

Alabama Restaurant Preferences and Willingness to Pay for Local Food: A Choice Based Approach

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Selected Paper prepared for presentation at the Southern Agricultural Economics Association Annual Meeting, Corpus Christi, Texas, February 5-8, 2011

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Introduction

Local food marketing is a growing trend throughout the United States. In recent years, citizens of the United States have become increasingly health conscious in relation to their food consumption (Dentoni et al. 2009; Caprio and Isengildina- Massa, 2008). Consumer preferences for healthier diets and concerns about food safety over the past decade have resulted in tremendous opportunities for fruit and vegetable producers, especially those who market locally. Consumers indicate they are willing to pay a high premium for locally produced food. This demand for local food has spilled over into the restaurant markets and chefs are searching for local products to appeal to consumers and also for product quality and freshness (Jamelske 2009; Darby et al. 2008; Montri et al. 2006). According to USDA/ERS statistics restaurants account for more than 70 percent of total food away from home expenditure, which indicates that this market represents tremendous potential for developing a sustainable network with local growers. Restaurants are retail marketing outlets that provide producers with high levels of profitability as compared to wholesale or other commercial outlets (Inwood et al. 2009). Despite the potential increase in producer revenues, there are numerous challenges associated with implementing successful, sustainable local food marketing system for restaurants. This study will utilize choice based conjoint analysis to evaluate restaurant/chef preferences for various attributes of producers who supply local products.

Background

The food service industry represents one of the largest industries in the United States. The industry is comprised of businesses that distribute food for both home and away-from-home consumption. Food at home expenditures includes food sales (food stores; other stores; home delivery and mail order; farmers, manufacturers and wholesalers), home production, and

donations. Expenditures for food consumed at home have increased consistently over the past two decades. Since 1990, expenditures for food consumed at home increased by approximately 99 percent. In 1990 total expenditures were \$305 billion and increased to \$607 billion in 2009. Food away from home expenditures (restaurants and bars; hotels and motels; retail stores, direct selling; recreational places; schools and colleges, etc), have also increased consistently over this same period. Expenditures increased by approximately 132 percent from \$248 billion to \$574 billion from 1990 to 2009, respectively. Restaurants accounted for a substantial portion of food-away-from-home expenditures. From 1990 to 2009 restaurant expenditures increased from \$171 billion to \$411 billion, accounting for more than 70 percent of the total expenditures throughout this period (USDA/ERS 2010).

Consumers are becoming more health conscious and their increased concern for food safety standards has increased their demand for local food purchases. This new health awareness is triggered partly by the increasing obesity and other illnesses associated with unhealthy diets and lifestyles. The National Health and Nutrition Examination Survey (NHANES) collects data that provides an opportunity to follow the trends in the occurrence of obesity in the United States. Statistics from the data showed that the occurrence of obesity has been increasing in both men and women and all age groups (Flegal et al. 2010). Data collected through the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS) shows that in 1990 ten states had occurrence of obesity less than 10 percent and no state had occurrence greater 15 percent. By 1999, no state had occurrence less than 10 percent, eighteen states had between 20-24 percent and no state had greater than equal or greater than 25 percent. However, by 2009 only one state had occurrence less than 20 percent, thirty three had equal or greater than 25 percent and nine had occurrence greater or equal to 30 percent (Mokdad et al.

1999; CDC 2010). These figures indicate how rapidly the occurrence of obesity is rising throughout the United States. Alabama is among the top nine most obese states in the nation with obesity rate above 30 percent. Data reported by CDC indicates that approximately 31 percent of adults in Alabama are obese, which is caused by factors including food and nutrition consumption patterns, lack of physical activity and socioeconomic factors. There are several studies that evaluated fruits and vegetable consumption patterns and how it relates to obesity. Results from these studies show that increasing fruits and vegetable intakes lowers the risk of becoming obese (He et al. 2004; Epstein et al. 2001).

The findings from these studies have increased consumer awareness and serve as motivation for consumers as well as individuals in the food service industry to reverse this depressing trend. As a result, there has increased interest in purchasing and supplying locally grown food, since locally grown foods are considered to be healthier. Consumers perceive locally grown food to be fresher, of higher quality and a good value for their money (Wolf et al. 2005; Hardesty 2008). Several studies (Brown, 2003; Caprio and Isengildina- Massa, 2008; Kremen, Greene, and Hanson, 2003; Loureiro and Hine, 2002) have documented that consumers are willing to pay a significant premium for locally produced foods.

There are several different marketing outlets for locally grown foods. The more profitable marketing channels include farmers markets, community supported agriculture (CSA), restaurants and institutional markets (schools, colleges, hospitals, prisons, airlines etc). Farmers markets are one of the fastest growing outlets for marketing local products, which cater primarily to local consumers. The number of farmers markets in the U.S. has grown from 1,755 in 1994 to 4,685 in 2008. This increase has been attributed to consumers growing demand for fresh, locally grown products; change in the economics of agriculture; and consumers' interest in direct

interaction with producers (Henneberry et al. 2009). Producers who operate small farms, in most cases, are unable to compete in the industrial market system as they are unable to provide large volumes and meet product specifications required by wholesalers. Therefore farmers markets are particularly beneficial to these small producers, as well as consumers and the communities both economically and socially (Sanderson et al. 2005). Producers gain from a 40 to 80 percent increase in return on their products as compared to wholesale prices, while consumers on average pay as much as one-third less than traditional retail price for produce at farmers markets (Sommer et al. 1980; Henneberry et al. 2009; Stumbos 1993).

Despite the benefits gained selling and purchasing at farmers markets, there are issues/challenges realized by both parties involved. Consumers indicate inconvenient market times and parking as two of the main drawbacks of farmers market (Wolf et al. 2005). Producers also indicate time as one of the major concerns as it requires hours per day at the market, which is an opportunity cost they have to incur. Finding and maintaining a niche when consumers demand for products is changing; smaller farmers find it hard to compete with larger farmers at the market; weather conditions; seasonal trends; and finding a good market location are all major challenges faced by producers (Griffin and Frongillo 2003).

Community Supported Agriculture (CSA) is a marketing strategy where consumers pay farmers for a proportion of output before planting begins (Brown and Miller 2008; Thilmany et al. 2008). Similar to farmers market, consumers gain a level of satisfaction and utility from participating in CSAs (Farnsworth et al. 1996). Consumers who get involved in CSA do so because of fresher, higher quality, greater variety and healthier products. Several studies also show that consumers benefit economically from participating in CSAs by way of lower price premium for products (Cooley and Lass 1998; Sabih and Baker 2000).

Alabama has a total of 2,745 full service restaurants reported by the U.S. Economic Census 2007. The full service restaurant sector is comprised primarily of establishments engaged in providing food service to customers who order and are served while seated (i.e. waiter/waitress services) and pay after eating. They also provide other services such as take out services. The full service restaurant sector in Alabama had total sales of \$2.1 billion in 2007. Producers can receive several advantages from selling directly to restaurants, which include reliable market throughout the season, receiving premium prices and flexibility in the crop grown. Restaurants are considered a good market source for local food primarily, because they are thought to have good potential for higher returns to producers than other large scale markets, such as food stores and institutions. Producers using direct marketing generally keep a higher percentage of the food dollar. They can earn even higher returns by cutting out aggregators, adding value, and marketing their own products as well as sometimes setting their own price. Secondly, they usually feature fresh produce to a larger extent than other foodservice companies that supply a large portion of processed products (Kirby, 2006). Restaurants also receive benefits from buying locally. The main benefits include having fresher and higher quality products, meeting their consumers' demands, supporting their local economies, and supporting local farmers (Jamelske 2009). However, not all restaurants are interested in local food purchases. It was found that independently owned and operated restaurants are generally those that purchase or have interest in purchasing local food. As a result surveys for this study were sent to those particular types of restaurants.

Restaurants purchasing from local farmers also express significant challenges. One of the major challenges is the logistics of dealing with several producers to obtain the products they demand. This problem exists primarily as a result of a commodity-based focus on production.

Under the commodity-based production approach, restaurants that attempt to support local growers face the challenge of dealing with several growers to get an adequate assortment of local products. Restaurants/chefs also express numerous concerns related to the purchasing process. Several studies (Curtis et. al, 2008; Ernst and Woods, 2005; Curtis and Cowee, 2009) show common uncertainty of chefs about food attributes desired by consumers as well as the type of producers they purchase from. Some of the factors related to food attributes included taste, quality, freshness, method of production (organic, natural or conventional). Factors related to the producers they purchase from include availability of products, reliability and consistency of delivery, methods of payments and number of producers. With these concerns, chefs tend to purchase a larger portion of their products from larger more consistent suppliers, and local producers miss a market opportunity.

Producers also express challenges from selling directly to restaurants. The major challenges for producers are associated with cost and time. Producers indicated that it is costly and time-consuming to travel to several different restaurants to deliver relatively small quantities of products on a consistent basis. Producers who only grow one or two crops on a relatively large scale are required to travel to several different restaurants to deliver enough products to justify supplying this market. The transportation and time required are a major disincentive to producers, even when the price premium is considered.

There are limited studies that analyze chef's preferences as it relates to local food purchases. The majority of studies from literature that evaluate at chef's preferences for local food seek to provide information to local producers as to how to build a good relationship with restaurants. There is no known study that analyzes restaurant chef preferences for local producer attributes. There is however, one study that estimated similar objectives to this study,

which was conducted for the Las Vegas area. This study was conducted by Curtis and Cowee (2009) who evaluated direct marketing of local food to chefs, particularly, their preferences and perceived obstacles. Similar to the motivation of this current study, Curtis and Cowee were motivated to carry out the study because of the increase in demand for locally produced food by consumers who are concerned with food safety issues as well as those that are becoming more health conscious. They surveyed a number of gourmet chefs to determine preferences for locally produced food products/ingredients, their attitude towards purchasing locally, the most important product attribute to them and different issues they perceived as obstacles to making local purchases.

Another study that evaluated chefs' preferences is Montri et al. (2006). They examined chefs' preference for locally grown edamame (green vegetable soybeans). The study sought to determine if demand exists among chefs in metro-Philadelphia as well as to determine chef preferences for this particular product. Similar to other studies they found that the demand for local produce exists. Darby et al. (2008) used choice-based conjoint analysis, similar to this current study, to address how consumers defines "local" and how they value the locally grown aspect of a food product independent from other attributes that are often naturally confounded with such goods. The term "local" food is commonly used, but there are no standards in the United States defining it. Consumers commonly define the term as food grown within a county or neighboring counties, or within a state (Zepeda and Li 2006). Based on the results found, the demand for locally produced food does exist and the demand is independent of other attributes associated with foods produced locally. Findings also suggest that state boundaries may serve as an accepted point of geographic description for local production.

Survey Data

The data for the study was collected by surveying 836 restaurants in Alabama whether they purchase locally or not. A total of 89 surveys were returned with bad addresses, approximately 10 percent, leaving a total of 747 participants. These restaurants are broadly distributed across the state and were randomly chosen from Alabama Restaurant and Food-service Association. The association has hundreds of restaurants listed and gives several options as to the type of restaurants to choose from. Independently owned restaurants were chosen as survey participants particularly because previous studies showed that these are the restaurants that typically have interest in purchasing local food (Curtis and Cowee, 2009; Curtis et al. 2008; Kirby 2006). The survey was administered through a combination of internet and mail. Restaurants for which email addresses were available were sent a copy of the survey by email using survey monkey, while those who had no available email address were sent the survey by mail. A total of 104 surveys were sent via email while the remaining 732 were sent to mailing addresses.

The survey was segmented into four sections. Section 1 requested general background information about the restaurants, including average weekly expenses on food, location of business, years in business, etc., and whether they purchased locally or not. Section 2 addressed restaurants that do not purchase locally and their reasons for not engaging in local purchasing. It also addressed whether they have interest in purchasing locally, and the type of food they would like to purchase if interested. Section 3 targeted restaurants that purchase locally. This section required information such as the methods of obtaining local foods, how they find local producers, and their opinions of the impact local food purchasing has on their restaurant's profit. Section 4 addressed preferences of a number of producers and product attributes. All

participants were asked to complete section 4 (the choice-based conjoint section) of the survey, which should give an indication of what restaurants are searching for in terms of producers and their attributes. Choice-based conjoint analysis will be used to evaluate restaurant preferences for purchasing from local producers whether they currently purchase local products or not.

Descriptive statistics for the data can be found in table 1. The data shows that the restaurants are distributed across the state and have been operating on average approximately 13 years, with one restaurant operating as long as 70 years and one less than a year (7 months). Most of the restaurants have been in operation between 12 to 20 years. Only about 20 percent of the respondents indicated their restaurants provided breakfast. The average price of breakfast at these restaurants is \$8.00. The average price of lunch is \$9.61 and dinner on average was \$17.00. One of the questions asked was their average weekly expense for food in dollar value. On average respondents spent \$7,763.60 weekly on food purchases and have average gross sales of \$1.2 million.

Table 1: Descriptive Statistics of Restaurants

Variable	Mean	Std. Dev.	Min	Max
Year	11.91	11.28	.75	70
breakfast	7.973846	2.313981	5	12
lunch	9.569608	2.664742	5	18
dinner	17.02907	8.367756	7	50
expense	7920.717	17894.88	300	130000
Gross Sales	1245261	1183264	23000	5000000

Choice-Based Conjoint Analysis

Conjoint analysis provides the researcher a tool for understanding consumers' preference structure for specified attributes of a product and is based on the idea that a consumer aggregates the individual values provided by each feature of a product to determine the total value of the product (Hair et al. 1998). Choice-based conjoint analysis is a popular tool used to estimate the

value of nonmarket goods. Choice-based analysis poses the challenge of determining the combination of attributes and attribute levels to present to individuals (Lusk and Norwood 2005). The key statistical properties relevant to choice-based/choice experiments are identification and precision which must be considered with the non-statistical properties such as realism and complexity (Louviere et al. 2000). This methodology is used to provide valuable information about the attributes and attribute levels desired by the consumer for a given product often before the product is developed or offered to consumers. Choice-based conjoint analysis is used in this study to examine the importance of four attributes and attribute levels of local producers. These attributes and attributes level are outlined in table 2.

Table 2: Local Producer Attributes and Attribute Levels

Number of Producers	Production Method	Product Form	Price
3	Conventional	Processed/Bagged	Avg. Weekly
6	Organic	Fresh/Whole	10% above average weekly
9	Natural		10% below average weekly

The number of producers represents total local producers the restaurant/chefs would have to purchase from to obtain the desired amount of products needed. The numbers used in the study were chosen based upon survey pre-tests with restaurants that currently purchase local products. Based on pretests and previous literature restaurants/chefs prefer dealing with small numbers of suppliers making it their primary reason for purchasing from larger suppliers. Larger suppliers are able to supply them with the total amount of products needed. The production methods (conventional, natural and organic) were chosen because they are the most widely used by farmers. Processed/bagged and fresh/whole were the two types of product form used. Price

was added so that restaurant/chefs willingness to pay could be evaluated. The respondents were asked their weekly price for a basket of goods in any given week. Based on the average given we wanted to get an understanding of how much more or less than their average weekly prices restaurants would be willing to pay to get their ideal purchasing preferences.

With the given number of attributes, there are a total of 54 possible product combinations that could be evaluated. However, since respondents were asked to choose between to producer profile options, the full factorial design consisted of 2916 (54*54) possible choices. Full factorial designs contain all possible combination of attributes and attributes level. Since it is not possible to administer such a large number, fractional factorial design is used. Fractional factorial designs are generated by selecting subsets of choice sets from full factorial design. From the full factorial, a total of 16 choice sets were selected using SAS PROC PLAN procedure. The 16 choice sets were selected by choosing choice options from the full factorial design to minimize a D-efficiency criterion, which yields reliable willingness to pay estimates (Lusk and Parker 2009). A D-efficiency score of 94.8 was generated from the SAS PROC PLAN procedure which indicates there is very low correlation between attributes and across choice options. A D-efficiency score of 100 indicate a balanced design and no correlation (Louviere et al. 2000). The 16 choice sets were divided into two blocks (block 1 and block 2) of 8 each as it would be complicated for respondents to evaluate all 16 sets. Having only 8 choice sets makes it easier to administer and also makes it easier for respondents to complete. Each block had 8 choice sets, each consisting of three choices for respondents to evaluate. These choices consist of two set of profiles with different producer and product attributes and a third choice (“I Would Select Neither Option”) not to select either of the profiles if the respondent did not prefer any of the profiles. Figure 1 presents an example of a choice set.

Figure 1: Example of a choice set



The survey participants were randomly divided in two groups using Microsoft Excel, where one group received block 1 and the other block 2 to complete. Participants were told that the profiles were hypothetical profiles that would be used to determine their preferences for local producer attributes. They were given information as to what the attributes are and the different attribute levels. They were asked to compare the features of the profiles and select their most preferred choice from each choice set. A multinomial logit will be used to evaluate these preferences. The results from the multinomial logit will determine how much a one-unit change in the overall sample mean for a given variable would change the probability of membership in each group. The multinomial logit model equation is described in equation 2 and the marginal effects derivation is shown in equation 3 (Greene, 2006).

$$Prob\ group\ j = \frac{e^{X_i\beta_j}}{1 + \sum_{j=1}^m e^{X_i\beta_j}} \quad j = 1, 2, \dots, m; \quad i = 1, 2, \dots, n. \quad (2)$$

Where:

Prob [group j] = the probability of the respondent belonging to the jth group

Xi = set of n firm characteristics of the respondent

Bj = vector of parameters to be estimated

$$\eta_j = P_j \beta_j - \sum_{k=1}^m P_k \beta_k \quad j = 1, 2, \dots, m \quad (3)$$

Where:

η_j = change in the probability of a respondent being associated with group j with respect to a one unit change in the ith socioeconomic characteristic, X_i

P_j = observed probability of group membership

B_j = estimated regression coefficient associated with X_i for Prob [y=j]

Results

Responses from the choice-based conjoint questions will be used to evaluate restaurant preferences using a multinomial logit model. Results from this analysis will give a clear indication of attributes restaurants desire in local producers, which will determine whether there is market potential for local producers in the restaurant industry in Alabama. Analysis for this portion of the study is currently underway. Results on descriptive statistics and an overview of the characteristics of restaurants that currently purchase local or do not purchase locally are provided below. The restaurants' ideal local purchase is also outlined, which is simply the producer profile preferred most by restaurants.

Results are provided in table 3. The most critical question asked to respondent was whether they currently purchase locally-grown products. If respondents answered "yes" indicating they purchase locally then they were asked a series of questions involving the methods of obtaining local food, how much of their food purchased weekly is locally grown, their perception of the effect of purchasing locally on their restaurants profits, factors that influence their local purchases and so on. If the respondents answered "no" to the question they are also asked a series of question, some similar to those who purchase locally. One of the key questions asked to respondents who do not purchase locally, is their primary reason for not doing so. This

will give an idea of whether they do not purchase by choice or that option is not available to them. The responses were quite evenly spread for whether they purchased locally, 35 respondents answered “yes” to the question while 29 answered “no”.

Restaurants who responded that they did not purchase locally were asked to give the factors that prevented them from purchasing locally. Inadequate availability was cited by 38 percent of non-local purchasers as the major barrier for not purchasing locally. Other barriers cited were inconvenience, uncertain of where to buy, lack of knowledge as to what is available locally, and a few make purchases only from food distributors. These are similar barriers to that found by Curtis and Cowee (2009) who found the reasons for not purchasing local foods in Nevada were incomplete information or lack of awareness and inadequate availability and variety of products. Respondents were asked to rate the importance of different factors, on a scale of one (not important) to ten (very important), in terms of their influence on making a decision to purchase locally. These factors include consistent supply and quality, year-round availability, price, how and when product is delivered, product freshness, product processing, product packaging and labeling, ease and efficiency of ordering and paying and food safety. Majority of these factors were weighted heavily towards very important, however, some were significantly more important than others. Consistent supply and quality, food safety and product freshness were of high priority to restaurants. Almost all respondents listed these specific factors as very important. How product is delivered, product packaging and labeling, ease and efficiency of ordering and payment were least important. All participants (whether they purchase locally or not) were asked to rate four different payment methods in terms of preferences for purchasing locally, one being most preferred and four least preferred. Invoice to be paid within 30 days was cited as most preferred while paying with a debit or credit card was least

preferred. Payments by cash or by check were preferred to paying by debit or credit card by not as preferred as the invoice payment option. Participants were asked about their familiarity with food safety standard, 47 percent responded they were extremely familiar, 44 percent were familiar and the remaining 9 percent were not very familiar. None of the respondents reported that they were not at all familiar with the standards.

Respondents who answered “yes” to local purchasing were asked what percentage of their weekly food purchases was locally grown. Of their total weekly purchase, restaurants purchased 18.5 percent of local foods weekly on average. Although these restaurants engage in local purchasing majority of foods bought were not local. There is still a greater marketing potential in the restaurant industry that is available to local producers to take advantage of. Methods of obtaining local food purchased and the percentage obtained by each method was an important aspect that needed noting. This gives us an idea of whether the restaurants and local producers were interacting directly or there is a middle man. Approximately 50 percent of the respondents obtain local food directly from a farmer (not including farmers market), delivered by a food service supplier and or directly from a farmers market. This has some indication of direct interaction by restaurants and local producers. In terms of percentage, restaurants obtained a greater percentage of their purchase directly from a farmer. Food brokers or food processors were the two methods that least provided restaurants with local food. On average most of the food purchase were delivered to the restaurants as opposed to being picked up by restaurant workers. The average number of producers that restaurants buy local products from is 3.7 with producers making as many as 3.5 deliveries on average per week. Restaurants that purchased locally were asked whether they “agree”, were “indifferent” or “disagree” that local purchasing has a positive impact on their restaurants profits. Approximately 25 percent of the respondents

said they “strongly agree”, 39 percent “agree”, 29 percent were “indifferent” while the remaining percentage “disagree”.

Restaurants that did not purchase local foods were asked to list some of the local products they would like to purchase in the future. There were numerous products that are desired by restaurants. A variety of vegetables were listed by several respondents (lettuce, tomatoes, cucumbers, peppers, squash, broccoli etc); dairy products; meat (pork, seafood, beef, chicken, etc); herbs; are but just a few. Lettuce, tomatoes, onions, squash, and cucumbers were most frequently listed. Respondents who purchase locally were also asked to list products they would like to purchase that they are not currently able to. Similar to the non-local respondents local buyers have a high demand for a variety of vegetables, dairy products and meat products. Local buyers also had a demand for legumes that was not found to be desired by non-local buyers. The most frequently listed products for local buyers were beef, chicken, potatoes, eggs, and onions. Local respondents were also asked about the local foods they currently purchase, responses shows that vegetables, meat products, dairy products and fruits were most purchased. Tomatoes, squash, peppers, watermelon and cheese were the top five products purchased locally.

Figure 4 presents results of restaurants’ preferences for producer and producer attributes. Section 4 of the survey is the conjoint product analysis which addressed restaurant preferences of a number of producers and product attributes. The producer attributes were number of producers, producer type, product form and price. Each respondent were asked to complete 8 choice sets each consisting of three choices where option 3 was an “opt out” option if the respondents prefer neither the first two choices. Based on responses we found that restaurants prefer to deal 6 producers on average on a weekly basis. Each restaurant was given a choice of dealing with 3, 6 or 9 producers. Previous studies shows that restaurants prefer to deal with fewer producers on a

weekly basis. From this particular group of restaurants, 3 producers per week were least preferred. Restaurants had the choice of “natural”, “organic” or “conventional” as the producer type. We found that on average restaurants prefer naturally grown produce, hence natural producer type. Organic was next preferred and conventional farming was least preferred. As it relates to how the products are prepared (fresh/whole or processed/bagged) we found that producers prefer receiving fresh/whole products. Some producers indicate that this is preferred since they are able to prepare the products as desired and they are able to cut down on waste. It was also found that producers prefer to purchase these products at the cheapest price possible, as majority of the respondents chose 10 percent below their weekly average price. Average weekly price and 10 percent above average weekly price were the other two price level, where restaurants indicated they least preferred the 10 percent above weekly average.

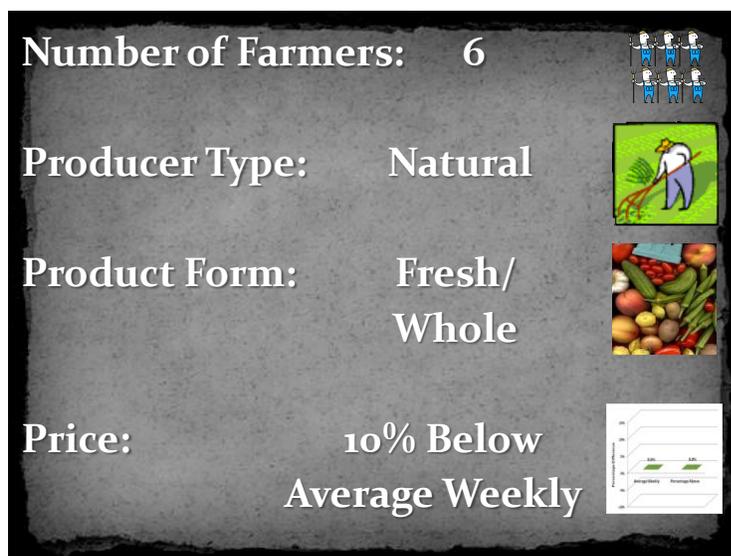
Table 3: Percentages of Responses of Local and Non-local Restaurants

Factor	Response (%)
Does your restaurant currently purchase locally-grown food products?	
Yes	56.45
No	46.77
How familiar are you with food safety standards?	
Extremely	47.3
Familiar	43.6
Not Very Familiar	9.1
Not at all Familiar	0
Payment Options (In terms of Preferred)	
Cash	13.7
Check	39.2
Credit/Debit Card	5.9
Invoice to be paid within 30 days	41.2
Factors that influence locally purchasing decision	
Consistent supply*	54.2
Consistent quality*	62.7
Year-round availability*	37.3
Price*	33.9
Food safety*	61.0
When product is delivered*	30.5

How product is delivered*	25.4
Product freshness*	57.6
Product processing*	39.0
Packaging and Labeling*	16.9
Ease & Efficiency of ordering*	22.0
Ease & Efficiency of payment*	23.7
Interest in promoting locally grown (menu or other promotional material)	
Interested	67.8
Not Interested	32.2
Gross Sales	
Local	43.0
Non-Local	57.0
How much of locally grown is:	
Delivered	53.3
Picked up	46.7
Does Purchasing locally have an impact on your profit?	
Agree	57.6
Disagree	42.4

*The percentages of respondents rating this particular factor as “very important”. For instance, 54.2% of respondents rated consistent supply as being “very important”.

Figure 2: Restaurants Preferences for Producer and Producer Attributes



Conclusion

Consumers’ increased demand for locally produced food is having a direct effect on restaurants’ demand for local food. This study seeks to evaluate restaurants preferences for

various local producer attributes. Results show that restaurants prefer working with lower number of producers who produces their products naturally. They also prefer receiving fresh/whole products as opposed to processed/bagged at the lowest prices possible. There are a number of restaurants that are not currently purchasing local food because of availability and lack of knowledge as to where to find local producers. This suggests that there is potential for direct marketing to restaurants that producers are not currently utilizing. Based on the findings of the study, if a new system of marketing is implemented an estimated \$23 million of potential revenue could go to local producers. This represents non-local producers who have indicated some level of interest in local purchasing. Work on the critical aspect of the paper is currently being done, which when completed, should provide knowledge as to whether capitalizing on market opportunity will be efficient for both restaurants and producers. Overall, the findings of this study should help with developing a more efficient system for marketing locally grown products to restaurants. It is anticipated that the findings will promote a system of production that encourages individual producers to develop diversified operations that can produce multiple products for a few restaurants versus a single product for numerous restaurants.

References

- Brown, C. 2003. "Consumers' Preferences for Locally Produced Food: A Study of Southeast Missouri". *American Journal of Alternative Agriculture*. 18(4): 213-224.
- Brown, Cheryl and Stacy Miller. 2008. *The Impacts of Local Markets: A Review of Research on Farmers Markets and Community Supported Agriculture (CSA)*. *American Journal of Agricultural Economics* 90(5): 1296-1302
- Carpio, Carlos and O. Isengildina-Massa. 2008. "Consumer Willingness to Pay for Locally Grown Products: The Case of South Carolina". Selected Paper at the Southern Agricultural Economics Association Annual Meeting, Dallas, Texas, February 2-6, 2008.
- Center of Disease Control and Prevention (CDC). 2010. *Profiling the Leading Causes of Death in the United States*. Available at:

http://permanent.access.gpo.gov/lps83772/00_ChronicDiseaseAllStates.pdf (Accessed September 2010).

- Cooley, J.E, and D.A. Lass. 1998. "Consumer Benefits from Community Supported Agriculture Membership." *Review of Agricultural Economics* 20(1) :227-37.
- Curtis, K.R., M.W. Cowee, M. Havercamp, R. Morris, and H. Gatzke. 2008. "Marketing Local Foods to Gourmet Restaurants: A Multi-Method Assessment." *Journal of Extension* 46
- Curtis, K.R. and M.W. Cowee. 2009. "Direct Marketing Local Food to Chefs: Chef Preferences and Perceived Obstacles." *Journal of Food Distribution Research* 40(2).
- Darby, K., M.T. Batte, S. Ernst, and B. Roe. 2008. "Decomposing Local: A Conjoint Analysis of Locally Produced Foods." *American Journal of Agricultural Economics* 90(2):476–86.
- Dentoni , D., G T. Tonsor, R J. Calantone, and H. C Peterson. 2009. The Direct and Indirect Effects of 'Locally Grown' on Consumers' Attitudes towards Agri-Food Products. *Agricultural and Resource Economics Review* 38(3): 384-396
- Eastwood, D. B., J.R. Brooker, C. R. Hall, and A. Rhea. 2004. Small Produce Growers' Marketing Behaviors: A Case Study of Tennessee. *Journal of Food Distribution Research* 35(1): 57-64.
- Epstein, L.H., C.C. Gordy, H.A. Raynor, M. Beddome, C.K. Kilanowski, and R. Paluch. Increasing fruits and vegetable intake and decreasing fat and sugar intake in families at risk for childhood obesity. *Obes Res* 2001; 9: 171–178.
- Ernst, M., and Tim Woods. 2005. "Marketing Fresh Produce to Restaurants." UK cooperative Extension Service, University of Kentucky-College of Agriculture
- Farnsworth, R.L., S.R. Thompson, K.A. Drury, and R.E. Warner. 1996. "Community Supported Agriculture: Filling a Niche Market." *Journal of Food Distribution Research* 27(1):90–98.
- Flegal, K. M., M. D. Carroll, C. L. Ogden, and L. R. Curtin. 2010. Prevalence and Trends in Obesity Among U.S. Adults, 1999-2008. *The Journal of the American Medical Association* 303 (3): 235-241.
- Greene, William H. 2006. *Econometric Analysis*. Pearson Prentice Hall Publishing, Upper Saddle River, New Jersey, Pg 850-851.
- Griffin, Matthew R., Edward A. Frongillo. 2003. Experiences and Perspectives of Farmers from Upstate New York Farmers' Markets. *Agriculture and Human Values* 20: 189-203.
- Hair, J., R.E. Anderson, R.L. Tatham, and W.C. Black. 1998. "Multivariate Data Analysis."

5th Edition. New Jersey: Prentice-Hall, Inc.

- Hardesty, Shermain D. 2008. The Growing Role of Local Food Markets. *American Journal of Agricultural Economics* 90 (5): 1289-1295.
- He, K., F.B. Hu, G.A. Colditz, J.E. Manson, W.C. Willett and S. Liu. 2004. Changes in intake of fruits and vegetables in relation to risk of obesity and weight gain among middle-aged women. *International Journal of Obesity* 28: 1569-1574.
- Henneberry, S.R., H.N. Agustini, M. Taylor, J.E. Mutondo, B. Whitacre, and B.W. Roberts. 2008. "The Economic Impacts of Direct Produce Marketing: A Case Study of Oklahoma's Farmers' Markets." Paper presented at the SAEA annual meeting, Dallas TX, 2-6 February.
- Inwood, Shoshanah M., Jeff S. Sharp, Richard H. Moore, and Deborah H. Stinner. 2009. Restaurants, chefs and local foods: insights drawn from application of a diffusion of innovation framework. *Agric Hum Values* 26: 177-191.
- Jemelske, Eric. 2009. A Survey of Local Purchasing by Eau Claire Restaurants. Chippewa Valley Center for Economic Research and Development, Spring 2009.
- Kirby, Laura D. 2006. Restaurants as a Potential Market Channel for Locally-Grown Food in Western North Carolina. Prepared for the Appalachian Sustainable Agriculture Project (ASA), November 2006.
- Kremen, A., Greene, C., and J. Hanson. 2003. "Organic Produce, Price Premiums, and Eco-Labeling in U.S. Farmers' Markets." *Organic Produce in U.S. Farmer's Markets, Economic Research Service, USDA.* <http://www.ers.usda.gov/publications/VGS/Apr04/vgs30101/vgs30101.pdf>
- Loureiro, M.L. and S. Hine. 2002. "Discovering Niche Markets: A Comparison of Consumer Willingness to Pay for Local (Colorado Grown), Organic, and GMO-Free Products". *Journal of Agricultural and Applied Economics*. 34(3): 477-487.'
- Louviere, J.J., D.A. Hensher, and J.D. Swait. 2000. *Stated Choice Methods: Analysis and Application*. Cambridge: Cambridge University Press, 2000.
- Lusk, Jayson L. and F. Bailey Norwood. 2005. Effect of Experimental Design on Choice-Based Conjoint Valuation Estimates. *American Journal of Agricultural Economics* 87(3): 771-785
- Lusk, Jayson L. and Natalie Parker. 2009. Consumer Preferences for Amount and Type of Fat in Ground Beef. *Journal of Agricultural and Applied Economics* 41(1): 75-90

- Mokdad, A. H., M. K. Serdula, W. H. Dietz, B. A. Bowman, J. S. Marks and J. P. Koplan. 1999. The spread of the obesity epidemic in the United States, 1991—1998. *The Journal of American Medical Association* 282(16):1519–22.
- Montri, D. N., K. M. Kelley, and E. S. Sanchez. 2006. "Direct Marketing Edamame (Glycinemax [L.] Merrill) to Professional Chefs." *Journal of Extension* 44(1), Article IRIB4.
- Sabih, S.F., and L.B.B. Baker. 2000. "Alternative Financing in Agriculture: A Case for the CSA Method." *Acta Hort. (ISHS)* 524:141-48
- Sommer, R., M. Wing, and S. Aitkens. 1980. Price Savings to Consumers at Farmers Markets. *Journal of Consumer Affairs* 14(2): 452-462.
- Stumbos, J. 1993. UC program helps small farmers reap big harvest. *California Agriculture* 47: 5-18.
- Thilmany, Dawn, Craig A. Bond, and Jennifer K. Bond. 2008. Going Local: Exploring Consumer Behavior and Motivations for Direct Food Purchases. *American Journal of Agricultural Economics* 90(5): 1303-1309.
- USDA/ERS. 2010. Food CPI and Expenditures. Available at: <http://www.ers.usda.gov/Briefing/CPIFoodAndExpenditures/> (Accessed August 2010).
- Wolf, M. M., A. Spittler, and J. Ahern. 2005. A Profile of Farmers' Market Consumers and the Perceived Advantages of Produce Sold at Farmers' Markets. *Journal of Food Distribution Research* 36(1): 1-6.
- Zepeda, Lydia and Jinghan Li. 2006. Who Buys Local Food? *Journal of Food Distribution Research* 37(3): 5-15.