

BIOAg Project Progress Report

Report Type:

Progress

Title:

At-School Youth Farmers Markets: Can Hands-on Experience Purchasing Fruit and Vegetables Grown on BIOAg Farms Influence Valuation of Local Farming and Family Shopping Habits?

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Abstract:

Teaching youth about biologically intensive agriculture can drive wider societal support for BIOAg farming and expand equitable access to food from these production systems. This extension education project investigated how knowledge and consumption of BIOAg food among children (and by extension families) changed in response to a youth farmers' market experience. We utilized an innovative SNAP-Ed/agriculture extension collaboration to implement a student farmer's market at a racially diverse, title one elementary school. Students were provided with tokens for the market to spend on local produce. Family and youth learning were assessed and students were provided tokens to spend at an actual farmers' market. This project leveraged the influential school environment that shapes children's knowledge to increase awareness of and access to fruit and vegetables from biologically intensive, local farms among low-income diverse families.

Project Description:

Environmental factors play a huge role in a child's long term food preferences. By hosting a Youth Farmers Market where students were able to shop on their own, we could hopefully encourage their preferences for local food and turn those preferences into lifelong habits. For this project, we worked with 154 third, fourth and fifth grade students at Garfield Elementary School in Olympia, Washington. This project started out with a short in-class assessment (Figure 1) of students that would participate in our Youth Farmers Market that took place on October 17th 2024. We asked if they had ever shopped at a farmers market, if they liked going to the farmers market, and if they ever purchased vegetables at the farmers market. Twenty-seven percent of the students had not been to a farmers market before.

After this initial activity, we told students that we were bringing a Youth Farmers Market to them next. We let them know that we would have special produce available and that each of them could shop for whatever they wanted. We also informed them that all of the produce would be local and in season. A week later, we hosted 154 students in the Garfield Elementary school gymnasium. All of the produce had beautifully been curated from local farms via the Southwest Washington Food Hub, and students from The Evergreen State College were there to help sell the produce to students. We organized two cooking demos that were also staffed by Evergreen students. We offered the students samples of sauteed delicata squash and a kale Caesar salad. Both recipes were very well received and used ingredients that were available to the students at the market.

Participant No. _____

Date _____

Pre-test Post-test



3rd to 5th Grade Food & Nutrition Survey

1 Have you ever been to a farmers' market?

- Yes
- No

2 How often do you go to the farmers' market?

- Weekly
- Monthly
- Occasionally
- Never

3 Do you buy fruits and vegetables at the farmers' market?

- Yes
- No
- Sometimes

4 Do you like going to the farmers' market?

- Yes (explain below)

- No, the reason we don't attend the farmers market is (choose all that apply)
 - Too expensive
 - Too far away
 - Doesn't sell food we want to buy
 - Other

5 Where have you gone grocery shopping with your family?

Choose all that apply:

- Local farm
- Farmers' market
- Farm stand
- CSA (community support agriculture subscription)
- Food Coop
- Organic section of a grocery store



Figure 1. Farmers market assessment for Garfield Elementary.

We welcomed each classroom one at a time for 30 minutes. Each student received a Youth Farmers Market branded tote with \$14 in tokens, and a save the date card (Figure 2) for our upcoming Olympia Farmers Market day on November 2nd. Most of the produce was priced at \$2.00 but some of the more specialty items were \$4.00. This was an empowering experience for students as they got to navigate the farmers market on their own, try samples of different foods available at the farmers market and then decide which foods they would like to take home to their families. The Youth Farmers Market engaged students in a positive, low-pressure way. It encouraged students to try new vegetables on their own terms with 47% of students reporting that they tried a new food at this event. It also helped students see how beautiful and inspiring foods can be when they are local and fresh. Many of the students were so pleased with their produce that they were eating the carrots, bell peppers, and even onions raw during the farmers' market. Students were beaming with joy and excitement as they gathered up their vegetables and headed back to their classrooms (Figure 3).



Figure 2. Tote bag graphic for the Youth Farmers Market (left) and save the date cards for the Olympia Farmers Market (right).

One week after the Youth Farmers Market, we went back into the third, fourth and fifth grade classrooms for a follow up activity and apple taste test. We spent time before the meeting with the classrooms hanging up photos of the students at the Youth Farmers Market in the hallways at the school (Figure 4). The photo gallery aimed to reinforce the excitement of the day and remind students how fun eating vegetables can be. The apple taste test was a way for us to substantiate the wonder of local, fresh food and also help them remember the experience from the previous week so we could collect the best data.



Figure 3. Students at the Youth Farmers Market. Photo credit: Annie Salafsky and Stephen Bramwell



Figure 4. Banner in Garfield Elementary School with pictures of the Youth Farmers Market. Photo credit Amanda Musser

During this second discussion, students were still elated by the Youth Farmers Market experience with 42% of the students saying that they have tried to eat more vegetables since that experience. After this discussion and apple taste test, we encouraged all 154 students to meet us at the Olympia Farmers Market on November 2nd for a real farmers’ market experience. If they came to our booth that day, each student would receive \$15 in tokens to spend at the Olympia Farmers Market. When asked who planned to attend the next event, 51% of the students said they planned to go.

The following week, we sent home a reminder for families to bring their kids down to the Olympia Farmers Market to receive \$15 in tokens and to learn about the different food access programs available at our local farmers’ market. On November 2nd, with the help of Evergreen students, we managed a booth at the Olympia Farmers Market. Forty-five students (approximately 30% of those who attended that Youth Farmers’ Market) from Garfield Elementary came to our event and each child received \$15 in tokens to spend. We asked them to stop by our booth on their way out to show us what they bought. Even though students were able to use their tokens on cookies, sweet drinks and other goods, many students chose to purchase carrots, squash, onions, cabbages, peppers, apples, and pears. The students were proud of the purchases they made and happily came back to our booth to show us. In Early December we will conduct our last and final discussion with the students. This final discussion will give us insight into how family shopping behaviors and eating habits may have changed since their full farmers’ market immersion.

Outputs

Overview of Work Completed and in Progress:

Participating entities in this project were:

- The principal at Garfield Elementary School
- Third, fourth, and fifth grade teachers at Garfield Elementary School
- Two Ag faculty members from The Evergreen State College

- Ag students from The Evergreen State College
- The Southwest Washington Food Hub
- Three local farms
- The Olympia Farmers Market
- Volunteers

First, we put together a timeline and short explanation of our project, which showed the dates of our events, mapped out details, and included a list of who would be involved. We began coordinating and making arrangements with the principal and teachers at Garfield Elementary School in May before the 2023 school year ended, because our events were all happening in early fall. SNAP-Ed has successfully worked with faculty and staff at Garfield Elementary School in the past, and WSU Extension has collaborated with them on several grant funded projects. This history made it easier to get approval for our Youth Farmers Market plan, which included several classroom visits and also monopolized their gymnasium for a day. Details we had to work out included timing of visits, finding a space at the school to hold the Youth Farmers Market, and coordinating with third, fourth, and fifth grade teachers, the gym teacher, and maintenance staff.

We also had to coordinate with professors and ag students from The Evergreen State College, who have helped on several WSU Extension projects in the past at Garfield School. We began talking to Evergreen faculty in June, to coordinate with their class schedules so that the maximum number of ag students would be able to participate. In early September we helped all the students and faculty register as volunteers with the Olympia School District, as did our other volunteers.

To prepare for our first visit to Garfield Elementary School, we wrote up a pre-project classroom activity for the students to understand their experiences and opinions with locally grown produce and farmers' markets. On October 8th, our team visited all 7 participating classrooms, and spent 20 minutes in each classroom. We talked with the students about the Youth Farmers Market being held a week later, and asked them to suggest what they'd like to see at the market, which gave us a chance to talk about seasonal produce.

Our next event was the Youth Farmers Market at Garfield Elementary School, which was held on October 17th. To prepare for the event, we worked with the Southwest Washington Food Hub to source colorful fruits and vegetables that would appeal to the students. We sourced and bought mini honey bears from a local apiary. We created unique branding for our event, which we made into a sign, and had printed on tote bags and tokens for each child. Our logo was also printed on laminated save the date cards we made and passed out to the students. We also coordinated with Garfield Elementary School staff who were very helpful. They let us borrow their tables and helped us move boxes and set up the day of the event along with the Evergreen ag students.

The Youth Market featured \$4,600 of fresh local fruits and vegetables purchased from the Southwest Washington Food Hub, a Cooperative that is owned by 18 biologically intensive small farms, and that WSU Extension helped develop. Working closely with the manager of the Southwest Washington Food Hub and also directly with some of the farmers, we sourced a rainbow of colorful local vegetables, such as red, yellow, and orange bell peppers; sweet corn; Lacinato kale; pie pumpkins; delicata and butternut squash; purple sprouting broccoli; red and green mini bibb lettuces; cilantro, mini kiwi berries; grapes; three varieties of apples; and two kinds of pears.

We set up 12 large tables, and covered them with matching black and crimson tablecloths and some handmade baskets. Working with The Evergreen State College Ag students, we set up heaping displays of the produce and made colorful chalkboard signs that said the name of each item, the variety, the

name of the farm that grew it, and how much it “cost.” We had enough tables so we were able to stow the backstock produce for our market as it ran out. We taught the Evergreen students how to merchandise the produce and how and when to restock. We had three sessions, with two classrooms from each grade shopping at the same time. This was slightly chaotic but fun, and we had so many volunteers helping that it was manageable. The students were ushered into the gym, where we met them for a quick briefing about the market and where the food provided came from.

Each student received \$14 in tokens and a reusable market tote bag, enabling them to make produce “purchases.” We arranged for Evergreen students to “run” the market, and they had a blast hawking their wares to the Garfield students, passing out SNAP-Ed recipes, and providing information about the produce. We had over 40 volunteers in total, which made it possible to encourage the children to try new things and to answer questions.

We also had two taste test sites set up, which provided samples of kale Caesar salad and roasted delicata squash. We outfitted each taste test site with the equipment and ingredients necessary for making the samples, such as an electric griddle, spatula, and tongs. We also had the recipe for the sample item available, which the kids could take home. Many of the students had never had delicata squash or kale Caesar salad before, and they really liked it. One parent said that their child had been asking for Caesar salad ever since they tried it at the Youth Farmers Market, and that they had made it at home several times. Another child was thrilled with how delicious the delicata squash was and named it “sweet squash” which she happily purchased three of.

Photographs were taken of the kids participating at the Youth Farmers Market, in order to put up a display at the school to mirror back their market experience (Figures 4 and 5).

We had enough produce left over from our Youth Farmers Market display that we were able to let the Garfield teachers and the Evergreen ag students take home a bag of produce also. We prepared a short evaluation form for the Evergreen students to fill out, which showed that many of them really appreciated getting to try new foods too.

To prepare for our next event, which was an apple taste test, we purchased four unique varieties of apples from the Southwest Washington Food Hub. We also chose appropriate photos of the Garfield students participating at the market, which we had enlarged and printed. Not all students were able to be photographed, so we developed a system of stickers, which the kids who couldn't be photographed were wearing. Before we hung the photos we also double checked with the principal. We coordinated with Cathy Peters, a former lunch lady at Garfield Elementary School, and Evergreen State College ag classes to find six volunteers to come help cut apples and run the event with us.

We revisited all seven classrooms in teams of two, allowing students to try all four apple varieties. The students in most classrooms preferred NY428, which was described as crunchy and flavorful. When the kids visited the Olympia Farmers Market later in the project, we had more than one of them ask if they could buy NY428 apples there. We also cataloged the kids' experiences at the Youth Farmers Market, and their explanations of what their family did with the produce and how they chose what to “purchase.” Earlier in the day, the project team put up two large displays of the photos of the students participating in the Youth Farmers Market, along with the sign we had made and laminated pictures of vegetables. All day long kids and even some parents came to look at the photos, and reminisce about the event.

Our final in person event with Garfield Elementary School students was November 2nd at the Olympia Farmers Market. To prepare for the event, we coordinated with Olympia Farmers Market staff to find out if it would be possible to have a table at the market so we could welcome Garfield students and give away tokens to be spent at the market. We hoped to be able to converse with the parents of the

students, to find out their impressions of the Youth Farmers Market and to find out if they wanted any information about Market Match programs. We also had the Garfield Elementary School principal put the event on the school calendar, and printed up another save the date card, which we brought to the school and had the teachers pass out to the kids a few days before the event. The save the date card had the Olympia Farmers Market hours of operation, address, and bus route info on it, as well as our branded Youth Farmers Market logo.

The Olympia Farmers Market staff put together little paper bags that contained \$15 each in tokens, which were redeemable at any stall at the market. We picked them up as needed from their office, where they kept track of our total. We gave out \$780 worth of tokens that day to the 45 kids from Garfield Elementary that attended. We also passed out recipes and paper bags to any kids that wanted them. Other market shoppers wandered by and asked about our project, for which there was much enthusiasm. We took turns strolling around the market and answering questions from the kids, and pointed out cool varieties such as a pink apple, and a mushroom petting zoo that we thought they might like. We also encouraged the kids to come show us what they bought, and if given permission by their parents or caregivers, we took their photo with their produce.

Methods and Results:

Our first discussion took place on October 8th, 2024 focused on student attitudes towards farmers markets. This occurred in the classroom. We read each question out loud together while explaining what each answer could look like. Figure 5 below details their responses.

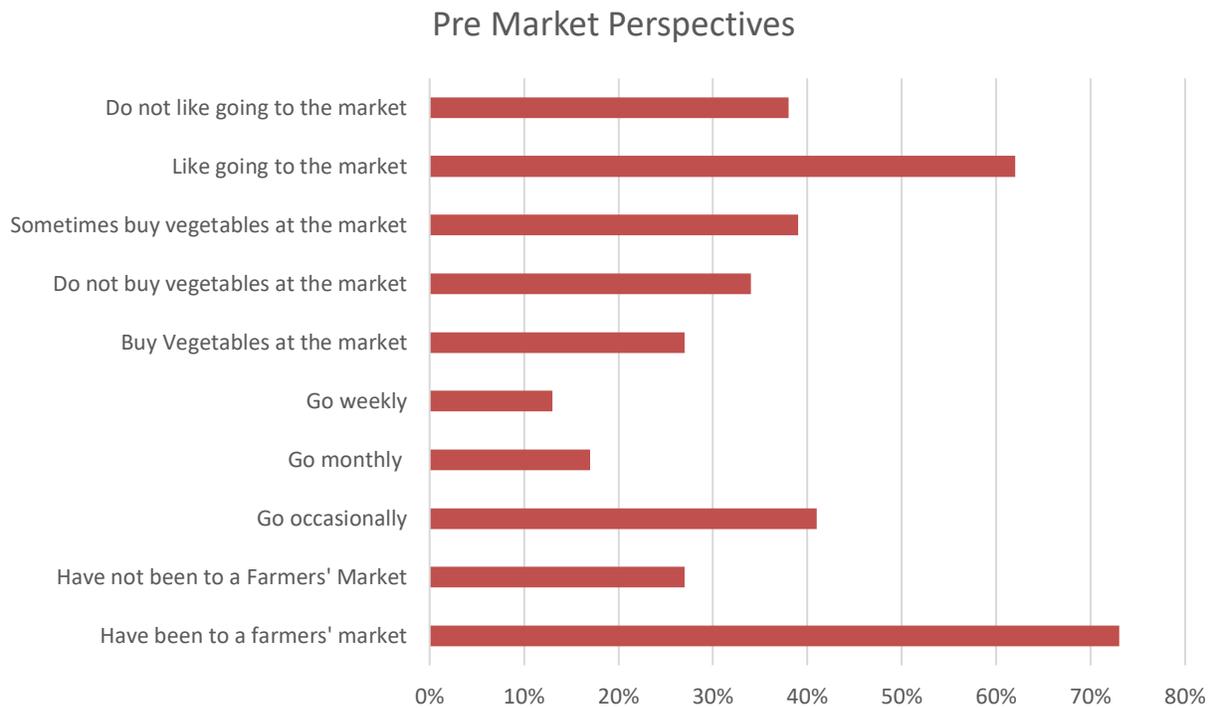


Figure 5. Pre-market perspectives of Garfield Elementary School third, fourth and fifth grade students.

After the Youth Farmers Market experience at Garfield Elementary, we visited all seven classrooms for an apple taste test and follow up discussion on October 24, 2024. We were interested in how students used their produce once they took it home. Figure 6 shows that an overwhelming amount of the students used their produce at home.

How Students Used Their Fresh Produce

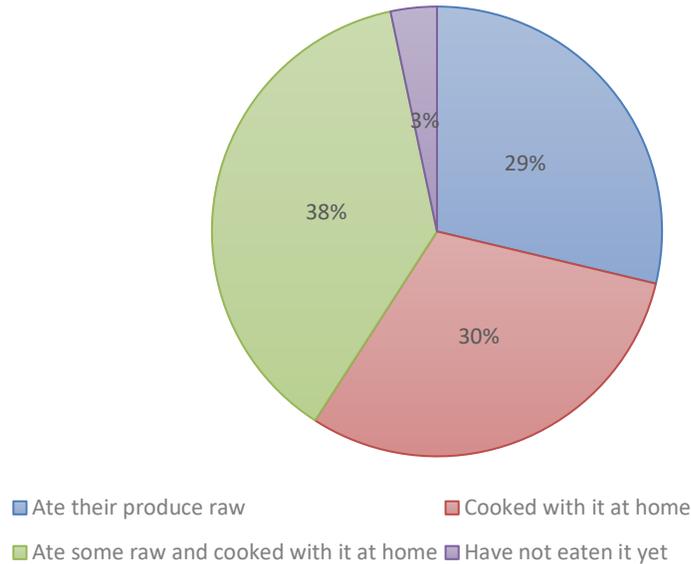


Figure 6. How Garfield students used the fresh produce purchased at the Youth Farmers Market.

Publications, Handouts, Other Text & Web Products:

- A tangible youth survey was created for our initial survey of the students on October 8th (Figure 1).
- A branded logo with fun matching images were developed and used on all of our communication to make the entire experience recognizable and cohesive (Figure 2).
- A save the date invitation was created to promote our final event at the Olympia Farmers Market on November 2nd (Figure 2). It was passed out to all students at the Youth Farmers Market on October 17th and handed out again to all students on October 23rd.
- On October 24th we created two large photo gallery displays of the Youth Farmers Market in the hallways at Garfield Elementary (Figure 4).
- Recipes ([Kale Caesar](#), [Roasted Squash](#)) and vegetable info sheets ([Apple](#), [Kale](#), [Winter Squash](#)) were passed out to students at the Youth Farmers Market on October 17th and at the Olympia Farmers Market on November 2nd.

Outreach & Education Activities:

- An initial discussion was held on October 8th. Students shared perspectives on farmers markets. In this initial talk, 94 of the 154 of the enrolled third, fourth and fifth graders participated. Of those, 73% of the students had been to a farmers market while 27% of the students had not.

- The Youth Farmers Market Event held on October 17th 2024 reached all third, fourth and fifth grade students at Garfield Elementary.
- We went back into the classrooms on October 24th for an apple taste test and follow up classroom discussion with the students involved in the Youth Farmers Market. On this day we met with 140 students. Of those, 94% said they want to go to another farmers market again soon. In advance of this discussion, we created two large Youth Farmers Market photo displays in the hallway at Garfield Elementary to remind students of the wonderful experience.
- On November 2nd, WSU Extension Thurston County SNAP-Ed/Ag team had a booth at the Olympia Farmers Market. We invited the 154 third, fourth and fifth graders from Garfield Elementary to join us at the market and they would receive \$15 in tokens to spend at the market. Forty-five families showed up to the market that day which resulted in \$780 being spent by children at the market that day.

Impacts

Short-Term:

- 154 children from Garfield Elementary School participated in the Youth Farmers Market. Each child “purchased” \$14 worth of seasonal local produce, and received a honey bear and a reusable market tote bag to take home.
- Almost all the Garfield students that participated said that the produce they brought home was eaten raw or incorporated into their families’ meals.
- The Garfield students were really excited about being able to shop for their own produce. When asked why they chose what they did, they all had answers, such as my mom really likes squash, or we needed vegetables for my lunch.
- Many of the Garfield students felt a sense of ownership about the produce that they bought. One girl kept asking her mother if “her” vegetables were included in what they were having for dinner that night.
- At the Youth Farmers Market, many of the children tried new vegetables, as we provided kale salad samples and roasted delicata squash samples. Several kids said that they “bought” squash after tasting the sample and liking it.
- 154 children from Garfield Elementary School learned about seasonal eating and the types of local produce available in our region from a pre-market classroom interaction, participating in the Youth Farmers Market, and an apple taste test.
- 45 Garfield Elementary students and their families visited the Olympia Farmers Market, where they each received \$15 in tokens that they got to spend at the market.
- The Youth Farmers Market and the Garfield Elementary School field day at the Olympia Farmers Market put nearly \$6,000 into the local ag economy.
- Seeing the beautiful rainbow of high-quality food produced by local farms was exciting to the Garfield students, The Evergreen State College ag students, and the Garfield teachers, administrators, and principal.
- After they had “shopped,” the Garfield Elementary students sat together excitedly looking through their bags of vegetables like they were Halloween candy; showing off what they bought and eating the produce raw.

Intermediate-Term:

- Increased awareness, access, and desire to visit farmers markets from a new and underserved population after participating in our Youth Farmers Market and being incentivized to visit the Olympia Farmers Market.
- Kids continued to like seeing themselves reflected in the photos we hung up at Garfield Elementary School of their participation in the Youth Farmers Market.
- Kids at Garfield seemed more open to us and our message after participating in the Youth Farmers Market.
- When asked, 55 Garfield Elementary students said that they or their families cooked with the produce they took home.
- When asked, 52 Garfield Elementary students said that they or their families ate the produce they took home raw.
- Teachers seemed more enthusiastic about our curriculum and collaboration with us after the Youth Farmers Market.
- The Evergreen students felt really good about participating in a community event and at the local school.
- A farmer from the Olympia Farmers Market reached out to let us know that they really enjoyed seeing the Garfield students shopping, and that the students did a great job.
- A farmer who provided food for the Youth Farmers Market said that she and her husband were really glad to have Thurston County Extension and SNAP-Ed provide produce for kids at a Title I school.

Long-Term:

- There is much interest in replicating the Youth Farmers Market and Garfield Elementary School wants to make the Youth Farmers Market an annual event.
- While running the booth at the Olympia Farmers Market, we met representatives from two other school districts, who were interested in holding a Youth Farmers Market at their schools.
- WSU has secured funding from an OREI grant for at least one more Youth Farmers Market.
- A board member from the Olympia Farmers Market said that they might be interested in sponsoring a Youth Farmers Market.
- There is an outpouring of interest in the project to think that funds could be raised to replicate the Youth Farmers Market in other regions.
- As part of our work on this BIOAg education grant, we will create a “how to document” and a list of supplies needed, so that this project can be more easily replicated.
- We will identify the important elements needed to successfully undertake research on the topic of Youth Farmers Markets.
- Many Garfield students and their parents expressed an increased appreciation for shopping at a farmers market and eating local in-season food.
- The Evergreen State College ag students that participated in the Youth Farmers Market were so inspired by how much fun the kids had, that they are continuing to be involved in programming at Garfield Elementary School.

Additional funding applied for/secured:

WSU Thurston County has secured funding from an OREI Grant, which will provide funds to hold one or more Youth Farmers Markets, at which buckwheat pancake mix developed by a team from WSU will be featured. Because there was such a positive reaction to the project, and an outpouring of interest, WSU plans to replicate the event in the future.

Graduate students funded:

N/A

Recommendations for future research:

For future research, it would be ideal to have more collaboration with teachers and teaching assistants before the initial discussions. If students were learning about currency, local food, or budgeting, this would be a great segue into the Youth Farmers Market. Having teachers discuss the project and get students excited for it ahead of time would increase overall morale and likely provide even more reliable data.

It would also be wise to have a research and analytical plan for the information once it's collected. Because our feedback was captured on paper, it was important to have a plan for it immediately. In the future, it would be ideal to have our promotional farmers market day more towards the summer. This would ensure the various food access programs are up and running and would give families a better idea of what shopping with those programs in mind would look like.