

Seeds of Solidarity: Grow Food Everywhere Childcare Provider Garden Program 2014 Summary of Successes, Results from Research, and Outreach Outcomes

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This report includes:

- Project overview and summary
- Introduction to the research goals and methodology
- Findings from the research
- Project documentation and outreach accomplishments
- Copies of surveys and other tools utilized

Project Overview and Summary

History and Description:

Seeds of Solidarity, a non-profit organization based in the North Quabbin region of Western-Central MA initially launched our Grow Food Everywhere for Health and Justice initiative to create gardens at the homes of families facing hunger as well as at public locations throughout the community. But joblessness, landlord problems or domestic violence sometimes meant families had to leave their homes... and gardens. Simultaneously, we realized that there were many women in our community who ran family childcare programs at their homes, and that these providers could reach 10-12 children and their families-many in need of nourishment in all forms- through one garden. And, they had the enthusiasm and flexibility to integrate garden learning into the day, and to use their fresh harvest for snacks and lunches. Over the past two years, this program has blossomed a supportive and enthusiastic network of family childcare providers, inspired many young children to grow, prepare and enjoy healthy vegetables, increase physical activity, cultivate connection to nature, and extend fresh joy to their families.

Project Summary

In 2013, five licensed family childcare providers serving low-income children and families in the North Quabbin region were identified and participated in the trial year of the program with a goal to: Promote nutrition education and consumption of fresh food among young children and their parents, through gardening and cooking at family daycare sites. All were enthusiastic and continued into year 2, although one provider put her childcare program 'on hold' due to the birth of her own 3rd child. In 2014, five new day care providers received raised bed gardens, curriculum activities and training. Previous participating providers (who received gardens in 2013) continued and contributed to the program as well, reaching approximately 100 children and their families. Of the 10 participating providers, eight participated in the research, with two unable to do so due to family and health issues. In addition, two parenting and childcare organizations received support for garden programs. Youth leaders in Seeds of Solidarity's existing SOL Garden program engaged in community service learning as they grow seedlings for, and helped to implement gardens and document the experiences of daycare providers and the children and families they serve via weekly summer visits to program sites. Based on the program successes, research findings, and great

community interest, it is our hope to expand this program each year by adding five new providers and continuing to support current participants, strengthening a network and disseminating this model of effective early childhood health promotion and learning.

Research Methodology

In the following pages of this report as well as in companion documents, research methods, findings and insights are described, based on these key questions:

How do attitudes among children towards eating fresh vegetables change as a result of the program?

Does the program leave a lasting impact in regards to day care provider/teacher skill development and integration?

How does this program impact families and the greater community?

How much food can be grown in a 4 x 8 raised bed (salad garden and diverse vegetable garden) over 3 seasons?

A primary intent of the research design, data collection, and analysis was to make the research process itself meaningful, as well as to examine multiple elements of a program with modest resources. An additional goal was to create materials that would be useful to our program in the coming years, plus adaptable and useful to other organizations and programs. We based our approach on Participatory Action Research, a process that addresses questions and issues important to those who participate as co-researchers, in this case family childcare providers and youth leaders. Such an approach is accessible and enjoyable for all involved, and builds on the wisdom of those familiar with a community and its needs.

Seeds of Solidarity executive director Deb Habib, Ed.D and community education staff Ya-Ping Douglass co-designed the methodology and discussed the analysis, with Ya-Ping doing the leg work of disseminating, gathering, and compiling research materials, serving to further her own educational experience as an adult learner at Goddard College as well as her important contribution to program improvement as Seeds of Solidarity staff.

One body of data collection materials was developed to gather information about the first three questions above that are related directly to the experiences of children, providers and families involved with gardens and programming at family childcare sites. The fourth question was addressed through a different protocol, with youth leaders designing and monitoring a sample research bed at Seeds of Solidarity, advancing their own learning through the process. Both bodies of methods are described here, with surveys and other materials included as samples at the end of this report. Now developed, these will be improved upon based on findings, and useful to our program in subsequent years as well as to others seeking to implement similar initiatives.

Methods used to gather data with the family childcare program included:

An initial questionnaire for providers designed in a format to make the introduction to participating in the research friendly for providers; a notebook given to each provider with sheets on which to document garden observations and ways in which they used produce for snacks, lunches, and activities; program observations by Seeds of Solidarity staff; anecdotal information offered by providers on a closed group facebook page; an end of the summer survey for providers; and an end of the summer survey for participating families. While all components were important to on-going program enrichment and improvement, the surveys, both from families and providers proved the

most fruitful and reliable source of summative data regarding program impact. These findings follow this research description.

The research limitations were primarily around the fact that the participating populations lead full and/or often very challenging lives. Many of the families served by this program and who were asked to complete surveys are faced with day-to-day economic and domestic struggles, work multiple jobs, or have literacy challenges. Of over 70 families served by the providers (some with multiple children in care, so close to 100 children were actually served) 36 families, or almost half completed surveys, a positive return considering the above-mentioned life circumstances. In order to respect family privacy and promote return, providers distributed surveys to families, with a gift certificate raffle for those who returned them by a set date. While pleased with the returns, it is our projection that this number would have likely been higher if not for some additional limiting factors. We projected that survey distribution in early September would allow for families and providers to experience the garden fully and have the most complete information with which to respond, we learned this is also a time of changeover and some participating families had aged out of the childcare programs by the time of survey distribution. Many families do not have access to computers or printers, just phones, but there may be a way to extend and receive electronic results as well. Additionally, two of the providers had family or health crises at that time and were not able to achieve returns of surveys from families (one of whom had many families with, as observed, positive garden experiences), and one provider was not able to complete her own provider survey due to personal crisis. In the future, to remedy this, survey distribution may occur slightly earlier in the season in order to capture the experiences of more families.

In addition to the data they provided, the research components created an opportunity for providers to reflect throughout the program and at the culmination of the season, and a means to share and celebrate the value in their work. Similarly for the families, the survey itself may have had an effect of deepening their appreciation for the garden by providing that reflection time, and to think and share more about their interest in, or challenges to gardening and eating fresh vegetables at home. These inherent benefits, and our intention to solicit participant feedback to improve data collection methods, are considerations we have already begun to think about for next year.

As the findings on the following pages indicate, the success of the program is great, with all current providers wishing to continue and more seeking involvement, and many positive program impacts indicated by families.

Research Findings

From research with providers we learn that:

Gardens at home-based, licensed childcare programs are an effective way to reach numerous children and families:

Close to 100 children in the care of 10 participating childcare providers, and from over 70 different families (some have multiple children in care) had the opportunity to regularly experience the gardens, and benefit from the harvest during the 2014 program season.

Attitude towards, and consumption of fresh vegetables increases as a result of gardens:

100% of providers used the vegetables from the gardens in snacks and lunches, ranging from eating them raw from the garden, to making kale chips, soup, and salads.

Providers reported that 77% of children developed an increased positive attitude towards vegetables because of the garden.

Examples of increased positive attitude towards vegetables include:

“A child that was reluctant to try any new food began trying the vegetables that we grew and found she liked some of them.”

“I have one child who refused to eat ANY vegetables. Now that he has helped grow some, he will at least try one vegetable each day.”

“One of the little boys did not like trying new things. But after having the garden and having him help take care of the veggies he at least tries new veggies such as kale chips.

“It wasn't just one child. Many of them were just more open minded to trying the foods, even if they didn't care for it. The kale was a big hit!”

Gardens are successfully integrated into learning and play:

- Providers spent between 1-3 hours a week engaging children in the garden. week.
- All of the providers use the garden informally during playtime with the children, and with structured learning activities.
- Seven out of eight providers used the garden to build awareness with nature.

Providers positively assess impact on families:

Providers reported that:

- Over 75% of families have shown interest in the garden at the childcare site, and talk with their children about the garden
- 68% of families tasted vegetables from the garden
- 60% of families tried buying and eating new vegetables as a result of the garden
- 48% (nearly half!) of families tried growing new vegetables at home because of the garden

Provider observations include:

“Families are extremely excited that their children are participating in the garden.”

“At least 3 families now follow the lead of our successful snack of spinach dip.”

“A child asked to grow broccoli and sugar snap peas at home”

“We shared some basil with a dad. He was very excited about it.”

“Four of my families had their own gardens this year. B. and T. helped their mother and used their skills from when we built and planted our garden. They were telling their mom how to plant salad greens and carrots”

Providers are enthusiastic about sustaining gardens as part of their programs:

100% of providers wrote that they are “definitely” inspired to continue having a garden at their childcare facility. Their comments on experiences and future hopes include:

“Thank you the children and I love the garden.”

“I love the connection we have to SOS w/ the garden. I'm always eager to learn. with SOS I do!”

“We love being able to be a part of this program. The support is fantastic, and resources provided, either in print, in person, or via email or facebook definitely help us feel connected, supported, encouraged, and INSPIRED!”

“I am very ecstatic about my garden and I enjoy seeing the vegetables grow.”

“It has been an amazing experience. The kids loved being a part of our garden and they loved the visit when we built the garden and when Ya Ping came to make salad dressing. Looking forward to many more years!”

“Great program. A must do.”

From research with families we learn that:

Overall interest in fresh vegetables among children shows significant increase:

Over 90% of parents responding reported that their children have shown more interest in eating fresh vegetables after having a garden at their childcare facility. Of these, 35% reported that their children have “a lot” more interested in eating fresh vegetables since having a garden at the childcare facility.

Gardens engage families in numerous ways:

- Over 90% of parents reported that they have seen the gardens at the daycare sites, and most of these indicate that their child has shown them or talked to them about the garden.
- Almost 75% of parents tasted something from the garden!
- 75% of the parents said their child(ren) seem to enjoy the garden produce included in the daycare snacks and lunches.

These numbers are closely comparable to provider reporting and observations on similar questions.

In response to “What is your child's favorite thing about the garden?” some families answered by revealing the specific vegetable the child most liked to eat, vegetables such as: carrots, beans, kale, tomatoes, cucumbers, pea pods, green beans, lettuce, cherry tomatoes, green chives, sugar snap peas. Others wrote about “planting the seeds”, “watching things grow”, “playing in the dirt” and “picking the vegetables.”

Childcare gardens provide opportunities and success not otherwise readily available:

For about half of the children, the daycare garden was either their first opportunity to garden at all, or their first opportunity to garden regularly. Responses to where the children had gardened before were inconclusive, but included homes of relatives rather than their own. Comments comparing the diverse, organic raised bed gardens to others attempts were noted: ”But the garden at preschool did much better and has more variety. :-)” and “But Mrs. Wendy's garden is so much better.”

Question of impact on increased consumption of fresh vegetables at home warrants further inquiry:

Out of the 35 respondents to the question of “Has having a garden at your daycare influenced your child's eating habits at home” - 5 families answered “no” because their children already “eat everything” or “loved vegetables already.” Of the families that did not specify that that was the reason for their answer of ‘no,’ over 25% of the families replied yes, that their children's eating

habits were influenced, 50% said that their children's eating habits were influenced a little, and just under 25% of the families said that their children's eating habits did not change.

Because the family shopping patterns, and related availability of fresh food at home did not necessarily change over the duration of the gardening program, it is difficult to know whether children may have chosen more fresh food if readily available, as other findings do indicate significantly increased interest. It is also quite possible that *more* than the five families who answered that their children's eating habits were *not* changed because their children *already* ate many vegetables answered “no” for a similar reason, but did not think to write this reason down.

Examples from parents do indicate many interesting changes in eating behaviors at home as influenced by their children’s garden experiences:

“she suddenly loves tomatoes”

“healthier, excited to eat what they grew”

“she eats a lot more veggie including lots of salad”

“they love veggies more than junkfood”

“will only eat vegetables from the garden”

“she now eats spinach, cucumbers”

“he picks out new vegetables at the store and eats them at home. He's more likely to try something new if it's picked right out of the garden”

“They ask for chives at home but we only had dried! They love to pick them from the garden at Ms. Kim's!”

“She is more interested in vegetables than before. Does not push them out of the way as often”

“Although she ate veggies before, she now takes some home – is very excited about it”

Families express strong interest in having their own garden as a result of the childcare program:

80% of families said that they were either inspired to start or expand their own gardens as a result of the family childcare provider garden. An additional 15% indicated they would like to, but feel they cannot due to barriers such as not owning their home, lack of space for a garden, lack of time, and lack of energy. Only 1 respondent stated that they were not interested and were “only interested in planting flowers.”

Comments from families regarding taking the garden experiences home include:

[We]:

“are going to start a garden next spring”

“would consider expanding and eating fresh vegetables more.”

“switched from canned to fresh.”

“will add more vegetables next year to our garden”

“are inspired when we come home to tend to our own garden, knowing how much fun kids of all ages are having at childcare with their garden”

“love to garden but let it go when I had my daughter – busy! Having this reminded us how much we love to garden and it's a great activity to do with her now!”

In addition to the Seeds of Solidarity family childcare program examined in this study, our organization supports additional community sites, including a parenting center, where a staff provided this insight:

“We are a non-profit Family Resource Center. Seeds of Solidarity installed a raised bed in our backyard and every year helps us to get it seeded and planted. The families that come to our support groups and play groups maintain the garden and are given the fruits, vegetables, and herbs to bring home. Many families (who do not have yards) have become inspired to do container gardening and continue what they have learned at home.” Staff, Valuing our Children, Athol

Ripples are felt as other social service organizations note the impact Seeds of Solidarity programs have on community members in need:

“Seeds of Solidarity works within one of the poorest communities in Massachusetts. Giving people control over producing healthy food for their families is very empowering. Coaxing vegetables from the earth creates nourishment for our bodies but is also healing psychologically for people who have suffered trauma. We are very fortunate to have this vibrant nonprofit in our North Quabbin region.” Executive Director, The Literacy Project

Additional Research and Findings

Garden Yield: Methods and Outcomes

An additional research question, asked by visitors to Seeds of Solidarity and as part of this research is:

How much food can be grown in a 4 x 8 raised bed (salad garden and diverse vegetable garden) over 3 seasons?

To gather data related to this question we planted one, and observed other 4 x 8 x 16” gardens to determine the diversity of crops capable of growing in a small space over three seasons.

And, Created, planted, and monitored a 4 x 8 x 8” raised bed with a diversity of salad greens, plus used additional measurements from farm crops.

The salad bed was a primary focus of the research, given that this information is not readily available elsewhere, whereas there is research available from proponents of ‘square foot gardens’ regarding raised beds with diverse vegetable plantings. To carry out the research, we engaged youth leaders in our SOL Garden program in building, planting and monitoring a garden at the Seeds of Solidarity site in spring of 2014. The bed was planted with eight, 2 x 2 patches of arugula, lettuce, spinach, braising mix, and pea greens. The youth discussed using coming measuring units such as large and small salad bowls and typical grocery store plastic salad containers as well as weight, as weight is not a comprehensive indicator of serving size given the light weight of greens. In addition to the research salad garden harvests, greens were harvested from comparable plantings on Seeds of Solidarity Farm, to fill in research gaps in crops, and such as when research interrupters such as the neighbor’s chickens impacted data. Data was compared and extrapolated based on 15 years of producing greens on our farm, using the same method as in the research garden. In order to make the findings most useful and accessible to many, we created a guide that accompanies this research report called: Creating Raised Bed Gardens that answers questions such as: how to build raised beds of wood; how to design your vegetable plantings for optimal harvest, and how much salad you grow

in a season. This will be readily available on our website, promoted in our outreach, and used in educational presentations.

Program and Research Outreach Outcomes

In addition to the successful implementation of the gardens with family childcare providers and related research, these outcomes were achieved in 2014 and enhance the project outreach goals that support other organizations in carrying out and evaluating similar programs that address hunger and hopelessness through ‘nourishing’ community based efforts.

A map and key were created to document all of the locations of the family childcare and other community sites (health center, library, schools) where gardens are located. These are posted to the Seeds of Solidarity website and allow for additional sites to be added to the interactive map each year. These can be located at:

A document entitled Creating Raised Beds was written and produced and is now freely available via our website and for workshop teaching/use. This document answers questions we are often asked in regards to gardens for home, school, and community settings: How to build raised beds of wood? How to design your vegetable plantings for optimal harvest? How much salad can you grow in a season? And includes results from our research regarding designing and planting for optimal yields. This guide can be accessed and downloaded at:

Program best practices were shared with members of the multi-agency North Quabbin Community Coalition Children’s Health and Wellness Task Force at monthly meetings.

And through a number of conference and workshop settings to disseminate practices and garner support among a broader audience.:

- Baystate Child Nutrition Program, Worcester
- Ecological Literacy Immersion Program, Omega Institute, Rhinebeck NY
- UMASS Health Equity Conference, Amherst
- MA statewide Farm to School Conference (proposal submitted for Jan 2015 conference)

Project highlights are also distributed via Seeds of Solidarity’s monthly enews (1,500 subscribers), facebook postings and annual print newsletter (2,500 copies), (in press)

Social media was utilized via a facebook group where providers and Seeds of Solidarity staff actively share garden and educational information, anecdotes, questions, and ideas useful to improving the program along the way.

Outreach goals still pending include connecting participating family childcare providers to the new and growing North Quabbin Community Co-op, called Quabbin Harvest, as a year-round, affordable source of fresh and organic produce for daycare lunches and snacks.

Garden Survey for Providers

Your Name: _____

It is so exciting to work with wonderful family childcare providers to grow gardens! Your responses to this survey will help us a lot with improving the program and seeking future funding. Thank you very much. Deb and Ya-Ping, Seeds of Solidarity

1) How many total kids do you have in your program?
(day and afterschool combined) _____

2) In your observation, how many of the kids in your care have a more positive attitude about eating fresh vegetables as a result of the garden? _____

3) Can you share one example or story of a child whose attitude towards vegetables has changed significantly because of the garden?

4) Please give some examples of how you incorporated vegetables into your snacks or lunches [in a new way] since having a garden.

5) How else do you use/enjoy the garden?

Check all that apply:

- informally during playtime
- for structured learning activities
- to build awareness of nature
- other _____

Approximately how much time do you think you spend caring for and exploring in the garden with kids each week?

(turn over for side 2)

6) How many families do you currently serve (whose kids experienced your garden)? _____

How many of these families would you say have....
(fill in the approximate number of families, in the blank for each, for example:
Shown interest in the garden at your site: 8 families.)

- Shown interest in the garden at your site: ___families
- Talked with their own children about the garden: ___families
- Tasted any of the vegetables in the garden: ___ families
- Tried growing new vegetables at home: ___families
- Tried buying and eating new vegetables at home: ___families

Please give an example of any of the above that you have heard from a family:

7) Has this program inspired you to have a vegetable garden as part of your family childcare program from here on? Circle one:

Definitely probably not sure unlikely

8) What has surprised you the most about having a garden?

9) Do you have questions for us, goals for yourself, or tips for others as we enter the fall gardening season?

10) Is there anything else you'd like to tell us about having a garden at your childcare site or being part of this Seeds of Solidarity program?

Garden Survey for Families

Seeds of Solidarity, an organization in Orange, helped make possible a raised bed vegetable garden at your family childcare.

It is very important to us to know what this garden has meant to you. Please take a few minutes to fill this out, then give it to your provider by Sept 15th and enter the raffle!

1) Check all that are true for you:

- I've seen the garden!
- My child has shown or talked to me about the garden.
- I've tasted something from the garden.
- My child seems enjoys the garden produce in their snacks and lunches at childcare.

2) What's your child's age?

baby – 2 years 3 – 5 years 6 or older

3) What's your child's favorite thing about the garden?

4) Has your child had the opportunity to garden before? If so, where? (school, home, another family member's, etc.)

5) Is your child showing more interest in fresh vegetables since having a garden at their childcare? (such as eating them at home, noticing them in the store, etc.) Circle one:

A lot some a little not really

(turn over to side two)

6) Has having a garden at childcare has changed any of your child's eating habits at home?

Circle one:

Yes

a little

no

Please give an example:

7) Has the childcare garden increased your interest in starting or expanding a garden, or cooking with fresh vegetables? Please complete the sentence of your choice.

Yes, we... _____

No, but I wish... _____

No, I'm not interested in gardening or cooking with fresh vegetables because...

8) Please tell us anything else about the garden and your child's experiences or what you or other members of your family have gotten from your experience of the garden:

Name of your Childcare Provider _____

Thank you Very Much for your time and feedback.
Deb and Ya-Ping at Seeds of Solidarity

