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Eating Local: A Cost Analysis Of Farmers' Market Vs. Store-Bought Foods In Asheville, North Carolina

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Abstract

In Asheville North Carolina, farmers' markets are so popular they can be found nearly every day of the week throughout the growing season. Purchasing food from a farmers' market provides the community with a higher economic return than purchasing foods at a grocery store or supermarket, and many consumers derive intrinsic value from the knowledge that they are supporting a community member instead of a chain. In Asheville specifically, there exists a large push to "Buy Local" and support local businesses. However, little research has been done within the area comparing the actual cost difference between foods purchased at a farmers' market and foods bought at a store. In this study I compare the price of a farmers' market basket to the same basket purchased at a store to determine the actual price difference. This study finds that local foods cost 3% less, on average, than store-bought foods when comparing farmers' market foods to certified organic or locally-sourced foods found in stores. When compared to all foods found in stores, including foods produced using conventional farming methods, farmers' market foods were found to cost 41% higher on average. My findings suggest that an economic incentive to shop at a farmers market does exist for consumers who prefer either locally-grown or certified organic foods, while consumers who do not have specific preferences would save money by purchasing their foods at a grocery store. These findings also suggest that consumers who shop at farmers' markets are willing to pay up to 41% more for the benefits that farmers' markets provide.

1. Introduction

The question, "is local more expensive" has long been discussed among food producers and consumers alike. The economic benefits to the community of buying local has been studied to an extent (Milchen), and in Asheville specifically there is a large push to "buy local" and support locally-owned businesses; however, no concrete studies have been performed on the actual cost difference between buying food at local farmers' markets and buying food at a store.

My study seeks to answer the question, "is locally-purchased food more expensive than food purchased at a store or chain in Asheville, North Carolina?" Asheville is well-situated for a study of this type as there are over six-hundred farms in the area and approximately one-hundred in Buncombe County ("ASAP's Online Local Food Guide"). There are ten farmers' markets within city limits and organizations such as the Appalachian Sustainable Agriculture Program (ASAP) provide several resources online to help consumers find where locally-sourced foods are available during the week ("ASAP's Online Local Food Guide"). ASAP sponsors also a Local Food Campaign that supports local farmers and has worked to ensure that SNAP/EBT cards are accepted at every farmers' market ("Get Local"). Even at grocery stores consumers can find a variety of local products; I was able to find locally-sourced food items at all but two of the stores I visited, and every store offered certified-organic foods.

Buying foods at a farmers' market has several advantages. Studies have shown that money spent locally has as great as three times the multiplier effect within the local economy as money spent at chain (Milchen). In addition, there are also several intangible benefits of buying food at a farmers' market. At a farmers' market, consumers have the advantage of being able to talk to the person who actually oversaw the entire food production process. Social capital can be described as the quantity and quality of social relationships, and by attending farmers' markets consumers gain a type of social capital as they develop relationships with farmers. A study by Gabrielle O'Kane argues that the globalized food production system of today has contributed to consumers' misconceptions regarding where and how food is produced. O'Kane writes that the global economy today treats food as just another simple commodity, and as a result many consumers relate food products with particular brands, not farmers. Farmers' markets can help consumers regain the understanding of where food comes from develop an appreciation for fresh, locally-grown foods. In addition, shoppers concerned about the how their food was produced can benefit from building a direct relationship with their food suppliers as they may ask farmers specific questions concerning the food's production process. O'Kane writes that this interaction encourages social interactions around food and re-establishes the connection between farmers, food, and personal health. It also lets consumers feel as they are active contributors in the local food production process. Many shoppers also enjoy the lively, community-oriented environment that markets create; the markets are held outdoors and there is often live music, craft booths for children, fresh coffee, and even food or ice cream trucks. In these ways farmers' markets contribute to a community's overall vitality through greater economic return per-dollar; the promotion of locally-produced, healthful goods; and the cultivation of beneficial relationships between food suppliers and consumers (O'Kane).

My study is based upon a similar study by Rich Pirog and Nick McCann that examined the prices of local and non-local foods across four cities within the state of Iowa. Pirog and McCann conducted their study during the months of June, July, and August and found that produce items purchased at farmers' markets were competitive with the same items purchased at a store during those three months. When they examined prices for meat they did not find the cost difference in farmers' market and store-bought meats to be statistically significant. Their market basket consisted of twelve items and they collected price data for those items on five dates, in four cities, at four types of food retailers (Pirog). My study essentially replicates Pirog's yet differs in that the market basket used in my research includes more items (eighteen) and I only collected price data at stores, coops, or farmers' markets whereas Pirog included butcher shops and natural food stores and excluded coops. Also, all data was collected within Asheville city limits, as opposed to across the state.

2. Methodology

2.1. Market Baskets

My first step was to construct a generic market basket consisting of items that would typically be purchased at a grocery store or farmers market in Asheville during the summer. I consulted the Local Food Guide provided by ASAP to determine what foods would be available locally and which farmers markets were the largest and within city limits ("ASAP's Online Local Food Guide"). My final market basket consisted of eighteen items and included fruits, vegetables, meats, bread and eggs (Table 1) and I made a final list of twelve locations – eight stores and four farmers markets (Table 4). I selected foods based upon nutrition content and availability at farmers markets and grocery stores in the months of July, August and September. Next I consulted the Thrifty Food Plan (TFP), one of four food plans designed by the U.S. Department of Agriculture that provides recommendations for weekly food purchases to families who supplement their grocery budget with food stamps. I based my market basket on suggestions made by the TFP as the plan aims to provide families with affordable and nutritious meals.

2.2 Foods Selected

The TFP meal plan includes foods from six major food categories. These are grains, vegetables, fruits, milk products, meat and beans, and "other" (coffee, spices, seasoning, etc.). Within each category the TFP suggests specific foods for families to include within their weekly food consumption (Carlson), and I considered many of the same foods when I designed my market basket. A key component of my food selection process was to choose foods that were both recommended by the TFP and in season so that they would be available throughout the study at all locations. As a final step, Dr. Lanou and Dr. Batada, health professionals at the University of North Carolina

Asheville (UNC Asheville) made recommendations as to which additional foods to include and approved my market basket ("Interview with Dr. Lanou," "Interview with Dr. Batada). I assumed families have a store of seasonings already at home, and for this reason chose not to include any type of food listed in the "other" category by the TFP.

Table 1:
Foods Selected

Grains	Bread
Vegetables	Carrots Chard Collards Green beans Kale Onions Peppers Potatoes Summer squash Tomatoes Zucchini
Fruits	Blueberries Blackberries
Eggs	Eggs - brown, Grade A
Meat	Beef, ground Chicken Turkey

2.2.1 grains

Whole grains are not readily available locally, and for this reason I did not include any type of grain-based foods such as rice or oats. However, there are several bakers within the Asheville area that bake and sell bread at farmers' markets and grocery stores. The TFP also recognizes bread as a staple grocery item (Carlson), and for these reasons I chose to include one loaf of bread in my market basket. I gathered prices for whole-grain, whole-wheat, multigrain, sourdough and rye bread. If the bread was found in a store, I only gathered prices if it was labeled as "all-natural," "freshly baked," or produced by a local bakery.

2.2.2 vegetables

The TFP recommends a weekly meal plan consisting largely of fresh, nutrient-dense vegetables and provides a list of dark leafy greens, orange and red-colored vegetables, and vegetables high in vitamin C (Carlson). Carrots, chard, collards, green beans, kale, bell peppers, and tomatoes are all available locally and meet the criteria set by the TFP. Dr. Lanou and Dr. Batada both suggested that I include additional foods that – though not as nutrient-dense – are recognized as staple grocery items and readily available at stores and farmers' markets. Based on their recommendation I supplemented my vegetable selection with onions, potatoes, zucchini and summer squash. In the case of chard, kale, onions, peppers, potatoes, and tomatoes, several varieties were available at every location.

Table 2:
Vegetable Varieties

Chard	Green, rainbow, and red
Kale	Green and red
Onions	Sweet, red, white, and yellow
Peppers	Green, orange, red, and yellow
Potatoes	Baking, Idaho, red, Russet, and Yukon (no fingerling)
Tomatoes	Cluster, Grainger, greenhouse, on-the-vine, and Roma (no heirloom or cherry)

2.2.3 fruits

The TFP includes blackberries and blueberries in its list of recommended fruits (Carlson). These two fruits are available locally throughout the months of July, August, and September, and were therefore included in my market basket

2.2.4 dairy

The TFP recommends weekly allotments of milk and cheese in its food plan (Carlson). Milk and cheese, however, were not consistently available at all farmers' markets visited. I only found milk at one farmers' market, and that milk was unpasteurized, whereas store-bought milk is pasteurized. The two products are therefore fundamentally different. Goat cheese is widely available at most farmers' markets; however, one assumption I made is that goat cheese is not a staple grocery item for most families. For these reasons I chose to exclude both from my study. I did, however, include eggs, as they are both included in the TFP (Carlson) and readily available at all farmers markets I visited.

2.2.5 meat

Ground beef and chicken are included in the TFP as healthy sources of protein and are available at farmers markets. At some markets, however, no ground beef was available but there were several farmers who sold ground turkey. I therefore chose to include all three protein sources – ground beef, chicken, and turkey – in my study.

2.3 Data Collection

I collected price data at twelve locations during the months of July, August, and September (Table 3). Within each month I gathered data within a two-week time frame, and each time frame was approximately one month apart. I chose to collect price data at three separate time intervals to account for potential seasonality and subsequent changes in price of various foods. I collected all prices by the pound with the exception of blueberries and blackberries, which were measured by the pint; eggs which were measured by the dozen; and bread which was accounted for per loaf. Where blackberries or blueberries were sold in units other than a pint I converted the unit price into price by the pint. In the case where eggs were sold by the half dozen I multiplied by two to find the price per dozen. Some produce, namely carrots, chard, collards, and kale, were commonly sold by the bunch, and not pound. To account for this I weighed two bunches of each produce item at every location during each monthly visit and calculated the average weight of the two bunches. I then converted the bunch price to a price per pound based on the average weight of the particular vegetable.

Table 3:
Quantity and Weight

Category	Item	Weight
Grains	Bread (1 loaf)	1.0-1.5 lbs
Vegetables	Carrots (1 bunch)	0.79 lbs
	Chard (1 bunch)	0.60 lbs
	Collards (1 bunch)	0.78
	Green beans	1.0 lb
	Kale (1 bunch)	0.5 lbs
	Onions	1.0 lb
	Peppers	1.0 lb
	Potatoes	1.0 lb
	Summer squash	0.50 lbs
	Tomatoes	1.0 lb
	Zucchini	0.50 lbs
Fruits	Blueberries	1 pint
	Blackberries	1 pint
Eggs	Eggs	1 dozen
Meat	Beef, ground	1.0 lb
	Chicken, breast	1.0 lb
	Chicken, whole (1)	3.50 lbs
	Turkey	1.0 lb

Multiple vendors at some farmers' markets sold the same foods and many stores often offered more than one type of the same item. For example, some stores offered kale both by the bunch and in one-pound bags. To deal with this I recorded prices for every food item within my market basket at each location. If there was only one meat vendor at a particular farmers' market, I would have one set of price data available for meat for that particular visit. However, if two farmers were at the same market, and both were selling chicken breast, I would have two sets of price data for chicken breast for that same market, etc. If one vendor was selling two types of potatoes, both of which were included in my market basket, I would record both prices. The same process was repeated at each chain or grocer. When carrots were sold in one, two, and five pound bags at the same location, I recorded the prices of all three and convert their unit price to price per pound.

After I gathered price data I calculated both the average and minimum price found per item, locally and store-bought, for each of the three months. I chose to include minimum price found to determine where consumers could find the absolute lowest-cost basket, assuming consumers have time and are willing to visit multiple food locations in order to find the absolute lowest price. In the case of most food items I calculated "purchasable unit" price, as consumers are assumed to buy items by the loaf or bunch, not half bunch, half loaf, etc. In the case of whole chicken, I multiplied the average and minimum weight per pound by the average weight of a whole chicken found at all locations. Once all average and minimum prices were found and unit prices were calculated, I then summed all items to find both the average and minimum cost for all market baskets.

2.4 Locations

I chose farmers markets, supermarkets, discount grocers, and grocery stores based upon their respective locations within Asheville and in such a way as to represent a diverse selection of food retailers within the city limits. All food locations (Table 4) were inside city limits, and all but four were located within two miles of downtown Asheville.

Table 4:
Food Retailers

Retailer Type	Location
Chains/Independent Grocers	Aldi
	French Broad Food Coop
	Greenlife Grocery (now Whole Foods)
	Hopey and Company (previously Amazing Savings) – Sweeten Creek Rd.
	Hopey and Company – downtown
	Ingles – Merrimon Ave.
	Ingles – Haywood Ave.
	Wal-Mart
Farmers Markets	Asheville City Market
	French Broad Food Coop Tailgate Market
	North Asheville Tailgate Market
	West Asheville Tailgate Market

2.5 Conventional, Local, And Organic

In addition to price I also recorded whether a particular item was conventional, local, or certified organic. One complication to this is that not all stores use the same definition for the term "local." My solution to this problem was to treat a store-bought item labeled as "local" as a store-bought food comparable to farmers' market foods. A second complication is that not all farms represented at farmers' markets are certified organic. To deal the second issue I decided to consider farmers' market foods as "sustainably grown" and comparable to certified-organic foods found in stores (though they are not technically the same product).

During my first round of data collection I asked all vendors at each farmers market whether or not their particular farm was certified organic. Of the sixteen vendors I surveyed, only two were certified organic. The remaining fourteen vendors were not certified, however, they all claimed to use sustainable growing practices and hold themselves to organic standards. All meat vendors surveyed claimed to raise their animals without the use of hormones and that their animals' living conditions were humane. The main reason that farmers gave for not being certified organic is that organic certification is too costly. One vendor even told me that her farm was certified organic for years, but due to annual fees she decided to discontinue her farm's organic certification. Her growing practices, however, have not changed.

Due to these complications, a comparison of farmers' market foods to solely certified organic foods in stores would be misleading. I therefore chose to conduct two analyses: In the first I compare farmers' market foods to only certified-organic and locally-sourced foods found in stores; in the second I compare farmers' market foods to all foods – certified-organic, locally sourced, and conventional – found in stores. In the first analysis I address issues of quality and only compare foods produced in the same manner; the second I address solely issues of cost as I only take price into consideration. Comparing foods produced in relatively the same way is more appropriate in regards to quality and the effort invested by the farmers than a comparison that only considers only the cost of the foods. Some consumers may not consider conventional foods to be close substitutes for fresh, sustainably-grown foods. However, some individuals may consider locally-purchased foods and store-bought foods to be perfect substitutes as they are only concerned with cost. For this reason I looked at cost alone in my second analysis to find where consumers may want to shop to find the absolute lowest prices for foods.

3. Results

In Table 5 I use the term *store* to refer to store-bought foods. In the first column, the price of all store foods – conventional, locally-sourced, and certified organic – are presented. In the second column, only foods that were locally-sourced or certified organic found in stores were analyzed. The final column displays the prices for the market basket purchased at farmers' markets. Based on suggestions made by Dr. Lanou I decided to conduct my analysis using four baskets: one basket containing all food items; one basket which excluded meat; one which excluded both meat and eggs; and one basket consisting of only produce items. In Table 5, the *total market basket*

consists of all items; the *vegetarian basket* omits meats; the *vegan basket* omits meats and eggs; and the *produce basket* contains only produce. Our hypothesis was that the price difference between market baskets containing meat would be greater than that of baskets that omitted meat. Our assumptions proved correct, as seen in Table 6, meaning that individuals who want to conduct a portion of their shopping at farmers' markets may benefit from purchasing meats at a store and other food items from a farmers' market, as meats are generally cheaper in stores.

Table 5: Results	**Store (all)**	**Store (local and organic)**	**Farmers Market**
Total market basket			
Average	**$61.11**	**$88.74**	**$86.07**
Minimum	$27.06	$58.90	$64.93
Vegetarian basket			
Average	**$39.57**	**$50.96**	**$47.51**
Minimum	$17.42	$29.72	$30.93
Vegan basket			
Average	**$36.31**	**$46.47**	**$42.95**
Minimum	$16.23	$27.23	$27.43
Produce basket			
Average	**$32.43**	**$40.75**	**$38.07**
Minimum	$15.04	$22.74	$23.43

The percent difference between the farmers' market basket and the two types of store baskets are presented in Table 6. In both columns I compare farmers' market baskets to store baskets, and values shown represent the cost difference of buying foods at a farmers' market as opposed to at a store. If the value is 40.84%, that means that the farmers' market basket was calculated to be 40.84% more than the store-bought basket.

Table 6	**Store (all)**	**Store (organic and local)**
Total market basket		
Average	40.84%	**-3.01%**
Minimum	139.98%	10.25%
Vegetarian basket		
Average	20.04%	**-6.78%**
Minimum	77.57%	4.10%
Vegan basket		
Average	18.28%	**-7.57%**
Minimum	69.02%	.76%
Produce basket		
Average	17.61%	**-6.58%**
Minimum	55.78%	3.03%

As seen in Table 6, the farmers' market basket was cheaper in every category on average when compared to a store basket containing certified-organic and locally-sourced foods. The greatest price difference occurs when comparing locally-purchased foods to all store foods and when considering only the absolute lowest prices found. Presumably this price differential is due to the greater selection at supermarkets. Also, supermarkets can afford to discount items temporarily for weekly or daily sales. In order to experience this high a price differential consumers would have to travel to all stores surveyed to find the lowest prices at every location. For these reasons, the average price difference is more accurate, because it is assumed that most consumers shop for convenience. Shopping at

numerous locations has a higher opportunity cost than shopping at only one or two locations, as traveling uses valuable time and resources (gas, mileage, etc.).

As seen in Table 5, consumers who want to shop at a farmer' market could hypothetically experience a very low price differential if they were willing to invest the time to find the lowest prices. Shopping at numerous locations will have a lower opportunity cost to consumers who value the benefits of farmers' markets than consumers who value their time more than the source of their food. The price found for the *average total store market basket* is $61.11, while the *minimum total farmers' market basket* was found to cost $64.93, only 6% more. These results suggest that consumers may only have to pay 6% more to enjoy the social capital that farmers' markets provide, as well as fresh foods, the lively environment, etc. By this same reasoning, consumers who choose to only purchase fruits and vegetables from farmers' markets may hypothetically save money: The *average store produce basket* costs $32.43, while the *minimum produce farmers' market basket* costs only $23.43. Consumers who chose to shop at farmers' markets for only a portion of their grocery shopping and are willing to invest the time to search for lowest prices (and forfeit the time they would have saved by shopping at only one location) could therefore save up to 38% on produce.

4. Discussion

As mentioned previously, there are several reasons consumers would choose to shop at a farmers market instead of a grocery store or chain. Consumers may develop direct relationships with farmers, the atmosphere is friendly, inviting, and lively, and purchasing foods from local farmers benefits the local economy. However, there are also many disadvantages to shopping at a farmers market when considering convenience. For one, farmers' markets are only open one day of the week for a few hours. Secondly, farmers' markets do not carry many of the items found in stores. And lastly, though this may be a minor inconvenience, there is no universal standard as to a "bunch" size, which makes comparing prices for select produce items difficult.

While gathering price data at grocery stores I noted that each grocery store's respective bunch size was relatively the same. This however, was not the case at farmers' markets. Farmers may want to consider standardizing the size of a bunch, as the size of bunches varied considerably across farmers markets and this affected the per-pound price. Table 7 provides a sample of per-bunch vs. per-pound prices found for kale, ranging from least expensive to most expensive:

Table 7:
The Price of Kale

Price/bunch	Price/pound
$2.00	$5.97
$2.50	$3.57
$2.50	$4.03
$2.50	**$10.00**
$3.00	**$2.40**
$3.00	$3.43
$3.00	$7.32
$4.50	$4.50
$7.00	$7.00

As seen in Table 7, the lowest per-pound price for kale was calculated to be $2.40, while the highest price found was $10.00. This $10 per-pound bunch of kale was priced at $2.50 a bunch, almost the least expensive bunch found. This finding has direct implications to the consumer. If consumers do not weigh bunches separately the prices are misleading as the bunch size varied substantially for carrots, chard, collards, and kale. If farmers were to agree as to a standard, universal weight of a bunch, consumers would then have a more reliable means of comparing the price of bunches across markets or among vendors. A simplification of prices would reduce the opportunity cost of shopping

at farmers' markets as consumers could save time and be confident that they are purchasing the most affordable bunch for their respective budgets.

Another disadvantage to shopping at farmers' markets is that markets in Asheville are generally only open one day of the week, and only for a portion of that day. It is true that there is at least one market open in Asheville Tuesday through Saturday; however, no one farmers' market is open every day for more than five hours. This may make it difficult for individuals who work jobs with inflexible hours or rely on public transportation. Individuals shopping for sake of convenience may chose to shop at a grocery store as most stores are open seven days a week and the hours of operation are longer.

Grocery stores offer far more items than farmers' markets. At farmers' markets, items such as toiletries, frozen food, dishware, disposables, etc., cannot be found. Many consumers prefer to shop at one location in order to save time. Wal-Mart, for example, sells not only food but also home goods, clothing, vitamins, office supplies, and outdoor equipment. Individuals shopping on a budget with limited time or transportation options may therefore choose to shop at one location at one time instead of traveling around town throughout the week to meet their shopping needs. However, individuals concerned about the quality of their food who are willing to spend more time shopping may choose to shop at farmers markets for food and shop at stores for other needs. The benefits of shopping at a farmers market for these individuals is higher than that of consumers who do not prefer organic or local foods, or simply do not have the time to spend shopping at numerous locations for their grocery needs. Communities and local organizations that are passionate about supporting farmers' markets may want to consider implementing various programs that help families with limited time or transportation options shop locally.

One way to increase weekly traffic to farmers' markets would be to reduce the opportunity cost to consumers through reducing transportation barriers or extending the hours of markets. Another issue is simply that of cost. Many consumers, though they would like to shop at farmers' markets, are simply unable to for financial reasons. As seen in Table 6, the *average total farmers' market basket* costs 40.84% more than the *average total store basket.* As mentioned previously, the price difference is lower for other baskets, such as the *produce basket*; however, some families do not have the luxury of being able to shop at more than one location to meet all their grocery needs and are simply looking for where the lowest prices are found. Communities passionate about increasing access to locally-grown foods may therefore want to consider implementing programs that reduce the cost of shopping at farmers' markets to low-income families.

Wholesome Wave, established in 2007, is an organization whose mission is to increase access to healthy, affordable, locally-grown food in order to improve the health of consumers and support the local economy ("About Wholesome Wave"). In 2008 Wholesome Wave implemented the Double Value Coupon Program (DVCP), a program designed to encourage low-income consumers to shop at farmers' markets by matching the dollar value of food stamps for foods purchased at a farmers' market. The DVCP was implemented in 26 states and 200 farmers' markets, and a 2010 evaluation showed that 87% of DVCP consumers increased their fruit and vegetable consumption, and over 90% of these consumers agreed with the statement that this addition of fresh produce made a positive impact on their diets (McFadden). This is one example of a program that was successful in both increasing traffic to farmers' markets and improving the health of consumers.

5. Conclusion

When farmers' market foods are compared to locally-sourced and certified-organic foods found in stores, farmers' markets foods cost 3% less, on average. However, when farmers' market foods are compared to all store foods, regardless of type, farmer's market foods are 40.84% more expensive, on average. When considering the lowest price found at all locations, farmers' market food costs 10% more than locally-sourced and certified-organic foods found in stores and 140% more than all foods found in stores. These findings suggests that consumers who are concerned with only absolute price will find the best value when shopping in a grocery store, especially if those consumers are willing to visit more than one location in order to find the lowest price. However, some consumers may not have a specific preference as to the production means of their foods but simply enjoy the atmosphere cultivated at farmers' markets, and the fact that some consumers are willing to pay up to 41% more suggests that there are significant non-monetary benefits to shopping at a farmers' market. Consumers who shop at farmers' markets are voting with their dollars for the numerous benefits that farmers' markets provide. These include building a relationship with the farmer, a sense of community, and the knowledge of the growing practices used by farmers. Purchasing foods from farmers' markets provide many intangible benefits to the consumer, and, based upon the

results of this study, foods purchased at farmers markets are not necessarily more expensive than their store-bought equivalents.

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7. References

1. "About Wholesome Wave." *Wholesome Wave*. WholesomeWave.org, 2010. Web. 16 Nov. 2013.
2. "ASAP's Online Local Food Guide." *Tailgate Markets*. Appalachian Sustainable Agriculture Project, 2013. Web. 18 Aug. 2013.
3. "ASAP's Online Local Food Guide." *Local Food Guide*. Appalachian Sustainable Agriculture Project, 2013. Web. 07 Nov. 2013.
4. Carlson, A., Lino, M., Juan, W., Hanson, K., & Basiotis, P. P. (2007a). Thrifty Food Plan, 2006 (CNPP-19). Alexandria, VA: U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. Web. 13 May 2013.
5. "Get Local." – *ASAP Connections*. Appalachian Sustainable Agriculture Project, n.d. Web. 15 Nov. 2013.
6. McFadden, Dawn T., and Sarah A. Low. "Will Local Foods Influence American Diets?" *Agriculture and Applied Economics Association* 27.1 (2012): n. pag. *AgEcon*. Web. 15 Nov. 2013.
7. Milchen, Jeff. "The Multiplier Effect of Local Independent Business Ownership." *Local Multiplier Effect*. American Independent Business Alliance, n.d. Web. 5 June 2013.
8. "Interview with Dr. Lanou." Personal interview. 7 June 2013.
9. "Interview with Dr. Batada." Personal interview. 2 June 2013.
10. O'Kane, Gabrielle. "What Is the Real Cost of Our Food? Implications for the Environment, Society and Public Health Nutrition." *Public Health Nutrition* 15.2 (2011): 268-76.*Cambridge University Press*. Web. 15 Nov. 2013.
11. Pirog, Rich, and Nick McCann. *Is Local Food More Expensive? A Consumer Price Perspective on Local and Non-Local Foods Purchased in Iowa*. *Leopold Center for Sustainable Agriculture*. Leopold Center, Dec. 2009. Web. 7 Apr. 2013