visitors, and the few residents who remain are elderly? In the case of the Heidelberg Urban Farm, working with the community largely means working with the Heidelberg Project. Guyton has already taken huge strides towards visualizing and shaping the aesthetic of the neighborhood, and this garden could be the next evolution.



3.39 Current site of the Heidelberg Urban Farm

Serve as a new model for urban agriculture in Detroit that challenges the way people think about farming in the city Urban agriculture in Detroit is nothing new; as discussed in previous sections, there are numerous examples of successful community gardens and urban farms all over the city. However, the Heidelberg Urban Farm is the first example that uses art as an organizing element in the garden, reflecting the context of its community and seeking to include more people than a farm that focuses primarily on productivity.



This combination of art and farming provides a very different look to urban agriculture, breaking down stereotypes that farms must be rectangular, generic places. As Public 3.40 Farms do not have to be rectangular! (Bassett 1981)

Farm 1 and the Curtis '50 Cent' Jackson Community Garden in Queens both demonstrated, productive garden spaces don't have to look like traditional farms. Gardens for food can be just as individual and unique as gardens for ornamental plants—through art, these environments can become more inclusive and welcome all members of the community while also reflecting a strong sense of place.

While an art-infused farm makes a lot of sense given the context of the Heidelberg Project, this is not the only place in the city where a less traditional form of urban agriculture could be applied. Experimental art projects are popping up all over the city. An abandoned police station in southwest Detroit is currently undergoing renovations as part of a \$1.3 million project to transform it into the headquarters for 555 Gallery and Studios, a non-profit arts organization (Voss 2010). The two-story brick building will house classrooms, artist studios, performance spaces, offices and retail space. It will also



contain Detroit Farm and Garden, a landscaping supplies and design service to help support the city's growing urban agriculture movement. Merging art with farming could benefit this future project as well.

Other Detroit artist collectives are transforming their own communities, including the Yes Farm on Detroit's east side and Power House Productions in a neighborhood near Hamtramck.

3.41 Detroit's Yes Farm

These new projects are a few of Detroit's growing collective of artists and urban pioneers who are challenging what typifies a "normal" Detroit neighborhood, turning empty houses into art and including the public in neighborhood transformation from the bottom up. By incorporating an element of community-involved agriculture, these projects could reach out to another segment of society and potentially have even greater effects.



3.42 Power House Productions

# Conclusion

Detroit has undergone tremendous change over the past sixty years, and the 40 square miles of nowvacant land is a testament to the abandonment that characterizes the city today (Gallagher 2008). While Detroit has a history in community gardening, a recent surge in urban farms and experimental art projects create the context for a new type of agriculture in the city—art-based urban farming. Sited at the internationally renowned Heidelberg Project, the Heidelberg Urban Farm builds off of the Project creator Tyree Guyton's core philosophy of creating something beautiful out of what was left behind (Shibley et al. 2005). Recycled and repurposed materials are used to create a framework for art and food production, upon which the community can transform the two-acre farm into a space that reflects the uniqueness of the neighborhood. The Heidelberg Urban Farm will replace 25 vacant lots and an underused park; transforming this empty land into a productive farm can dramatically improve the way residents value their community (Armstrong 2000).

The physical design of the Heidelberg Urban Farm has many traits of successful community gardens, such as accessible paths and garden beds, locations for equipment and storage, and places to gather together (Milburn and Vail 2010). However, creating a vibrant and valuable space is not simply meeting a set of criteria; for this farm to become a long-term part of the neighborhood, community members must be able to shape it and make it their own. The value of an art-based urban farm is crucial here; by creating a space that allows a diverse array of contributions from participants, whether through art, farming, or education, this farm can be an inclusive space that activates more people than a traditional garden alone. Through these diverse contributions, this farm can be a source of fresh, healthy food, a safe place to meet with friends, a lush backdrop for cultural events, and a constantly changing gallery of art.

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# Appendix A: Suggested Fruits, Vegetables + Nuts

Plant selection for the garden should reflect the tastes and preferences of the participants. However, the fruits, vegetables, and nuts suggested here could be used as a jumping off point. This list is reprinted with permission from Susan Fancy, a master gardener from the Michigan Center for Sustainability at Grass Lake Sanctuary in Manchester, Michigan. These varieties are all appropriate for Michigan's climate and would be appropriate for an urban garden at the Heidelberg Urban Farm.

# PERENNIALS

fruit trade	Apples: Delicious, Honeycrisp, Haralson, Liberty
	<u>Peach</u> : Reliance, Red Haven, Elberta
	<u>Plums</u> : Methley, Santa Rosa
	<u>Pears:</u> Moonglow, Honeysweet
	Asian Pears: 20th Century, Shinko, Shinseiki, Hosui, Kikusui
	Persimmon (native plant): Yates
	PawPaw (native plant): NC-1/Canada's Best, PA Golden
	Quince: Pineapple
	Sweet Cherries: Lapins, Meteor
	Sour Cherries: North Star
	Chestnut: Chinese Superior
nuniees	Shavbark Hickory
	Walnut
	Almond (cold hardy)
	Pecans (cold hardy)
	Hicans
	Grapes: Concord Red Seedless Reliance
Vines .	Arctic Kiwi: Arouta (male) + Anna (female), Kolomikta
	(male) + Kruppoplodava (female)
	(male) + Triuphopiotaya (ternate)
shrubs	<u>Figs</u> : Brown Turkey
SILLOUS	<u>Blueberries</u> : Elliott, Chippewa, Northland, Blueray, Bluejay,
	Jersey, Patriot, Bluecrop, Rubel, Northland, Reka, Elizabeth,
	Pink Champagne
	<u>Serviceberry</u> : Smokey (native plant)
	Cultivated Elderberry (native plant): Blue, Black
groundcover	Strawberries: June Bearing Honeoye, Everbearing Ozark
	Wild Blueberry (native plant): Littlescrisp, Ruby Carpet
	Lingonberries: Red Pearl, Ida
	Cranberries: Howe, Ben Lear



Fall Raspberries: Heritage, Autumn Britten

<u>Jerusalem Artichoke</u> <u>Scorzonera:</u> Schwarze Pfahl <u>Asparagus:</u> Jersey King <u>Rhubarb</u>

# ANNUALS

amaranth

# beans, bush string

# beans, dry shelling

# beans, fava



Grain Amaranth (120 days) Vegetable Amaranth (50 days)

4" plant spacing, 2 rows per 4'-wide bed Dragon Langerie (55 days) Provider PMR (48-54 days) Gold Rush Yellow Wax (55 days) Golden Lumen Wax (50-55 days)

2-3" plant spacing, 2 rows per 4'-wide bed
Jacobs Cattle Bush Shell (80-100 days)
Yin Yang Shell (75 days)
California Blackeye Pea
Black Jet (104 days)
Italian Rose Shell (70 days)
Hutterite Soup Bean
Coco Rubico
6" plant spacing, 2 rows per 4'-wide bed
Broad Windsor (70 days)

5'x4' spot, 2" plant spacing Scarlet Emperor Runner (75 days) Sunset Runner (75 days) Rattlesnake Pole (65 days) Italian Pole (60-70 days) Blue Lake Kentucky Wonder Pole Kentucky Blue (58 days)





4 rows separated by 24" apart each XTRA-Tender 270A (71 days, great for freezing) XTRA-Tender 277A (81 days)

4' plant spacing Cucumber Satsuki Madoori Marketmore PMR Sweeter yet Burpless Hybrid

Fennel Parsley Italian (80 days) Oregano (perennial) Genovese Basil Red Rubin Basil Large Leaf Basil Ocimum Cilantro Slow Bolt (45-70 days) French Thyme Spearmint Peppermint

2' plant spacing, 2 staggered rows per 4'-wide bed Ripbor White Russian Kale (50-60 days) True Siberian Red Russian (50-60 days) Dinosaur Kale (50-60 days) Red Ursa (55-65 days)

3" plant spacing, 5 rows per 4'-wide bed Leek Lincoln (110 days) Bandit (120 days)

Emerald Oak (55-60 days) Green Deer Tongue (50-60 days) Simpson Black Seeded (50-55 days, low bolt, never bitter) Buttercrunch (50-55 days, heat tolerant, slow to bolt) Rouge De Grenoblouse (55-60 days, bolt resistant) Green Star (53 days) Coastal Star Romaine (57 days, heat resistant) Nevada Summer Crisp (48 days, heat resistant) Nottisone Summer Crisp (heat resistant) Golden Purslane Winter Density (fall plantings) Tres Fin Maraichere Frisse Endive (fall planting)





# shallots



# spinach + arugula

# squash, winter

1" plant spacing, 5 rows per 4'-wide bed Scallion Guardsman (50 days) Scallion Evergreen Long White (120 days)

6" plant spacing, perennial if desired Hoffman's Schwarze Pfahl

4" plant spacing, 4 rows per 4'-wide bed Shallot Dutch Yellow Shallot Red Sun

2" plant spacing on fence Goliath (68 days) Oregon Sugar Pod II

4" plant spacing, 2 rows per 4'-wide bed Spinach Bloomsdale Long Standing (45 days) Arugula (40 days)

5' plant spacing Cucurbita Pepo Yellow Warty Crookneck Partenon Zucchini Ronde De Nice Flying Saucers Zuchetta Rampicante

4-5' plant spacing
Triamble
Victor or Red Warty Thing
Marina Chioggia
Galeux D'Eysines
Lower Salmon River
Acorn
Delicata
Sweet Dumpling Semi Bush
Small Sugar Pumpkin
Spaghetti
Butternut



2.5-3' plant spacing Tomato (78 days, early, blight-resistant) Legend (68 days, late, blight-resistant) Pink Beauty (74 days) Bellstar Roma (65 days) Roma VF (65 days) Milgren Rose Tomato

### 6" plant spacing

Turnip Purple Top White Globe (57 days)

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