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ORGANIZATION OF A COMMUNITY GARDEN PROGRAM THROUGH UTAH STATE UNIVERSITY FOOD $ENSE AND MASTER GARDENER EXTENSION PROGRAMS FOR LOW-INCOME FAMILIES IN LOGAN, UTAH.

by

Jackie Hendrickson

A dissertation submitted in partial fulfilment

of the requirements for the degree

of

MASTER OF PUBLIC HEALTH

in

Public Health Nutrition

Approved:

Heidi LeBlanc Major Professor	Jaydee Gunnell Committee Member
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UTAH STATE UNIVERSITY

Logan, Utah

2019

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ABSTRACT

Organization of a community garden program through Utah State University Food $ense and Master Gardener Extension programs for low-income families in Logan, Utah.

by

Jackie Hendrickson, Master of Public Health

Utah State University, 2019

Major Professor: Heidi LeBlanc, MS
Department: Nutrition, Dietetics and Food Sciences

Nearly 12.3% of American households are food insecure. In Cache County, Utah, specifically, the rates of food insecurity are even higher (15%). Addressing the issue of food insecurity improves physical/mental health outcomes, childhood cognitive/physical development, family environments, and decreases healthcare costs. Evidence-based strategies to improve food security include increasing one's access to fresh fruits and vegetables and improving self-efficacy. Community gardens are recognized as an initiative that improve participant's levels of food security. In Utah, a number of community gardens exist, but none focus on food insecure individuals or include a curriculum of basic gardening and nutrition skills. Utah State University's Food $ense and Master Gardener programs partnered together to create a community gardening program targeting low-income families in Cache Valley, Utah. The Create Farm Fresh Gardens program was developed with the aim of improving levels of food security through increased access to fresh vegetables and improved feelings of self-efficacy in regard to gardening and nutrition among participants. The Create Farm Fresh Gardens program was piloted in Cache Valley, Utah during the 2018 growing season and received supportive feedback from participants. The program will be implemented throughout the state of Utah during the 2019 growing season.

(30 pages)

PUBLIC ABSTRACT

Organization of a community garden program through Utah State University Food $ense and Master Gardener Extension programs for low-income families in Logan, Utah.

Jackie Hendrickson

Nearly 12.3% of American households are food insecure, meaning that at any given time, these households did not have adequate access to sufficient quantities of quality food. In Cache County, Utah, specifically, the rates of food insecurity are even higher (15%) and affect nearly 17,360 individuals. Food insecurity impairs a person's ability to live a productive and functional life. Addressing the issue of food insecurity improves physical/mental health outcomes, childhood cognitive/physical development, family environments, and decreases healthcare costs. Successful programs that improve food security include programs that increase one's access to fresh fruits and vegetables and improve one's confidence in their ability to succeed at providing their household with affordable, nutritious foods. Community gardens are known to improve participant's levels of food security. In Utah, a number of community gardens exist, but none focus on food insecure individuals or include a curriculum of basic gardening and nutrition skills. Utah State University's Food $ense and Master Gardener programs partnered together to create a community gardening program targeting low-income families in Cache Valley, Utah. The Create Farm Fresh Gardens program was developed with the aim to improve levels of food security through increased access to fresh vegetables and improve feelings of confidence in regard to gardening and nutrition among participants. The Create Farm Fresh Gardens program was piloted in Cache Valley, Utah during the 2018 growing season and received supportive feedback from participants. The program will be implemented throughout the state of Utah during the 2019 growing season.

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Jackie Hendrickson

INTRODUCTION

The Problem

Many Americans stand face-to-face with food insecurity: an ever-growing problem without concrete solutions. Food security is defined as having sufficient amounts of safe and nutritious food at all times to maintain a healthy and active life (World Food Programme, 2018). In addition, food must be obtained in socially acceptable ways, be available on a consistent basis, and have a positive nutritional impact on people (Holben, 2017; World Food Programme, 2018). This includes proper knowledge of cooking, storage, and feeding practices within the food insecure household (World Food Programme, 2018). Food insecurity has broad and far-reaching effects. Individual circumstances determine the breadth of issues such as: serious health complications, impaired cognitive and physical development in childhood, and difficult decisions - such as choosing between buying groceries or obtaining necessary healthcare (Feeding America, 2018). Food insecurity negatively impacts thousands of families in America as household food insecurity was significantly associated with a strained family environment (Johnson, 2018). Food insecure parents were found to use harsh discipline strategies with their children, have increased conflict with each other, and be at an increased risk for poor physical and mental health (Johnson, 2018). It is apparent that this is a complicated issue, involving many factors and trade-offs.

Despite our best efforts to alleviate food insecurity, 12.3% of American households are food insecure (USDA, 2017). An estimated $160 billion is spent each year in the United States to treat issues correlated with hunger and food insecurity (Bread for the World, 2015). In Cache Valley, Utah, 17,360 persons (15% of population) are food insecure (County Health Rankings, 2018). Programs such as the Supplemental Nutrition

Assistance Program (SNAP), Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and the National School Lunch Program (NSLP) are put in place to address food insecurity (USDA, 2018). These programs aim to provide supplemental income for families to purchase groceries and provide education on how to make more nutritious choices (USDA, 2018). These programs are a great start, but it is important to continue building and improving them to their full capacities.

An area often neglected in existing food programs is the development of self-efficacy in regard to food security. Self-efficacy is defined as one's perceived capability to achieve a desired outcome (Bandura, 1994). A person's self-efficacy can determine how they think, feel, motivate themselves, and ultimately behave (Bandura, 1994). People with high levels of self-efficacy are better able to handle life's challenges (Bandura, 1994). They are more likely to find solutions to problems (Bandura, 1994). As such, a high level of self-efficacy is vital for low-income individuals and families looking to improve their financial situation. America's existing food programs need a stronger emphasis on building self-efficacy among participants. Supplemental funding of grocery bills without development of self-efficacy leads to increased dependence on various food assistance programs with little long-term improvement (Feulner, 2015). As self-efficacy increases, food security likewise increases (Martin, 2016). Programs should capitalize on this principle, catalyzing struggling individuals and families to achieve independent food security.

Community gardens are gaining popularity throughout the world, especially in urban environments (Teig, 2009). Community gardens provided people with the opportunity to grow their own fruits and vegetables, be more physically active, and build stronger connections to the community (Teig, 2009). Gardeners were found to consume fruits and

vegetables more frequently than non-gardeners and were more likely to consume at least five fruits and vegetables per day (Alaimo, 2008). Many health professionals recognize the significance of increased fruit and vegetable intake and seek to provide low-income populations with more opportunities to obtain fresh produce. One method of achieving this goal is to encourage gardeners to "plant a row for the hungry" and donate the produce grown in that row to their local emergency food sites (Food Gatherers, 2018). Providing food pantries with more fruits and vegetables is a great start to increasing food security among low-income populations, but capitalizing on the self-efficacy principle would greatly enhance these efforts.

Gardeners rarely cited vegetable production as their primary motivation for gardening: pleasure, enjoying nature, watching things grow, meeting other gardeners, and having an opportunity to be physically active were the motivations most often referred to in a study of community gardeners in France (Martin, 2017). The act of gardening can increase people's confidence in their ability to succeed and success is the core foundation of self-efficacy (Bandura, 1994). Self-esteem has been found to provide higher quality diets for their families as they learned to prepare their produce in tasteful meals (Martin, 2017). The full benefits of community gardens are only achieved when participants are fully immersed in the growing process. A sense of pride, responsibility, and ownership grew as participants got their hands in the dirt to plant, weed, and harvest vegetables (Martin, 2017). The responsibility for garden outcomes encouraged hard work, diligence, and feelings of ownership in the gardeners (Martin, 2017). This increase in self-efficacy towards providing and preparing nutritious food for a family is the key to increasing overall food security for individuals and families. Encouraging participant involvement in

community garden efforts is essential to maximizing the self-efficacy gained form gardening (Martin, 2016).

There is no established community garden program targeting low-income families in Logan, Utah. A number of community gardens exist, but none include a curriculum on basic gardening and nutrition skills. Providing this resource to low-income residents of Logan would have the potential to improve the self-efficacy, vegetable intake, and ultimately food security of its participants.

Project Objectives

The objectives of this project included:

1. To create a community garden program focused on basic gardening and nutrition skills.
2. To promote self-efficacy among participants by providing them with an opportunity to apply gardening and nutrition skills.
3. To create a toolkit for other counties in Utah to implement the community garden program.

Project Rationale and Significance

The significance of this project includes:

- This project will be the first in Utah to discuss the impact a structured gardening and nutrition education program will have on the self-efficacy and food security of the garden participants.

LITERATURE REVIEW

Impact of community gardens on the health of low-income populations

Research showed convincing evidence that increasing fruit and vegetable consumption decreased a persons' risk for many chronic diseases such as hypertension, coronary heart disease, and stroke (Boeing, 2012). Nationwide, research showed that low-income populations were less likely to meet recommended fruit and vegetable intake levels when compared to high-income populations (McCormack, 2010). Putting these two facts together provides justification for initiatives aimed to increase fruit and vegetable consumption among low-income populations. Community gardens have gained popularity as community-based health programs aimed to alleviate the burden of chronic disease in the United States (Teig, 2009).

The beginnings of community gardens can be traced back to the Victory Garden campaigns of WWII (Schumm, 2014). American citizens were encouraged to utilize every unused piece of land for the growing of fruits and vegetables (Schumm, 2014). This produce supplemented the meager diets of Americans. While these campaigns were very successful in increasing food security through gardening, they ended with the war (Schumm, 2014). Recently a resurgence in community gardening has grown in an effort to address issues of self-sufficiency, food security, and improved diet quality (Teig, 2009). Most are located in urban environments where land for gardening is rare to find (Teig, 2009).

Analysis of the impact of community gardens on health showed that gardeners consumed more fruits and vegetables than nongardeners (Alaimo, 2008). Gardeners were more likely than nongardeners to agree with the statement "In the past 4 months, I have

eaten a balanced diet of mostly fruit/vegetables, meat/fish/beans, and dairy products" (McCormack, 2010). Many reported utilizing the garden to stretch food dollars (McCormack, 2010). Improved beliefs and attitudes towards buying, preparing, and eating fruit and vegetables among WIC participants was a main finding in a review of 16 gardens (McCormack, 2010).

Community gardens have great potential to improve fruit and vegetable intake among low-income populations. As discussed previously, improving fruit and vegetable intake has a positive impact on rates of chronic diseases (Boeing, 2012). Low-income populations struggling with food insecurity were at a higher risk for chronic disease (Seligman, 2009). This is largely due to the trend found for food insecure households to focus on inexpensive energy dense foods full of added sugars, added saturated/trans fats, and refined grains (Seligman, 2009). Food insecure households typically had a lower consumption of fruits, vegetables, dairy, and other foods containing essential micronutrients (Seligman, 2009). This overall diet pattern was conducive to increased markers of cardiovascular disease and diabetes (Seligman, 2009). To compound the issue, low-income populations had fewer financial means to provide for their family's healthcare needs (Feeding America, 2018). Prescription medications that helped manage chronic diseases were costly and may have deterred individuals from adhering to medication protocols (Feeding America, 2018, Saad, 2018). Programs that provide increased access to fruits and vegetables to low-income populations are highly justifiable for these reasons.

Importance of building self-efficacy in low-income populations

Building self-efficacy in low-income populations has a domino-effect of positive outcomes: as stated previously, as self-efficacy increases, food security likewise increases (Martin, 2016, Hildebrand, 2009, Bandura, 1994). Food insecurity carries consequences that delve beyond physical health complications: food insecurity also encompasses many social implications. Struggling individuals were found to have more frequent reports of absenteeism at work, higher rates of depression, and more psychological suffering related to feelings of exclusion and powerlessness (Hamelin, 1999; Okechukwu, 2012). These feelings led to increased pessimism and decreased confidence in their own ability to better their situation (Hamelin, 1999). This low level of self-efficacy was a significant barrier for low-income populations to become independently food secure (Hildebrand, 2009). Providing opportunities to build confidence and experience success improved levels of self-efficacy and subsequent levels of food security in low-income populations (Bandura, 1994, Martin, 2016).

Higher levels of fruit and vegetable intake were linked to higher levels of self-efficacy (Menezes, 2018, Hildebrand, 2009). As people gained a better understanding of how to obtain and prepare nutritious foods, cooking and eating behaviors consequently followed (Hildebrand, 2009, Pei-Ti, 2013). Knowing how to purchase affordable produce (i.e. buying seasonally or growing a garden) encouraged positive diet behaviors (Pei-Ti, 2013). Having the confidence to prepare simple and tasty meals using fruits and vegetables was a motivator for incorporating more produce into everyday meals (Hildebrand, 2009).

People with high levels of self-efficacy were more likely to be consistent in self-care practices to help manage chronic disease (Saad, 2018). Exercise and adherence to prescribed medications and dietary restrictions increased among those who believed their efforts would make a difference to their health (Saad, 2018). Low-income populations, who are at a greater risk for chronic disease, would benefit greatly from increased self-efficacy.

The role of independence in building self-efficacy

Agency, the ability for one's own actions to produce an intended result, enhanced independence (Gecas, 1989). Being able to take ownership over various problems and projects is a fundamental human need and basis of forming one's sense of self (Gecas, 1989). Psychologists emphasize the importance of agency in childhood development. Parents who provided guidance and then confidently allowed their children to make their own decisions were more likely to raise happy, independent children (Taylor, 2010). The more an individual felt ownership over a project, the more likely positive outcomes occurred. A feeling of pleasure and joy came from the thrill of independently overcoming challenges both seen and unseen (Gecas, 1989). When these principles are applied to building independence in low-income populations, it is evident that agency was an essential element to the success of the initiative. It can be hypothesized that as low-income populations are given freedom to make their own decisions, they will become happier, more independent people (Gecas, 1989; Taylor, 2010). Welfare organizations should provide the means and opportunities for participants to succeed and allow participants the freedom to expand their efforts.

Community gardens are a prime way to provide individuals and families an opportunity to have ownership over something. Land, soil, seeds, and water are provided by an organization, but gardening responsibilities are assigned to participants. The success of the garden is dependent on an individual's diligence to care for the plants. Ultimately it is up to the gardeners to obtain the benefits of the garden. Gardeners who choose to follow through with watering, weeding, and harvesting responsibilities will find success. Successful gardeners will build independence through the growing season. This independence preserves dignity and brings an increase in feelings of accomplishment, confidence, and self-efficacy.

Preserving independence and building self-efficacy are vital when enabling people to improve their situations. Interventions aimed to increase independence among low-income populations had to improve self-efficacy before expecting lasting behavior change (Klompstra, 2018). Self-efficacy is built through increased knowledge, skills, and success (Bandura, 1994). One community garden in Idaho Falls, Idaho successfully provided the opportunity for low-income gardeners to become more independent and food secure (LDS, 2011). One gardener stated "I'm learning how to grow in Idaho, where I live, so my family will be ok. We won't go hungry. And I have the skills now to take care of my own family." This gardener gained the skills and self-efficacy necessary to become independently food secure through the community garden. Those skills resulted in a lasting behavior change. This same gardener was quoted to have said "Growing the garden this year has been fun, I've been able to help some of...my neighbors. I like to sneak up to their house and leave stuff on their doorstep. And I can do that, I have enough for my family, and I have extra so I can share and I like to do that." Improvements in

independence develop self-efficacy strong enough to solve not only your own problems, but other's as well.

METHODS

Create Farm Fresh Gardens Project Design

To improve the food security, fruit and vegetable intake, and self-efficacy of low-income populations, the Create Farm Fresh Gardens program was developed. Create Farm Fresh Gardens aims to provide participants with the educational and practical resources (i.e. space to grow a garden, seeds, tools) necessary to grow their own fruits and vegetables in a community garden setting. This program combines the expertise of Utah's Supplemental Nutrition Assistance Program - Education (SNAP-Ed) and Utah State University's (USU) Master Gardener program to provide a structured gardening and nutrition education curriculum for low-income individuals and families. Program implementation is carried out by employees of USU's Food $ense SNAP-Ed program as well as by Master Gardener volunteers. Food $ense employees and Master Gardener volunteers host a monthly gardening and nutrition education workshop. Gardening education focuses on tips relevant to the current month's growing season. Nutrition education focuses on specific fruits or vegetables that are "in-season" during that month's workshop. As a result of attending the workshops, participants will have the knowledge necessary to maintain their garden, to understand the health benefits of garden produce, and to know how to prepare garden produce in tasteful ways. In addition, workshop participants will have the opportunity to receive one-on-one help with their garden from the Master Gardener volunteers present at the workshop.

Create Farm Fresh Gardens was piloted at the Bridger Park Community Garden in Logan, Utah during the 2018 growing season. Bridger Park Community Garden was an ideal location because it was already owned/maintained by the USU Master Gardener

program, and was centrally located in a low-income neighborhood (> 50% of the population lived below 185% of the federal poverty level). Forty raised beds were available for local community members to reserve for their own garden use for a small fee paid to the County Office. Five of those forty beds were donated by the USU Master Gardeners to the USU Food $ense SNAP-Ed program to use for the Create Farm Fresh Gardens pilot program.

Participants for the pilot program were recruited through flyer distribution to surrounding low-income neighborhoods. In addition, a USU Food $ense nutrition educator visited two kindergarten classes at the local low-income elementary school. The nutrition educator engaged the children in a brief gardening activity where children planted a vegetable seed of their choosing in a small plastic cup. Each child then took their vegetable seed and a recruitment flyer home to their parent(s)/guardian. Interested families from both the neighborhood and/or elementary school then contacted the Food $ense nutrition educator to sign up for the Create Farm Fresh Gardens program.

Participating families were each given their own garden box at Bridger Park Community Garden. Along with the garden box, families were also provided with nine vegetable plants: tomatoes, cherry tomatoes, bell peppers, zucchini, cucumbers, spinach, carrots, onions, and beets. These specific vegetables were selected due to their common acceptability (by taste) and ability to grow in the weather conditions of Logan, Utah. All gardening tools, supplies, water, and hoses were provided for garden participants by the USU Master Gardeners.

Each month, from the months of May to October, participants had the opportunity to attend a workshop on Saturday mornings. Master Gardener volunteers and a Food

$ense nutrition educator were available in the garden from 9:00 am to 12:00 pm. Participants were allowed to come and go as they please within that time frame. During the workshop, the nutrition educator provided vegetable specific handouts to participants that highlighted tips on growing, harvesting, health benefits, and ways to eat the vegetable. A food sample highlighting the vegetable was provided to workshop attendees. Master Gardener volunteers were available to provide one-on-one help to the gardeners during workshop hours.

Communication between Create Farm Fresh Gardens participants and the Food $ense nutrition educator was facilitated through the 'Group Me' messaging platform. Participants were voluntarily added to the platform and could access the messages through either text or email. This communication platform gave gardeners a place to ask gardening-related questions, provide support to one another, and be reminded of upcoming garden workshops. In addition to the GroupMe messaging platform, email was used periodically to communicate with Create Farm Fresh Gardens participants.

Qualitative data was gathered to evaluate the Create Farm Fresh Gardens program. Data gathered included picture documentation of each garden box and any other notable events at the Bridger Park Community Garden. Pictures were taken 1-2 times each month from May 2018 through October 2018. Pictures were used to document plant growth, vegetable production, and level of care/maintenance by individual participants. Pictures were also used as a means to identify problems and solutions to those problems (i.e. animal/pest control).

Following the conclusion of the garden season, voluntary participant feedback was also obtained. Create Farm Fresh Garden participants were sent individual emails

with the following question: “Do you have any feedback/stories regarding the gardening experience, the workshops, and/or how the garden affected your family on a personal level?” Participants who provided feedback were incentivized with a free plot for the 2019 growing season at Bridger Park Community Garden. This feedback was collected in an effort to identify progression in participant’s feelings of gardening self-efficacy, fruit and vegetable intake, and overall food security.

To assure program sustainability, a toolkit was created to outline the process for implementing the Create Farm Fresh Gardens program throughout the state of Utah. The toolkit was intentionally made for use by the USU Food $ense SNAP-Ed employees. The toolkit started with a description of the Create Farm Fresh Gardens program and the value of the program. The ability to not only learn about gardening and nutrition, but to apply those skills was highlighted as a key reason for counties to bring this program to their counties. Instructions on partnering the SNAP-Ed and Master Gardener programs were included as well as the contact information necessary to do so. A list of all known existing community gardens and their contact information were provided for each county. USU Food $ense SNAP-Ed employees were encouraged to select gardens already managed by USU Extension (if available) or to choose gardens with managers willing to work with the Create Farm Fresh Gardens program. Additional criteria for selecting a community garden included choosing a location where more than 50% of the population lived below 185% of the federal poverty level. Resources and steps for identifying these locations were outlined in the toolkit. Additional information regarding participant recruitment, program implementation, and garden workshop details were also key elements of the toolkit. Instructions on program evaluation were also given to USU Food

$ense SNAP-Ed employees. The toolkit was intended to be updated regularly, on an as-needed basis.

Twenty-eight fruit and vegetable handouts/fact sheets were created for the Create Farm Fresh Gardens program. These handouts covered basic guidelines for planting and harvesting the select produce. Nutrition benefits and ways to eat the fruit or vegetable were highlighted. One recipe was provided for each fruit or vegetable. Featured recipes were nutritious and budget friendly in order to meet the needs of the target audience. Not all counties in Utah have both the USU Food $ense SNAP-Ed and Master Gardener programs. For this reason, these handouts provided more secure sustainability to the Create Farm Fresh Gardens program by providing the information necessary to provide both gardening and nutrition education – even in the absence of one or more parties in certain counties in Utah.

To promote the Create Farm Fresh Gardens program, the toolkit was presented to USU Food $ense employees across the state on March 27, 2019 over online conference software. The Create Farm Fresh Gardens program was also presented at USU Extension Regional Conferences in May 2019. These presentations gave USU Food $ense SNAP-Ed employees as well as USU Horticulture agents the information necessary to implement the Create Farm Fresh Gardens program in their own counties. Create Farm Fresh Gardens resources such as the toolkit, fruit and vegetable handouts, and recruitment flyers were made available to USU Food $ense SNAP-Ed employees through the staff website (https://extension.usu.edu/fscreate/community_garden_materials).

RESULTS AND IMPACT

Five families were recruited by the USU Food $ense SNAP-Ed program to participate in the Create Farm Fresh Gardens program. All five garden plots were maintained to some degree from May to October. All five garden plots produced at least one type of vegetable. Three of the five participants provided voluntary feedback on the garden experience. Impact of the Create Farm Fresh Gardens program was obtained through interpretation of the qualitative data provided by the participants.

Participant Success Stories

A Wonderful Learning Experience

At the June workshop, a participant expressed their desire to learn as much about gardening as possible through the Create Farm Fresh Gardens program so they could obtain the skills necessary to garden on their own in the future. The participant anticipated mistakes to be made as they embarked on the journey of learning how to garden. The participant expressed strong interest in gardening again at the community garden in the following year.

Reflecting on the Garden Program

"The area that I could have used bit more help with was knowing when to cut veggies/harvest and plant health. If I'm able to have a box garden again this summer, I'll be more proactive with pest control because an animal (or human) took everything except for the tomatoes and peppers. Often there were boxes abandoned or not being watered so I would water additional boxes that were dry when I had time to do so. I'd like to try more spinach next time and found a book on growing tomatoes at the Friends of Logan

Library book sale for 25 cents! Found out that by dropping a calcium Tum's into the ground when transplanting tomato starts that it can assist preventing calcium spots on tomatoes! I'm very excited for the next growing season! Sometimes my sons would help me with watering, and we had cherry tomatoes nearly throughout the summer once the plants took off! The first time that my youngest (16) was with me and I started to water additional boxes he about had a panic attack because he thought I was taking care of "all boxes" and I explained that I was just helping with watering. We had a good laugh! There was a family, not with our group, from Congo who had planted white eggplants, they thought they could only plant one type of vegetable. I shared tomatoes with them from my box garden and like myself they like gardening. There were probably five families I'd see on a regular basis, but it seemed that most of the boxes were abandoned. It would be nice to know if someone gives up on gardening because at the end of the summer the dumpster was overflowing with produce that the neighborhood would have benefited from by donating to The Family Place as they have a community take what you need program or the Logan Food Pantry. Overall, I think that I lived off of tomatoes last summer nutritionally and spiritually! Most importantly I learned gardening skills and was able to provide more nutritious options for my family than I would have without participating. Personally, thank you for giving me the opportunity to learn and in doing so I experienced one of the most joyful summers I've had since moving to Utah 15 years ago! Loved everything about gardening!"

The Good and the Bad

"The Garden was a great experience for our family. We learned a lot and had fun doing so. The workshops were nice and being able to ask questions was great as well. The most

successful plant from our garden was the Zucchini's. We did get a few small onions as well. Most of our plants didn't do so well unfortunately. The critters got to our tomatoes before we could, most times and our peppers started out nice, but died. It did help us learn what to do and not to do for future gardens. It's been a long time since either of us really had gardens. I love being able to grow my own fruits/veggies. We are really thankful that we had the chance to do this, thank you so much for letting us join in this community garden."

A Family Affair

"We loved having the garden! Since we live really close, the boys loved to go check on it multiple times a week. They also really loved being able to pick things from the garden to eat. They all willingly tried tomatoes for the first time since they grew them, they still don't like them, but they tried them! It was fun to be able to show and explain to them how plants grow also. My husband and I had grown up having gardens and had grown a garden in our previous home, but when we moved to our current place we no longer have our own yard that we can garden in so we were also very excited and appreciative of being able to continue to garden and grow some of our own food."

Garden Images

The following images document the progress of the garden from April 2018 through October 2018 highlighting garden plot 33 as an example. Images also identify common problems among the gardeners and ways the gardeners found solutions to these problems.

Figure 1: Bridger Park Community Garden April 27, 2018

Figure 2: Bridger Park Community Gardeners, May 19, 2018

Figure 3: First planting/transplanting day, May 19, 2018.

Figure 4: Tomato cages and windmills in the garden, June 9, 2018.

Figure 5: Trapping yellow-bellied marmots, June 24, 2018

Figure 6: Preventing critters with vinyl fencing, June 29, 2018

Figure 7: Impressive garden growth, July 14, 2018

Figure 8: First tomatoes, July 26, 2018

Figure 9: Plants scorched by the sun, August 19, 2018

Figure 10: Signs of critters, August 30, 2018

Figure 11: Half-eaten tomato, August 30, 2018

Figure 12: End of season tomatoes, September 29, 2018

Figure 13: Late summer flowers, September 29, 2018

Figure 14: Last harvest, September 29, 2018

Figure 15: Wind-blown tomatoes, October 3, 2018

DISCUSSION

The objectives of the Create Farm Fresh Gardens program were to create a community garden program focused on basic gardening and nutrition skills, to promote self-efficacy among participants by providing them with an opportunity to apply gardening and nutrition skills, and to create a toolkit for other counties in Utah to implement the community garden program. The partnership between the USU Food $ense SNAP-Ed and Master Gardener programs allowed for the creation of a structured gardening and nutrition education program. The structure and sustainability of this program are made concrete through the Create Farm Fresh Gardens toolkit and fruit and vegetable handouts. These documents will provide USU Food $ense SNAP-Ed employees and USU Master Gardeners with the tools necessary to implement the community gardening program in their respective counties.

Improved self-efficacy among garden participants was noted. Participants became more confident in their ability to know how to care for a garden. One participant indicated areas in which they already know more work needed to be done: “I’ll be more proactive with pest control because an animal (or human) took everything except for the tomatoes and peppers.” The same participant used their increased confidence in their ability to garden to motivate research for future garden endeavors: “I’d like to try more spinach next time and found a book on growing tomatoes at the Friends of Logan Library book sale for 25 cents! Found out that by dropping a calcium Tum’s into the ground when transplanting tomato starts that it can assist preventing calcium spots on tomatoes!” Another participant indicated that the experience “helped us learn what to do and not to do for future gardens.” The enthusiasm of participants to successfully garden in the future as a result of the knowledge gained during their experience with the Create Farm Fresh

Gardens program is evidence of increased gardening self-efficacy among these participants.

Vegetable intake was noted by participants through the following statements:

- "Overall, I think I that I lived off of tomatoes last summer nutritionally and spiritually!"
- "The most successful plant from our garden was the zucchini's. We did get a few small onions as well."
- "They (young children) all willingly tried tomatoes for the first time since they grew them, they still don't like them, but they tried them!"

The overall increase in fruit and vegetable intake among participants was not measured due to a lack of baseline measurements, but some sort of intake was observed among the gardeners. Gardening issues prevented some of the gardeners from harvesting too many vegetables. One participant mentioned that "Most of our plants didn't do so well unfortunately. The critters got to our tomatoes before we could, most times, and our peppers started out nice, but died."

Overall food security among participants may be best demonstrated through the following quote: "Most importantly I learned gardening skills and was able to provide more nutritious options for my family than I would have without participating." The increased ability for the participants to take care of their family's nutritional needs is a key component that identifies increased food security for that participant. In addition, the increased self-efficacy noted among the feedback from the three participants demonstrates an increase in overall food security (Martin, 2016; Bandura, 1994).

The last objective of the Create Farm Fresh Gardens project was to create a toolkit for other counties in Utah to implement the community garden program. As discussed previously, a toolkit was created for future implementation of the Create Farm Fresh Gardens program throughout the state of Utah. This toolkit was presented to Food $ense employees and USU Extension Horticulture agents.

Future Implications

The Create Farm Fresh Gardens Program was piloted at Bridger Park Community Garden in Logan, Utah. Beginning in the summer of 2019, each county throughout the state of Utah will have the opportunity to implement the Create Farm Fresh Gardens program. Feedback from participants was used to refine program focuses and implementation practices. One future improvement includes one-on-one mentorship between garden participants and Master Gardeners.

The USU Food $ense program will initiate program start-up in each county during the 2019 growing season. Fostering the partnership between the USU Food $ense program and USU Master Gardener program will be vital to the long-term success of Create Farm Fresh Gardens. A toolkit was provided to USU Food $ense staff to assist in forming this partnership and starting up the Create Farm Fresh Gardens program. The toolkit provided comprehensive explanations and information on creating the partnership, finding local community gardens, choosing a garden location that targets low-income individuals and families, recruitment, program implementation, hosting garden workshops, and evaluating the program. Fruit and vegetable handouts and recruitment flyers were also provided to Food $ense NEAs to use as they implement the Create Farm Fresh Gardens program.

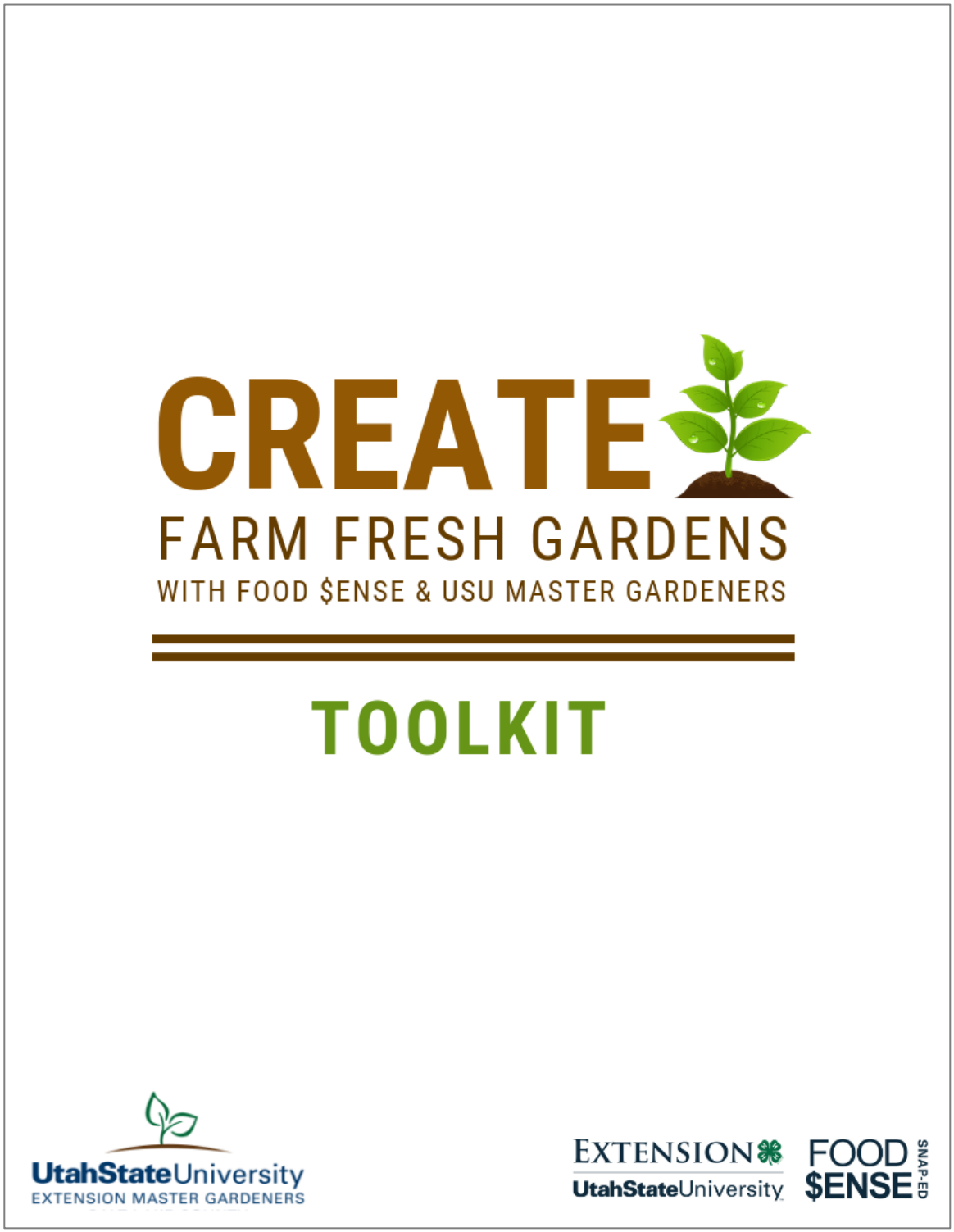
Improved evaluation techniques for the Create Farm Fresh Gardens program will be implemented in years to come. One suggestion for improvement includes incorporating a pre-post survey into the program to provide more quantitative data about the Create Farm Fresh Gardens program. This survey would questions measuring participant's level of gardening self-efficacy, fruit and vegetable intake, and overall food security status. Gardeners may also be required to measure the poundage of vegetables they harvest from their garden each year as well as their time spent in the garden. Adding quantitative data to the qualitative data on the Create Farm Fresh Gardens program will help the program continually improve in the years to come.

The Create Farm Fresh Gardens program is considered a "best practice" for helping low-income individuals and families improve their self-efficacy, fruit and vegetable intake, and overall food security. Every county in Utah with USU Food $ense and Master Gardener programs will be highly encouraged to implement the Create Farm Fresh Gardens Program among low-income participants at local community gardens.

CONCLUSION

The Create Farm Fresh Gardens Program at Bridger Park Community Garden in Logan, Utah provided five low-income families the opportunity to learn about and grow their own garden. Participants gained gardening self-efficacy as they attended garden workshops, worked with USU Master Gardeners, and independently cared for their vegetable gardens. Participants became more confident in their ability to consume vegetables daily as they relied on their garden crops. This improved self-efficacy likely led to improved levels of food security among the garden participants. Participants expressed appreciation for the opportunity to garden and a desire to pursue gardening in the future. The Create Farm Fresh Gardens Toolkit will guide the future of the program throughout various counties in Utah. This program is considered a "best-practice" and as such, implementation will be encouraged by the Food $ense staff as a means to increase the food security of program participants.

CREATE FARM FRESH GARDENS TOOLKIT



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WHAT IS CREATE FARM FRESH GARDENS?

Create Farm Fresh Gardens (CFFG) seeks to provide low-income individuals and families with the knowledge and skills necessary to grow their own garden. CFFG is a partnership between USU Extension's Food $ense and Master Gardener programs. Participants grow vegetables in local community gardens and attend monthly workshops taught by NEAs and Master Gardeners. These workshops focus on gardening tricks and nutrition tips. It is the hope that by the end of the gardening season, participants will eat more vegetables and have the confidence and skills needed to grow a garden in the future.

WHY SHOULD I BRING CFFG TO MY COUNTY?

CFFG gives participants an opportunity to not only learn about good nutrition principles, but also the opportunity to apply them. Education without application yields insufficient results. Providing participants with their own vegetable garden alongside nutrition education may be a more effective method to encourage lasting behavior change among our participants.

1

CREATING THE PARTNERSHIP

The first step in bringing CFFG to your county is to contact your local Extension agent. Extension agents will connect you to local Master Gardeners or horticultural specialists who may assist in monthly garden workshops for participants.

The first 13 counties listed to the right host the USU Master Gardener Program. The remaining 16 counties may offer other gardening/horticulture classes. Specialists who teach these classes may be willing to assist your efforts. Contact Heidi LeBlanc or Casey Coombs for additional help contacting the your local horticulture agent.

COUNTIES	CONTACT
Box Elder County	(435) 695-2542
Cache County	(435) 752-6263
Carbon County	(435) 636-3233
Davis County	(435) 499-5370
Emery County	(435) 381-2381
Iron County	(435) 267-1750
Kane County	(435) 644-4901
Salt Lake County	(385) 468-4820
Summit County	(435) 336-3217
Tooele County	(435) 277-2400
Utah County	(801) 851-8460
Washington County	(435) 634-5706
Weber County	(435) 399-8200
Beaver County	(435) 438-5450
Duchesne County	(435) 738-1140
Garfield County	(435) 676-1113
Grand County	(435) 259-7558
Juab County	(435) 623-3450
Millard County (Delta)	(435) 864-1480
Millard County (Fillmore)	(435) 743-5412
Morgan County	(801) 829-3472
Piute County	(435) 577-2901
Rich County	(435) 793-2435
San Juan County	(435) 587-3239 ext.9
Sanpete County	(435) 283-3472
Sevier County	(435) 893-0470
Uintah County	(435) 781-5452
Wasatch County	(435) 657-3235
Wayne County	(435) 836-1312

2

COMMUNITY GARDENS IN UTAH

Finding a location for the community garden may be easier than you think. Check to see if a community garden already exists in your area. Any garden managed by USU Extension would be the preferred location of CFFG. Most counties, however, do not have an Extension-owned garden. Owners of other community gardens may be willing to partner with CFFG. The table below offers a non-comprehensive list of community gardens to contact.

BOX ELDER

BOX ELDER COMMUNITY GARDEN

(435) 730-1773

750 E 100 S
Brigham City, UT 84302
At the Holy Cross Lutheran Church

www.boxeldercommunitygarden.org

BEAR RIVER VALLEY HOSPITAL COMMUNITY GARDEN

(435) 207-4500

905 N 1000 W
Tremonton, UT 84337

https://www.hjnews.com/tremonton/growing-a-community-garden-at-brv-hospital-takes-off-in/article_3eccd700-a597-11e8-908f-db80509ad07a.html

CACHE

BRIDGER PARK COMMUNITY GARDEN

(435) 752-6263

1200 N 400 West
Logan, UT 84341

megan.dyer@usu.edu

CARBON

CARBON COUNTY FOOD BANK COMMUNITY GARDEN

(435) 637-9232

375 South Carbon Avenue
Price, UT 84501

3

COMMUNITY GARDENS IN UTAH

DAVIS

CENTERVILLE COMMUNITY GARDEN
(801) 663-1293
168 N Main Street Centerville, 84014

FARMINGTON COMMUNITY GARDEN
(801) 663-1293
541 W. Rigby Road Farmington, 84025

CLEARFIELD COMMUNITY GARDEN
(801) 525-4413
896 S 1000 E Clearfield, 84015

CLINTON COMMUNITY GARDEN
(801) 614-0870
600 N 1600 W Clinton, 84015

SYRACUSE COMMUNITY GARDEN
(801) 525-4413
2356 S 1000 W Syracuse, 84075

NORTH SALT LAKE COMMUNITY GARDEN
Corner of Center Street and Orchard Drive
North Salt Lake, 84054

KAYSVILLE COMMUNITY GARDEN
478 S. Main Street Kaysville, 84037

EPISCOPAL CHURCH OF THE RESURRECTION COMMUNITY GARDEN
1131 S. Main Street Centerville, 84014

DUCHESNE

FLAMING GORGE GOOD PANTRY COMMUNITY GARDEN
(801) 614-0870
420 E 100 S Roosevelt, Utah 84066

4

GRAND

MOAB YOUTH GARDEN PROJECT

(435) 259-2326

530 S 400 E Moab, UT 84532

www.youthgardenproject.org

MOAB VALLEY MULTICULTURAL CENTER COMMUNITY GARDEN

(435) 259-5444

156 North 100 West Moab, Utah 84532

https://moabmc.org/

IRON

CARE AND SHARE COMMUNITY GARDEN

(435) 586-4962

222 West 900 North Cedar City, UT 84721

www.careandshare-ut.org

JUAB

JUAB COUNTY COMMUNITY GARDEN

(435) 623-3450

160 North Main, Nephi 84648

https://extension.usu.edu/juab/gardening

MILLARD

FILLMORE COMMUNITY GARDEN

(435) 743-5591

674 S, UT-99, Fillmore, UT 84631

https://intermountainhealthcare.org/locations/fillmore-community-hospital/

PIUTE

FILLMORE COMMUNITY GARDEN

(435) 616-2903

674 S, UT-99, Fillmore, UT 84631

https://extension.usu.edu/piute

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SALT LAKE

WASATCH COMMUNITY GARDENS

(801) 359-2658

824 South 400 West, Suite B127
Salt Lake City, Utah 84101

https://wasatchgardens.org/community-gardens/find-a-community-garden

PARKS FOR PRODUCE COMMUNITY GARDENS

(801) 359-2658 x17

https://slco.org/urban-farming/programs/

PRIMARY CHILDREN'S WASATCH CANYON CAMPUS

(801) 313-7770

5770 S 1500 W
Salt Lake CityUT 84123

https://intermountainhealthcare.org/about/transforming-healthcare/sustainability-environmental-health/community-gardens/

EARTH COMMUNITY GARDENS - HOLLADAY, CASTO, & FARMERS MARKET

(801) 930-0675

PO Box 220101, Centerfield, Utah 84622

http://earth.communitygarden.farm/

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COMMUNITY GARDENS IN UTAH

SANPETE

USU EPHRAIM COMMUNITY GARDEN

(801) 205-7578

64 North Main
Ephraim, UT 84627

https://extension.usu.edu/sanpete/gardening/

EARTH COMMUNITY GARDEN

(801) 930-0675

PO Box 220101, Centerfield, Utah 84622

http://earth.communitygarden.farm/

SUMMIT

PARK CITY HOSPITAL

amy.roberts@imail.org

900 Round Valley Dr, Park City, UT 84060

https://intermountainhealthcare.org/about/transforming-healthcare/sustainability-environmental-health/community-gardens/

SUMMIT COMMUNITY GARDENS

info@summitcommunitygardens.org

4056 Shadow Mountain Dr, Park City, UT 84098

https://www.summitcommunitygardens.org/

TOOELE

TOOELE CITY 4-H GARDEN CLUB

(435) 843-2142

379 North 1st Street, Tooele UT 84074

https://tooelecity.org/city-departments/parks-recreation/youth-services/youth-programs-school-year-2/garden-club/

TOOELE CITY COMMUNITY GARDEN

(801) 803-2936

danacooper@gmail.com

http://extension.usu.edu/tooele/gardening/

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COMMUNITY GARDENS IN UTAH

UTAH

OREM COMMUNITY GARDEN

(801) 224-4080

331 N 400 W Orem, UT 84057

https://intermountainhealthcare.org/locations/orem-community-hospital/

PROVO COMMUNITY GARDEN

(801) 930-0675

PO Box 220101, Centerfield, Utah 84622

http://provo.communitygarden.farm/

WASATCH

HEBER VALLEY COMMUNITY GARDEN

(435) 654-0757 or (435) 901-1974

820 N 1000 E Heber City, UT 84032

https://www.ci.heber.ut.us/233/Heber-Valley-Community-Garden

WASHINGTON

ZION CANYON COMMUNITY GARDEN

(435) 772-0435

https://www.zionharvest.org/_includes/ZCG.htm

SANTA CLARA COMMUNITY GARDEN

(435) 673-6733

1726 Clawson Cir, Santa Clara, UT 84765

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WEBER

NORTH OGDEN CITY COMMUNITY GARDEN

(801) 737-0587

2550 North 550 East Ogden UT, 84414

http://www.northogdencity.com/departments/parks-and-recreation/community-garden

NORTH OGDEN CITY COMMUNITY GARDEN

(801) 393-2540

2445 Monroe Blvd, Ogden, UT 84401

https://communitygarden.org/find-a-garden/gardens/oasis-community-garden/

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If possible, choose a garden within an area that fits our target population.

TARGET POPULATION

Areas where half of the population lives below 185% of the federal poverty level.

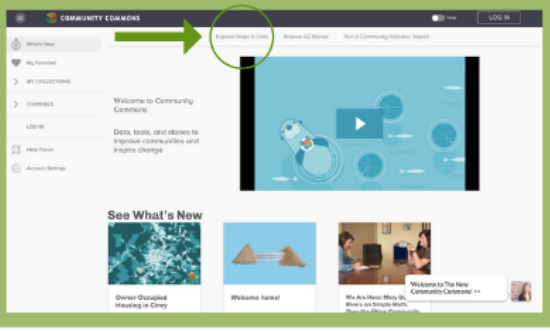
Use Community Commons to assess poverty levels in your area. Instructions are below:

STEP 1

Visit www.communitycommons.org

STEP 2

Select "Explore Maps & Data"

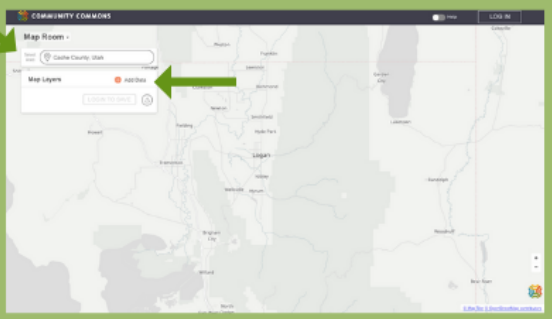


STEP 3

Select your area of interest

STEP 4

Choose "Add data" under "Map Layers"



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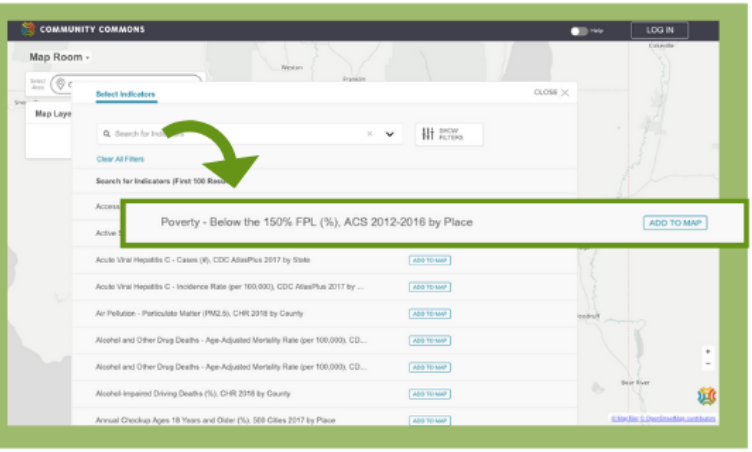
STEP 5

Search for the following indicator:

Poverty - Below the 150% FPL (%), ACS 2012-2016 by Place

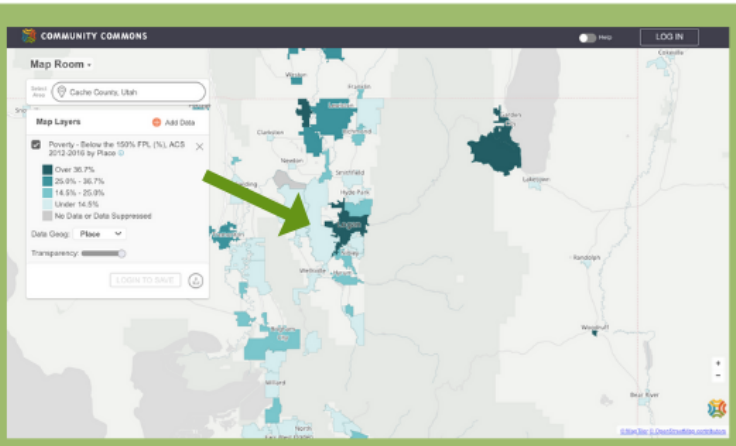
*Note: Community Commons does not asses 185% of FPL. Using the 150% FPL is the next best measure.



STEP 6

View the areas in your county where the majority of the population lives beneath the 150% FPL. Choose gardens within these regions to do your work.

The areas in darkest blue qualify for our work.



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Develop a plan for recruiting low-income individuals and families to participate in the garden program. Use a variety of methods for best results. Here are some ideas:

SCHOOLS

There's no better way to encourage parents to action than getting their children excited about your efforts. Reach out to local schools and ask if you can do a brief nutrition education activity with their students. Teach students the importance of fruits, vegetables, and gardening. Allow students to plant their own seeds in small paper cups. Provide a flyer about the garden program children can give to their parents.

SOCIAL MEDIA

Use your county's Food $ense social media platforms to advertise the Create Farm Fresh Gardens program. Social media post graphics are provided on the staff website.

FLYERS

Distribute flyers to locations where our target population are found. Suggestions include but are not limited to: schools, grocery stores, DWS, and Food $ense classes. Editable flyers are provided on the staff website.

EMAIL PAST PARTICIPANTS

Past participants know and understand the value of our programming. Advertise the CFFG program to them through email.

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PROGRAM IMPLEMENTATION

Participants in the Create Farm Fresh Gardens program need a garden plot, vegetable seeds, fertilizer, and access to tools. Any expenses for these materials will be funded by individual counties. Start-up costs average around $70. External scholarships may also be available to help pay for garden expenses. Participants are fully responsible for watering their garden, fertilizing their vegetables, and harvesting them when the time comes.

WHAT SEEDS AND PLANTS SHOULD I BUY?

Purchase seeds and/or plants that fare well in your county's weather. Ask your local Extension horticulture agent for advice. Browse the link below to explore gardening tips for fruits and vegetables that grow well in Utah.

https://extension.usu.edu/yardandgarden/fruits-vegetables-herbs

Depending on the size of the garden plots, choose 5-7 vegetables for participants to grow. In Logan, we chose carrots, zucchini, tomatoes, spinach, onions, and peppers.

WHAT TOOLS SHOULD THE GARDEN PROVIDE?

Only basic gardening tools will be needed for the vegetable garden. Some gardens may provide tools for their gardeners. In the case that tools are not provided, consider purchasing a small hand shovel, rake, or watering bucket for participants to share and use together.

REMINDERS

Choose a method to regularly communicate with garden participants. Ask participants whether email or group messaging (through apps like GroupMe) would be preferred. While taking care of the garden is solely the responsibility of the participants, we can help provide reminders along the way. Reminder graphics are provided on the staff website. Send reminders for the following:

- Watering/fertilizing
- Any special weather concerns
- Attending garden workshops

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GARDEN WORKSHOPS

HOW SHOULD I ORGANIZE THE GARDEN WORKSHOPS?

For each month of your county's growing season, a garden workshop should be hosted by an NEA & Master Gardener. The NEA will provide nutrition education focused on particular fruits & vegetables growing in the community garden. The Master Gardener will provide gardening education focused on planting, caring, and harvesting the fruits and vegetables grown in the community garden. Following the brief education, participants will be able to work in their gardens with the assistance of the Master Gardeners. The schedule of workshops could look something like this:

APRIL	GETTING STARTED: FERTILIZER & IRRIGATION
MAY	WATERING, SUSTAINABILITY & GARDEN GREENS
JUNE	PESTS, WEEDS & CUCUMBER GALA
JULY	FALL PLANTING & SALSA SHOWDOWN
AUGUST	HARVESTING, STORING & ZUCCHINI SPREE
SEPTEMBER	COMPOSTING & CHILI CELEBRATION

Adjust workshop topics and dates as needed to fit the needs of your county. Plan workshops with the Master Gardeners to assure they will be in attendance.

WHERE ARE THE GARDEN WORKSHOPS HOSTED?

Host garden workshops at the community garden. This allows participants to receive hands-on help from the Master Gardeners with any issues they are experiencing.

HOW LONG ARE THE GARDEN WORKSHOPS?

Plan a 1-2 hour block for each garden workshop. Most of the time for the workshop will be spent helping participants in the garden.

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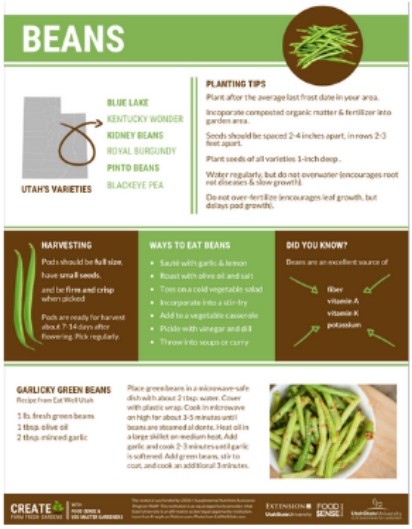
WORKSHOPS - NUTRITION EDUCATION

Garden workshops should provide simple, brief nutrition education to participants. Education may cover the following:

- Using garden produce as part of a healthy, balanced diet
- Options for excess produce
- Food $ense approved recipe ideas using garden produce
- Any topics from Create Farm Fresh Foods Curriculum

Handouts for various vegetables are provided on the staff website. Use these handouts as an outline for your presentation. Recipe samples highlighting garden produce may be provided for participants.

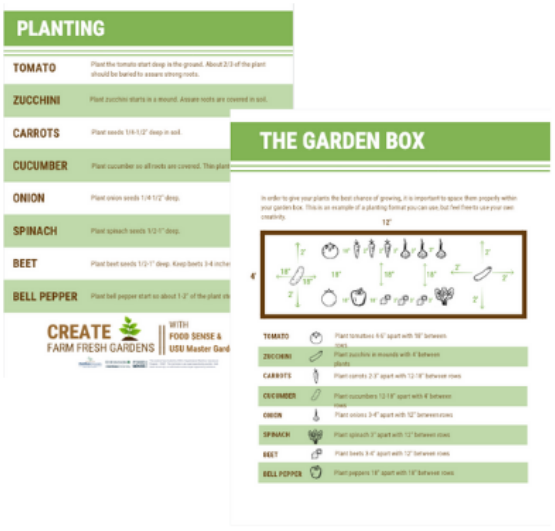


WORKSHOPS - GARDENING EDUCATION

Gardening education should cover the following:

- When to plant (vegetable specifics)
- How to plant (vegetable specifics)
- How to care & tend to plants
- Daily/weekly watering/fertilizing/weeding responsibilities

A "Planting Basics" handout can be found on the staff website.



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CREATE FARM FRESH SURVEY

TBD

PEARS

TBD

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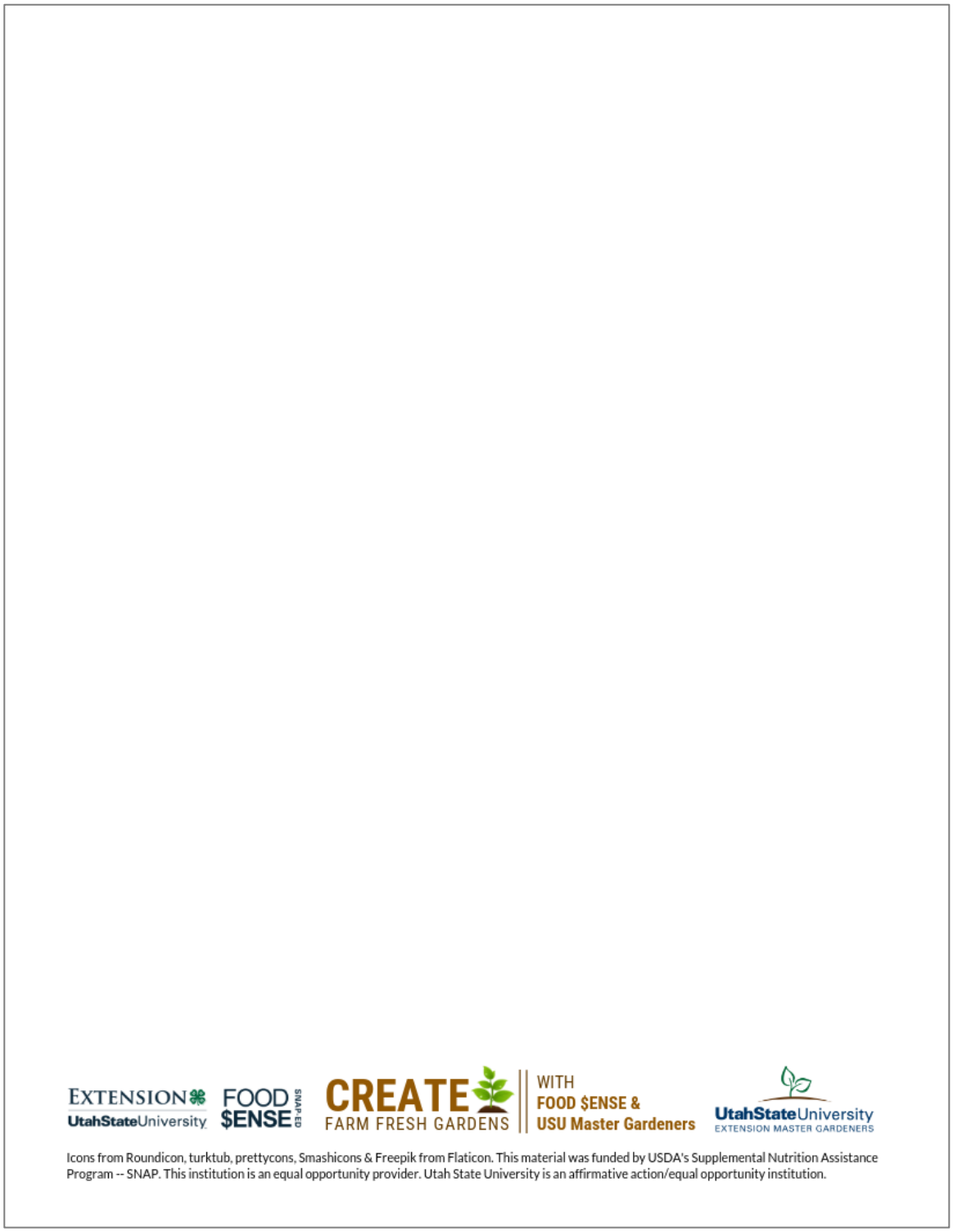
EXTENSION
UtahStateUniversity
FOOD $ENSE
SNAP-Ed
CREATE
FARM FRESH GARDENS
WITH
FOOD $ENSE &
USU Master Gardeners
UtahStateUniversity
EXTENSION MASTER GARDENERS
Icons from Roundicon, turktub, prettycons, Smashicons & Freepik from Flaticon. This material was funded by USDA's Supplemental Nutrition Assistance Program -- SNAP. This institution is an equal opportunity provider. Utah State University is an affirmative action/equal opportunity institution.

FRUIT AND VEGETABLE HANDOUTS

BEANS

UTAH'S VARIETIES

BLUE LAKE
KENTUCKY WONDER
KIDNEY BEANS
ROYAL BURGUNDY
PINTO BEANS
BLACKEYE PEA

PLANTING TIPS

Plant after the average last frost date in your area.

Incoporate composted organic matter & fertilizer into garden area.

Seeds should be spaced 2-4 inches apart, in rows 2-3 feet apart.

Plant seeds of all varieties 1-inch deep .

Water regularly, but do not overwater (encourages root rot diseases & slow growth).

Do not over-fertilize (encourages leaf growth, but delays pod growth).

HARVESTING

Pods should be **full size**,

have **small seeds**,

and be **firm and crisp** when picked

Pods are ready for harvest about 7-14 days after flowering. Pick regularly.

WAYS TO EAT BEANS

- Sauté with garlic & lemon
- Roast with olive oil and salt
- Toss on a cold vegetable salad
- Incorporate into a stir-fry
- Add to a vegetable casserole
- Pickle with vinegar and dill
- Throw into soups or curry

DID YOU KNOW?

Beans are an excellent source of

Fiber
Vitamin A
Vitamin K
Potassium

GARLICKY GREEN BEANS

Recipe from Eat Well Utah

1 lb. fresh green beans
1 tbsp. olive oil
2 tbsp. minced garlic

Place green beans in a microwave-safe dish with about 2 tbsp. water. Cover with plastic wrap. Cook in microwave on high for about 3-5 minutes until beans are steamed al dente. Heat oil in a large skillet on medium heat. Add garlic and cook 2-3 minutes until garlic is softened. Add green beans, stir to coat, and cook an additional 3 minutes.

CREATE FARM FRESH GARDENS | WITH FOOD $ENSE & USU MASTER GARDENERS

This material was funded by USDA's Supplemental Nutrition Assistance Program SNAP. This institution is an equal opportunity provider. Utah State University is an affirmative action/equal opportunity institution. Icons from Freepik on Flaticon.com. Photo from EatWellUtah.com.

EXTENSION UtahStateUniversity | FOOD $ENSE | UtahStateUniversity EXTENSION MASTER GARDENER

BEETS

UTAH'S VARIETIES

- **DETROIT DARK RED**
- EARLY WONDER
- **GREEN LEAF**
- GOLDEN
- **RED ACE**
- CANDY STRIPED

PLANTING TIPS

Beets prefer light, sandy soil mixed with organic compost matter and fertilizer.

Plant between 2-3 weeks before the last frost date and the end of July.

Seeds should be spaced 3-4 inches apart in rows that are 12 inches apart.

Plant seeds 1/2-1 inch deep.

Water beets regularly.

Apply 1/4 c. nitrogren-based fertilizer per 10 foot row 6 weeks after plants emerge.

HARVESTING

Beets can be picked at any size, but for best flavor, pick when beets are between the size of a golf ball and tennis ball. Young leaves can be eaten as well.

Roots grow between 60-80 days after planting.

WAYS TO EAT BEETS

- Roasted
- Pickled
- Steamed
- Sautéed
- Grated on salads
- Marinated in lemon juice & olive oil

DID YOU KNOW?

Beets are an excellent source of

Fiber
Folate
Manganese
Antioxidants

ROASTED ROOT VEGETABLES

Recipe from Eat Well Utah

4 root vegetables of choice*
2 carrots
1 onion, chopped
1/4 c. olive or vegetable oil
1 tsp. garlic powder
1/2 tsp. onion powder
3 tbsp. Parmesan cheese
Salt and pepper to taste

*Potatoes, parsnips, turnips, beets, sweet potatoes, or rutabaga, etc.

Preheat oven to 350 degrees. Cut vegetables into large chunks. Place in a medium bowl and pour oil over the top. Add seasonings and Parmesan and mix well. Spray a baking sheet with non-stick spray. Spread vegetables in an even layer on baking sheet. Bake for 45-60 minutes or until tender.

CREATE FARM FRESH GARDENS | WITH FOOD $ENSE & USU MASTER GARDENERS

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EXTENSION UtahStateUniversity | FOOD $ENSE | UtahStateUniversity EXTENSION MASTER GARDENER

BROCCOLI

GREEN COMET

PACKMAN

PREMIUM CROP

UTAH'S VARIETIES

PLANTING TIPS

Broccoli prefers fertile soil mixed with organic compost matter and fertilizer.

Plant between 2-3 weeks before the last frost date.

Seeds should be spaced 12-18 inches apart in rows that are 2-3 inches apart.

Plant seeds 1/4 - 3/4 inch deep.

Water deeply and infrequently (about 2 inches of water per week).

Apply 1/2 c. nitrogren-based fertilizer 4 weeks after planting/transplating and again (this time 1/4 c.) when the broccoli head is the size of a quarter.

HARVESTING

Broccoli heads should be harvested when heads are compact but flower buds have not opened. Mature heads are 6-12 inches in diameter and stems 8-10 inches long.

Broccoli can be stored for 1-2 weeks at 32 degrees.

WAYS TO EAT BROCCOLI

- Roasted
- Steamed
- Sautéed
- In salads
- In pasta dishes
- In stir-fry
- In casserole

DID YOU KNOW?

Broccoli is an excellent source of

Vitamins A, C, and K
Calcium
Fiber
Folate
Antioxidants

BROCCOLI BERRY ORZO SALAD

Recipe from Eat Well Utah

3/4 c. orzo pasta (uncooked)
2 c. fresh broccoli (chopped)
2 c. fresh strawberries (diced)
1/4 c. sunflower seeds
Lemon Poppyseed Dressing:
1 tbsp. lemon juice
2 tbsp. apple cider vinegar
2 tbsp. olive oil
1 tsp. sugar/honey
1 tsp. poppy seeds (ptional)

Cook orzo pasta according to directions. Drain and rinse with cold water. In a large bowl, combine orzo pasta, broccoli, strawberries, and sunflower seeds. Drizzle with lemon poppyseed vinaigrette and toss to combine. Season with salt and pepper. Chill in refrigerator until ready to serve.

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CARROTS

UTAH'S VARIETIES

- DANVERS
- CHANTENAY
- SCARLETT NANTES
- IMPERATOR

PLANTING TIPS

Broccoli prefers fertile, sandy soil mixed with organic compost matter and fertilizer.

Plant carrots after soils reach 40 degrees.

Seeds should be spaced 2-3 inches apart in rows that are 12-18 inches apart.

Plant seeds 1/4 - 1/2 inch deep, thin when plants have 3-4 leaves.

Water regularly. Established carrots need water when top 2 inches of soil are dry.

Apply 1/4 c. nitrogren-based fertilizer per 10 feet of row 6 weeks after emergence.

HARVESTING

Carrots can be harvested when roots begin to size. Generally roots will mature 70-100 days from seeding.

Carrots can be stored for 2-4 weeks at 32 degrees.

WAYS TO EAT CARROTS

- With a dip
- Steamed
- Sautéed
- In soup
- In stir fry
- Grated into baked goods

DID YOU KNOW?

Carrots are an excellent source of

Vitamin A
Biotin
Fiber
Antioxidants

CARROT OAT MUFFINS

Recipe from Eat Well Utah

4 c. carrots
1 c. old fashioned oats
8 eggs
6 tsp. cinnamon
4 tsp. baking soda
4 tsp. vanilla
1 tsp. nutmeg
4 tbsp. honey

Preheat oven to 350 degrees. In a large pot, add carrots and cover with water. Bring to a boil and cook until carrots are soft, about 15 minutes. Remove from heat and drain water. Place all ingredients in a large bowl. Mix until smooth. Spray a muffin-tin with non-stick cooking spray. Pour batter into muffin-tin. Bake 45-50 minutes until toothpick inserted into the center of a muffin comes clean.

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CANTALOUPE

UTAH'S VARIETIES

- **AMBROSIA**
- CLASSIC HYBRID
- **HALES BEST**
- MISSION
- **ROCKY SWEET**
- SUMMIT HYBRID

PLANTING TIPS

Cantaloupe prefers fertile, sandy soil mixed with organic compost matter and fertilizer.

Plant cantaloupe after soils reach 65 degrees.

Plant 4-6 seeds in mounds, 4 feet apart. After they have leaves, thin to two plants per mound.

Plant seeds 1-2 inches deep.

Water deeply and infrequently, 1-2 inches per week. Reduce watering as fruits ripen to improve flavor.

After the vines develop runners, apply 1-2 tbsp. of fertilizer to mounds.

HARVESTING

Cantaloupes are ripe 35-45 days after flowering. The netting will be course and rough, the stem will break away easily, and the background color of the fruit will be yellow - not green.

Cantaloupe will store for 1-2 weeks if stored at 45-50 degrees.

WAYS TO EAT CANTALOUPE

- Melon soup
- Kebab it
- Melon salsa
- Sweet salads
- Cantaloupe cooler (juice pop)
- Smiley wedges

DID YOU KNOW?

Cantaloupe is an excellent source of

Vitamins A & C
Potassium
Fiber

MINTY MELON SALAD

Recipe from Eat Well Utah

1/2 cantaloupe, seeded and chopped into bite-sized pieces
1/2 honeydew, seeded and chopped into bite-sized pieces
1 tsp. dried basil
1/4 c. chopped mint leaves
3 tbsp. olive oil
1 1/2 tbsp. honey
1 tbsp. balsamic vinegar

In a small bowl, whisk the dressing by combining the olive oil, honey, and vinegar. Add all other ingredients to a bowl and drizzle the dressing over the top. Toss to combine.

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CABBAGE

GOLDEN ACRE
RUBY BALL
SAVORY ACE
DANISH BALL HEAD

UTAH'S VARIETIES

PLANTING TIPS

Cabbage prefer well-drained soil mixed with organic compost matter and fertilizer.

Plant cabbage when daily temperatures fall between 25 and 80 degrees.

Plant cabbage 12-18 inches apart in rows 2-3 feet apart.

Plant seeds 1/4 - 3/4 inches deep.

Water deeply and infrequently, 1-2 inches per week.

Apply 1/2 cup per 10 feet of row 4 weeks after transplanting or thinning to encourage plant growth.

HARVESTING

Cabbage heads should be harvested when the heads reach full size and are firm and compact. Cut the stem below the head leaving 2-3 wrapper leaves for protection.

Cabbage can be stored for 2-6 months at 32 degrees. Avoid storing next to apples, pears, or avocadoes.

WAYS TO EAT CABBAGE

- Fish tacos
- Slaw
- Stir fry noodles
- Soup
- Roasted
- Grilled

DID YOU KNOW?

Cabbage is an excellent source of

Vitamin C
Vitamin B6

ORIENTAL BEEF STIR FRY

Recipe from Eat Well Utah

3 tsp. cornstarch
2 tbsp. + 1/3 c. water, separated
2 tbsp. low-sodium soy sauce
2 tbsp. rice vinegar
1 tsp. white sugar
1/4 tsp. black pepper
1 tbsp. olive oil
1 tsp. garlic powder
8 oz. thin sliced beef
1/2 c. yellow onion, diced
1 red bell pepper, diced
1 green bell pepper, diced
1 large carrot, thin sliced
1 cup red or green cabbage
Sesame seeds

Mix cornstarch and 2 tbsp. water in a medium bowl. Mix until smooth. Mix in the soy sauce, vinegar, sugar, and pepper. Place the beef and 2 tbsp. of sauce in a bowl. Let marinate for 15 minutes. Add 1/3 c. water to the remaining sauce. Set aside. Heat oil in a large skillet. Add the beef and garlic powder. Mix well to coat. Cook for 1 minute. Add the onion and cook for 1-2 minutes until beef has cooked through. Add the carrots and bell peppers. Cook for 1 minute. Add the remaining sauce and mix well. Add the cabbage and cook 1-2 minutes until all vegetables are tender crisp. Serve alone or over a bed of rice.

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CAULIFLOWER

UTAH'S VARIETIES

- EARLY SNOWBALL
- SNOW CROWN
- WHITE CONTESSA
- SELF BLANCHE
- RAVELLE

PLANTING TIPS

Cauliflower prefer fertile, well-drained soil mixed with organic compost matter and fertilizer.

Plant cauliflower when temperatures are below 75 degrees.

Plant cauliflower 12-18 inches apart in rows 2-3 feet apart.

Plant seeds 1/4 - 3/4 inches deep.

Water deeply and infrequently, 1-2 inches per week.

Apply 1/2 cup per 10 feet of row 4 weeks after transplanting or thinning to encourage plant growth.

HARVESTING

Keep the head shaded from the sun to prevent discoloration. Harvest heads when they are 6-12 inches in diameter.

Cauliflower can be stored for 3 weeks at 32 degrees

WAYS TO EAT CAULIFLOWER

- Roasted
- Steamed & mashed
- Pizza crust
- Soup
- Curry
- Grilled
- Dipped in hummus

DID YOU KNOW?

Cabbage is an excellent source of

Folate
Vitamin K
Vitamin C
Potassium

CAULIFLOWER FETTUCINE ALFREDO

Recipe from Eat Well Utah

5-6 c. cauliflower, steamed
3 c. low-sodium vegetable broth
1 tbsp. olive oil
4 cloves garlic, minced
1 tsp. salt
Pinch of nutmeg
Pinch of black pepper
1/4 c. cream
Top with peas, broccoli, or green beans

Heat oil in pan and saute garlic for 1-2 minutes. In a blender, place cauliflower and broth; blend for 1 minute. Add the garlic, salt, nutmeg, and black pepper. Puree until smooth. Slowly add in more oil or broth to reach your desired consistency. Transfer back to saute pan and keep warm. Serve with fettucine noodles.

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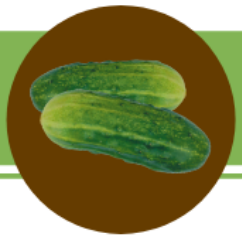
CUCUMBERS



UTAH'S VARIETIES

- MARKETMORE
- SPACEMASTER
- SWEET SUCCESS
- ARMENIAN
- BOSTON PICKLING

PLANTING TIPS

Cucumbers prefer well-drained, sandy soil mixed with organic compost matter and fertilizer.

Plant cucumbers when soil is 65 degrees.

Plant 4-6 seeds 12-18 inches apart in rows 4 feet apart.

Plant seeds 1 inch deep.

Water deeply and infrequently, 1-2 inches per week.

Apply 1/4 cup per 10 feet of row before cucumber starts to flower.

HARVESTING

Cucumbers are ready to harvest 5-7 days after flowering. Smallest fruits have the most flavor.

Store for 10-14 days at 55 degrees.

WAYS TO EAT CUCUMBERS

- Dipped in hummus
- Salads
- Diced in tuna or chicken salad
- Pickled
- Salads
- Sandwiches
- Cold pasta

DID YOU KNOW?

Cabbage is an excellent source of

Vitamin C
Vitamin B
Vitamin K
Potassium

LENTIL & CUCUMBER SALAD

Recipe from Eat Well Utah

2 c. lentils
4 c. water
3 tomatoes, finely diced
1 onion, finely diced
1 handful cilantro, diced
1 serrano pepper, diced (optional)
1 cucumber, chopped
1 c. tomato juice cocktail
Juice of 2 oranges
Salt to taste (optional)

Soak the lentils in the water for 50 minutes and drain. Put the lentils in a deep bowl. Add the chopped tomatoes, chopped onions, chopped cilantro, diced pepper, chopped cucumber, tomato juice, and orange juice. Season with salt to taste. Serve with tostadas or warm tortillas.

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EGGPLANT

UTAH'S VARIETIES

- **WHITE EGGPLANT**
- GLOBE EGGPLANT
- **ITALIAN EGGPLANT**
- JAPANESE EGGPLANT
- **INDIAN EGGPLANT**

PLANTING TIPS

Eggplants prefer well-drained, sandy soil mixed with organic compost matter and fertilizer.

Plant cucumbers when soil is 60 degrees.

Plant seeds 24 inches apart in rows 24 inches apart.

Eggplants grow best from transplants.

Water deeply and infrequently, 1-2 inches per week.

Apply 1/2 tbsp. per plant at 4 and 8 weeks after planting.

HARVESTING

Pick eggplant when they are full size, have a glossy sheen, and are 6-8 inches long. Use a knife or pruning shears to cut fruit away from the plant.

Store for up to 7 days. Eggplants cannot be canned or dryed, but can be blanched & frozen.

WAYS TO EAT EGGPLANT

- Eggplant parmesan
- Add to curries, stir-fries
- Roast, peel & serve over pasta
- Eggplant pizza
- Eggplant lasagna
- Bread, bake, serve
- Kabobs

DID YOU KNOW?

Cabbage is an excellent source of

Potassium
Folate
Fiber

EGGPLANT PARMESAN

Recipe from Allrecipes.com

3 eggplants, peeled & thinly sliced
2 eggs, beaten
4 c. Italian seasoned bread crumbs
6 c. spaghetti squash
16 oz. mozzarella cheese
1/2 c. grated Parmesan cheese
1/2 tsp. dried basil

Preheat oven to 350 degrees F. Dip eggplant slices in egg, then in bread crumbs. Place in a single layer on a baking sheet. Bake in preheated oven for 5 minutes each side. In a 9x13 inch baking pan, spread spaghetti sauce to cover the bottom. Place a layer of eggplant slices in the sauce. Sprinkle with mozzarella and Parmesan cheeses. Repeat with remaining ingredients, ending with the cheeses. Sprinkle basil on top. Bake in preheated oven for 35 minutes, or until golden brown.

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GARLIC

HARD NECK GARLIC

SOFT NECK GARLIC

ELEPHANT GARLIC

UTAH'S VARIETIES

PLANTING TIPS

Garlic prefers rich, well-drained, fertile soil mixed with organic compost matter and fertilizer.

Plant garlic between mid-September and November.

Plant the largest unpeeled cloves with the pointed end up 1-3 inches deep.

Space 1-3 inches apart in rows.

Water 18 inches deep per week.

Side-dress with 1/2 lb. nitrogen fertilizer per 100 sq. feet in late April or early May.

HARVESTING

Begin to harvest when the garlic tops begin to yellow and fall over.

Store excess garlic by drying and use the remaining best bulbs for next year's planting.

WAYS TO EAT GARLIC

- Sauces & stews
- Sautéed with vegetables
- Roasted
- Pizza
- Salad dressings
- Hummus
- Pesto

DID YOU KNOW?

Garlic is an excellent source of

Vitamin C
Vitamin B6
Selenium
Manganese

GARLIC VEGETABLE SAUTE

Recipe from Eat Well Utah

1 tbsp. olive oil
3 cloves garlic, minced
1 jalepeño, seeded and minced
2 small zucchini, quartered
1 yellow bell pepper, cut into chunks
1 red bell pepper, cut into chunks
1 small yellow onion, cut into chunks
Black pepper, to taste
1 pinch paprika

Heat olive oil in a large skillet; cook and stir garlic and jalepeño until softened, about 5 minutes. Add zucchini, bell peppers, and onions; continue to cook and stir until vegetables are tender, about 5 minutes. Season with pepper and paprika.

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KALE

VATES BLUE SCOTCH CURLED

RED RUSSION

WINTERBOR

UTAH'S VARIETIES

PLANTING TIPS

Kale prefers rich, well-drained, fertile soil mixed with organic compost matter and fertilizer.

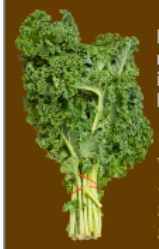
Kale grows best when temperatures stay below 75 degrees.

Plant kale 1/4 - 3/4 inches deep.

Space 12-18 inches apart with 2-3 feet between rows.

Water deeply and infrequently, 1-2 inches deep per week.

Apply 1/2 c. per 10 feet of row 4 weeks after transplanting or thinning to encourage plant growth.



HARVESTING

Harvest kale when leaves reach full size. Frosts help improve the flavor of leaves.

Kale can be stored for 2-3 weeks at 32 degrees F and 95% humidity. Many gardeners leave kale growing in the garden through the winter.

WAYS TO EAT KALE

- Egg dishes
- Sautéed with vegetables
- Salads
- Pizza/pasta
- Green smoothies
- Roasted
- Sandwiches

DID YOU KNOW?

Kale is an excellent source of

Vitamin A
Vitamin C
Vitamin K
Folate
Calcium
Omega-3 fatty acids

MASSAGED KALE SALAD WITH MANGO & AVOCADO

Recipe from healthyfoodforliving.com

1 bunch of kale, stripped from stalks and thinly sliced
1/4 c. olive oil
1 tbsp. lime juice
2 tsp. honey
1 ripe mango, peeled & diced
1 ripe avocado, diced
1/4 c. toasted almond slices
1/4 c. toasted coconut flakes

In a large bowl, toss kale, olive oil, and a pinch of salt. Massage with hands until kale softens and wilts (2-3 minutes).

In a small bowl, whisk together olive oil, honey, salt, & pepper to taste.

Toss massaged kale, dressing, mango, and avocado. Chill until ready to serve. Top with almonds and coconut.

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KOHLRABI

GRAND DUKE
RAPID
WHITE VIENNA
PURPLE VIENNA

UTAH'S VARIETIES

PLANTING TIPS

Kohlrabi prefers fertile, well-drained soil mixed with organic compost matter and fertilizer.

Plant in the early spring or fall.

Plant seeds 1/4 - 3/4 inches deep.

Space 1 foot apart in rows.

Water frequently, 1-2 inches deep per week.

Apply 1 c. per 10 feet of row 3 weeks after transplanting or thinning to encourage plant growth.

HARVESTING

Harvest when stems are 2-3 inches in diameter. Young leaves can also be eaten like spinach or kale.

Kohlrabi can be stored for 2-3 weeks at 32 degrees F and 95% humidity. When prepared, the outer skin is peeled off and the inner flesh is eaten raw or cooked.

WAYS TO EAT KOHLRABI

- Raw
- Pureed into soup
- Roasted
- Steamed
- Grated into salads

DID YOU KNOW?

Kohlrabi is an excellent source of

Calcium
Vitamin C
Potassium
Folate

ROASTED KOHLRABI WITH PARMESAN

Recipe from foodnetwork.com

6 kohlrabi, peeled
2 tbsp. olive oil
3/4 tsp. salt
1 pinch of cayenne pepper

Peel kohlrabi and cut into 1-inch wedges; toss with 2 tablespoons olive oil, 3/4 teaspoon kosher salt and a pinch of cayenne on a rimmed baking sheet. Roast at 450 degrees F, stirring every 10 minutes, until tender and golden, about 30 minutes. Toss with 3 tablespoons parmesan and 1 tablespoon chopped parsley.

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LETTUCE

UTAH'S VARIETIES

GREAT LAKES
ICEBERG
SALINAS
SUMMERTIME
RED ROMAINE
ESMERELDA

PLANTING TIPS

Lettuce prefer fertile, well-drained soil mixed with organic compost matter and fertilizer.

Plant in the early spring or fall (after soil reaches above 40 degrees.

Plant seeds 1/4 - 1/2 inch deep.

Space 8-12 inches between plants, 12-18 inches between rows.

Water regularly, 1-2 inches deep per week.

Apply 1/4 c. per 10 feet of row 4 weeks after transplanting or thinning to encourage plant growth.

HARVESTING

Leaves can be harvested at any time. Pick outer leaves to encourage inner-leaf growth. Heads can be picked once they reach mature sizes.

WAYS TO EAT LETTUCE

- Sandwiches
- Salads
- Tacos
- Wraps
- Grilled

DID YOU KNOW?

Lettuce is an excellent source of

Vitamin A
Vitamin C
Folate
Magnesium
Manganese
Zinc
Omega-3 fatty acids

LUNCHBOX SANDWICH KABOBS

Recipe from Eat Well Utah

2 slices whole wheat bread
1 slice low-fat cheese
2 slices lean turkey
2 lettuce leaves

Slice up whole wheat bread, turkey, cheese, and lettuce. Push a skewer stick through, and you've got yourself a sandwich kabob! Add fruit and veggies on the side to cover all the food groups. If your kids like to dip, try adding Cottage Cheese Dip with the veggies.

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ONIONS

UTAH SWEET
SPANISH FIESTA
WALL-WALLA
SWEET SANDWICH

UTAH'S VARIETIES

PLANTING TIPS

Onions prefer rich, well-drained soil mixed with organic compost matter and fertilizer.

Plant transplants in late March or early April.

Plant seeds 1/4 - 1/2 inch deep.

After seeds emerge, thin plants 3-4 inches apart in rows 8-16 inches apart.

Water regularly, 18 inches deep per week.

Apply 1/2 lb. of fertilizer per 100 square feet in May or June. Do not fertilize in July.

HARVESTING

Green onions may be harvest 50 days after planting. Bulb onions may require 100 to 120 days of maturing. Leave bulb onions in the ground until the tops fall over. Once this happens, take the bulbs out of the ground and let them dry in the garden for 2-3 weeks.

WAYS TO EAT ONION

- Sandwiches
- Salads
- Tacos
- Pizza
- Grilled
- Kabobs
- Soups

DID YOU KNOW?

Onions are an excellent source of

Vitamin A
Vitamin K
Folate
Antioxidants

SALSA IN A BLENDER

Recipe from Eat Well Utah

4 vine tomatoes, crushed and quartered
1 red onion, peeled and quartered
3 garlic cloves, minced
3 jalepeños, seeded
1/3 c. fresh cilantro
3 tbsp. fresh lime juice
1 tbsp. cumin
2 tsp. sugar
1/2 tsp. salt
15 oz. can crushed tomatoes
4.5 oz. can diced green chilis

Place all ingredients in a blender or food processor. Blend or pulse until all the ingredients are fine and well-blended.

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PEAS

UTAH'S VARIETIES

- **SUGAR SNAP**
- LITTLE SWEETIE
- **PATRIOT**
- LINCOLN
- **EARLY FROSTY**
- OREGON SUGAR POD

PLANTING TIPS

Peas prefer fertile, well-drained soil mixed with organic compost matter and fertilizer.

Plant seeds when soil reaches 55-65 degrees F.

Plant seeds 1 inch deep.

Plant seeds 1-2 inches apart, in rows 12-24 inches apart.

Water regularly when the top of the soil dries out.

Peas do not require fertilizer.

HARVESTING

Snap peas are harvested about 5-8 days after flowering. Pods should be full size with small seeds and have firm, crisp flesh when picked. Garden peas are ready for harvesting 18-21 days after flowering. Use immediately for best quality and flavor.

WAYS TO EAT PEAS

- Fresh
- Stir-fry
- Sautéed
- Green salad
- Pasta salad

DID YOU KNOW?

Peas are an excellent source of

Vitamin C
Vitamin K
Fiber
Folate
Protein

SPRING PEA SALAD

Recipe from Eat Well Utah

3-5 c. lettuce or spinach
3 cucumbers, thinly sliced
2 avocados, cut into wedges or cubes
3 radishes, thinly sliced
1 c. peas
1/2 c. feta cheese
Salt and pepper to taste
Salad dressing of choice

Arrange the lettuce/spinach in a large bowl. Scatter the cucumbers, avocados, radishes, peas, and feta cheese. Toss with salt, pepper, and dressing.

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BELL PEPPERS

GREEN
RED
YELLOW
ORANGE
PURPLE

UTAH'S VARIETIES

PLANTING TIPS

Peppers prefer organic, rich, well-drained, sandy soil for best growth.

Plant seeds after the last frost date.

Plant seeds 1/2 inch deep.

Plant 4-6 seeds 18 inches apart in the rows.

Water deeply & infrequently, 1-2 inches per week.

Apply 1/4 tbsp. fertilizer at 4 and 8 weeks after planting.

HARVESTING

Peppers are ready to harvest 35-45 days after flowering. Fruits should be firm, plump, and have firm skin. Pick fruits as they mature. At the end of the season, pick all fruit that has colored slightly.

Peppers will store for 1-2 weeks if held at 50 degrees F.

WAYS TO EAT PEPPERS

- Salad topping
- Tacos/burritos
- Sautéed with other veggies
- Diced into salsa
- Pasta salad
- Dipped in hummus
- Sandwich topping

DID YOU KNOW?

Peppers are an excellent source of

Vitamin A
Vitamin C
Fiber
Potassium

EGGS OVER PEPPER

Recipe from Eat Well Utah

1 tbsp. olive oil or canola oil
1 large bell pepper
4-5 large eggs
1/2 tsp. onion powder
1/2 tsp. garlic powder
Salt and pepper to taste
1/4 c. shredded cheese to taste
1/4 c. green onions, chopped

Heat oil in a large skillet over medium heat. Cut peppers into 1/2" rings. Remove the seeds and centers. Place sliced peppers in the skillet and sauté for 1-2 minutes. Crack an egg into the center of each pepper ring. Sprinkle all eggs with onion powder, garlic powder, salt, and pepper. Sauté for 3-5 minutes until egg is cooked through. Flip if needed. Top with cheese and green onions and cook until cheese is melted.

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POTATOES

UTAH'S VARIETIES

BUTTE
GEM RUSSET
CHIPETA
YUKON GOLD
ALL BLUE
VIKING

PLANTING TIPS

Potatoes prefer organic, rich, well-drained, soil.

Plant seeds after the last frost date.

Plant seeds 4-6 inches deep.

Plant seeds 10-12 inches apart in the row, with 30-36 inches between rows.

Water deeply & infrequently, 1-2 inches per week.

Apply 1/2 lb. fertilizer per 100 sq. feet 6 weeks after potatoes emerge.

HARVESTING

Potatoes can be harvested as soon as they begin forming or as they mature. Consume new potatoes quickly. Potatoes for storage are not ready until mid-September.

Potatoes will store for 2-3 months if held at 45-50 degrees F.

WAYS TO EAT POTATOES

- Boiled
- Roasted with herbs
- Baked potato wedges
- Casseroles
- Mashed
- Soups
- Potato salads

DID YOU KNOW?

Potatoes are an excellent source of

Vitamin B6
Potassium
Fiber
Antioxidants

RED POTATO SALAD

Recipe from Eat Well Utah

1 c. yogurt, plain, fat-free
1/4 c. mayonnaise, low-fat
1 tbsp. yellow mustard
4 medium red potatoes
1/2 c. celery, chopped
1/4 c. onion, finely chopped
1/2 tsp. salt
1/4 tsp. pepper

Combine yogurt, mayonnaise, and mustard in a small bowl. Mix well and refrigerate. Wash potatoes and place in pot. Cover with water about 1 inch above the potatoes. Bring water and potatoes to a boil and let simmer until potatoes are fork tender. Drain potatoes and set aside to cool. When potatoes are cooled, cut into bite-sized cubes. Place cut potatoes into large bowl. Add celery, onions, salt, and pepper to potatoes. Top with sauce and mix well.

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PUMPKINS

UTAH'S VARIETIES

- **AUTUMN GOLD**
- CONNECTICUT FIELD
- **SPIRIT HYBRID**
- JACK BE LITTLE
- **WEE-BE-LITTLE**
- BABY BEAR

PLANTING TIPS

Pumpkins prefer organic, rich, well-drained, soil.

Plant seeds when soil temperatures reach 65 degrees F.

Plant four to six seeds in mounds 4 to 6 feet apart.

After plants have two leaves, thin to two plants per mound.

Water deeply & infrequently, 1-2 inches per week.

After vines develop, side dress with 1 to 2 tbsp. per mound.

HARVESTING

Pumpkins take 45 to 55 days to mature after flowering. Pumpkins are mature when they are fully colored, when the vine begins to die and turns black and the rind is unaffected by a scratch from a fingernail. Mature fruits should be harvested with the stem attached and stored where they do not freeze.

WAYS TO EAT PUMPKINS

- Toasted seeds
- Pumpkin soup
- Pumpkin pasta sauce
- Pancakes
- Muffins
- Roasted with other vegetables

DID YOU KNOW?

Pumpkins are an excellent source of

Vitamin A
Vitamin C
Potassium
Fiber

PUMPKIN PANCAKES

Recipe from Eat Well Utah

1/2 c. pumpkin puree
1 banana, mashed
3 eggs
2 tbsp. low-fat milk
1 tbsp. honey
1 tsp. vanilla
1/2 c. whole wheat flour
1 tsp. cinnamon or pumpkin pie spice
1/2 tsp. baking soda
1/2 tsp. salt

In a large bowl, mix together the pumpkin, banana, eggs, milk, honey, and vanilla. Add the flour, vanilla, cinnamon, baking soda, and salt. Whisk until smooth. Heat a non-stick skillet over medium heat. Spray with non-stick cooking spray. Pour batter onto skillet in 1/4 c. cupfuls. Cook for about 2 minutes until pancakes start to bubble. Flip and cook 2-3 minutes on the other side. Repeat with remaining batter. Makes about 8 pancakes.

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RADISHES

UTAH'S VARIETIES

- CHAMPION
- CHERRY BELLE
- DAIKIN LONG WHITE
- ICICLE
- EASTER EGG

PLANTING TIPS

Radishes prefer fertile, well-drained, sandy soil.

Plant seeds when soil temperatures reach 40 degrees F.

Plant 1/2-1 inch deep.

Radishes should be thinned to 1-2 inches between plants in a row with rows 10-12 inches apart.

Cooler conditions improve root flavor and quality.

Water deeply & infrequently, 1-2 inches per week.

Apply 1/4 c. fertilizer per 10 foot of row.

HARVESTING

Radishes can be picked when roots reach full size. Roots are generally mature 25-45 days from seeding depending on the variety. Pull up plants by the tops and trim off leaves. Wash and store in plastic bags in a refrigerator for 2-4 weeks. Radishes should be harvested before heavy frosts or freezes.

WAYS TO EAT RADISHES

- Pasta salad
- Salsa
- Guacamole
- Tacos
- Slaw
- Dip
- Sliced on toast
- Roasted

DID YOU KNOW?

Radishes are an excellent source of

- Vitamin C
- Folate
- Fiber
- Niacin

FRESH CORN & RADISH SALAD

Recipe from Eat Well Utah

4 ears of corn, raw
2 green onions, chopped
1 jalapeño, seeded & minced
3/4 c. radishes, thinly sliced
3 tbsp. fresh lime juice
3 tbsp. olive oil
1/4 c. cilantro, chopped
Pepper to taste

Remove corn kernels from the cob. Mix corn, green onions, and jalapeño in a bowl. Toss with lime juice and olive oil. Add radishes and cilantro right before serving.

Yield: 4 cups

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RUTABAGAS & TURNIPS

UTAH'S VARIETIES

- **AMERICAN PURPLE TOP**
- MARION
- **PURPLE TOP**
- WHITE GLOBE
- **JUST RIGHT HYBRID**

PLANTING TIPS

Rutabagas & turnips prefer well-composted soil.

Plant seeds when soil temperatures reach 40 degrees F.

Plant 1/4-1/2 inch deep.

Seeds should be thinned when plants have 3-4 leaves.

Cooler conditions improve root flavor and quality.

Water deeply & infrequently, 1-2 inches per week.

Apply 1/4 c. fertilizer per 10 foot of row.

HARVESTING

Rutabaga and turnip leaves can be harvested anytime after they reach full size. Roots mature 60 to 80 days after seeding. Use a digging fork to loosen soil and pull up plants by the tops. Start harvesting when rutabaga roots reach 4 inches in diameter and the turnip is 2 inches. Both rutabagas and turnips are tolerable to frost. Many gardeners overwinter rutabagas and turnips under a layer of mulch.

WAYS TO EAT RUTABAGA/TURNIPS

- Roasted
- Spiraled
- Hasselback
- Pureéd into soup
- Shredded in slaw

DID YOU KNOW?

Rutabagas/turnips are an excellent source of

Vitamin C
Folate
Potassium
Magnesium

RUTABAGA & CARROT SOUP

Recipe from IrishAmericanMom.com

2 tbsp. butter
1 medium rutabaga, diced
2 large carrots, sliced
1 onion, chopped
6 c. chicken stock
Salt and pepper to taste

Melt the butter in the bottom of a large saucepan. Add the carrots, turnips and onion, stirring them well to completely coat them in butter. Cover the pot and sweat the vegetables for 10 minutes to soften them. Add the stock and season well with salt and pepper. Bring the soup to boiling point, lower the heat. then cover the pot and let the soup simmer for 30 minutes, or until the vegetables are nice and tender. Let soup cool and blend for a creamy consistency.

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SPINACH

BLOOMSDALE
MELODY
TETON
OLYMPIA

UTAH'S VARIETIES

PLANTING TIPS

Spinach prefer rich, well-drained, organic soil.

Plant seeds when soil temperatures reach 40 degrees F.

Plant 1/2-1 inch deep.

Spinach should be thinned when plants have 3-4 leaves.

Space seeds 3 inches apart in rows 12 inches apart.

Water deeply & infrequently, 1-2 inches per week.

Apply 1/4 c. fertilizer per 10 foot of row 4 weeks after emergence to encourage rapid plant growth.

HARVESTING

Individual spinach leaves may be picked anytime before the flower stalk forms. Older leaves are often stripped off the plants first, allowing the younger leaves to continue to grow. Spinach can be stored for 1-2 weeks after harvest.

WAYS TO EAT SPINACH

- Sautéed
- Dip
- Pasta/lasagna
- Sandwiches
- Egg dishes
- Salads
- Pizza
- Risotto

DID YOU KNOW?

Spinach is an excellent source of

Vitamin A
Vitamin B6
Vitamin C
Vitamin E
Folate
Potassium
Iron
Zinc

SPINACH & PARMESAN ORZO

Recipe from Eat Well Utah

1 box orzo or other whole-grain pasta
2 tbsp. olive oil
2 garlic cloves, minced
1/4 medium onion, finely diced
1 small red bell pepper, diced
2 tbsp. whole-wheat flour
1 c. low-fat milk
3 c. fresh spinach, coarsely chopped
Salt and pepper to taste

Cook orzo according to package directions. Drain well. In a large saucepan, heat olive oil over medium heat. Add onions and garlic and cook until they begin to soften, 2-3 minutes. Add flour to the pot and stir to coat the onions and garlic. Slowly whisk the milk. When milk mixture begins to thicken, add spinach and Parmesan, stirring to melt cheese.

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STRAWBERRIES

JUNE-BEARING

DAY-NEUTRAL

UTAH'S VARIETIES

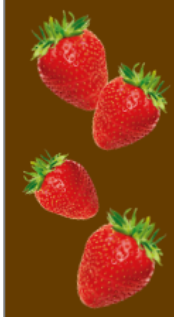
PLANTING TIPS

Strawberries prefer sunny garden areas full of well-drained sandy/clay soil.

Strawberries grow best from transplants.

Begin watering plants after soil has thawed completely and the ground has dried out in the top 2-3 inches..

Fertilize before planting as well as in late summer.



HARVESTING

Fruits should be harvested every other day after fruit is ripe. To get the maximum shelf life, pick fruit in the morning, then refrigerate.

WAYS TO EAT STRAWBERRIES

- Off the vine
- Spinach salad
- Fruit salad
- Smoothies
- Topped on yogurt
- Sliced in whole-grain cereal

DID YOU KNOW?

Strawberries are an excellent source of

Vitamin C
Vitamin E
Folate
Potassium

STRAWBERRY AVOCADO WRAP

Recipe from Eat Well Utah

4 whole-wheat tortillas
8 slices bacon, cooked & crumbled
1 avocado, pitted and sliced
10 strawberries, sliced
1 large handful spinach leaves
1/2 tbsp. honey or maple syrup
1/4 tsp. Dijon mustard
1/8 tsp. salt
1/8 tsp. black pepper
1/4 tsp. garlic powder
1 tbsp. balsamic vinegar
3 tbsp. olive oil

Whisk the honey, mustard, salt, pepper, garlic powder, vinegar, and oil together in a medium bowl. Set aside. Fill each tortilla with 1/4 of the bacon, spinach, strawberries, and spinach. Drizzle with 1 tbsp. vinaigrette mixture. Roll up and serve!

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SQUASH

UTAH'S VARIETIES

YELLOW SQUASH
ZUCCHINI
BANANA SQUASH
ACORN SQUASH
CROOKNECK
PATTY PAN

PLANTING TIPS

All squash prefer organic, rich, well-drained, sandy soils for best growth.

Plant seeds when soil temperatures reach 65 degrees F in a sunny location.

Plant 1-2 inches deep.

Plant 4-6 seeds in mounds 4 feet apart.

After they have more than 2 leaves, thin to 2 leaves per mound.

Water deeply & infrequently, 1-2 inches per week.

After the vines develop runners, side-dress with a nitrogen fertilizer, using 1-2 tablespoons per plant or mound. Incorporate the fertilizer at least 6 inches away from the plants.

HARVESTING

Squash are mature when fruits are fully colored, when vines begin to die back, and when the rind has hardened. Mature fruits should be harvested with the stem attached and stored in cool, dry conditions.

WAYS TO EAT SQUASH

- Stuffed
- Stir-frys
- Italian style
- Squash medley
- Vegetable spaghetti
- Squash salsa
- Squash cake

DID YOU KNOW?

Squash is an excellent source of

Vitamin A
Vitamin D
Calcium

ZUCCHINI ENCHILADAS

Recipe from Eat Well Utah

1 tbsp. olive oil
1 c. onion, chopped
2 tsp. garlic powder
2 tsp. ground cumin
2 tsp. chili powder
3 c. chicken cooked & shredded
1 (10 oz.) can red enchilada sauce
4 large zucchini, halved lengthwise
1 c. Monterey jack cheese
1 c. cheddar cheese, shredded
Sour cream
Cilantro

Preheat oven to 375 degrees. Spray a baking dish with non-stick cooking spray. Heat oil in a large skillet. Add onion. Cook until soft, about 5 minutes. Add garlic, cumin, and chili powder. Stir to combine. Add chicken and half of enchilada sauce and mix well. Using a vegetable peeler* make thin slices of zucchini. Lay three pieces, slightly overlapping and place a spoonful of the chicken mixture on top. Roll up and transfer to a prepared baking dish. Top with remaining enchilada sauce and cheeses. Bake until melted, about 20 minutes. Serve with sour cream & cilantro.

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SWEET CORN

STANDARD SWEET

SUGAR ENHANCED

SUPER SWEET

UTAH'S VARIETIES

PLANTING TIPS

Corn prefer soil that is rich in organic matter, well drained, and fertile.

Plant seeds when soil temperatures reach 60 degrees F

Plant 1-2 inches deep.

Seeds should be spaced 9-12 inches apart in a row with up to 30 inches between rows.

Water regularly for best results

Side-dress sweet corn with ½ lb per 100 square feet when plants have eight to ten leaves, and with an additional ¼ lb when the first silks appear. Place the fertilizer 6 inches to the side of the row and irrigate into the soil.

HARVESTING

Sweet corn ears mature in 15 -24 days from silk emergence, depending on the temperature. Ears are mature when silks are dry and brown with the husks still looking moist and green. To harvest, grasp the ear, snap downward while twisting the ear. Sweet corn can be stored for several days if refrigerated. Do not remove the husk until it is ready for use.

WAYS TO EAT CORN

- Roasted
- Boiled
- Grilled
- Topped on salads
- Mixed in burritos/tacos
- Thrown in soup

DID YOU KNOW?

Corn is an excellent source of

Vitamin C
Potassium
Fiber

BLACK BEAN & CORN SALSA

Recipe from Simple Spoon

3 cans beans (any combination of black, kidney, white, or pinto)
2 c. corn, cut from the husk
3/4 cup chopped onion
1 garlic glove
2 cups diced cherry tomatoes
1 cup diced bell pepper
1/2 cup lemon juice
1/6 cup olive oil
1 1/2 tsp salt

Add all ingredients together in a large bowl and gently mix together. Allow to sit for 5-6 hours before serving for best flavor results. Chill in refrigerator.

Serving suggestions:
-serve on top of tortilla chips or tortillas
-add to scrambled egg mixture
-serve as pico on taco salad

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SWEET POTATOES

BEAUREGARD

BUSH PORTO RICO

JEWEL

SUMNOR

UTAH'S VARIETIES

PLANTING TIPS

Sweet potatoes prefer soil that is rich in organic matter, well drained, and fertile.

Plant slips after frost danger has past.

Plant 2 inches deep.

Plant slips in rows 36-48 inches apart, spaced 12 inches apart within the row.

Provide ample watering after planting and as the roots are establishing. Water in moderation as the plants mature.

Side-dress with 1/2 lb. of nitrogen-based fertilizer per 100 feet in July for optimal vine growth.

HARVESTING

Sweet potatoes can be harvested once the roots are 1 ½ to 2 inches thick. Most gardeners wait until the foliage starts to turn yellow or after the first frost damages the leaves, but before the soil freezes to harvest sweet potatoes. When properly cured, sweet potatoes can be stored for three to four months.

WAYS TO EAT SWEET POTATOES

- Roasted
- Grilled
- Egg skillet
- Tossed on a salad
- Baked in fries
- Layered on sandwiches
- Mashed

DID YOU KNOW?

Sweet potatoes are an excellent source of

Vitamin A
Phosphorus
Magnesium
Calcium
Potassium
Fiber

SWEET POTATO CASSEROLE

Recipe from Eat Well Utah

4 lbs. sweet potatoes
2 medium apples
1/2 c. water
1/4 c. honey or maple syrup
2 tsp. cinnamon
1/4 tsp. nutmeg
1/2 tsp. salt
1 tbsp. butter
1/2 c. low-fat milk
1/2 c. chopped pecans

Chop sweet potatoes into 1 inch cubes. Peel apples and chop them into 1 inch pieces. Place both sweet potatoes and apples in a slow cooker. Add the water, honey, cinnamon, nutmeg, and salt. Cover and cook on high for 3 hours, until sweet potatoes are soft. Use a fork or potato masher to mash the sweet potato mixture to your desired consistency. Add butter and milk and mix well until combined. Sprinkle pecans on top and serve.

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SWISS CHARD

RHUBARB
BRIGHT LIGHTS
LUCULLUS
FORDHOOK GIANT

UTAH'S VARIETIES

PLANTING TIPS

Swiss chard prefer soil that is rich in organic matter, well drained, and fertile.

Transplants should be planted near the last frost-free date for the growing area. Seeded Swiss chard may be planted 3-4 weeks earlier.

Seeded or transplanted Swiss chard should be spaced 6 inches between plants in the row with rows 12 inches apart.

Water swiss chard regularly, about 1-2 inches a week.

Side-dress with 1/2 c. of nitrogen-based fertilizer per 10 feet of row.

HARVESTING

Swiss chard can be harvested when the leaves reach full size or anytime after they form. Older leaves are often stripped off the plants first, allowing the young leaves to grow. A 10-foot row of Swiss chard will produce 8-12 pounds. Swiss chard can be stored for one to two weeks if refrigerated.

WAYS TO EAT SWISS CHARD

- Sauteéd with garlic and Parmesan cheese
- Stir-fry
- Salad
- Omelet
- Pasta

DID YOU KNOW?

Swiss chard is an excellent source of

Vitamin A
Vitamin C
Vitamin K
Magnesium

SWISS CHARD EGG BAKE

Recipe from Kaylyn's Kitchen

8-10 oz. Swiss chard leaves, thinly sliced
1-2 tsp. olive oil
3/4 c. Mozzarella cheese
1/2 c. Feta cheese (or more mozzarella)
1/4 c. sliced green onion
8 eggs, beaten
1 tsp. all-purpose seasoning
Salt and pepper to taste

Preheat oven to 375 F. Spray a 8 x 11.5 glass casserole dish with olive oil or non-stick spray. Cut stems off the chard leaves and discard stems. Stack up the leaves in a pile and cut the chard into ribbons about 1 inch wide. (If your chard is from the garden, give it a good wash in the salad spinner and spin dry.) Heat olive oil in a heavy non-stick frying pan, add the chard ribbons all at once, and cook while stirring until the chard has all wilted and slightly softened. Layer wilted chard, Mozzarella cheese, and Feta cheese in the bottom of the casserole dish and sprinkle with green onions. Beat the eggs with the all-purpose seasoning, salt, and pepper and pour over the chard/cheese mixture. Bake about 35 minutes, or until the egg bake is set and starting to lightly brown.

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TOMATOES

CHERRY
PEAR
HEIRLOOM
ROMA

UTAH'S VARIETIES

PLANTING TIPS

Swiss chard prefer sunny locations with soil that is rich in organic matter, well drained, and fertile.

Tomatoes should be planted once soil temperatures reach 60°F or when frost danger has passed.

Plant seeds 4 to 6 inches apart, ½ deep in the soil, and 18 inches apart in the row.

After the seedlings have two leaves, thin to one to two plants per clump.

Water swiss chard regularly, about 1-2 inches a week.

Side dress tomato plants with a nitrogen fertilizer, using ½ tablespoon per plant at four and eight weeks after transplanting.

HARVESTING

Tomato fruits require 25 to 35 days to mature from flowering, depending on the temperature and variety. Pick fruits when they are fully colored, but firm for the best flavor and quality. At the end of the season, harvest all fruits that are mature, green or colored slightly.

WAYS TO EAT TOMATOES

- Sliced on sandwiches
- Fresh salsa
- Tacos
- Roasted
- Grilled
- Raw
- Topped on pizza
- Omelets

DID YOU KNOW?

Tomatoes are an excellent source of

Vitamin C
Lycopene
Antioxidants
Biotin

GREEK VEGGIE SALAD

Recipe from Eat Well Utah

5 tbsp. olive oil
2 tbsp. fresh lemon juice
1 clove garlic
1 tbsp. red wine vinegar
1/2 tsp. dried oregano
1 tbsp. dried dill
2-3 medium tomatoes
1 medium red onion
2 medium zucchini
1 medium cucumber
4 oz. feta cheese

Chop veggies and place them in a large bowl. In a small bowl, whisk together the remaining ingredients. Pour the dressing over the vegetables and mix well. Sprinkle feta cheese on top.

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WATERMELON

UTAH'S VARIETIES

- **CRIMSON SWEET**
- MIRAGE HYBRID
- **MICKYLEE**
- MINILEE
- **GOLDEN CROW**
- YELLOW BABY

PLANTING TIPS

Watermelons prefer organic, rich, well-drained, sandy soils for best growth.

Plant seeds once soil temperatures reach 65°F or when frost danger has passed.

Plant 4-6 seeds in mounds 4 feet apart.

Once plants have two leaves, thin to 2 plants per mound.

Water regularly, about 1-2 inches a week.

Once the vines develop runners, side dress with a nitrogen fertilizer, applying 1-2 tablespoons per plant or mound.

HARVESTING

Watermelon plants take 35-45 days to mature from flowering. The curly tendril opposite the fruit should be brown and withered; the ground spot under the fruit changes from white to yellow; and the skin color changes from shiny to dull. Watermelon stores for 1-2 weeks in the refrigerator.

WAYS TO EAT WATERMELON

- Sliced
- Grilled
- Tossed in a berry salad
- Sorbet
- Smoothies
- Dipped in yogurt

DID YOU KNOW?

Watermelon is an excellent source of

Vitamin C
Vitamin A
Water
Calcium

WATERMELON SORBET

Recipe from Eat Well Utah

2 c. frozen watermelon, diced
1/2 c. plain, low-fat yogurt
1/4 c. sugar, to taste
1 tsp. lime juice

Add all ingredients to a blender. Blend until smooth. Serve immediately.

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