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Denver Botanic Gardens: Expanding the role of public gardens in urban food systems

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Abstract

The mission statement of the Denver Botanic Gardens is to connect people with plants. Through a collection of urban food initiatives, the Gardens fulfills the mission by providing opportunities for farming, education and food access to the metro-Denver area. The Gardens' original site is situated in a densely populated neighborhood near downtown Denver; beyond an on-site demonstration kitchen garden and nearby community garden, there is limited space for urban agriculture (UA) programming. The Gardens' larger, peri-urban site, Chatfield Farms, offers a unique public garden opportunity. Visitors to Chatfield can observe a working farm with roughly 10 acres of production agriculture. Most of the output is diverted to a community supported agriculture (CSA) program with a portion being reserved for use at farm stands operated by the Gardens in low-income neighborhoods around Denver. These farm stands are in part a vehicle for Colorado's Double Up Bucks program, which seeks to increase purchases by recipients of the federal Supplemental Nutrition Assistance Program (SNAP). A veteran farm training program operates at Chatfield using the same fields for training. Students in the program receive stipends to participate in land-based, farm education with opportunities for further engagement beyond the bounds of the curriculum. A partnership with the Denver Housing Authority (DHA) affords offsite opportunities for farming, education and food access. In addition to participating and/or observing in farm activities at urban farms on DHA properties, resident feedback influences crop choices and educational sessions. Lastly, in partnership with Colorado State University Extension, the Gardens offers a Beginning Market Farmer certificate course for anyone interested in minimally mechanized farming on five acres or less. Students attend lectures and workshops at metro-area farms and staff from the Gardens and Extension provide technical assistance and/or one-on-one mentorship.

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INTRODUCTION

Historically, the role of the public garden has been to showcase living plant collections through innovative and highly maintained horticultural displays. More recently, several public gardens, including the Denver Botanic Gardens, have endeavored to reach the public through different means: urban agriculture (UA). Programs showcasing UA outreach include community gardens, urban farms, farmer in training programs, incubator farms, urban farm stands and community supported agriculture (CSA). Urban agriculture offers many opportunities for partnership including land tenure, audience and point of sale.

The overall mission of the Denver Botanic Gardens is to, "connect people with plants;" UA programming allows us to achieve our goal by engaging with our audience on the most fundamental topic: food. For all our food-related programs, which are referred to collectively as the urban food initiatives (UFI), we set the additional goal of facilitating food security. Our three greatest strengths in this field are our skills as farmers, our track record of providing education and our ability to build strong partnerships for food access.

DEMONSTRATION GARDENS

The Denver Botanic Gardens has two main campuses, one in Denver and one located in the southern suburbs. Our Denver campus, which is also our oldest site, is located near downtown in a heavily residential neighborhood. Much like other public gardens, visitors to this site typically

engage with us by walking the grounds, observing our plant collections and garden design, visiting our tropical and indoor collections, and attending events and classes.

Onsite, we have a demonstration kitchen garden. This space is occasionally used for classes related to UA or cooking, but most of the interaction with the space comes from visitors passing through. While most of the food grown in this garden is shared with partner organizations working on hunger relief, the average visitor to this garden does not necessarily receive this message, unless they are paying attention to our posted interpretation.

Our downtown campus also operates a 90-plot community garden located nearby that is open to members of the Botanic Gardens. In addition to feeding the families of these community gardeners, much of this food is grown for donation. This site allows for more direct interaction with our audience and many of our community gardeners have become wonderful ambassadors for local food, food justice, and vegetable gardening and they help us promote our mission.

The Gardens' Chatfield Farms site, located on land south of the city owned by the Corps of Engineers (due to the nearby Chatfield Dam), was historically a working farm. As maintained by the Gardens', the land has always had an agricultural focus, although for decades it was better known as a venue for barn weddings and the location of the best corn maze and pumpkin festival in the region.

Today, this site has seven acres devoted to food production, in addition to 20 acres of corn and pumpkins for the aforementioned pumpkin festival. Roughly two of these acres are accessible to the public with posted interpretation and a docent program. The land and the resulting harvest are used in a variety of programs, including a CSA program that provides for 340 shares, several farm stands and donation partners located in low-income neighborhoods around Denver, and perhaps most importantly, as an educational tool for beginning farmers who come to Chatfield to learn the skills necessary to start their own operations.

ADDITIONAL FARM SITES

Closer to downtown Denver, the Gardens operates two urban farms in partnership with the Denver Housing Authority (DHA); DHA is one of the largest landowners in the city. The focus of these sites is threefold: providing healthy, local food at an affordable cost; working with community members to choose culturally relevant crops; and providing education and/or job skills in the field of urban agriculture and vegetable production. Food from these sites is kept in the community through a variety of programs including a pay-what-you-are-able donation-based weekly farm stand. These sites are open to the public and Gardens' staff working at the sites frequently have opportunities to engage with visitors regarding our UA programs and mission. Currently, we primarily practice raised bed growing at our urban sites and in-ground growing at Chatfield.

ACCESS

The food that is grown at each of these sites is distributed either directly by our staff or it is delivered to one of our partner organizations who then distribute the food through their programs. Gardens' distributions include two pick-up locations for our 24-week CSA, one at each of our Botanic Garden locations; two weekly farm stands at our Housing Authority farms (running June-October) and a partnership with Denver Human Services (DHS). In the past, we had offered low-cost, pay-as-you-are-able farm stands at each of the three DHS locations in the city. These stands participated in a Double Up Bucks program to provide further discounts for SNAP recipients. In 2020, due to the DHS offices being mostly shuttered during the pandemic, we instead provided fresh vegetables that were then combined with non-perishable food items being provided to the

clients of the Human Services offices. This relationship was made possible by financial support from the City of Denver.

The Gardens' CSA program is our longest running UFI program. Started in 2010, initial funding was provided by Kaiser Permanente and the goal was to address food insecurity in our community. At the time, there were few other CSA farms in our area and none with a non-profit mission. Over the last decade, the audience and donation partners associated with our CSA has shifted and we've broadened our goals to include creating educational opportunities for new and beginning farmers, particularly those who have served in the armed forces.

Weekly farm stands at our housing authority sites have remained constant throughout our tenure with DHA and were adapted to remain open during the pandemic. Prior to 2020, these weekly stands were an opportunity for partner organizations (with a focus on healthy eating or active living) to provide services and/or information to our audience. Partner offerings include free memberships to the community bike share program, grocery store tours and cooking demonstrations by Cooking Matters, no-cost yoga classes, expert advice on using and preserving herbs from members of the Gardens' herb guild and pay-as-you-are-able prepared meals from the SAME Café food truck.

In 2020, our urban farm sites participated in an additional distribution method, a CSA specifically for recipients of government assistance through the Women, Infant and Children (WIC) program. This program was made possible by a partnership with the Denver Department of Public Health and the Environment (DDPHE), who secured funding to purchase CSA shares from local farms. The shares were then delivered to WIC recipients, along with recipes from each farm and information on where to find pay-as-you-are-able markets and farm stands throughout the city. The money received from this program provided additional financial security to our urban farm sites which helped defray the cost of PPE and other measures taken to ensure food safety during the pandemic. Knowing that the food grown for these shares will be consumed by one of the audiences that we set a goal of serving is particularly useful when evaluating our programs.

A typical WIC CSA share includes roughly 30 servings of vegetables, or enough for a family of 3 or 4 to have 2 servings of vegetables per day. A typical, mid-summer share might include 3 summer squash, 2 cucumbers, a pint of tomatoes, a bunch of either carrots or beets, a bunch of either kale or collard greens, bell peppers, an eggplant, and a few herbs. Additionally, the recipes that we supply highlight the items we are including for the week; this is especially important if it is a less common item or if we can provide insight on how to use typically underused parts of the vegetable like carrot and beet tops.

EDUCATION

In addition to stand alone classes on vegetable gardening and food preservation offered through our education department, the Gardens' offers two, year-long, farmer-in-training courses. Both the Veteran Farm Program and the Beginning Market Farmer certificate course programs use a combination of in-class and hands-on learning. The former is taught in partnership with Veterans to Farmers and is open to members of the armed forces; the latter is taught in partnership with Colorado State University Extension and is open to the general public.

Students in these programs have the opportunity to practice their skills at each of our farming sites and many take turns working a shift at one of our farm stands or CSA distribution sites. Our goal for these programs is to provide our students with the knowledge and connections they will need to be a successful farmer in our region. We are able to provide some experience during the course, but we're also able to help with placing graduates on urban farms in the area so they can continue to learn and practice after their time with us. We consistently hear from

graduates of our program that networking with fellow students and with farmers who host our workshops is one of the most valuable aspects of the course.

PARTNERSHIPS

As was mentioned before, UA programming creates many opportunities for partnership. Our partners have allowed us access to land, new audiences, and services that we are unable to provide for our current audiences. Our UA programming has had the advantage of being attached to a well-known cultural institution like the Denver Botanic Gardens; partners are naturally more willing to work with larger organizations and those which garner positive associations with the public. In turn, we have had opportunities through our marketing channels to highlight the work of smaller organizations in the arena of food justice and access.

The portion of the food that we donate to partner organizations (often made possible through grants and private donations) is used in a variety of programs. One of our oldest partnerships is with the SAME café. SAME stands for “so all may eat” and they are a restaurant that also uses the pay-as-you-are-able model. They serve expertly prepared food that features local and organic ingredients whenever possible. In part because they can count on a steady supply of produce from the Gardens, they have been able to add a food truck in addition to their brick-and-mortar location. The food truck allows SAME to travel to other neighborhoods and reach new audiences, such as the times when they co-locate with our housing authority farm stands.

We also maintain partnerships with other organizations doing UA that, in addition to providing food access, are often able to work more closely with their community members to provide additional services as needed. These organizations can help respond to local emergencies much more quickly than the Gardens. In the case of these donations, our produce is often aggregated with produce grown by the partner organization in order to increase their impact. Other partners operate food pantries in neighborhoods where we have farm stands. The addition of fresh produce is always a welcome sight and access is increased by offering longer hours and a different location outside of our normal farm stand.

EVALUATION

Setting evaluation metrics and gathering data has been a key component in the growth of our programs. For produce harvested at each of our sites, we record yield by date, location, and individual item. This allows us to report not just on overall yield, we can also calculate the number of servings grown and sort by any number of criteria. We also calculate the estimated market value of all harvested produce, even items that were specifically grown for donation. We report market value both as the higher price that one would expect to pay at an area farmers market and as the lower, subsidized price that we charge at our pay-as-you-are-able farm stands. Our farm stand prices are generally half of the estimated market value. This level of information is invaluable when producing our annual report and grant evaluations for our various programs.

Our farmer-in-training programs are evaluated using quantitative and qualitative responses from our students in pre- and post-class surveys. Students are asked open-ended questions (qualitative) about their experience with the course, changes to their farming and business plans and how our institutions can further provide them with support. They are also asked to self-assess their knowledge of key farming topics (quantitative, using a Likert scale) that are taught during the course; the questions are identical in the pre- and post-class surveys. Using the averages from the pre- and post- responses, we conduct a simple t-test to determine significant change and this information informs alterations that we make to the course year to year.

These are a few of the more tangible metrics we use to track the progress of our programs. Our farm managers are also tracking changes in soil health and varietal performance and our program managers stay up to date on local food systems and policy work and realign our messaging and programs whenever possible.

We are well positioned as an institution because our goal is not to make the most money selling produce. If it were, we would focus more of our time on selling CSA shares to our members or locating other high dollar revenue streams. We would hire a few, full time farmers and the pace of our work would mimic more closely that of a production farm. However, since we have the dual goal of increasing food access and providing education and training, we instead invite student learners to take part in the labor at our sites. The addition of student learners slows down the pace of the work, we can spend more time explaining the why's and how's of our job and we end up with a more robust and successful farm as a result. Because many of our students wish to pursue farming as a for-profit enterprise, we feel it is important to continue to offer the opportunity to learn the farm stand (or farmers market) model so that they can experience a retail environment. Our ability to donate a good portion of our produce is provided to us by our development team and the work they do is made easier because we are carefully collecting data on our programs.

CONCLUSION

In conclusion, public gardens and other cultural institutions are uniquely positioned to participate in food systems work and UA programming. The strength of an institutional reputation has allowed us to build community partnerships that, over time, allowed us to expand and grow our urban food programs. By building these relationships, especially for identifying audiences for food access, we have freed up our time to focus on areas in which we excel, which would be farming and education.

Educational programming and farming enterprises engaged in by non-profit institutions can and should support each other. A production farm might make more earned revenue, but the addition of student learners makes the project more meaningful and compelling to donors. Maintaining some retail and/or wholesale relationships might be necessary for program budgets, and this can be used as an opportunity for students to learn this aspect of the business of farming.

Lastly, setting evaluation metrics and maintaining high standards for data collection are key to the success of any UA program. Typical metrics include yield, servings, and market value for harvested produce; student programs generally track change in knowledge, market sales (if students are also participating in farm incubation) and qualitative information on student placement on farms after the course has been completed. Whichever metrics you choose, they should support the goals you have set forth and assist in telling your organization's story.