

# Price Comparison Study of Partner Farmers Markets

Prepared for Wholesome Wave Georgia

By

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## Executive Summary

Wholesome Wave Georgia uses its Double Value Coupon Program to double the purchasing power of Supplementary Nutrition Assistance Programs (SNAP) users at participating farmers markets and direct marketing farms around the entire state. To ensure that they were meeting their mission of improving access to fresh and locally grown foods for all Georgians, the organization engaged the student research team to study whether the program was actually making these fresh foods comparable and competitive in price to food available at local grocery and corner stores. Data from previous studies both in the state and nationally showed that this may be the case.

The team used a modified version of the USDA Food Security Assessment Toolkit to collect data from two Fulton County farmers markets and stores in the surrounding areas. The team also piloted a quality assessment tool to add another component for comparison between markets and food available at stores. The research team found that the program did not make items available less expensive than stores on average, but it did find that items were much more comparable in price than without the program, just around \$0.06 more per ounce. Taking into account the impact on the local economy, the quality, and the organic growth of the produce at markets, it is promising that the program made these items close in price to conventional and often canned or frozen items. The program also improves food justice for these communities by providing high-quality food in the same price range as stores who do not carry local, organic, or fresh produce. The study was also conducted during a low-harvest time (early March), so fewer items were available at the markets.

Moving forward, the team has developed a protocol that market managers can use to conduct seasonal comparisons with nearby stores SNAP shoppers also use. Since the mobile tool developed was too cumbersome, the team developed a paper or online spreadsheet that is easier to use for managers less trained in data collection tools.

## Introduction

### Background

Wholesome Wave Georgia (WWG) was started in 2009 as a network partner of the nationwide Wholesome Wave organization. Their mission is “to increase access to fresh, healthy, locally grown food for all Georgians.”<sup>1</sup> To do this, they have several programs in action:

- FVRx: Doctors provide prescriptions for fruits & vegetables for patients at risk for diet-related illnesses. Patients receive \$1/day/family member and redeem their prescription at a local WWG partnerfarmers market for fruits and vegetables.
- SNAP Enrollment: WWG assists individuals with screening, enrolling and renewing SNAP benefits as a Community Outreach Partner of the Georgia Division of Family and Children Services. WWG staff and interns conduct enrollments at partner markets and community organizations with a goal of increasing the number of people in Georgia receiving nutrition assistance, who can in turn utilize the Healthy Food Incentive program.

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<sup>1</sup> *Good Food For All*. Wholesome Wave Georgia. <http://www.wholesomewavegeorgia.org/about/>

<sup>2</sup> Anderson, C. Blackwell, S. Gerndt, E. Martin, I. *Evaluation of Wholesome Wave Georgia's Double Value*

- Transportation: WWG is developing a Fresh Food Bus to provide free transportation for low-income customers to markets. A pilot was run in 2015 for the Athens Farmers Market and will be continued at five partner farmers markets in 2016.
- Summer Meal Program: WWG partners with the Georgia Food Bank Association to work with nearby summer feeding sites to connect with parents who drop off their kids at sites to participate in the Double Value Coupon Program at WWG partner markets. In 2016, WWG is collaborating with two farmers markets in Macon and Augusta to have the farmers market serve as the site where free summer meals are served.

WWG's flagship program, and the one we were tasked with evaluating, is the Double Value Coupon Program (DVCP). WWG doubles every SNAP dollar spent at partner farmers markets, up to \$50 per person, per market visit. When \$1 is swiped, the customer receives \$2 to spend at any vendor selling SNAP-eligible items. WWG has also partnered with farmers selling through farmstands or Community Supported Agriculture programs to accept SNAP and use the DVCP individually. As of 2016, they partner with 45 markets and direct-marketing farms across the entire state. With the program, over \$192,000 SNAP dollars were doubled to provide over \$384,000 in fresh food and revenue for farmers in 2015.

## Partner Issue

WWG expressed a desire to check its alignment with its vision and actually see if the DVCP is successful in making fresh, local produce available to low-income consumers on SNAP. According to an evaluation completed in 2015, surveys of SNAP consumers using the DVCP indicated that the program did increase the variety, purchase, and consumption of fruits and vegetables. Many participants also said they would not shop at the market without the

DVCP.<sup>2</sup> However, these surveys did not capture the opinions of SNAP users not currently participating in the program. WWG wished to survey the offerings at stores near to markets to compare prices and see if the DVCP made markets an affordable option for those receiving SNAP benefits. They also wanted to create a protocol so price comparisons could be replicated by market managers across their network on a seasonal basis.

## Similar Projects

WWG was inspired to conduct this research and create this protocol due to a study done by the Athens Farmers Market. The market compared its prices using the DVCP with local stores Walmart, Bell's, and Kroger. The study found that the market only cost fifty cents to two dollars more than the stores for the same basket of items. Taking into account the benefit to the local economy, quality, and grow methods (e.g. organic), the value of market items was clear.<sup>3</sup>

A similar study was conducted in 2011 with farmers markets in six states in the southeast in populations of varying sizes. Fresh produce was more often less expensive at farmers markets than grocery stores, but meat and eggs were more expensive. Also, when simply comparing the least expensive option at any location (e.g. conventional vs organic chicken), farmers markets were more expensive 52% of the time.<sup>4</sup> This study did not take into account incentive programs like the DVCP, which could have further increased the benefit of shopping at farmers markets.

We were also given a study to reference from Iowa in 2009. Several farmers markets were compared with nearby supermarket chains, natural food stores, and butcher shops. Based on

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<sup>2</sup> Anderson, C. Blackwell, S. Gerndt, E. Martin, I. *Evaluation of Wholesome Wave Georgia's Double Value Coupon Program*. 2015. <http://www.wholesomewavegeorgia.org/s/Final-Evaluation-Report-1.pdf>

<sup>3</sup> Athens FM Price Comparison Study.  
<https://drive.google.com/file/d/0B2sQIRTrpS0bTFRoOTHyQkVZOFk/view>

<sup>4</sup> Flaccavento, A. *Is Local Food Affordable for Ordinary Folks? A Comparison of Farmers Markets and Supermarkets in Nineteen Communities in the Southeast*. Nov 2011.  
<https://drive.google.com/file/d/0B2sQIRTrpS0bQmhzS2pZVDhGckE/view>

the summer season, the study found that the mean price per pound of vegetables was lower for farmers markets than for supermarkets, although it was not statistically significant. The study also attributed the value of the farmers market produce to the bounty of the summer season (e.g. squash, zucchini, corn).

Finally, we were put in touch with an Emory undergraduate student who was conducting a similar price comparison study with Community Farmers Markets (CFM) markets in DeKalb County. She shared a price comparison worksheet tool with our group to show work already completed and challenges she had encountered. We used a slightly adapted version of this tool to conduct the price comparison in Fulton County so that data collection methods are consistent and building off of best practices.

## Partner Needs

WWG approached the group with a few desires. First, the organization wanted a price comparison study completed for WWG partner markets in Fulton County. Second, WWG wanted to create a protocol for price comparison studies to be conducted by partner markets themselves since the organization does not have the capacity or resources to conduct a statewide price comparison.

## Project Design and Methods

### Project Aims

The goal of this project was to develop and pilot a step-by-step guide that markets around the state would be able to use to conduct seasonal price comparisons. This would assess the

value and price of local farmers markets with the WWG DVCP compared to the price of the same items at nearby grocery and corner stores. The study was conducted at East Point Farmers Market (EPFM) and Truly Living Well Center for Urban Agriculture (TLW), an urban farm. During this study, student researchers engaged community organizations and members to open dialogue about community awareness and perceptions about local farmers markets and the doubling program. These project goals informed WWG, markets, and community members in determining if the DVCP truly makes fresh, healthy food more affordable for participants.

## Theory Behind the Model

WWG seeks to decrease the gap between people from low socioeconomic status (SES) groups and nutritious healthy food options. While there are many reasons that push people to make particular food choices, the price comparison tool mainly focuses on affordability. This is an important part of choice and financial accessibility. For example, Anna Millichamp and Danielle Gallegos say, “Cost-effective strategies that reduce dietary inequalities are urgently required.”<sup>5</sup> This example illustrates issues of food justice. People within low SES communities should have the same options that people in higher income brackets have. This is the underlying theory that makes the DVCP vital. This framework will give WWG the tools to further assess the financial impact of the program and its ability to improve access to fresh, healthy food.

## Methods

The price comparison was guided by the United States Department of Agriculture’s Community Food Security Assessment Toolkit. It includes several data collection points such as

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<sup>5</sup> Millichamp, A., & Gallegos, D. (2013). Comparing the availability, price, variety and quality of fruits and vegetables across retail outlets and by area-level socio-economic position. *Public health nutrition*, 16(01), 171-178.

store type (Supermarket, Large Grocery, Small Grocery, Convenience, Specialty Gas/Grocery, and Other), food type, weight, price, and organic quality of item.<sup>6</sup> We modified this tool to include the exact produce items available at the markets and imported it as a database in EpiInfo. We used the mobile EpiInfo application to collect data in stores.

### Location Selection

While we wanted to get a full read of the surrounding area of markets, the study radius did not necessarily have every store type. For the pilot project we chose a 2-mile radius around each WWG partner market. We then picked three stores of different variety groups and collected price data. Given that each store took 30 minutes or more, we had to narrow our scope based on available manpower. If this is implemented on a larger scale with more people, markets can scale up the sample size of stores. In small venues, we used an informal script about what we were doing to ask on site managers if it was okay to collect data. A similar script was used in the farmers markets prior to data collection. In larger groceries and supermarkets we found it less necessary to make our presence formal. However, when this is scaled up, the Community Food Security Assessment Toolkit has a detailed process for requesting permission to record data at stores.

### Food Selection

This tool was only used to compare produce that was in season at the farmers market. Prices and availability fluctuate seasonally, so data should be collected throughout the year for a full picture of the comparative nature of markets and nearby stores. Depending on the fruit or vegetable type, grocers do not necessarily have a comparable item sold fresh and/or organic. In that case, we collected data from the canned goods and/or frozen fruit and vegetables section if

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<sup>6</sup> Cohen, B. E. (2002). *Community food security assessment toolkit* (pp. 02-013). Washington, DC: US Department of Agriculture, Economic Research Service.



available. The main goal was to capture items that were comparable. At farmers markets the research team weighed the produce using a calibrated food scale for accurate measures of weight on foods not typically sold by weight such as leafy greens. For non-produce items, we went with the cheapest similar item. For example, bread varieties collected in store were the cheapest bread brand (usually white sandwich bread) and the cheapest whole wheat option.

## Data Entry

### Quantitative Data

Using the EpiInfo tool, we recorded the store type for every store. We manually recorded price, brand/variety (e.g. specific leafy green), weight, and certification (e.g. conventional, organic, naturally grown). We used a scale to record the weight of bunches of produce if they were not sold by the pound. We recorded weights by the ounce for a more accurate comparison.

### Qualitative Data

#### *Quality Measure for Seasonal Fruits and Vegetables*

The Nutrition Environment Measures Survey (NEMS) Store Measures guided this information.<sup>7</sup> Quality is the most subjective part of this research design, so this portion was created in effort to cultivate reflexivity and precision in research team.

1. Record Quality of item by marking “A” for acceptable and “UA” for unacceptable.
  - a. Acceptable: peak condition, top quality, good color, fresh, firm and clean
  - b. Unacceptable: bruised, old looking, mushy, dry, overripe, dark sunken spots in irregular patches or cracked or broken surfaces, signs of shriveling, mold or excessive softening

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<sup>7</sup> Glanz, K., Sallis, J. F., Saelens, B. E., & Frank, L. D. (2007). Nutrition Environment Measures Survey in stores (NEMS-S): development and evaluation. *American journal of preventive medicine*, 32(4), 282-289.

- c. These ratings are based on the majority (>50%) of fruits. If it seems difficult to describe whether to mark “A” or “UA”, mark “UA” and take a photo and describe in comments section.

There should be a pre-collection phase in which researchers go out to a store and find fruits and vegetables that are in season and take photos of them. There should be photos that fit the description of Unacceptable “UA” and Acceptable “A”. The research team should consult with an objective outside party. This person or people should choose which pictures of the fruits fit into the categories of UA or A. Finally, the research team should finalize categories with each other so that everyone has a thorough understanding of the two categories.

Examples:

If more than 50% of the onions looked like this photo, this store would receive a UA for Quality.



Though these apples are not perfect, the majority is in good condition, so this store would receive an “A” for Quality. We are not looking for perfection with the “A” measure.



This broccoli could potentially receive an “A” measure if more than 50% of the stock looked fresh like the bunches in this photo.



## *Qualitative Interviews*<sup>8</sup>

There was a portion of our research plan that consisted of conducting informal interviews with SNAP users in an effort to better understand their perceptions of price, value, and location of markets. We decided with our community partner that it would be best if we interviewed people as it became feasible. So, these interviews were random and had no particular schedule. Ultimately, this portion of our research was reassigned for later use because we did not have success identifying and interviewing SNAP users in the time we spent at markets. This was largely due to the time of year we were conducting research and the time of day. When this is used on a larger scale, markets should provide consent forms for community members to sign to ensure informed consent. Please see the script for a more detailed look at some potential questions to ask SNAP recipients at farmers markets.

## **Deliverables and Findings**

For this price comparison study, WWG chose two participating farmers markets in Fulton County, Georgia: East Point Farmers Market (EPFM) and Truly Living Well (TLW). We conducted formative research at these markets to identify the nearby stores where food is most commonly purchased by the residents of the communities around EPFM and TLW. From the data collected at these stores, there were three stores in East Point and three stores in the West End community with foods suitable for comparison to the foods available at the markets during the winter season. The three stores in East Point were a small chain mixed-use store (CVS), a large independent grocery store (Wayfield Foods) and a chain supermarket (Kroger). In the West

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<sup>8</sup> Lucan, S. C., Maroko, A. R., Sanon, O., Frias, R., & Schechter, C. B. (2015). Urban farmers' markets: Accessibility, offerings, and produce variety, quality, and price compared to nearby stores. *Appetite*, 90, 23-30.

End community, the stores compared were a small independent grocery store (Hardy's Supermarket), a large independent grocery store (Big Bear Foods), and a chain supermarket (Wal-Mart).

Fresh, local, and organic foods found at the farmers markets studied were more expensive than the conventional foods most available in the communities surrounding them. However, the DVCP from WWG is making the cost of the foods at farmers markets more equitable (Tables 1 and 2). Doubled SNAP dollars made the cost of many available items more competitive, and in the case of beef chuck roast, onions, salad mix, greens, and stir fry mix, the program made those items less expensive to buy at the farmers market than at the local food stores. On average, the compared items from EPFM were only \$0.03 higher per ounce (excluding eggs that are measured by the dozen) using the DVCP than their least expensive counterpart at the local stores. The case was similar with TLW; compared items were only \$0.07 higher on average when using DVCP. This translates into spending about \$5.12 more on a \$32.31 basket of the comparable items at the EPFM or \$0.16 more per dollar of food.

The availability of local and organically grown fresh produce is very low in most of the food stores surrounding the markets. Local grass-fed meats are not available at the commercial stores. All of the foods available at the farmer's market were organically grown or grass-fed by local farmers.

Table 1:

Price Comparison Data for East Point Area (price per unit)					
	East Point Farmer's Market (EPFM)	EPFM with Double Bucks	CVS	Wayfield Foods	Kroger
Beans	\$0.38 /oz	\$0.19 /oz	\$0.13 /oz	\$0.08 /oz	-
Bread (whole wheat)	\$0.39 /oz	\$0.20 /oz	\$0.16 /oz	\$0.13 /oz	\$0.11 /oz
Bread (white)	\$0.38 /oz	\$0.19 /oz	\$0.13 /oz	\$0.10 /oz	\$0.04 /oz
Broccoli	\$0.25 /oz	\$0.13 /oz	-	-	\$0.11 /oz
Chuck Roast	\$0.56 /oz	<b>\$0.28 /oz</b>	-	-	\$0.37 /oz
Eggs	\$6.00 /dozen	\$3.00 /dozen	\$2.49 /dozen	\$1.33 /dozen	\$1.89 /dozen
Greens (Kale/ Collards)	\$0.43 /oz	\$0.22 /oz	-	\$0.02 /oz	\$0.08 /oz
Ground Beef	\$0.50 /oz	\$0.25 /oz	-	\$0.19 /oz	\$0.22 /oz
Lettuce	\$0.43 /oz	\$0.22 /oz		\$0.17 /oz	\$0.20 /oz
Onions	\$0.07 /oz	<b>\$0.04 /oz</b>	-	\$0.06 /oz	\$0.06 /oz
Popcorn	\$0.38 /oz	\$0.19 /oz	\$0.02 /oz	-	-
Potatoes	\$0.25 /oz	\$0.13 /oz	-	\$0.04 /oz	\$0.04 /oz
Salad Mix	\$0.66 /oz	<b>\$0.33 /oz</b>	-	\$0.80 /oz	\$0.60 /oz
Organic and Local		Canned or Frozen			

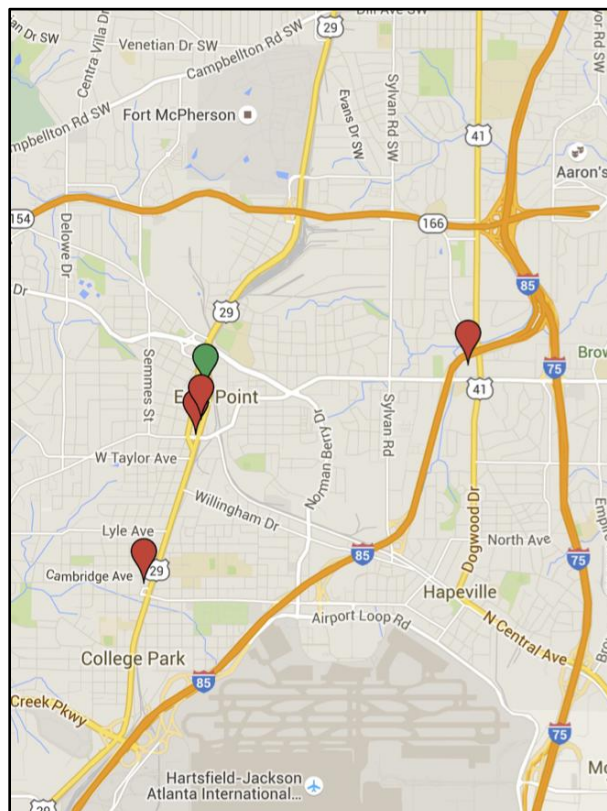
Table 2:

Price Comparison Data for Truly Living Well Area (price per unit)					
	Truly Living Well (TLW)	TLW with Double Bucks	Hardy's Supermarket	Big Bear Foods	Wal-mart
Carrots	\$0.50 /oz	\$0.25 /oz	\$0.11 /oz	\$0.02 /oz	\$0.05 /oz
Greens (Kale/Collard/Mustard)	\$0.33 /oz	<b>\$0.17/oz</b>	\$0.20 /oz	\$0.12 /oz	\$0.18 /oz
Lettuce	\$0.50 /oz	\$0.25 /oz	\$0.07 /oz	-	\$0.06 /oz
Root Vegetables (Turnips/Beets)	\$0.25 /oz	\$0.13 /oz	-	\$0.05 /oz	\$0.09 /oz
Stir Fry Mix	\$0.25 /oz	<b>\$0.13 /oz</b>	-	\$0.20 /oz	-
Organic and Local		Canned/Frozen			

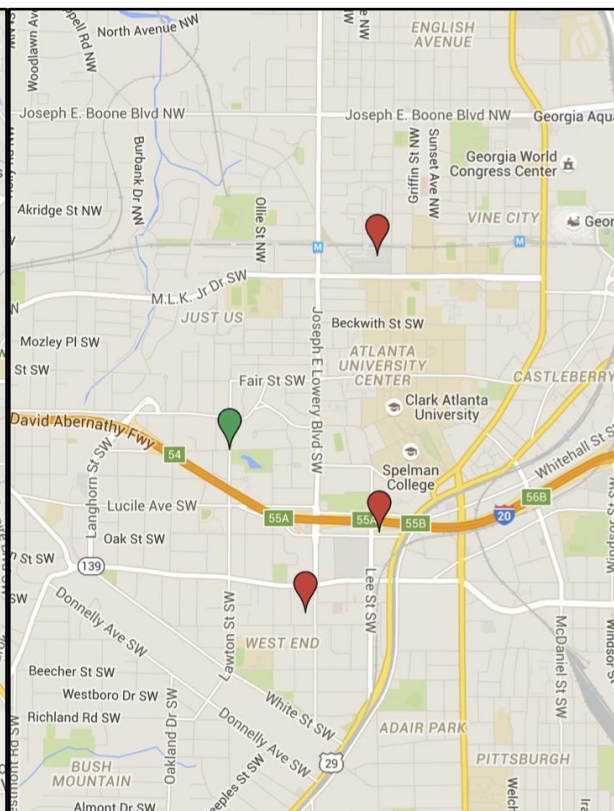
We also completed a study of the quality of produce available at the farmers market and commercial stores. Pictures were taken of representative fruit and vegetables. A third-party categorized the fruits and vegetables as acceptable or unacceptable. We do not have results for the farmers markets; however, the small independent grocery stores were much more often classified as having unacceptable quality produce than the larger commercial stores.

After visiting one corner store, it was determined that there would not be comparable items available. Fresh items found in corner stores were bananas, milk, and apples. None of these items were found at the farmers market during the winter growing season. The following maps reflect the proximity of the most commonly frequented stores to the farmers markets in the comparison study. Green indicates the farmers markets and red indicates the stores visited during the study. All of the red indicated stores were used in comparison except for a small corner store in East Point where the store manager was uncomfortable with the amount of time needed to collect the data and elected to end their participation in the study.

**Figure 1: East Point Map**



**Figure 2: West End Map**





The study was designed to simultaneously produce useful price comparison data and a protocol for conducting these types of studies for the farmers markets to implement during other seasons. The protocol is a document that contains steps to conduct this type of study, considerations for implementation, and survey instruments. The survey instrument used in this study was through an iPhone application developed by the study team. After carrying out all of the data collection, the study team concluded that this method of data collection using Epi Info™ technology was too cumbersome and warrants further development before field use. The study team has provided a paper survey instrument in the protocol that is equivalent to the mobile application.

## **Interpretation, Utilization and Recommendations**

The price comparison study did not find that the DVCP made farmers markets less expensive on average than other stores where people buy their produce; however, the results indicate that the program makes food from participating farmers markets closer to the price of the least expensive conventional products found at local stores. This benefit may not be applied equally for those who must pay for transportation. Farmers markets do not typically have all of the food items that a person needs for the week, requiring customers to visit other stores as well. This could be costly for those who do not live in close proximity to the farmers market. The program also supports local farmers contributing to the local economy and the involving SNAP recipients in it.

While it does little to make healthy food more affordable than other food options available to SNAP recipients, the program advances food justice by bringing high quality produce to those



who typically have the least access to it. The program widely implemented and further reducing the cost of these foods could also contribute to the food security of its target population. The expensive nature of farmers markets creates a space where upper class individuals are the bulk of its customers. The DVCP helps working class individuals break this trend by making the foods more affordable to those with SNAP benefits. It does, however, create a gap where middle class individuals cannot afford food from farmers markets, yet they do not qualify for assistance. Policy changes or subsidies to farmers may be effective in reducing the costs of growing and vending local food products at farmers markets, further reducing the prohibitive cost to potential consumers.

## Limitations

The study was conducted during the winter/early spring season when there is not as much variety or bounty at the farmers markets. Local grocers have the ability to bring food from climates more suitable to a variety of crops. This could impact the prices of goods sold at the farmers markets and certainly impacts the items we were able to compare. However, since we only compared those items currently in season, it should have been a fair comparison between the two types of food vendors.

There were also issues with defining comparable items. The research team finally settled on finding the cheapest similar item available at the stores regardless of farming method. This means that most items compared were not organic or local and some were canned or frozen when no comparable item was available. This would bias our analysis toward finding no cheaper or equally priced items at markets. The team assumes that had there been organic and local options for all the items, there would have been many more items that the DVCP makes cheaper.

Another limitation is the types of stores visited. While an effort was made to assess which stores were most commonly visited by interviewing individuals at the farmers markets, the team was able to visit few stores and no corner stores made it into the analysis. The team also recognizes, based on the literature and the limited data we were able to collect, that the corner stores tend to be more expensive than larger grocery stores. This means that our analysis that excludes the corner stores is likely biased against the DVCP.

## Recommendations

The team recommends that members of the communities where farmers markets participate in the WWG DVCP use the protocol we have written to conduct additional price comparisons in different seasons and throughout the state. Market managers and staff are the most equipped to undertake this task. Our findings show that the program has a limited price benefit in the two communities studied during the toughest season for farmers. Additional community-based studies could provide much needed information on the magnitude of the program's benefit in diverse settings and different seasons. We are hopeful that the protocol and these findings will be used to strengthen the program and produce better and more equitable outcomes.

## Appendix 1: Survey Instrument

date	initials	location	item	oz	list price/#	calc price/oz	calc price/lb	organic?	GA?	notes