LINKING SUPPLY AND DEMAND:

INCREASING GROWER PARTICIPATION AND CUSTOMER ATTENDANCE AT LOCAL FARMERS' MARKETS

A Thesis

by

PATRICK T. LILLARD

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

August 2008

Major Subject: Horticulture

LINKING SUPPLY AND DEMAND:

INCREASING GROWER PARTICIPATION AND CUSTOMER ATTENDANCE AT LOCAL FARMERS' MARKETS

A Thesis

by

PATRICK T. LILLARD

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Approved by:

Chair of Committee,	Stephen King
Committee Members,	Jayne Zajicek
	James Lindner
Head of Department,	Tim Davis

August 2008

Major Subject: Horticulture

ABSTRACT

Linking Supply and Demand: Increasing Grower Participation and Customer Attendance at Local Farmers' Markets. (August 2008)

Patrick T. Lillard, B.A., Texas A&M University

Chair of Advisory Committee: Dr. Stephen King

Farmers' markets in the United States have experienced a dramatic increase since the 1970's. In the past three decades the number of farmers' markets has increased from 340 in 1970 to 3,617 by 2006. This interest in farmers' markets has not been felt everywhere, though. The purpose of this study was to investigate the supply and demand sides of farmers' markets, farmers and customers, in order to increase both segments at farmers' markets in Bryan and College Station, Texas. Interviews were conducted with farmers within a 100-mile radius of the two towns, to determine characteristics of potential farmers' market vendors and factors influencing market outlet choice. Bryan and College Station residents were surveyed at different market outlets to establish their knowledge of and interest in farmers' markets.

The two primary themes found for farmers' reasons for growing were family and enjoyment, with enjoyment an especially important theme among older growers. Factors influencing market outlet choice were farmer status (part-time or full-time) and volume grown, with time, volume and risk being the primary considerations for most of the younger farmers interviewed.

Almost 90% of respondents said they had been to one of the local farmers' markets, but this could be attributed to many of the respondents' misperception of a farmers' market. Farmers' markets will need to increase residents' understandings of what a farmers' market is.

The best communication channel to reach residents appears to be the newspaper as 35% of respondents said that is where they get their local news. The primary reason for not attending farmers' markets was inconvenient times. Those that chose inconvenient times as a reason for not attending preferred Saturday afternoons.

DEDICATION

To my AJ's. Thank you for all your help and patience.

To my parents, thank you for giving me a love of knowledge and a love of reading. I never knew the answer to "why?" could be so long.

ACKNOWLEDGEMENTS

Thank you to my advisor, Dr. King, for taking me on and getting me through this. I appreciate all the opportunities you gave me.

Thank you to Dr. Zajicek and Dr. Lindner, for all the advice and guidance.

Thank you to all the farmers that gave me their time and stories.

Thank you to Doris Howell, Brandi Howell, Michael McDaniel, Henry Musoma, and Cody Zilverberg for assistance with the surveys. I couldn't have completed this research without your help.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

The initial concept for this study came from conversations with growers from the Brazos Valley Farmers' Market Association (BVFMA). The BVFMA operates two "grower-only" farmers' markets: one year round farmers' market in Bryan, and a seasonal farmers' market in College Station. Currently it has 33 members: 15 consistently selling during the peak season of May and June, and 8 consistent vendors selling year round (P. K. Gendron, personal communication, May 6, 2008). Some of the growers felt the main challenge for the BVFMA was finding more vendors for the farmers' market.

The design for these studies came after meeting Suzanne Santos, director of the Austin Farmers' Market. She told me about the research the Sustainable Food Center conducted when developing the downtown Austin farmers' market. Their research study, conducted in 2002, evaluated the interest and support of four key groups for a downtown farmers' market: local residents, farmers' within a 100 mile radius, current farmers' market shoppers, and elected city officials. Their results allowed them to determine if they would have support from the city, enough supply from local growers, enough interest from residents, and characteristics of local farmers' market shoppers.

This research attempted to accomplish the same goals, but by different means. A qualitative study was conducted using a selected sample of growers within a 100 mile radius to

---

This thesis follows the style of the *Journal of International Agricultural and Extension Education*.

better understand local growers and factors that influenced their participation in farmers' markets. The other section of this research focused on characteristics of Bryan and College Station produce shoppers. Patrons of different produce outlets were surveyed to determine their knowledge of and interest in farmers' markets. After researching these two populations, recommendations for increasing vendor participation and customer attendance will be given to the BVFMA.

Definition and Classifications of Farmers' Markets

The first step in many of the studies on farmers' markets has been to define what they are, and each study has its own definition. Wann, Cake, Elliott, and Burdette (1948) put it simply by stating, "places where farmers congregate to sell their own products" (p. 1). Some are more specific, such as the definition used by the National Farmers' Retail & Markets Association (2008):

> Farmers, growers or producers from a defined local area are present in person to sell their own produce, directly to the public. All products sold should have been grown, reared, caught, brewed, pickled, baked, smoked or processed by the stallholder. (¶ "What is a farmers' market and what makes them special?")

There are even more detailed descriptions, but as Pyle (1971) pointed out, most definitions condense down into five components: buyers, sellers, merchandise, place, and time. The more detailed definitions are more specific about the characteristics of these components. Pyle allowed the definition of buyers to include both consumers and wholesalers:

> In most markets, at least some of the vendors are the producers of the goods they sell. However, the sellers range from the producer who only sells what he has raised, through the vendor who supplements his own produce with purchased goods, to the huckster, or

middleman, who buys his entire line. (p. 168)

In North Carolina, Georgia and Florida, wholesale markets are allowed to call themselves farmers' markets, but many would disagree with this (Brown, 2001).

Brown's (2002) definition reflects the changes farmers' markets have undergone in the past couple decades: "recurrent markets at fixed locations where farm products are sold by farmers themselves… at a true farmers market some, if not all, of the vendors must be producers who sell their own products" (p. 658). There is more of an emphasis on the vendor being the producer. This shows the change that took place in the make-up of farmers' markets as "the producer-only retail farmers market of today was uncommon until recently" (Brown, 2001, p. 658).

With changes in agricultural production and population shifts in the early 1900's, farmers' markets started to change. New types of farmers' markets began to emerge serving different purposes. As agriculture became more specialized and urban populations grew, larger outlets were needed to distribute larger amounts of produce from more distant locations. Wann et al. (1948) defined these new types of farmers' markets as city wholesale markets and farmers' wholesale shipping point markets. Another type of farmers' market that Wann et al. included was farm women's markets, which consisted of women selling baked and preserved goods. These appeared during the 1930's, but only lasted a couple decades.

Pyle (1971) followed some of the classifications set forth by Wann et al. (1948). She retained the city retail markets, wholesale produce markets, and shipping-point markets, and added courthouse square markets (trading days), and livestock auctions. The two new categories Pyle added had at some point sold produce or farm goods, but had transformed into models resembling flea markets. These classifications show Pyle's liberal definition of sellers, and the adoption of many markets to sell many non-farm related goods.

Brown's (2001) classifications still encompassed all the farmers' markets covered by Wann et al. (1948) and Pyle (1971), but her categories are centered on the sellers allowed at them, with a more strict category for retail farmers' markets. She created a category of terminal markets to describe wholesale outlets that farmers' do not have access to. She included a category for markets that do not require vendors to be producers, which she termed public markets. She maintained the farmers' market category (which was previously called farmers' retail market), but with the subcategories of wholesale and retail. These two classifications must have at least some of the sellers also be the producers.

Tiemann (2004) focused on characteristics of producer-only markets and described two distinct categories, distinguished by characteristics of the vendors, customers, and the produce. Indigenous markets are typified by older growers and customers, and traditional varieties of produce sold at prices similar to or cheaper than grocery store prices. They usually are in smaller towns and have fewer than seven vendors. The market manager, if there is one, is usually one of the vendors. Most of the vendors farm part-time, and do not rely on sales as their primary source of income.

The other type of market described by Tiemann (2004) is what he called experience markets. They have both younger customers and vendors, and allow some craft vendors. Many of the vendors grow full-time and rely on sales for their livelihood. There is more of a variety of produce sold at experience markets. Specialty and certified organic produce is available, but prices are much higher at experience markets than at indigenous markets. The appearance of the market is more attractive, with most vendors having tents, and the produce is displayed in a more desirable fashion. Experience markets have more vendors, too. There was a range of sizes of experience markets:

> While six of the seventeen experience markets visited had fewer than a dozen vendors, five of the others had forty or more vendors, with one market, the Dane County Farmers' Market in Madison, Wisconsin, featuring as many as three hundred vendors (and 20,000 buyers). (Tiemann, 2004, p. 51)

With the size of these markets, many had paid managers and more rules regulating vendors. Most markets had features in their policies or rules to accomplish two common goals: 1) vendors must have produced the goods they sell, and 2) restrict new vendors from arriving the day of the market and selling (Tiemann, 2004).

Lloyd, Nelson, and Tilley (1987) produced a dynamic classification of farmers' markets, explaining their progression through three different developmental stages. The initial stage is very unstable with many full-time growers unwilling to take the risk of participating, so most of the vendors are hobby gardeners or part-time growers. Customer attendance is uncertain as many do not know of the farmers' market or its location. Lloyd et al. found this stage to last from one to three years.

Stage two is typified by the presence of part-time and full-time growers. While there are some hobby gardeners, the majority of the produce is supplied by part-time and full-time growers. Once stage two is reached, the chance for market failure is greatly reduced, and some farmers' markets are not interested in advancing to stage three. Stage three sees an increase in both the number of part-time and full-time growers, as well as the percentage of produce supplied by these growers. At this stage the market "supplies a substantial amount of produce, and is considered a viable produce source by most people in the area" (Lloyd, et al., 1987, p. 185.1).

Lloyd et al. (1987) stated some factors that could cause the farmers' market to grow or decline. Factors that could increase farmers' market growth were population increase, change in

residents' interest and tastes in produce, increased awareness of the farmers' market, or acceptance of food stamps or other federal food programs. Impediments to growth were poor or inconvenient location, and rules restricting possible vendors for the market.

While both of the classifications described by Lloyd et al. (1987) and Tiemann (2004) provide important details about the markets classified, they do not present the whole picture. Lloyd et al. focused on the economic size of markets and showed the progression and growth exhibited by many markets. Tiemann's classifications provide more detail about the characteristics of the markets: attributes of the vendors and customers, the types of produce sold, rules and regulations of different types of markets, and details about the facilities. The one function Tiemann's classification does not allow for is a shift or progression in farmers' markets, as previously noted with the size of experience markets ranging from less than 12 to more than 300 vendors. For this study, it is proposed that the stages of farmers' markets created by Lloyd et al. can be transposed onto Tiemann's classifications in order to describe both the economic value of the market as well as characteristics of the markets: stage 1-3 indigenous markets, and stage 1-3 experience markets. Thus, the BVFMA may be described as a stage two indigenous market, and the Dane County Farmers' Market would be a stage three experience market.

The reason for this new adaptation to these classifications is to provide a structure for changing farmers' markets. This is especially important to this study if recommendations are to be made about changing both economic and social characteristics of the BVFMA.

History of Farmers' Markets

The popularity and number of farmers' markets has risen and fallen with the waves of demand. According to Brown (2001), farmers' markets experienced four surges in the twentieth century. The first surge occurred in 1914 in response to increasing food prices. To reduce

consumer discontent, the USDA initiated the Curbside Market Program to alleviate the demand. Brown saw another rise around 1930 during the Great Depression, which was supported by more urbanization. During this time is when the farm women's market appeared (Wann et al., 1948). It would be a while before there was another surge.

After World War II many events caused the decline of farmers' markets. Wann et al. (1948), Brown (2001), and Pyle (1971) explained that technologies and infrastructure created drastic changes in the food industry. Produce could be transported by train or truck across the nation, allowing consumers to have produce they used to only have access to while it was in season. As people were able to get produce from California in New York, they began to want produce out of season. Improved irrigation and specialized agriculture in the west boosted this change as places with more favorable climates and cheaper labor produced more for less than small growers in their respective locations. As Brown (2001) put it, "the dominant vision was of a growing wholesale network and inevitable relocation of farming to sites with comparative production advantage" (p. 657).

The significance of farmers' markets was negligible from 1950 till the mid 1970's, so researchers took little notice of their existence. Brown (2001), using information from public press estimated the number of farmers' markets in 1970 to be about 340. The next surge began with the passing of the Farmer-to-Consumer Direct Marketing Act of 1976, Public Law 94-463 (Brown, 2002). This law allocated Cooperative Extension Service agents to support direct marketing activities by local farmers (Brown, 2001). By 1980 there were more than a thousand farmers' markets. The growth slumped during the Reagan years, but experienced another lift in the late 1980's. The number of farmers' markets has drastically increased since then: from about 340 farmers' markets in 1970 (Brown, 2002), to 3,617 farmers' markets reported in 2004 (Agricultural Marketing Service [AMS], n.d.). As of 2006, the national farmers' market

directory listed 4,385, up 18% from 2004 (AMS, 2007). Following this same surge, farmers' markets began to appear in other countries. The first farmers' market in England started in 1997 (Archer, Sanchez, Vignali, & Chaillot, 2003). Guthrie, Guthrie, Lawson, and Cameron (2006) reported the number of farmers' markets in Australia and New Zealand started growing around the same time.

Function and Purpose

Pyle (1971) explained the three functions of a market: economic, political, and social. The primary economic function is to provide merchandise that will satisfy the needs of the customer, and in reciprocal, provide an income for the seller. Pyle found that markets tend to focus more on either the buyer or the seller. Markets focused on the buyer were to supply customers' demands to the disadvantage of the seller. Pyle alleged markets would not continue to exist if they focused on the buyer as there were more competitive outlets to meet the customers' needs. Some markets supported the economic function of the seller at the expense of the customer through a government agency or policy, which then gets into the political function.

The political function of markets is related to regulating trade and sales. The political body is to protect the buyer and the seller, but at times one has been favored over the other. Some political institutions use their authority of regulation to earn revenues from markets.

The significance of the social function of markets has shifted, but still has the same primary goal. Markets are to create a link between urban and rural. While markets are not our only source for food now, they are still one of the only links many urbanites have to farms.

The purpose of farmers' markets has also shifted. Before the 1900's, farmers' markets were the primary source for produce and meats for urban areas (Wann et al., 1948). Many other outlets are available now to acquire food. Now, they serve many different purposes for many

different people. Some farmers see farmers' markets as their only outlet as they are denied access to grocery stores and wholesalers (AMS, 2007; Andreatta & Wickliffe, 2002; Brown, 2002; Griffin & Frongillo, 2003). Other farmers see it as a great place to earn a little money and socialize (Griffin & Frongillo; Lyson, Gillespie, & Hilchey, 1995). Customers see it as a place to buy fresh, quality produce, and a link between urban and rural populations (Andreatta & Wickliffe; Pyle, 1971). City governments see it as a potential downtown attraction, and as a stimulus for local economies (Andreatta & Wickliffe).

Growers

Studies on growers selling at farmers' markets have provided some fairly consistent results. Most studies have found the average age to be over 40 (Brown et al., 2007; Feenstra, Lewis, Hinrichs, Gillespie & Hilchey, 2003; Govindasamy, Italia, Zurbriggen, & Hossain, 2003; Griffin & Frongillo, 2003). Most of the growers selling at farmers' markets are small-scale operations with many being part-time growers or retired (Brown, 2002; Brown et al.; Feenstra et al.; Griffin & Frongillo). Brown et al. gave a very thorough description of the West Virginia growers they surveyed: 63% over 50 years old, 58% male, 31% with a college degree, 41% with less than $1499 in farmers' market sales, 25% with less than 10% of farm income from farmers' market sales, 14% percent earned 91-100% of total farm income from farmers' market sales, farmers' market sales accounted for less than 10% of household income for 53%, and 59% with no off-farm income. Thirty-one percent of the vendors were retired, 29% part-time, 22% full-time with no off-farm income and 18% full-time with off-farm income. Most of the females were part-time producers. They did not find any statistically significant difference between retired vendors and part-time vendors, nor was there a statistically significant difference between full-time with off-farm income and full-time with no off-farm income. They did find, though, that "as

a vendor's level of education increases, his/her percentage of household income from farmers' markets decreases" and off-farm income became the main income (Brown et al., p. 25).

In discussing growers it may be prudent to describe size classifications before progressing any further. Most classifications of growers have been based on gross farm income. AMS (2007) defines small farms as those with annual sales less than $250,000, and they acknowledge this definition accounts for 94% of all U.S. farms. This does not provide enough detail when discussing farmers that earn most of their income from direct sales. In order to be more precise, this study will use the classifications set forth by Feenstra et al. (2003), which provide more detail. They defined the categories of small, medium and large by farms earning <$10,000, $10,000-$100,000, and >$100,000 respectively.

Farm Operation Characteristics

Eastwood and Brooker (2000) found the average farm to be 163 acres, with 23.5 acres in production. The majority of farmers' operations surveyed by Govindasamy et al. (2003) were expanding. In the three state study conducted by Feenstra et al. (2003), they found the larger farmers to be more common in California, and small farmers more common in New York and Iowa. They also found that the size of the operation had a significant relationship to the status of the grower (part-time, full-time). The majority of farmers surveyed by Schneider and Francis (2005) were not interested in direct sales, but this could be explained by the types of farms surveyed and the current outlets that they use: over half grew corn, soybeans and alfalfa; over a third raised beef cattle; the primary outlets used were a grain elevator or an industry operation, such as Cargill. This suggests the type of operation will influence its interest in direct marketing.

Farmers' answers to questions over their reasons for growing and their biggest challenges were fairly similar. Andreatta and Wickliffe (2002) and Ross (2006) found lifestyle

choice to be a major theme in farmers' reasons for growing. Ross found the additional theme of economics to be a reason for growing. In the challenges and difficulties farmers face, Griffin and Frongillo (2003) and Eastwood and Brooker (2000) both found weather and labor to be the most commonly mentioned. Uva (2002) also found labor to be the biggest challenge for farmers. Additional difficulties listed were input costs, fears of no children returning to farming (Griffin & Frongillo), and competition from grocery stores (Uva).

Outlets Used and Factors Influencing Choice of Outlet

Most research showed growers sold at more than one outlet, but the range varied. Uva (2002) found the average number of outlets used by farmers surveyed was 2.3. Most farmers surveyed by Ross (2006) sold through three or more outlets. Andreatta and Wickliffe (2002) found farmers sold at as many as eight outlets a week, with one selling to 25 different locations, but the majority sold to at least two outlets a week.

The number of outlets used was partially determined by the size of the operation. Brown (2002) found "farmers use farmers' markets because they feel that they are the best (or often only) market channel available to them" (p. 168). Lyson et al. (1995) reported part-time growers and craft vendors relied more heavily on farmers' markets as their primary outlet, while full-time growers sold at many outlets. Many small farmers rely on farmers' markets as their only market venue. Research conducted by the AMS (2007) found 19,000 farmers use farmers' markets as their sole outlet. Many small farmers do not have access to other markets, because of either the quantities required or the labor involved (Andreatta & Wickliffe, 2002; Griffin & Frongillo, 2003). Eastwood and Brooker (2000) found smaller farmers were not very likely to sell to wholesalers, as this required added labor for grading and sizing produce for wholesale.

Feenstra et al. (2003) found farmers' markets to have different purposes for different size operations:

> For the medium- and large-scale vendors, farmers' markets help them to expand or complement existing, well-established businesses. For small vendors, farmers' markets seem to function much more as incubators for new businesses and as the primary venues for part-time enterprises. (p. 52)

Full-time growers sold more in dollar value at farmers' markets, but a smaller percentage of their income came from these sales (Lyson et al., 1995). This can be attributed to the retail price farmers receive at farmers' markets. Govindasamy et al. (2003) found farmers selling at least 70% of their retail dollar value at farmers' markets are 42% more likely to be pleased with the farmers' market. They also reported younger farmers were more likely to be pleased with sales at farmers' markets than older ones, and attributed this to younger farmers' ability to change production to fit consumer demand and preferences. They concluded with, "farmers need to be able to sell enough volume to justify the considerable investment in human and physical capital" (p. 85). Farmers surveyed by the Sustainable Food Center (2002) reported they needed to earn at least $300 per market day to justify participating, with the range of responses being $50 to $2,500.

Distance Traveled by Vendors

Farmers traveled an average of 27 miles to farmers markets with the range being 1 to 75 miles. This can require a substantial investment in both time and labor, as Govindasamy et al. (2003) explained:

> Overall, producers spent at least 1 hour (round trip) on the road to market their commodities. If the time taken to load and unload their vehicles is considered, the

> opportunity costs of travel could be substantial, since producers often have to harvest and retail on the same day. (p. 82)

Feenstra et al. (2003) found larger producers drove farther to farmers' markets, sold more days and at more markets. Brown (2002) found farmers traveled an average distance of 20 miles, but would travel farther for better markets. This was supported by Brown et al. (2007) who reported that while the average distance to farmers' market was 10 to 19 miles, 6% traveled more than 50 miles, and "household income from farmers' market sales was positively influenced by the distance the vendor traveled to market his/her products" (p. 27). Lyson et al. (1995) also found full-time farmers traveled farther to sell at farmers' markets, but they attributed it to larger farms being farther away from cities.

Advantages of Selling at Farmers' Markets

Some advantages of farmers' markets were repeated through the literature. The obvious benefits of farmers' markets are the economic outlet and the social environment it provides for farmers. Andreatta and Wickliffe (2002) explained, "although farmers may not sell as much at a market as they would to wholesalers, market sales are retail and command a higher price per unit than wholesale" (p. 168). Farmers interviewed by Griffin and Frongillo (2003) said the economic and social benefits were the most important reason for attending farmers' markets. The social aspect was more important to the older growers. Farmers surveyed by Lyson et al. (1995) rated noneconomic reasons for selling at a farmers' market highest. Brown (2002) also acknowledged the social quality of farmers' markets as a significant factor in attracting farmers. The social aspect takes many forms. One specifically mentioned by Griffin and Frongillo was the pleasure farmers had in receiving appreciation from customers.

To further understand the relationship between economic and social motivations for selling at farmers' markets, Hinrichs (2000) applied the two theories of marketness and instrumentalism to farmers' markets. Marketness is a continuum reflecting the polarity of economic and social considerations. As marketness increases, price becomes the only consideration, and when it decreases non-price variables begin to have more significance. Instrumentalism is another continuum, but between self-interested economic concerns and social ties. High instrumentalism would focus on self gain, while low instrumentalism takes into account social relations.

Hinrichs (2000) used these two theories to analyze the transactions at farmers' markets. This pinpoints the two reasons many have given for farmers attending farmers' markets: economic and social. Farmers' markets put a face with the food the customer purchases, which would decrease both marketness and instrumentalism, and focus more on the social ties. Farmers' markets are still markets, though, so there must still be the price consideration. Hinrichs explained Biggart's thoughts on direct marketing and marketness:

> She observes how the direct selling industry is predicated on sellers building and maintaining family-like social bonds with other sellers and with their customers. According to Biggart, this reliance on social ties in direct selling organizations is not necessarily at odds with the pursuit of purely economic ends, such as sales goals; indeed embedded social ties here also serve highly instrumental ends. (p. 299)

Hinrichs theorized that this connection between economic and social connection is the "value-added" aspect of the product. Customers are not only purchasing the product, but the social ties it embodies.

Less apparent advantages to selling at farmers' markets are the environment it provides for new business creation, business promotion, and product market testing. The concept of

farmers' markets acting as testing grounds for new products and nurturing beginning enterprises was supported by many studies (Brown, 2002; Feenstra et al., 2003; and Griffin & Frongillo, 2003; Guthrie et al., 2006; Ross, 2006). Eighty percent of farmers' surveyed by Feenstra et al. reported farmers' markets "provided the most important opportunity for business development" (p. 52). Farmers interviewed by Ross found customers to be the best source for "marketing guidance," helping them determine demand and interest in new products.

Disadvantages of Selling at Farmers' Markets

While some disadvantages to farmers' markets are found across studies, many are case specific. Both Andreatta and Wickliffe (2002) and Griffin and Frongillo (2003) found farmers mentioned competing with larger growers, and low or inconsistent sales as deterrents. The other reasons stated dealt with specific problems farmers had at those markets. The farmers Andreatta and Wickliffe surveyed mentioned the amount of time required to sell at the market as a negative. They explained they had to arrive to market hours before its opening in order to get a decent spot, which took even more time away from completing tasks on the farm. All of the other disadvantages reported by Griffin and Frongillo related to monetary concerns. There were conflicts over other vendors selling produce for lower prices, and the presence of produce dealers. Some farmers supported the policy of allowing dealers, as they stabilized produce availability by having products when many other vendors did not. Many were disappointed with low customer attendance, and the increasing cost of farmers' market fees and insurance.

Consumers

There has been a growing interest in farmers' markets, and it seems the primary problem in attracting customers to the farmers' markets has been a lack of awareness. Sixty-four percent

of survey respondents in Washington county, Nebraska were interested in farmers' markets (Schneider & Francis, 2005), and the Sustainable Food Center (2002) found 67.2% of respondents were interested in attending one in Austin, Texas. The problem lies in the disconnect between interest and awareness. The primary reason respondents in the Sustainable Food Center study had not attended one was they were unaware of their times and locations (58.9%). Archer et al. (2003) also reported many people are not aware of what farmers' markets are. This may be different in other areas of the country. Wolf (1997) conducted her study in San Luis Obispo, California and found 85% of respondents knew about at least one of the local farmers' markets. Only 37% had been to one in the past year, though. Stephenson and Lev (2004) found one third to one half of Oregon respondents had shopped at least once at three direct marketing outlets (pick your own, roadside stand, and farmers' market).

There are many media channels farmers' markets can use to try to reach potential customers, but some may prove to be better than others. Consumers surveyed by Govindasamy et al. (2002) cited road signs as the primary way they found out about farmers' markets, with newspapers being second. Thirty-five percent of the residents surveyed by Archer et al. (2003) heard about the farmers' market from the newspaper. The Sustainable Food Center (2002) surveyed Austin residents to determine media outlets used. They did not report which medium they used the most, but rather which stations or websites was their primary source for local community news. The most popular radio station was a locally based radio station, with their national public radio syndicate the second most popular.

Characteristics of Farmers' Market Customers

Many studies have reported on the demographics of farmers' market customers, with much agreement. Feagan, Morris, and Krug (2004) found farmers' markets customers in Canada

to be older than the general resident population, with the mode being 60 to 69 years old. Wolf (1997) reported the average farmers' market shopper "tended to be older, more likely to be married, and more likely not to be employed compared to [people that had not shopped at a farmers' market in the past year]" (p. 12). The Sustainable Food Center (2002) found their primary customers who were mostly likely to attend weekly were "over 55 (58.7%), retired people (50.9%), those making $20,000-$35,000 a year (50%), and those without children (48.2%). Only 37.3% of people with children thought they would go once a week" (p. 8). The typical profile of farmers' market customers is a retired, white, well educated female, over the age of 55 (Archer et al., 2003; Brown, 2002; Govindasamy, Italia, & Adelaja, 2002). Zepeda and Li (2006) argue that while many studies found women are more likely to shop at farmers' markets than men, they did not take into account that women are usually the primary shopper for the household.

There were some variances between studies, primarily in regard to education and income. Wolf (1997) found farmers' market customers to be in the middle to high income brackets, but with no difference in education level than people that did not go to farmers' markets. Onianwa, Wheelock, and Mojica (2005) found education and age to be the most significant demographic characteristics in regards to patronizing direct market outlets, while Stephenson and Lev (2004) did not find a significant relationship between support for local produce and education or income level. Lockeretz (1986) found education level to be the only demographic that supermarket and farmers' market customers differed on.

Zepeda and Li (2006) found demographics did not have a significant correlation to buying local. The one demographic characteristic that increased the probability of buying local food was having more than one adult in the house. They found attitudes and behaviors to be better predictors for support for local foods.

Customer Values and Beliefs

Feagan et al. (2004) stated, "the success of such markets and the farmer vendors is based strongly on meeting the non-monetary needs and motivations of the customers" (p. 243). This is accomplished in many ways.

Zepeda and Li (2006) focused on behaviors that had significant correlations to buying local food, and found them to be "food knowledge (gardening) and food venue (shopping at a health food store)" (p. 5), and purchasing organic foods.

> What would motivate consumers to purchase locally produced foods? Proximity is associated with freshness and improved quality, hence one would expect consumers for whom this is important (those who cook from scratch frequently [a behavior]) or are more knowledgeable (e.g. gardeners or those who cook frequently [behaviors] and people who enjoy cooking [an attitude]) to be more likely to buy local food" (Zepeda & Li, 2006, p. 3).

Enjoyment of cooking had the most significant positive correlation to buying local foods, increasing the probability by as much as 32%. The interest in cooking was repeated by respondents to the Sustainable Food Center (2002) survey. They were asked what activities they would be most interested in having at a farmers' market, and 60.9% said they would like to have cooking demonstrations.

Farmers' market customers surveyed by Govindasamy et al. (2002) expected the prices to be lower at farmers' markets than at grocery stores. Zepeda and Li (2006) found concern about price had a negative correlation, which could be viewed in two ways, as Zepeda and Li (2006) explain: "foods sold at farmers' markets, farm stands, and through a CSA are frequently cheaper. However, these venues do have an added indirect cost in terms of time and location" (p. 5).

Shopping Habits

Most farmers' market customers were willing to travel around ten miles to the nearest market (Payne, 2002; Szmigin, Maddock, & Carrigan, 2003; Sustainable Food Center, 2002). While still around the ten mile range, Andreatta and Wickliffe (2002) found the average farmers' market customer was willing to travel 6-20 miles, but those that traveled less than 5 miles spent less than other customers.

The reported average amount spent by farmers' market customers was $15-20 (Govindasamy et al., 2002; Payne, 2002). The Sustainable Food Center (2002) found the average to be a little higher with survey respondents saying they currently spent $21 to $50 per visit at farmers' markets, and attributed this to the fact that people spend more at larger markets. Schneider and Francis (2005) analyzed the amount residents of Washington county, Nebraska were willing to pay for local produce and found 58% of consumers were willing to pay the same price for local produce as they would for produce grown elsewhere, while 34% were willing to pay 10% more for locally grown.

Govindasamy et al. (2002) reported the most purchased fruits and vegetables at New Jersey farmers' markets to be: corn, tomatoes, peppers, peaches, apples, melons, and blueberries. The Sustainable Food Center (2002) asked for produce most commonly purchased anywhere, rather than focusing on just farmers' market produce. They found the most purchased produce was tomatoes, lettuce, apples, bananas, onions, oranges, peppers and potatoes. Some of these products could not be bought at a farmers' market unless they allowed dealers, which is one of the arguments for allowing them. By allowing dealers, more people may rely on farmers' markets for all their produce needs, but there would be trade-offs.

Farmers' Market Customers' Reasons for Attending

There are many reasons people give for attending farmers' markets, but the most cited reason is for fresh, quality produce (Andreatta & Wickliffe, 2002; Archer et al., 2003; Feagan et al., 2004; Lockeretz, 1986; Schneider & Francis, 2005; Sustainable Food Center, 2002; Wolf, 1997). Other reasons listed were to purchase local food, cheaper food, and direct contact with the farmer (Andreatta & Wickliffe; Archer et al.). Guthrie et al. (2006) also cited price as a reason. La Trobe (2001) conducted research at a new farmers' market in England, and found 89% of customers attended out of curiosity. This could be explained by the fact that farmers' markets are a new phenomenon in England, with the first one starting in 1997, and La Trobe predicted as farmers' markets become more established English residents will attend for the same reasons found in the United States: the quality and freshness of produce. This was supported by respondents' answers to attributes most important when selecting produce: 57% chose "quality, freshness and ripe" (La Trobe, p. 188). A surprising finding by Lockeretz (1986) was farmers' market customers did not express interest in local food. The primary reason found for buying produce at a farmers' market was freshness and quality, and the primary reason for buying produce at the grocery store was convenience. Wolf pointed out that while people like the fresh, quality produce at farmers' markets, grocery stores are much more convenient:

> Consumers perceive farmers' markets' produce is fresher looking, fresher tasting, a higher quality product, and a better value for the money than supermarket produce… However, consumers perceive supermarkets to have produce which is more easily accessible and more convenient to buy than produce sold at farmers' markets. (p. 15)

As Tiemann (2004) explained some markets have begun to try to promote farmers' markets as recreation with activities and events. Andreatta and Wickliffe (2002) asked customers if they came for the products, the atmosphere, or both, and the majority said they came for both.

The New York farmers interviewed by Griffin and Frongillo (2003) agreed with this concept, and went on with other changes farmers' markets could do to attract customers:

> As far as taking steps to encourage more people to visit [farmers' markets], farmers discussed ideas related to product variety, live music, and cooking demonstrations. They also spoke about holding the FM in a convenient, centralized location with a covered shelter, adequate parking, and accessible public transportation. (p. 199).

Farmers' Market Customers' Reasons for Not Attending

The most commonly stated reasons for customers not attending farmers' markets were: distance, lack of awareness, and inconvenience (Archer et al., 2003; Brown, 2002; Eastwood, 2000; Griffin & Frongillo, 2003; Stephenson & Lev, 2004; Sustainable Food Center, 2002). Stephenson and Lev (2004) found "as travel distance increases, the likelihood of frequenting a farm-direct market decreases" (p. 216). As the time required to travel to a farmers' market can be calculated as a cost of inconvenience, Eastwood (2000) concluded, "quality produce must be available at these outlets and the commodities should be priced below supermarket levels in order to compensate consumers for the extra travel cost" (p. 41). Archer et al. (2003) found the primary reasons people did not attend was they were not interested or preferred to shop at supermarkets. Ross (2006) suggested going where the customers are to reduce the inconvenience. Some famers' markets have accomplished this through selling in grocery store parking lots.

Other reasons listed for not attending were availability of produce, times of the market, and the absence of local growers (Andreatta & Wickliffe, 2002). Farmers observed deterrents for customer attendance to be poor weather, location, farmers' market times, and the general inconvenience of farmers' markets (Griffin & Frongillo, 2003). Feagan et al. (2004) warned of

the temptation for farmers' markets to become outlets for 'yuppie chow,' as "commodification of the experience of the farmers' market" (p. 250), which has happened to some markets as they cater to higher income customers. The Sustainable Food Center (2002) found parking to be a major deterrent for attendance of farmers' markets in urban areas.

CHAPTER II

SMALL FARMER CHARACTERISTICS INFLUENCING FARMERS' MARKET PARTICIPATION

Overview

The number of farmers' markets in the United States has seen a drastic increase. In the eight year period between 1994 and 2002, the number of farmers' markets increased by 183% (Lyson & Guptil, 2004). This growing market segment provides an opportunity for small-scale, local growers to contribute to local economies in small communities (Andreatta & Wickliffe, 2002; Lyson & Guptil, 2004). The Brazos Valley region of south-central Texas is one region that has not taken advantage of this market opportunity, despite similarities to other more successful regions (e.g., local land grant universities and prosperous local economies). The Brazos Valley does have a local farmers' market, but this market has not reached its potential partially due to lack of farmer participation. The purpose of this study was to determine local farmers' motivational factors for growing, analyze farm operation characteristics, and determine factors influencing market outlets utilized.

Introduction

The demand for fresh, locally grown produce has dramatically increased in the past decade (Tippins, Rassuli, & Hollander, 2002). Many outlets have arisen to meet this demand: pick your own farms, roadside stands, Community Supported Agriculture (CSA) projects, and farmers' markets. The number of farmers' markets in the United States has drastically increased from 1,060 in 1994 to over 3,000 by 2002 (Lyson & Guptil, 2004). Many cities have created thriving farmers' markets and are having difficulty meeting the customer demand. While Bryan

and College Station, Texas have similar demographics to cities with flourishing farmers' markets, their farmers' markets have not grown. This could possibly be attributed to many factors: lack of vendors, quality of produce, product availability and consistency of quality.

Lloyd et al. (1987) described three stages of development for farmers' markets. The initial stage is unsteady with very high risk for vendors and unpredictable supply for customers. In the second stage of development, the farmers' market has acquired some consistent vendors with some of them being larger operations. The third stage is defined more by the quantity of produce available and a consistently reliable clientele. Tiemann (2004) classified farmers' markets differently, with the classification based more on the characteristics of the vendors, customers, and produce. He defined farmers' markets as either indigenous or experience markets, with indigenous markets having older vendors and customers and fewer of both. Fewer varieties of produce were available at indigenous markets and those that were, were more traditional varieties. Prices were cheaper or comparable to grocery store prices, and not as much attention was paid to presentation of the produce. Experience markets had younger customers and vendors, with many of the vendors being full-time growers. There was a wide variety of unique and unusual produce with prices being higher than those at a grocery store. Experience markets also put more emphasis on leisure activities and the market being an event. A major distinction between Lloyd et al. and Tiemann's classifications is Tiemann's were static, with no expected progression between classifications.

Many of the qualities mentioned in Tiemann's (2004) description of indigenous markets resemble those of the Brazos Valley Farmers' Market Association (BVFMA). In the stages set forth by Lloyd et al. (1987), the BVFMA would fit in the second stage of development. For the purposes of this study, it was found that combining these two classifications would be able to describe both the characteristics of a farmers' market as well as its economic impact. Overlaying

the classifcations created by Lloyd et al. also adds a dynamic component to Tiemann's classifications. This will allow for recommendations to be made on improving farmers' markets.

The purpose of this study was to determine small farmers' motivations for growing, and factors influencing their choice of market outlet, and using both Lloyd et al. and Tiemann's classifications, develop a strategy for improving local farmers' markets. This strategy will help develop ideas to increase the number of vendors and improve the markets.

Purpose and Objectives

The initial concept for this study came from conversations with vendors from the BVFMA. The BVFMA operates farmers' markets in the twin cities of Bryan and College Station with a combined estimated population of 141,310 (U.S. Census, 2008). They manage a year round farmers' market in Bryan on Saturday mornings in Brazos County Health Department's parking lot, which is located at a major intersection; the BVFMA also holds a seasonal farmers' market in College Station on Wednesday afternoons in an open air pavilion in the city's central park. BVFMA currently has 33 members: 15 consistently selling during the peak season of May and June, and 8 consistent vendors selling year round (P. K. Gendron, personal communication, May 6, 2008).

Some of the members felt the small number of vendors was the major challenge for the farmers' market. By better understanding current farmers' market vendors, the BVFMA might be more successful at identifying and attracting other vendors to the farmers' market. The objectives of this study were to assess: (1) local farmer and farm operation characteristics, (2) farmers' reasons for growing, (3) factors influencing where they decide to sell, and (4) farmers' perceptions of farmers' markets. The purpose of this research was to identify characteristics of growers that might be attracted to selling at farmers' markets.

Methods

Studies of farmers have been conducted using both quantitative and qualitative methods. Eastwood and Brooker (2000) sent surveys to 639 Tennessee producers and achieved a 20% response rate. Uva (2002) conducted a survey of 500 direct marketing farmers in New York State with a 32.6% response rate. Griffin and Frongillo (2002) conducted interviews with 18 New York farmers' market vendors and "performed descriptive and interpretive analysis of interviews" (p. 191). Andreatta and Wickliffe (2002) also conducted interviews and focus groups with farmers in North Carolina. Due to the limited number of farmers participating in the BVFMA and other local farmers' markets, qualitative research was chosen as it would provide more in-depth information.

Population

Farmers to be interviewed were selected using a purposive network sampling technique with a total of six interviews conducted. Two opinion leaders from the BVFMA were interviewed and asked for suggestions of other farmers to interview. Two of their recommendations were interviewed. Two other market outlets were contacted and asked for recommendations, and two were selected and interviewed.

An interview guide with open ended questions was created to conduct interviews (Appendix C). The interview guide assured all the same topics were addressed, but allowed the interviews to remain semi-structured and more of a conversation format. The interviews lasted between 15 minutes to 1 hour and were recorded for later transcription. All the interviews were conducted at the interviewee's farm with the exception of one.

Three sets of data were collected to provide the researcher with multiple data sources to determine the accuracy or truth value of the data (triangulation) including: (1) transcriptions of

interviews conducted with farmers, (2) observation of farmers at their selected market outlets, and (3) a research journal maintained by the researcher. All sets of data were analyzed using an open coding technique for reoccurring themes. This process involved carefully reading the documents to determine concepts and categories. Data were evaluated to see if there were any relationships between farmer demographics and operation characteristics, grower history, and factors influencing where the grower decides to sell their produce. Themes were isolated to compare with farmer and farm operation characteristics.

Results

Farmer and Farm Operation Characteristics

A divergent sample was chosen to get a broad spectrum of answers, and determine if there were certain themes that arose from all the interviews. Four males and two females were interviewed (Table 1). The farmers fit into three age groups – three between 30 and 40, two between 60 and 70 and one farmer over 80 years old.

Feenstra et al. (2003) conducted surveys of producers in California, Iowa and New York state, and used gross farm sales to classify operations into small, medium and large with the respective amounts being <$10,000, $10,000-99,999, and >$100,000. Using these same classifications, four of the growers interviewed were small operations, two medium size operations and no large operations. These results are similar to the findings of Feenstra et al. where they found 56% of farmers' market vendors to be small scale operations, earning less than $10,000. Feenstra et al. found 52% of small vendors surveyed were part-time farmers or gardeners, while the majority of full-time farmers were either medium or large vendors. The one exception to this finding from the results of the Brazos valley farmers' market study was

Catharine (Table 1), which could be explained by her stage in establishing her operation. Of the large scale operations in the study by Feenstra et al., over 80% of them were in California.

In the Brazos valley farmers' market study, one vendor, Blayne, was an extreme exception in farm income, earning more than $80,000 annually (Table 1). Using the categories set forth by Feenstra et al. (2003), Blayne would be a medium size operation earning $10,000-99,999. When asked about what he sells, Blayne's answer was subscriptions: "It's hard for us to gauge what we're getting per crop since we sell through a membership basis so we don't really sell individual varieties, we sell subscriptions, we don't even necessarily sell vegetables, we sell subscriptions." The subscriptions he sells are to his Community Supported Agriculture (CSA). CSA's originated in Europe or Japan, and appeared in the United States in 1985 (Tippins et al., 2002). Members purchase a subscription to a CSA, and in exchange receive a certain amount of produce each week from the grower. This reduces the risk for the grower as they have a secured income, while the member is supporting local agriculture and receives a share of the harvest.

Table 1

Farmer Demographics and Farm Operation Characteristics

Respondents	Gender	Age Group	Status	Annual Produce Sales	Acreage in Production	Total Acreage
Ryan	Male	81-90	Part-time	$1,000-5,000	15	315
Blayne	Male	31-40	Full-time	>$80,000	12	20
Joseph	Male	61-70	Part-time	$1,000-5,000	1	640
Catharine	Female	31-40	Full-time	$5,001-10,000	1 plus 5740 sq. ft. greenhouse	5
Gary	Male	31-40	Part-time	$10,001-20,000	6	12
Anne	Female	61-70	Part-time	$1,000-5,000	3-5	42

All of the farmers interviewed except for one sold at more than one outlet (Table 2). This is similar to the findings by other studies that farmers use at least two outlets to sell their produce (Andreatta & Wickliffe, 2002; Guthrie et al., 2006; Uva, 2002).

The average farm in Brazos county is 229 acres, with the median size being 96 acres (NASS, 2002). The majority of land in the county is used for cropping and/or livestock production. The 2002 census of agriculture reported only 13 farms producing vegetables with an average size of 33acres (NASS, 2002). Most of the growers interviewed have acreage similar to the average vegetable farm. The two exceptions, Ryan and Joseph, raised livestock on the majority of their land.

Table 2

Market Outlets Used in Order of Significance

Respondent	Primary Outlet	Secondary Outlet	Tertiary Outlet
Ryan	Pick your own	Farmers' market	
Blayne	CSA	Restaurant	Roadside stand
Joseph	Produce retailer		
Catharine	Grocery stores	Produce retailer	Farmers' market
Gary	Pick your own	Farmers' market	Grocery stores
Anne	Farmers' market		

One grower from the Brazos valley farmers' market study, Joseph, grew vegetables on one acre of his farm focusing on squash, corn, melons, and tomatoes, but before he retired he farmed 20 acres full-time growing mustard greens, squash and zucchini. He grew up growing vegetables with his family and has been growing ever since:

> Like I say, I'm 66 years old and I was born out in the field. Our family, my kinfolks were some of the original settlers in Harris county and around Spring there and our family was known for the vegetable production.

Farmers' Reasons for Growing

Most research has focused on growers' current reasons for growing, and neglected to consider their initial reason. During the interviews the farmers were asked why they started

growing and if the reason has changed over the years. The farmers listed many reasons for growing, and some reoccurring themes appeared (Table 3). Family was the most significant reason for growing. Four of the participants (Blayne, Joseph, Catharine, Gary and Anne) all mentioned family as a reason for growing, but at different times in their lives. Blayne's initial reason for growing stemmed out of health concerns and concerns for the environment, but with the birth of his children, family became the main reason. "We wanted to eat right and then when we had our first kids we took it real serious… I think when you get kids it makes it a priority." Joseph's initial reason for growing was family, being raised on the family farm. The experience of growing up in a farming family must have made a strong impact on Joseph and all six of his brothers. All of them remained in agriculture, "except my oldest brother, like I say he's in landscaping," which did not fit in to Joseph's perception of agriculture. Now in his retirement, Joseph's reason for growing is once again family:

> Now I would say I'm more so doing it trying to get my grandkids interested into vegetable production. I get them to help me pick my tomatoes in the summer and they make a little money and I'm going to try to turn it more over to them all the time if I can because it's gotten to the point to where I don't think there's going to be many family farms left anymore… when I grew up that's where my heart was, the family farms, and I still feel that way about it, it makes a good family life if you can do it with them, but not too many people want to do it anymore.

Catharine told stories of going through the fields as a kid picking produce with her father. "I remember selling corn with [my dad] on the corner of this major highway, just sit there selling corn and helping him pick corn and I kind of have this, this was my deal." Gary first started growing with his dad when he was 8, and 27 years later he is still growing tomatoes with his dad.

Anne started her first garden after she was married, but after her children grew up, her reasons changed, and now she is growing for health and enjoyment.

Table 3

Farmers' Reasons for Growing

Theme	Respondents
Family	Blayne, Joseph, Catharine, Gary, Anne
Enjoyment	Ryan, Joseph, Gary, Anne
Profit	Ryan, Catharine, Gary
Health	Blayne, Anne
Quality	Gary, Anne
Education	Joseph
Environment	Blayne

The second most common reason found was enjoyment. The importance of enjoyment may be due to the age of the farmers. The two farmers that enjoyment was not a major theme were younger, full-time farmers. While enjoyment appeared in Gary's interview, it appeared in reference to his father, a partner in the farm operation: "It's become the love of his life. It's something that he really enjoys, it keeps him going."

While the theme of profit was expressed during some of the interviews, none of the farmers started growing with the intent of making a profit. Most of the farmers started growing for the other reasons listed: enjoyment, family, health, quality, and the environment. Catharine started growing as a hobby, but "now I grow for a living, for money, for profit." Ryan also started growing as a hobby, growing grapes to make his own wine, but now he grows because, "I'm a tightwad, I like to make money." Gary's father started growing because he was disappointed with the quality of produce in grocery stores, and just kept growing from there. Most of the farmers did not rely on their sales for a livelihood and considered them more as another source of income (Brown, 2002; Feenstra et al., 2003; Griffin & Frongillo, 2003,).

Neither Blayne nor Joseph expressed profit as a reason for growing, although produce sales are Blayne's primary source of income, and were Joseph's at one point. This may be attributed to lifestyle choice. For Joseph, "being my own boss and living on the land, living in the country, that was my reward." Ross (2006) found the same themes in her qualitative study of successful farmers in Maine. Profit was the most commonly cited goal, with lifestyle choice second.

Another reason Blayne mentioned for growing was enjoyment of cooking. Zepeda and Li (2006) found enjoyment of cooking as one of the prevailing characteristic among local food consumers, suggesting there might be some themes shared by both farmers and customers.

Factors Influencing Choice of Market Outlet

The findings from this research support many of the studies previously conducted on farmers' markets. Tippins et al. (2002) states the largest factor deterring farmers from direct marketing was time and while many farmers in the Brazos valley farmers' market study mentioned time as a factor (Table 4), other themes cannot be excluded. In the case of Catharine and Joseph, time and volume were considered together. Catharine intends to expand her operation and "if I got bigger, I mean BIG BIG, no I would totally cut the [farmers'] market out, it'd be a waste of my time." Joseph echoes this remark: "the trouble with the farmers' market, if you grow any amount you're going to have to go there and spend a bunch of time selling it and I would rather have my produce sold and deliver it to somebody." Ryan, Blayne and Anne all referred to the amount of time required preparing and driving to the farmers' market. In Andreatta and Wickliffe's (2002) study, it was found that "on average, the farmers we interviewed traveled approximately 200 miles a week to market their products" (p. 172).

Table 4

Factors Influencing Where Farmers Decide to Sell

Theme	Respondent
Time	Blayne, Joseph, Catharine, Anne
Volume	Ryan, Blayne, Joseph, Catharine, Gary
Risk	Blayne, Joseph, Catharine
Age/Aging	Ryan, Joseph, Anne
Marketing	Ryan, Blayne, Joseph
Social	Catharine, Gary, Anne
Loyalty	Joseph
Profit	Ryan, Catharine

Volume was mentioned by all but one of the farmers, but had varying perceptions. Some of the growers only mentioned it in reference to times of surplus. Gary said he primarily sold at their pick your own and the farmers' market, but when there was a surplus he sold to grocery stores. Ryan described one year when there was an abundant harvest:

> We turned our pick your own into a… pick on the halves, in other words they'd come out here and pick 30 pounds of blueberries, and I'd get 15 of them and they'd keep 15 for free. I had so many blueberries I hated to see them go to waste.

The growers also perceived risk in different ways. Blayne discussed risk in reference to profit and sales at farmers' markets:

> A farmers' market is so great for a lot of folks, but you're going to the market and you've still got a risk involved because there might not be a good turn out of buyers, it might be a bad weather day, and then again you might not... you're taking more of a risk of having good sales.

Joseph referred to the risk weather plays in farming and he forms his practices around that risk, planting short term crops like greens and squash rather than long term crops like tomatoes. He also had this advice: "an old farmer don't have to be made out of rubber but it would help because you could keep bouncing back if you had a little rubber in you." A CSA eliminates

much of the risk of sales and weather by guaranteeing a farmer's livelihood at the beginning of the growing season. As Blayne explains,

> We chose to do a CSA mainly because it takes a lot of risk out of it for us because everything we're growing is already sold basically, 80 percent of what we're growing is sold before we even put a seed in the ground.

Catharine mentioned risk when discussing the possibility of starting a pick-your-own and the liability of having people out to her farm. This would create the potential for lawsuits.

Initially labor was listed as a factor, and while labor is an ever present requirement on a farm, the theme of labor was difficult to isolate from other factors. Many times it was connected with time, as harvesting takes both time and labor. When volume was mentioned, labor was needed to harvest the produce. It was associated with the theme of aging because as some of the farmers progress in age they know they will not be able to accomplish the same amount of work. It was tied to profit in the instance of having to pay workers. Marketing the produce could be considered labor as well, depending upon how the farmer viewed marketing. So, while labor may not have been an independent theme, it accompanied many other themes.

Three of the six farmers interviewed were 60 or above, and age became a recognizable theme as the farmers talked about their age influencing their choice of market outlet. In most cases age impacted the amount of labor or the task the farmers were able to do. Ryan and Joseph both talked about the declining amount of labor they were able to do. Ryan said his daughter wants him to just continue the pick-your-own and stop selling any picked berries. He also mentioned he might try leasing the land. Anne also mentioned the possibility of just doing a pick-your-own. "I'm not getting any younger and down the road it will be more and more difficult for me to farm, especially the orchard. I may end up having a pick-it-yourself type

arrangement." Joseph has no intention of trying a pick-your-own, instead "if I get to where I can't grow a quality thing I'll probably just quit."

The theme of marketing was expressed in two ways by farmers: advertising the farmers' market to increase attendance, and marketing the individual grower at the farmers' market to increase the farmer's customer base. Ryan appreciated the farmers' market advertisements and saw them as benefiting all the farmers' market vendors. Griffin and Frongillo (2003) explain there are more marketing functions farmers' markets can directly serve for the farmer: "[Farmers' markets] are also places for farmers to start a new marketing business, experiment with new products at minimal risk, and transition to larger economic ventures (Hilchey et al., 1995; Lyson et al., 1995; Roth, 1999)" (p. 190). One farmer in the Brazos valley farmers' market study, Blayne, initially started selling at a farmers' market in an urban area with the intent of promoting their new business and creating a customer base for their CSA. "We first sold at the farmers' market in downtown but we used that mainly to get ourselves out there for marketing."

Many studies have cited community and the social aspect of farmers' markets as a positive attribute of farmers' markets for both vendors and customers (Andreatta & Wickliffe, 2002; Brown, 2002; Feagan et al., 2004; Feenstra et al., 2003; Govindasamy et al., 2003; Griffin & Frongillo, 2003; Hinrichs, 2000; Lyson & Guptill, 2004; Pyle, 1971; Sommer, Herrick, & Sommer, 1981; Szmigin et al., 2003; Tiemann, 2004).

This theme was also visible in the Brazos valley farmers' market study through many statements farmers made during their interviews. Blayne describes his experiences at a farmers' market:

> Meeting the folks and meeting other farmers and people you can relate to, and feeling like you're a part of a little bigger community. I think farmers feel like they're really all alone in all this so it's just a morale booster I think when you get to interact and meet

> your customers and to meet other farmers and exchange ideas and know that other people are dealing with the same problems you are, so that's really important, to have a sense of connectedness.

While all the farmers recognized this aspect of farmers' markets, it did not influence their choice of market outlet. Anne, Catharine and Gary included it in their decision on market outlet, but other factors with more sway were considered as well.

Joseph was the only farmer to mention loyalty as a factor. He told stories of the relationships and trust he had created with wholesalers when he farmed full-time. When he retired and moved one of the wholesalers referred him to Allen, the local produce retailer he works with now.

> I don't feel like it'd be right for me to sell over [at the farmers' market] and then sell to him. Whenever I have produce to sell I go directly to [Allen] because he's treated me good and if somebody does you right I try to be loyal to them.

He had established relationships with all the wholesalers and retailers he sold produce to, and valued loyalty above all other considerations.

Tippins et al. (2002) stated, "farmer motivation for selling directly to consumers stems mainly from economic considerations" (p. 347). Griffin and Frongillo (2003) pointed out, though, it traditionally has not been the farmer's primary source of income, and this was seen in the Brazos valley farmers' market study as Gary stated, "[A farmers' market is] an opportunity for [the vendors] to make a little money on the side." While Ryan's income is not reliant on produce sales, it still factors into his decisions. "I figure this, I need to clear a hundred dollars each time I go in [to the farmers' market], minimum. If I can't do that then I won't go back." The significance of profit in Ryan's decisions can be seen not only in market outlet choice, but crop choice as well. "Peaches were a good cash crop we thought and so we planted peaches."

Catharine also based her crop choice on profit, choosing tomatoes. "We kind of figured the yield and the price and the growing season, the amount we could get in a growing season, we could make good money." Catharine described profit based decisions she made when deciding between selling wholesale and direct marketing. While she can charge more per pound at the farmers' market, she is able to sell more volume to wholesalers. To maintain a relationship with the wholesalers, though, she must sometimes sacrifice the amount she takes to market in order to satisfy the wholesalers.

Farmers' Market Attributes

In order to develop an idea of a farmers' concept of an attractive farmers' market, interviewees were asked to describe a positive and negative experience at a farmers' market (Table 5). Three of the positive attributes listed revolved around interactions at farmers' markets – social, appreciation, and community. This again asserts that while it may not necessarily influence farmers' outlet choice, the social interactions at farmers' markets is an important quality. Almost all of the farmers that sold at farmers' markets mentioned appreciation. Gary mentioned the appreciation he has received:

> When people just come up to you and say ah, these tomatoes taste wonderful. I'm so glad y'all are here selling stuff, people are here selling stuff. It's wonderful… That's really enjoyable to hear those comments and see those people's faces.

Family should also be included in the social setting characteristics as the farmers' market is a place for people to meet and socialize. Gary explains how he enjoys "going up there and seeing distant relatives and friends and other people."

Location encompasses many qualities - shade, access to restrooms, vendor booths, parking, safety. The location can create a level of comfort and allow the customers to enjoy the

experience. Many farmers' market attributes were listed both as positives and negatives. Location was mentioned in both categories because farmers described experiences from many different farmers' markets. In Ryan's interview he listed location as both a positive and a negative, talking about one farmers' market with shade and another without. From his comparisons of farmers' markets he created a picture of his ideal location: shade, open space, plenty of parking. Ryan also recognized quality as a positive attribute at farmers' markets: "lots of top quality stuff there at Waco." Gary mentioned quality of produce as an important attribute as well.

Table 5

Attributes of Farmers' Markets Mentioned by Farmers

Positive Attributes	Negative Attributes
• Social	• Conflict with other vendors
• Appreciation	• Negative comments from customers on price
• Community	• Vendors trying to resell produce
• Family	• Time
• Location	• Location
• Marketing	• Not enough vendors
• Quality	• Risk
• Profit	• Disappointment in sales

The theme of profit was also mentioned as both a positive and a negative attribute. While Ryan talked about repeat customers and the amount they bought, Blayne discussed disappointment in sales and the financial risk involved in selling at farmers' markets. This might be related to the difference between full-time and part-time farmers' as well as differences between farmers' markets.

Many of the negative attributes were the converse of the positive attributes. While many farmers enjoyed the social interaction, two of the negative attributes listed involved negative

social interactions. Conflicts with other vendors was cited by more than half of the farmers interviewed. None of the farmers would go into detail explaining the nature of the conflict, and Anne simply said it was "just a personality clash." The other negative social interaction related to customers arguing about price and wanting to negotiate. Ryan told the story of a man that tried to haggle with him.

> I don't think they'd ever think of going into a grocery store and negotiating, but they want to negotiate. A couple years ago one guy came up and he wanted to buy, asked how much the berries were and I told him it's $12 for a 4 pound bag… and he said well suppose I buy 2, how many? And I said $24. Three? I said $36. He said you're hung on that, aren't you? I said yes sir I am. You don't buy them somebody else will.

One of Tiemann's (2004) characteristics of indigenous markets was low prices. Tiemann correlates this to typical indigenous market customers. "Customers who shop at both the grocery [store] and the farmers' markets expect bargain prices for local produce" (p. 47).

Vendors trying to resell produce they did not grow at markets was another of the negative attributes farmers mentioned, and this attribute was substantiated in other studies as well (Andreatta & Wickliffe, 2002; Griffin & Frongillo, 2003; Tippins et al., 2002). Gary in the Brazos valley farmers' market study said while vendors are scrutinized to prevent this, if one is found reselling, getting them to leave can also be difficult.

Time was previously mentioned as a major theme influencing farmers' decisions on market outlet, and one of the aspects of that theme arose as a negative attribute of farmers' markets, specifically the time required preparing for and driving to the farmers' markets. Three farmers mentioned time in this respect. From the perspective of farmers' market organizers this could possibly be improved by location and market hours, although this might affect customer base as well.

The initial reason for the Brazos valley farmers' market study was farmers' comments about not enough vendors at the farmers' markets. During the interviews this was mentioned again by Gary and Anne, so it has been included in negative attributes.

Most Important Qualities for a Farmers' Market

The last question of the interview asked the grower what were the most important qualities in a farmers' market. This question also was the one with the widest array of answers (Table 6). The only respondent that did not answer the question was Joseph as he has not sold at a farmers' market. Ryan explained he would like a consistent flow of people throughout the time at the farmers' market. Anne did not state this when asked for most important quality, but did mention it when talking in general about the farmers' market. "I love [the farmers' market] and it's boring when nobody shows up."

Table 6

Most Important Qualities for a Farmers' Market

Respondents	Qualities			
Ryan	"Adequate clientele"			
Blayne	"Marketed and managed well"		"Physically eye appealing"	
Catharine	"Variety of vendors and people"	"Serene location"	"Entertainment"	"Provides more than just fruits and vegetables"
Gary	"Quantity of vendors"		"Quality of vendors"	
Anne	"Friendliness"	"Courtesy"		

Gary holds an office in the BVFMA and as such his most important qualities come from a managerial perspective, with his comments on vendors. Catharine is also an officer of the BVFMA, but the qualities she mentioned related more to the atmosphere of a farmers' market. Both Catharine and Blayne had attended larger farmers' markets in urban areas and their

descriptions reflected characteristics of an experience market. Anne's perspective was from a vendor, with her qualities relating to the social setting and in reference to both customers and vendors.

Conclusion

This study looked at farmers' market vendors with the purpose of completing two objectives: 1) determine small farmers' motivations for growing and factors influencing their choice of market outlet, and 2) using both Lloyd et al. (1987) and Tiemann's (2004) classifications to develop a strategy for improving farmers' markets in Bryan and College Station.

All the farmers interviewed except for one said family was a major reason for growing, although they differed on when in their life the theme of family was important. The common theme among the older farmers was enjoyment. Since older farmers do not rely on sales for their livelihood, many other reasons for growing were found with enjoyment being the predominant reason. Age also appeared to have an impact on vendors' choice of market outlet. The primary considerations for two of the three younger farmers interviewed were time, volume and risk, which may be due to the fact that these two farmers were growing full-time and may be different for young part-time growers. Originally, the hypothesis was for size of operation to be the major determinant for market outlet, but instead farmer status (part-time or full-time) and volume grown were the determining factors.

The purpose of the Brazos valley farmers' market study was to identify characteristics of growers that might be attracted to selling at farmers' markets. The results from this study suggest young full-time growers and older part-time growers to be two distinct groups, and the findings of Brown et al. (2007) support this. These two groups would have different needs from a

farmers' market, thus this research proposes two recommendations. If the BVFMA wants to attract larger growers, it will need to develop into a stage two experience market: offer specialty foods, draw customers willing to pay more, and create a more enticing atmosphere with events and activities. Experience markets are more than a produce outlet, so there must be activities and facilities to entice the customer to come and spend time: bathrooms, prepared food and drinks, music, seating, tents, cooking demonstrations, etc.

For part-time and retired vendors, farmers' markets are one of the only outlets they have access to, and if the market started to shift towards becoming an experience market, they may be the losers in the deal. They would not be able to compete with larger growers and could eventually lose the only market outlet available to them. If the BVFMA wants to retain its current vendors, it should maintain its current characteristics as an indigenous market, but focus on reaching stage three. This would be accomplished by increasing the number of growers in order to supply a larger amount of produce to customers. It could focus on attracting growers that fit this model: older growers selling traditional varieties attracted to farmers' markets for social qualities rather than economic function.

The balance between part-time and full-time growers is a major challenge for farmers' markets. This is supported by Andreatta and Wickliffe's (2002) research of a North Carolina farmers' market. To maintain a consistent supply of produce the market began favoring larger growers at the expense of the smaller ones. The mission of the BVFMA is "to benefit both growers and consumers by allowing farmers and gardeners to offer consumers locally grown, fresh and inexpensive produce" (Brazos Valley Farmers Market Association, n.d.). It will have to determine if it is to focus on satisfying the needs of its current vendors or if its ultimate purpose is to become as successful and economically viable as possible.

CHAPTER III

RESIDENTS' KNOWLEDGE AND PERCEPTIONS OF FARMERS' MARKETS IN BRYAN AND COLLEGE STATION, TEXAS

Overview

Bryan and College Station, Texas has similar characteristics to cities with thriving farmers' markets (e.g, Fayetteville, AR; Boulder, CO; Chapel Hill, NC), but the Brazos Valley Farmers' Market Association (BVFMA) has not received the same interest from local residents as these other farmers' markets. The purpose of this research was to evaluate Bryan and College Station, Texas residents' knowledge of and interest in farmers' markets. Results from a survey conducted at different produce outlets were analyzed to compare demographics, differences in attitudinal statements, and the communication channels used most. Demographics between survey sources were fairly similar, with the national chain grocery store having the only drastic differences. Attitudes most correlated to buying produce at a farmers' market were an enjoyment of cooking, gardening, and buying organic food. Results found many of the respondents had misperceptions of farmers' markets, considering a retail produce reseller a farmers' market. The newspaper was found to be the best communication channel to reach residents, and by hosting festivals and other activities the farmers' market may be able to increase resident awareness of local farmers' markets.

Introduction

Farmers' markets have experienced cycles of peaks and plunges in the United States. The beginning of the current surge originated with the passing of the Farmer-to-Consumer Direct Marketing Act of 1976, Public Law 94-463 (Brown, 2002). This law allocated Cooperative

Extension Service agents to support direct marketing activities by local farmers (Brown, 2001). The number of farmers' markets has drastically increased since then: from about 340 farmers' markets in 1970 (Brown, 2002), to 3,617 farmers' markets reported in 2004 (AMS, n.d.). The number of farmers and customers attending farmers' markets is increasing as well (Payne, 2002). This interest and support for farmers' markets has even spread to other countries, with the number of farmers' markets rapidly growing in England, Australia, and New Zealand (Archer et al., 2003).

The produce industry is rapidly growing as well. The Economic Research Services (2008) of the USDA quoted the value of U.S. fresh market produce to be worth $10 billion. This service predicts the value of fresh market vegetables to increase to $15 billion by 2017. While this trend is very promising, farmers' markets are still an insignificant segment of the retail produce industry. Direct market sales only account for 1-2% of national produce sales (Brown, 2002).

There is immense potential for farmers' markets to take more of a share of this industry. Managers of farmers' markets need to understand more about the American consumer to reduce hindrances to shopping at farmers' markets, and increase their appeal. This research focuses on Bryan and College Station residents' produce shopping preferences and their knowledge of local farmers' markets. This information will be beneficial to local farmers' markets trying to attract more of the share of local produce sales.

Purpose and Objectives

Many studies have been conducted researching farmers' markets, but most have been conducted in eastern and western states, neglecting the southwest. Texas has become a major producer of many vegetable crops. It ranks in the top five states for production of cabbage,

carrots, cantaloupes, chile peppers, onions, spinach, and watermelons (National Agricultural Statistics Service, 2006). There is plenty of supply for Texas farmers' markets, but the demand for this produce needs to be assessed.

The goal of this research was to evaluate the Bryan and College Station, Texas residents and determine:

- Their awareness of and interest in farmers' markets
- Preferences for farmers' market hours, location, and activities
- Factors influencing their decision to attend/not attend farmers' markets
- Primary outlets currently used to buy produce
- Characteristics of shoppers at different outlets
- Differences in characteristics between shoppers at different outlets
- Communication channels used by those most interested in attending a farmers' market

The purpose of this research is to improve local farmers' markets by providing them information about their potential customers. Attracting more people to the farmers' market potentially would increase the profitability of selling there, which would boost the profits of the current vendors and entice more farmers to sell at the market. In turn this would make a more attractive farmers' market for local residents and increase their awareness and understanding of local farming.

Methods

A survey was developed using questions from a survey conducted by the Sustainable Food Center (2002). Other questions created pertained to regionally specific information: local television and radio stations, zip codes and produce outlet names. The instrument consisted of 37 questions: 10 questions with a five point summated scale, 24 close ended questions, and 3 open ended questions (Appendix E).

Three market outlets with distinct differences were chosen to conduct the survey: the local year round farmers' market, a branch of a national grocery store chain, and a local produce retailer selling produce from wholesalers. The surveys were all conducted using continuous random sampling on Saturday mornings between the hours of 8 and 12, the operating hours of the local year round farmers' market. In order to obtain more surveys from farmers' market customers, an online version of the survey was created. The BVFMA provided the email addresses from their farmers' market listserve, and a link was emailed to all subscribers of the farmers' market listserve. A total of 179 surveys were collected (Table 7). The SPSS statistical package was used for analysis of variance, descriptive analysis and correlation. The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table 7

Survey Responses by Market Outlet

Source	*f*	%
Farmers' market listserve	46	25.7
Farmers' market	20	11.2
Grocery store	58	32.4
Produce retailer	55	30.7
Total	179	100.0

Results

Demographics of Respondents

The largest age group of respondents was 20-30 year olds (27.4%), followed by people 41-50 (22.3%) (Table 8). Females accounted for 64.8% of those surveyed (Table 9), and males 34.1%. Seventy-eight percent of respondents considered themselves white, with Hispanics and

Asians being tied for the next largest ethnic group surveyed (Table 10). The two household income levels of $20,000-40,000 and $40,001-60,000 were both selected by 19.6% of respondents (Table 11). The next highest percentage of respondents was those earning $60,001-100,000. There were 14 different zip codes listed as choices on the survey. The zip code with the largest percentage of respondents was 77845 with 40.6%, and the second highest being 77840 with 21.7% (Table F1).

Table 8

Age Distribution of Respondents

Age Groups	*f*	%
20-30	49	27.4
31-40	32	17.9
41-50	40	22.3
51-60	24	13.4
61-70	24	13.4
71+	9	5.0
Total	178	99.4

Note: 1 missing response.

Table 9

Gender of Respondents

Gender	*f*	%
Female	116	64.8
Male	61	34.1
Total	177	98.9

Note: 2 missing responses.

Table 10

Ethnicity of Respondents

Ethnicity	*f*	%
White	140	78.2
Hispanic	16	8.9
Asian	16	8.9
Black	3	1.7
Total	175	97.8

Note: 4 missing responses.

Table 11

Household Income Level of Respondents

Income	*f*	%
<$20k	26	14.5
$20-40k	35	19.6
$40-60k	35	19.6
$60-100k	31	17.3
$100-150k	24	13.4
>$150k	15	8.4
Total	166	92.7

Note: 4 missing responses.

Almost half of the respondents were shopping for two people (Table F2), and budgeted $50-100 a week for groceries (Table F3). Some studies found having more than one adult in the household positively influenced the likelihood of buying local food (Govindasamy et al., 2002;

Zepeda and Li, 2006). Other studies reported those being married were more likely to attend a farmers' market (Andreatta & Wickliffe, 2002; Sustainable Food Center, 2002; Wolf, 1997). This was attributed to having someone to share meals with, help with cooking, etc.

Demographics of Respondents by Survey Source

The average farmers' market listserve respondent was younger and more likely to be a female than any of the other survey sources. Forty-one percent of the respondents from the farmers' market listserve were in the 20 to 30 age group (Table F4), and had the highest percentage of females with 80% (Table F5). Ninety-one percent considered themselves white (Table F6), with 26.2% having a household income between $20,000-40,000 (Table F7). The mean number of people in the household was 2.11. In addition, the farmers' market listserve also had the highest percent of respondents shopping only for themselves than any other market.

The demographics of the farmers' market respondents were fairly similar to those from the listserve with 73.7% female and 89.5% white (Tables F4-F7). The number of people in the household was only slightly higher with a mean of 2.58. The only other ethnicity surveyed at the farmers' market was Hispanics with 10.5%. This data differed slightly from Payne's (2002) national survey of farmers' markets, which reported a smaller percent of Caucasians (74%) attending farmers' markets.

Farmers' market respondents differed in age from the farmers' market listserve, having a higher percentage of older respondents: 31.6% between 51 and 60, and 15.8% over 71 years old (Table F4). This result is similar to Onianwa et al. (2005) who reported a positive correlation between shopping at a direct market outlet and age, with older individuals being more likely to shop at a farmers' market. In contrast, Stephenson and Lev (2004) found the middle age groups,

30-45 and 46-64, were more likely to buy local produce than those in the younger or older age groups.

The results from the Brazos valley farmers' market study coincide more with what has been reported in previous literature than the farmers' market listserve. Most studies have found the average farmers' market customer to be older, retired, white females with higher education and in the higher income groups (Andreatta & Wickliffe, 2002; Archer et al., 2003; Brown, 2002; Govindasamy et al., 2002; Sustainable Food Center, 2002; Szmigin et al., 2003; Wolf, 1997). Zepeda and Li (2006) explained the high percentage of women at farmers' markets by women being the primary shopper for most households.

Respondents from the produce retailer were primarily white (86.2%), female (70%), with higher average household incomes ($40,000-$150,000). Twenty-nine percent reported to be in the 20-30 age group, and 29% in the 41-50 age group. Mean number of people per household was 2.38. Ethnicities of respondents included white 86.2%, Hispanics 10.3%, and Asians 3.4%. The average household income was higher than other outlets with almost 75% earning more than $40,000. These demographics are fairly similar to the descriptions of farmers' market customers found in current research literature. This indicates that the produce retailer may be the farmers' market's primary competitor.

The grocery store differed greatly from the two previously discussed outlets. It had the most ethnically diverse clientele: 61.1% white, 3.7% black, 25.9% Asian, and 9.3% Hispanic (Table F6). It had the highest percentage of males with 54.5%(Table F5). While there were more males, the percentage considering himself the primary shopper was actually lower than for the overall average across all outlets. Only 24.5% of males from the grocery store considered themselves the primary shopper compared to 30.5% of all males. The mean number of people per household was 2.53. The grocery store had the most evenly distributed number of

respondents by income level (Table F7). The household income group $20,000-$40,000 had the largest percentage with 21.6%, while <$20,000, $40,001-60,000, and $60,001-100,000 all had 19.6%. The distribution of respondents by age group for the grocery store was 23.6% between 41 and 50, and 21.8% in the 20-30 age group (Table F4).

Initially it was thought the distribution of respondents by zip code would be determined by the location of the market outlet where the surveys were conducted (Table F1). The large percentage of respondents living in the zip codes 77840 and 77845 was thought to be attributed to the survey that was conducted at the grocery store in that area, as 89.3% of grocery store respondents chose one of those zip codes. After analyzing the other survey sources, though, the percentages from them refuted this hypothesis. Both 77840 and 77845 were either the first or second largest zip code chosen by respondents at the produce retailer and the farmers' market listserve. The zip code 77845 was the second most common zip code for the farmers' market with 20%. The Saturday morning farmers' market is in the zip code 77803, and is nine miles away from the zip code 77845, the zip code with the largest percentage of respondents from all market outlets surveyed.

Current Produce Shopping Preferences and Demand

The next set of questions focused on determining respondents' shopping preferences and needs. Sixty-five percent of respondents purchased their produce from the grocery store, while 24.4% purchased theirs from a produce retailer, and 9% from a farmers' market (Table F8). Stephenson and Lev (2004) and Wolf (1997) found 95% of respondents purchased their produce from grocery stores.

Two of the open ended questions in the survey were to determine the most desired produce. Respondents that regularly attended a local farmers' market were asked to write the

produce they most commonly buy at a farmers' market, and all respondents were asked to write the five produce items they most commonly purchase (Table F9). The most commonly purchased produce at a farmers' market were: tomatoes, peppers, squash and zucchini, onions, legumes and herbs. Many items were mentioned that were not produce, including eggs, soap, honey and crafts. Some of this may be attributed to the lack of produce at the farmers' market at the time the survey was conducted, and the other vendor products present. Govindasamy et al. (2002) conducted a study of farmers' markets in the state of New Jersey, and the produce most commonly mentioned by their respondents were tomatoes, peppers, peaches, apples, melons, blueberries, and corn.

Tomatoes were also the primary produce item most commonly purchased in general. The other most commonly purchased produce included: apples, lettuce, bananas, onions, carrots, peppers and potatoes. The Sustainable Food Center (2002) found the same results for most commonly purchased produce. While apples and bananas cannot be grown locally, the other mentioned items can. Farmers' market vendors might consider growing more of these desired crops and various varieties of them.

Awareness and Knowledge of Local Farmers' Markets

Survey respondents were asked five questions to establish their level of awareness and interest in farmers' markets (Table F10). Most respondents said they had been to one of the local farmers' markets before (89.4%), but with only 45.8% saying they regularly attended. When the respondents were asked how they heard about the farmers' market, 45.6% said they heard through word of mouth (Table 12). The internet was the next largest percentage with 12.8%, which could be partially attributed to the surveys from farmers' market listserve respondents. Wolf (1997) found 85% of San Luis Obispo residents knew of the farmers' market. Archer et al.

(2003) found 35% of respondents in Manchester, England said they heard about the farmers' market in the newspaper. It was also a major source (49% of responses) for New Jersey respondents surveyed by Govindasamy et al. (2002), but signs were the most frequently cited (50%) in their study.

Table 12

How Did You Hear About the Local Farmers' Markets?

Source	*f*	%
Word of mouth	103	45.6
Internet	29	12.8
Newspaper	27	11.9
Radio	19	8.4
Television	15	6.6
Have not heard of them	14	6.2
Other	19	8.4

The expressed interest in attending a farmers' market was almost unanimous with 95.5% of all survey respondents saying they were interested. Respondents who said they regularly attended a local farmers' market answered a few additional questions. They were asked to give the average amount they spend when they attend a farmers' market. The most frequently selected price range was $11-20 with 51.4% (Table F11). This has been the average amount reported by many other researchers: Andreatta and Wickliffe (2002) reported the modal result to be $16-20, Govindasamy et al. (2002) $16, and Payne (2002) stated $17.30. The most frequently reported price range by the Sustainable Food Center (2002) was just above this at $21-50.

The respondents were then asked about the frequency of attendance. Sixty percent said they attended once a week, and 21.1% said once a month (Table F12). These percentages are extremely high, which may be attributed to the misperception of "farmers' market." The

Sustainable Food Center (2002) reported 23.8% of their respondents attend weekly, 34.9% once a month, and 34.31% several times a year.

The third open ended question asked customers who regularly attend a local farmers' market to write the name of it down. Part of the reasoning behind this question was to validate respondents' perceptions of a farmers' market. The definition of a farmers' market was defined on the first page of the survey as "a place where local farmers gather to sell food directly to consumers. This food may include fresh vegetables and fruits, baked goods, cheeses, jams, and other locally grown and made products." Seventy-eight respondents said they regularly attended a local farmers' market, but after reviewing respondents' answers, only 48.7% were valid (Table F13). A response was considered valid if the respondent provided the correct name of a farmers' market and listed produce that can be grown locally. The valid responses came primarily from farmers' market and farmers' market listserve respondents, 47.4% and 34.2% respectively (Table F14). Thirty-eight percent of those that said they regularly attend indicated the produce retailer as the farmers' market they attend. This fact must be taken into account when considering respondents' answers regarding farmers' markets.

Another significant finding from the question regarding the name of the farmers' market was only 25.6% of respondents regularly attending a local farmers' market knew the name of it. People wrote the physical location or the name of the city of the local farmers' market, but did not know its proper name.

Preferences and Experiences Regarding Farmers' Markets

In order to develop suggestions for improving the appeal of local farmers' markets, respondents were asked questions regarding preferred time, location, and activities they would like to see at a farmers' market. Thirty-five percent of respondents preferred time for a farmers'

market was on Saturday mornings (Table F15). The next closest choice with 17% was Saturday afternoons. The Sustainable Food Center (2002) found the same results, with 24.6% preferring Saturday mornings and 18.4% Saturday afternoons.

As for location, most respondents said they would be willing to travel 10 miles to a farmers' market (Table 13). Thirty-eight percent of respondents said they would be willing to drive 6 to 10 miles. Earlier in this article it was stated that the distance between the location of the farmers' market and the residential area of most respondents was nine miles. While this is within the 6-10 mile range, it misses the 30.7% of respondents willing to travel 2 to 5 miles. While other research found around 10 miles an average distance customers were willing to travel to a farmers' market, results between markets could be extreme (Payne, 2002; Szmigin et al., 2003; Sustainable Food Center, 2002). In Brown's (2002) review of research on farmers' markets she cited studies reporting customers driving distances of 70 miles, and all the way up to 240 miles, concluding that people are willing to drive farther for better markets. Eastwood (2000) proposed different scenarios involving quality, cost, and distance, and found that quality produce needed to be offered at farmers' markets at a lower price than grocery stores to counterbalance the disadvantages characteristic of farmers' markets (i.e., distance traveled, hours open).

Table 13

Distance Respondent Willing to Travel to a Farmers' Market

Distance	*f*	%
<1 mile	7	3.9
2-5 miles	55	30.7
6-10 miles	68	38.0
>10 miles	48	26.8
Total	178	99.4

Note: 1 missing response.

Respondents were asked which activities, if any, they would be interested in having at a farmers' market (Table 14). Cooking demonstrations were preferred by 29.8%, but 30.2% preferred none of the activities listed. The results were analyzed to determine what variable accounted for most of the respondents selecting none, and found survey source to account for those responses. The largest source of respondents choosing none was respondents at the produce retailer and grocery store.

Table 14

Preferred Activities at a Farmers' Market

Activities	*f*	%
None	65	30.2
Cooking demonstrations	64	29.8
Music	35	16.3
Nutrition classes	26	12.1
Kid's playground	18	8.4
Other	7	3.3
Total	215	100.0

Many farmers' markets host festivals, provide facilities and programs, and have activities for varying ages. La Trobe (2001) described the Stour Valley Farmers' Market in Kent, England having "live music, face painting for the children, cookery demonstrations and juggling acts" (p. 186). One of the distinguishing characteristics in Tiemann's (2004) classification of farmers' markets is leisure activities, with experience markets being more of an event and recreation than indigenous markets. The Sustainable Food Center (2002) surveyed their respondents about what activities they might want at a farmers' market and found 60.9% were interested in having cooking demonstrations, followed by music concerts with 53.2%. Eleven percent of responses indicated they were interested in none of the activities. The Sustainable Food Center found that those selecting none were more likely older respondents.

Factors Influencing Customer Attendance

The primary reason for not attending a farmers' market cited by 19% of respondents of this survey was inconvenient times (Table 15). Those choosing inconvenient times for their primary reason preferred Saturday afternoons or weekday afternoons (Table F16). The second reason respondents chose for not attending was they were too busy. Other reasons frequently chosen were inconsistent availability of produce and unaware of the farmers' markets.

To determine if misperception of farmers' markets affected responses given for not attending, results were analyzed using only responses from respondents that gave valid answers to farmers' market questions (Table F17). The same two reasons were chosen by respondents with valid answers as those with invalid answers to farmers' market questions.

Table 15

Primary Reason Given for Not Attending Farmers' Markets

Reason	*f*	%
Inconvenient times	34	19.2
Too busy	29	16.4
Inconsistent availability of produce	23	13.0
Unaware of them	23	13.0
Too far away	20	11.3
Inconvenient locations	20	11.3
Produce too expensive	7	4.0
Not interested in going	2	1.1
Inconsistent quality of produce	2	1.1
Other	17	9.6
Total	177	100.0

While each farmers' market has its own specific negative aspects, there seems to be a general list these disadvantages come from. Andreatta and Wickliffe (2002) cited, in order of significance, distance to farmers' market, seasonal availability of produce, and amount of available produce as deterrents stated by respondents. Tippins et al. (2002) found inconvenient

times and location, and limited quantities as drawbacks for farmers' market customers. Wolf (1997) summarized the disadvantages of farmers' markets as a general lack of "convenience" in comparison to the ease and accessibility of grocery stores. The Sustainable Food Center (2002) found the primary reason respondents stated for not attending was they were unaware of the locations and times of farmers' markets, and the distance to the farmers' market being the next most common reason.

In the Brazos valley farmers' market study, one respondent commented at the end of the survey that they really enjoyed attending the farmers' market in their previous community, but the climate here was not conducive to an outdoor farmers' market. While Bryan and College Station's farmers' markets are open year round, a grand opening is held in April with the majority of produce being in season during the summer. The weather can be very unpleasant during the summer with average daily temperatures reaching up to 95°F (National Weather Service, 2007).

Analysis of Attitudinal Questions

Initially survey results were to be evaluated to see if there were any relationships between respondents' demographics, respondents' answers to attitudinal questions, and their interest in attending a farmers' market. Difficulties arose, though, when 95.5% of respondents said they would be interested in attending a farmers' market, the same percentage saying they had been to one before, but less than half of the 78 respondents saying they regularly attend a farmers' market giving valid answers to questions about farmers' markets. Consequently, rather than using respondents' interest and attendance of farmers' markets for comparison, respondents were given an overall score for responses to attitudinal questions. Respondent's attitudinal scores ranged from 30.5 to 38.5. Mean scores for outlets were then calculated to see if there was a

difference in attitudinal scores between outlets (Table F18). An analysis of variance was run to check for statistical significance. Homogeneity of variance was satisfied with a value of 0.126. Using an alpha level of 0.05, a statistically significant difference between survey sources was found, with a significance value of 0.001, a medium effect size of 0.12, and a power of 0.989. The Ryan-Einot-Gabriel-Welch post hoc test was run, and three subsets appeared:

1. Grocery store and Produce Retailer
2. Produce Retailer and Farmers' Market
3. Farmers' Market and Farmers' Market Listserve

Correlations were then run using the post hoc subsets to see where relationships may exist. An alpha level of 0.05 was used for all statistical tests, and the Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Correlation tests were run using the attitudinal score for subsets on the attitudinal question to find the strongest relationships between the attitudinal score and individual attitudinal statements. "If I moved to a new town I would try to find the local farmers' market" had a very strong positive and statistically significant relationship with attitudinal score across all subsets (Tables F19-F21). "I enjoy buying produce at a farmers' market" had a very strong positive and statistically significant relationship to attitudinal score in both subset 2 and subset 3 (as subsets listed above), and a substantial positive and statistically significant relationship in subset 1. All subset attitudinal scores had a substantial positive and statistically significant relationship to "Shopping for produce is a social occasion for me."

Different magnitudes between subsets appeared after that, with the subsets reflecting certain characteristics. Attitudinal scores for subset 1 had a substantial positive and statistically

significant relationship to attitudinal statements on gardening and quality of produce. Attitudinal scores for subset 2 also had a substantial positive and statistically significant relationship to quality of produce as well as to following the food pyramid and enjoyment of cooking.

Subset 3, the farmers' market listserve and farmers' market survey respondents, had a substantial and statistically significant relationship between attitudinal score and enjoyment of gardening, buying organic, and enjoyment of cooking (Table 16). These findings support those found by Zepeda and Li (2006). Their research found enjoyment of gardening increased the probability of buying local food by 12%, and buying organic increased it by 17%. Enjoyment of cooking increased the likelihood of buying local by 17%, and ardent enjoyment of cooking increased the likelihood by 32%.

Table 16

Correlation Between Attitudinal Score for Farmers' Market and Farmers' Market Listserve and Variable Listed

Variable	*p*	*r*	*Strength**	N
If moved would look for new farmers' market.	.001	.767	Very Strong	65
Enjoy buying produce at farmers' market.	.001	.712	Very Strong	65
Enjoy cooking.	.001	.668	Substantial	65
Buy organic.	.001	.663	Substantial	63
Shopping for produce social occasion.	.001	.581	Substantial	65
Enjoy gardening.	.001	.478	Moderate	65

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Communication Channels

One of the primary objectives of the study was to evaluate communication channels used by residents, and determine the most effective ones to use to reach those interested in farmers' markets. The primary source for local community news for residents was the newspaper, as

indicated by 35.1% of respondents (Table F22). The other three communication channels were all fairly close together with television 22.2%, radio 19.6%, and internet 18.7%. The most used stations were KBTX for television and the radio station KAMU.

To effectively reach residents that would be interested in attending a farmers' market, the most used communication channels for the subset with the highest attitudinal score was created. The newspaper was still their primary source for local community news, but a larger proportion of them used the internet and radio (Table F23). The higher percentage using the internet could partially be attributed to those completing the survey online. The most watched television station was the same (Table F24) as were the radio stations (Table F25). Thus, if the farmers' market were to advertise, the media outlets with the largest audiences were: the local newspaper, the television station KBTX, and the radio stations KAMU and WTAW.

Conclusion

The most surprising finding in this research was the misperception many people had of farmers' markets. Many perceived the produce retailer to be a farmers' market. This fallacy, though, has been substantiated by other activities in the community. Texas A&M University's Dining Services have been promoting their on-campus "farmers market," which obtains its produce from the produce retailer (Texas A&M Dining Services, 2007). The farmers' market's biggest competitor will be the produce retailer as the demographics of its customers is fairly similar to those of the farmers' market, and as it sells some local produce seven days a week, convenience may win out. Educating the consumer could greatly benefit the BVFMA. The best communication channels to reach those interested in attending a farmers' market would be the local newspaper as well as the television station KBTX and the radio stations KAMU and WTAW.

One of Tiemann's (2004) distinctions between experience and indigenous markets was the produce sold, with indigenous markets selling more traditional varieties and experience market selling a wider array of produce. By selling traditional varieties, indigenous markets are competing with the produce at grocery stores, and competing with their prices. Experience markets sell varieties usually unavailable other places and can charge premiums for them. Originally this research intended on providing a list of suggested produce to grow to local growers. After further consideration, growers may fair better producing specialty crops and unique varieties of popular produce. Govindasamy et al. (2007) conducted research in New Jersey to evaluate the produce preferences of the rapidly growing ethnic groups. Bryan and College Station have very different ethnic make-ups: Bryan has 64.7% white, 27.8% Hispanic, 17.7% black , and 1.7% Asian. College Station has a larger percentage reporting to be white, with 80.5%, but has a larger percentage of Asians at 7.3% (U.S. Census, 2008).

Research has shown that farmers' market customers are primarily older, retired, white females with higher education levels and in the higher income groups. College Station may have a larger percentage of ethnically white people, but Bryan has a higher median income, a higher percentage of people over 65, and a slightly higher percentage of females. Education level is higher in College Station with 58.1% with a bachelor's degree or higher, compared to 26% in Bryan (U.S. Census, 2008).

With the statistically significant attitudinal statement "If I moved to a new town I would try to find the local farmers' market," attention should be focused on new residents. In a very transient college town, people move in and out frequently. If new residents are made aware of the local farmers' market, it could attract those that attended farmers' markets in their previous community and peak interest in residents that haven't been to one before, but are looking for things to do in their new community.

A location between Bryan and College Station might be preferable. Almost 22% of respondents from the survey reported living in the zip code 77840, which is in College Station but borders Bryan. Reducing the distance people in College Station have to drive while still keeping the distance Bryan residents have to drive to less than five miles should attract residents from both cities. Facilities will also need to be a major consideration when deciding on location: bathrooms, shade, parking, electricity, kitchen facilities for cooking demonstrations.

One of the attractions to farmers' markets is the social setting they provide that is "more friendly, personal, rural, smaller, and happier" (Sommer, Herrick, & Sommer, 1981, p. 13) than grocery stores. People see it more as an event than as shopping. One way to foster this attitude is to host events and activities. The Austin Farmers' Market attempts to have a festival or special event once a month (S. Santos, personal communication, May 2007). These could be used as great opportunities for free publicity from local media outlets. Cooking demonstrations received the most interest from those surveyed, and Zepeda and Li (2006) reported an expressed interest in cooking can increase the likelihood of someone buying local produce by as much as 32%. Those that preferred no activity primarily came from the produce retailer and grocery store, and part of their reason for choosing none could possibly be attributed to their misperception of farmers' markets. Farmers' markets need to become more visible to their communities, and holding festivals and events could assist in this. Abel, Thomson, and Maretzki (1999) suggest involving other community groups "who can advance the growth of such markets" (p. 6). Community organizations could be recruited in assisting in organizing festivals. These events could promote the social and recreational atmosphere that distinguishes farmers' markets from other produce outlets.

In order to increase attendance at farmers' markets, the negative aspects should be reduced as much as possible. Farmers' markets need to make attending a farmers' market as

convenient as possible by choosing a central location with more convenient hours. The most cited reason for not attending local farmers' markets was inconvenient times, and those stating that reason preferred Saturday afternoons. A possible compromise would be to shift the hours of the farmers' market back a couple hours so that it extends into the afternoon. The next most commonly cited reason for not attending was that respondents said they were too busy. Again, this deterrent might be resolved if the farmers' market established a time and location that would be as convenient for residents to attend as possible.

These recommendations will hopefully provide the BVFMA with alternatives to create more attractive farmers' markets for local residents. Residents' needs and preferences should be the central focus when planning a farmers' market as "the customer is always right."

CHAPTER IV

SUMMARY

Introduction

The purpose of this study was to investigate the supply and demand sides of farmers' markets in order to increase both segments at farmers' markets in Bryan and College Station, Texas. Farmers were interviewed to gain a perspective on supply side while surveys were conducted to evaluate the demand side. After researching these two populations, recommendations for increasing vendor participation and customer attendance were to be given to the BVFMA.

Growers

Six farmers were interviewed with the objectives of assessing: 1) local farmer and farm operation characteristics, 2) farmers' reasons for growing, 3) factors influencing where they decide to sell, and 4) farmers' perceptions of farmers' markets. The two farmer characteristics that influenced reasons for growing and market outlet choice were age and farmer status (part-time or full-time). The common theme found for growing among the older farmers was enjoyment. Since the older farmers did not rely on sales for their livelihood, many reasons for growing were found with enjoyment being the predominant one. All the farmers interviewed except for one said family was a major reason for growing, although they differed on when in their life the theme of family was important.

Age also appeared to have an impact on vendors' choice of market outlet. The primary considerations for two of the three younger farmers interviewed were time, volume and risk. This might be related to those two growing full-time and could be different for young part-time

growers. Originally, the hypothesis was for size of operation to be the major determinant for market outlet, but instead farmer status (part-time or full-time) and volume grown were the determining factors for choice of market outlet.

Responses to questions about attributes of farmers' markets confirmed some common themes. The social aspect of farmers' markets was mentioned in various ways: community, family, appreciation. It was mentioned in negative ways as well: conflicts with other vendors, and negative comments from customers. Many of the themes expressed appeared as both positive and negative. Economic characteristics of farmers' markets were expressed as a positive (marketing, quality, and profit) and a negative (risk and disappointment in sales), as was location (shade versus no shade).

Consumers

Bryan and College Station residents were surveyed at four different produce outlets to determine their interest in and knowledge of local farmers' markets. Over 95% expressed an interest in attending a farmers' market, while almost 90% said they had attended a local farmers' market. Many residents, though, had misperceptions of farmers' markets, with many listing a produce retailer as a farmers' market.

One of the attractions to farmers' markets is the social setting they provide that is "more friendly, personal, rural, smaller, and happier" (Sommer et al., 1981, p. 13) than grocery stores. People see it more as an event than as shopping. One way to foster this attitude is to host events and activities. The Austin Farmers' Market attempts to have a festival or special event once a month (S. Santos, personal communication, May 2007). These could be used as great opportunities for free publicity from local media outlets. Cooking demonstrations received the most interest from those surveyed, and Zepeda and Li (2006) reported an expressed interest in cooking increases the likelihood of buying local produce by as much as 32%. Those that

preferred to have no activity at farmers' markets primarily came from the produce retailer and grocery store, and part of their reason for choosing none could possibly be attributed to their misperception of farmers' markets. Farmers' markets need to become more visible to their communities, and holding festivals and events could assist in this. Abel et al. (1999) suggest involving other community groups "who can advance the growth of such markets" (p. 6). Community organizations could be recruited in assisting in organizing festivals. These events could promote the social and recreational atmosphere that distinguishes farmers' markets from other produce outlets.

In order to increase attendance at farmers' markets, the negative aspects should be reduced as much as possible. Farmers' markets need to make attending a farmers' market as convenient as possible by choosing a central location with more convenient hours. The most cited reason for not attending local farmers' markets was inconvenient times, and those stating that reason preferred Saturday afternoons. A possible compromise would be to shift the hours of the farmers' market back a couple hours so that it extends into the afternoon. The next most commonly cited reason for not attending was that respondents said they were too busy. Again, this deterrent might be resolved if the farmers' market established a time and location that would be as convenient for residents to attend as possible. The farmers' market's biggest competitor will be the produce retailer as the demographics of its customers is fairly similar to those of the farmers' market, and it sells some local produce seven days a week. While the farmers' market's hours are not as accommodating as the produce retailers, the setting and atmosphere of the farmers' market can set it apart. The farmers' market needs to distinguish itself from the produce retailer by promoting itself as more of an event and social occasion. The produce retailer may have local produce, but it does not have the farmer there to talk about how the produce was grown. Promoting these qualities and educating the consumer could greatly benefit the BVFMA.

The best communication channels to accomplish this would be the local newspaper as well as the television station KBTX and the radio stations KAMU and WTAW.

Recommendations

The purpose of this thesis was to evaluate both consumers and growers in order to provide recommendations to the BVFMA to increase supply and demand. From the findings of this study, two possible options are suggested.

The first option for the BVFMA would be for it to focus on developing into a stage two experience market. To attract the full-time growers, the farmers' market will need to begin shifting towards becoming a more economically viable outlet for larger growers. Full-time farmers must see they can earn a livelihood from selling at the farmers' market, and accept the risk involved. The Sustainable Food Center (2002) found farmers needed to earn at least $300 per market day to justify participation, with the range being from $50 to $2,500. Experience markets are more than a produce outlet. They offer specialty foods, drawing customers willing to pay more, and create a more enticing atmosphere with events and activities. The facilities need to accommodate consumers, and entice them to come and spend time: bathrooms; access to a kitchen for cooking demonstrations; electricity for music and prepared food and drinks; seating and tents.

To become a stage two experience market would require cooperation from the current vendors, support from the city, and a dedicated core of individuals directing the shift. Current vendors must be willing to change some of their practices, and be willing to move with the market. Many of the differences between indigenous markets and experience markets are the characteristics of the vendors. Experience market vendors are usually full-time farmers, selling

specialty produce, displayed attractively, at higher prices than grocery stores. To attract larger growers, farmers' markets need to provide a larger economic return.

Some of the part-time growers may prefer to remain an indigenous market with primarily hobby and part-time vendors. If the BVFMA began shifting more towards an experience market, there is the possibility that the current vendors would be the losers. The balance between part-time and full-time growers is difficult, as Andreatta and Wickliffe's (2002) research suggests. They found trying to increase supply and demand had negative effects for smaller growers. Farmers' markets need to provide an adequate amount of produce to attract customers, and to meet this demand many markets try to attract large growers. This can lead to market policy and regulation favoring larger growers, and negatively impacting smaller producers. Trying to retain larger growers could isolate and exclude smaller ones as they may not be able to compete.

The other option for the BVFMA would be to remain an indigenous market, but try to achieve stage three. This would be accomplished through increasing the number of part-time and hobby farmers while maintaining a few large farmers. It could focus on attracting growers that fit the indigenous model: older growers selling traditional varieties that are attracted to farmers' markets more for their social qualities than for their economic function. It could also try to recruit first time growers with the potential for expansion. They would still need to increase resident awareness of farmers' markets through the suggested communication channels, and reduce the inconveniences involved with shopping at farmers' markets. This would include the preferred hours of Saturday morning, a location between Bryan and College Station, with bathroom facilities and shade of some sort. The BVFMA may still benefit from correlations between interest in local foods and shopping at health food stores by moving the farmers' market to the parking lot of a health food store or a grocery store that caters to those consumers. There is

the risk that moving may result in some vendors refusing to move and forming their own farmers' market. This already happened once when the BVFMA moved to its current location.

Many studies mentioned farmers' markets as environments for creating and fostering new businesses. This is especially true for indigenous markets, which provide market access to many people with limited alternatives. The BVFMA could act as the prepping ground for hobby farmers to transition into part-time or full-time farmers. This was already found to be done during some of the farmer interviews conducted in this study. The only difficulty is the farmers' market may not be able to continue to support their growth and they may have to find another outlet for their produce, especially if the market remains an indigenous market.

By researching these two populations, farmers and residents, these recommendations can be made to link supply with demand, creating an economically viable market outlet for growers while providing the community with fresh, local produce.

REFERENCES

Abel, J., Thomson, J., & Maretzki, A. (1999). Extension's role with farmers' markets: Working with farmers, consumers, and communities. *Journal of Extension, 37*(5). Retrieved June 11, 2008 from http://www.joe.org/joe/1999october/index.html

Agricultural Marketing Service (AMS). (n.d.). State marketing profiles: Texas. Retrieved May 6, 2008 from http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRD3482529

Agricultural Marketing Service (AMS). (2007). Wholesale and farmers' markets. Retrieved May 14, 2008 from http://www.ams.usda.gov/AMSv1.0/ams. fetchTemplateData.do?template=TemplateC&navID=FarmersMarketsLinkWholesaleAndFarmersMarkets&rightNav1=FarmersMarketsLinkWholesaleAndFarmersMarkets&topNav=null&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketsHome&resultType=&acct=frmrdirmkt

Andreatta, S., & Wickliffe, W., II. (2002). Managing farmer and consumer expectations: A study of a North Carolina farmers market. *Human Organization, 61*(2), 167-176.

Archer, G. P., Sanchez, J. G., Vignali, G., & Chaillot, A. (2003). Latent consumers' attitude to farmers' markets in north west England. *British Food Journal, 105*(8), 487-497.

Brown, A. (2001). Counting farmers markets. *The Geographical Review, 91*(4), 655-674.

Brown, A. (2002). Farmers' market research 1940-2000: An inventory and review. *American Journal of Alternative Agriculture, 17*(4), 167-176.

Brown, C., Miller, S. M., Boone, D. A., Boone, H. N., Jr., Gartin, S. A., & McConnell, T. R. (2007). The importance of farmers' markets for West Virginia direct marketers. *Renewable Agriculture and Food Systems, 22*(1), 20-29.

Davis, J. A. (1971). *Elementary survey analysis*. Englewood Cliffs, NJ: Prentice-Hall.

Economic Research Services. (2008). Agricultural baseline projections: U.S. crops, 2008-2017. Retrieved May 6, 2008 from http://www.ers.usda.gov/briefing/baseline/crops.htm

Eastwood, D. B. (2000). Consumers' willingness to travel to farmers' markets: A case study of the trade-offs among price, quality, and distance. *Journal of Food Products Marketing, 6*(3), 31-45.

Eastwood, D. B., & Brooker, J. (2000). Small fresh fruit and vegetable growers in Tennessee: Factors associated with their use of commercial outlets. *Journal of Food Distribution Research, 31*(20, 39-48.

Feagan, R., Morris, D., & Krug, K. (2004). Niagara region farmers' markets: Local food systems and sustainability considerations. *Local Environment, 9*(3), 235-254.

Feenstra, G. W., Lewis, C. C., Hinrichs, C. C., Gillespie, G. W., Jr., & Hilchey, D. (2003). Entrepreneurial outcomes and enterprise size in US retail farmers' markets. *American Journal of Alternative Agriculture, 18*(1), 46-55.

Govindasamy, R., Italia, J., & Adelaja, A. (2002, February). Farmers' markets: consumer trends, preferences, and characteristics. *Journal of Extension, 40*(1). Retrieved May 6, 2008 from http://www.joe.org/joe/2002february/rb6.html

Govindasamy, R., Italia, J., Zurbriggen, M., & Hossain, F. (2003). Producer satisfaction with returns from farmers' market related activity. *American Journal of Alternative Agriculture, 18*(2), 80-86.

Griffin, M. R., & Frongillo, E. A. (2003). Experiences and perspectives of farmers from upstate New York farmers' markets. *Agriculture and Human Values, 20*, 189-203.

Guthrie, J., Guthrie, A., Lawson, R., & Cameron, A. (2006). Farmers' markets: The small business counter-revolution in food production and retailing. *British Food Journal, 108*(7), 560-573.

Hinrichs, C. C. (2000). Embeddedness and local food systems: Notes on two types of direct agricultural market. *Journal of Rural Studies, 16*, 295-303.

La Trobe, H. (2001). Farmers' markets: Consuming local rural produce. *International Journal of Consumer Studies, 25*(3), 181-192.

Lloyd, R., Nelson, J. R., & Tilley, D. S. (1987). Should I grow fruits and vegetables? Farmers' markets. (OSU Extension Facts No. 185). Stillwater: Oklahoma State University, Cooperative Extension Service.

Lockeretz, W. (1986). Urban consumers' attitudes towards locally grown produce. *American Journal of Alternative Agriculture, 1*(2), 83-88.

Lyson, T. A., Gillespie, G. W., Jr., & Hilchey, D. (1995). Farmers' markets and the local community: Bridging the formal and informal economy. *American Journal of Alternative Agriculture, 10*(3), 108-113.

Lyson, T. A., & Guptil, A. (2004). Commodity agriculture, civic agriculture and the future of U.S. farming. *Rural Sociology, 69*(3), 370-385.

National Agricultural Statistics Service (NASS). (2002). 2002 census of agriculture. Retrieved May 10, 2008 from http://www.nass.usda.gov/census/census02/volume1/tx/index2.htm

National Agricultural Statistics Service (NASS). (2006). State ranking by production for selected vegetables crops, 2006. Retrieved May 20, 2008 from http://www.nass.usda.gov/Statistics_by_State/Texas/Publications/Annual_Statistical_Bulletin/bull06_136.pdf

National Farmers' Retail & Markets Association. (2008). Certified farmers' markets. Retrieved June 11, 2008 from http://www.farmersmarkets.net/

National Weather Service. (2007). July temperature/precipitation: Normals and means for College Station 1910-2007. Retrieved April 25, 2008 from http://www.srh.noaa.gov /hgx/climate/cll/normals/clljul.htm

Onianwa, O., Wheelock, G., & Mojica, M. (2005). An analysis of the determinants of farmer-to-consumer direct-market shoppers. *Journal of Food Distribution, 36*(1), 130-134.

Payne, T. (2002). *U.S. farmers markets-2000: A study of emerging trends.* Washington DC: U.S. Department of Agriculture, Agricultural Marketing Service, Transportation and Marketing Programs, Marketing Services Branch.

Pyle, J. (1971). Farmers' markets in the United States: Functional anachronisms. *The Geographical Review, 61*(2), 167-197.

Ross, N. J. (2006). How civic is it? Success stories in locally focused agriculture in Maine. *Renewable Agriculture and Food Systems, 21*(2), 114-123.

Schneider, M. L., & Francis, C. A. (2005). Marketing locally produced foods: Consumer and farmer opinions in Washington County, Nebraska. *Renewable Agriculture and Food Systems, 20*(4), 252-260.

Sommer, R., Herrick, J., & Sommer, T. R. (1981). The behavioral ecology of supermarkets and farmers' markets. *Journal of Environmental Psychology, 1*, 13-19.

Stephenson, G, and Lev, L. (2004). Common support for local agriculture in two contrasting Oregon communities. *Renewable Agriculture and Food Systems, 19*(4), 210-217.

Sustainable Food Center. (2002, May). *Sustainable Foods farmers' market survey presentation handout*. Unpublished presentation, Sustainable Food Center, Austin.

Szmigin, I., Maddock, S., & Carrigan, M. (2003). Conceptualising community consumption: Farmers' markets and the older consumer. *British Food Journal, 105*(8), 542-550.

Texas A&M University Dining Services. (2007). Dining Services Spring Farmers Market. Retrieved May 7, 2008 from http://diningservices.tamu.edu/farmersmarket.html

Tiemann, T. K. (2004). American farmers' markets: Two types of informality. *International Journal of Sociology and Social Policy, 24*(6).

Tippins, M. J., Rassuli, K. M., & Hollander, S. C. (2002). An assessment of direct farm-to-table food marketing in the USA. *International Journal of Retail & Distribution Management, 30*(7), 343-353.

U.S. Census. (2008). Sate and county quick facts. Retrieved May 3, 2008 from http://quickfacts.census.gov/qfd/states/48000.html

Uva, W. L. (2002). An analysis of vegetable farm's direct marketing activities in New York state. *Journal of Food Distribution Research, 33*(1), 186-189.

Wann, J. L., Cake, E. W., Elliott, W. H., & Burdette, R. F. (1948). Farmers' produce markets in the United States: Part 1, history and description. (Marketing Research Report No. 17). Washington, DC: U.S. Department of Agriculture, Farm Credit Administration.

Wolf, M. M. (1997). A target consumer profile and positioning for promotion of the direct marketing of fresh produce: A case study. *Journal of Food Distribution Research, 28*(3), 11-17.

Zepeda, L., & Li, J. (2006). Who buys local food? *Journal of Food Distribution Research, 37*(3), 1-11.

APPENDIX A

IRB EXEMPTION

TEXAS A&M UNIVERSITY
VICE PRESIDENT FOR RESEARCH - OFFICE OF RESEARCH COMPLIANCE

1186 TAMU
College Station, TX 77843-1186
1500 Research Parkway, Suite B-150

979.458.1467
FAX 979.862.3176
http://researchcompliance.tamu.edu

Institutional Biosafety Committee | Institutional Animal Care and Use Committee | Institutional Review Board

DATE: 16-Jul-2007

MEMORANDUM

TO: LILLARD, PATRICK
TAMU-HORTICULTURAL SCIENCES(00049)

FROM: Office of Research Compliance
Institutional Review Board

SUBJECT: Initial Review

Protocol Number:	2007-0423
Title:	Linking Supply and Demand: Increasing Grower Participation and Customer Attendance at Local Farmers' Markets
Review Category:	Exempt from IRB Review

The Institutional Review Board (IRB) has determined that the referenced protocol application meets the criteria for exemption and no further review is required. However, any amendment or modification to the protocol must be reported to the IRB and reviewed before being implemented to ensure the protocol still meets the criteria for exemption.

This determination was based on the following Code of Federal Regulations:
(http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm)

45 CFR 46.101(b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Provisions:

This electronic document provides notification of the review results by the Institutional Review Board.

APPENDIX B

INTERVIEW CONSENT FORM

CONSENT FORM

Small Farmer Characteristics Influencing Farmers' Market Participation

You have been asked to participate in a research study to determine local farmers' motivational factors for growing, identify produce varieties grown, and market outlets utilized. You were selected to be a possible participant because of your growing and selling methods. A total of 7 people have been asked to participate in this study. The purpose of this study is identify characteristics of potential vendors for farmers' markets**.**

If you agree to be in this study, you will be asked to participate in an interview and answer 10 to 15 questions about your farming operation and reasons for growing. The interviewer would like to tape record the interview with the interviewee's permission for later transcription. The transcription will then be returned to the interviewee for review and approval. The interview will take approximately one hour. There are not any risks associated with this study and the interviewee can refuse to answer any questions. There will be no benefits or compensation for participation.

You have the choice to decline being audiotaped. Are you willing to be audiotaped?

☐ Yes ☐ No

The records of this study will be kept private. No identifiers linking you to the study will be included in any sort of report that might be published. Research records will be stored securely and only Dr. Stephen King, Dr. Jayne Zajicek, Dr. Kim Dooley, and Patrick Lillard will have access to the records. Audio tapes will be made during the interview, used for transcription, kept for one year, then destroyed. Your decision whether or not to participate will not affect your current or future relations with Texas A&M University or the Brazos Valley Farmers' Market. If you decide to participate, you are free to refuse to answer any of the questions that may make you uncomfortable. You can withdraw at any time without your relations with the University, job, benefits, etc., being affected. You can contact Patrick Lillard (979-845-1510, ptlillard@tamu.edu) and/or Dr. Stephen King (979-845-2937, srking@tamu.edu) with any questions about this study.

This research study has been reviewed by the Institutional Review Board - Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, you can contact the Institutional Review Board through Ms. Melissa McIlhaney, IRB Program Coordinator, Office of Research Compliance, (979)458-4067, mcilhaney@tamu.edu.

Please be sure you have read the above information, asked questions and received answers to your satisfaction. You will be given a copy of the consent form for your records. By signing this document, you consent to participate in the study.

Signature of Participant:

_____ Date: _____

APPENDIX C

INTERVIEW QUESTIONS

What age group would you fit in?

- Less than 30
- 30 to 40
- 40 to 50
- 50 to 60
- 60 to 70
- Older than 70

How many acres do you farm?

What do you grow/sell?

Which of your vegetable crops produce the best? Easiest to grow?

Which are the most profitable?

Could you choose the category that best reflects how much you earn from selling produce each year?

- Less than $1,000
- Between $1,000 – 5,000
- Between $5,000 – 10,000
- Between $10,000 – 20,000
- More than $20,000

How much do you think you'll sell this year?

How long have you been growing vegetables?

Why did you start growing vegetables?

Why do you grow now?

Where do you sell your produce?

Have you heard of the Brazos Valley Farmers' Market?

- If no - Have you sold at a farmers' market before? Which ones?
- Would you want to sell at a farmers' market?

How did you find out about it?

When did you get involved with the Brazos Valley Farmers' Market?

What are some of the things you like most about selling at the BVFM? Why?

What are some of the things you like least? Why?

Can you describe a specific negative experience you had at the farmers' market?

And a positive one?

What qualities are most important to you in a farmers' market?

APPENDIX D

INTERVIEW DEBRIEFING

Respondents	Gender	Age Group	Acreage in Production	Total Acreage	Income	Full-time or Part-time Grower
Ryan	Male	81-90	15	315	1-5,000	Part-time
Blayne	Male	31-40	12	20	80,000	Full-time
Joseph	Male	61-70	1	640	1-5,000	Part-time
Catharine	Female	31-40	1 acre plus a 5740 sq. ft. greenhouse	5	7,000	Full-time
Gary	Male	31-40	6	12	10-20,000	Part-time
Anne	Female	61-70	3-5	42	1-5,000	Part-time

	Fruits and veggies	Other	Most Profitable	"Easiest to grow"
Ryan	Berries, grapes, No veggies	cattle, hay Jellies	Blueberries	Blueberries, blackberries
Blayne	Tomatoes, peppers, asian greens	"subscriptions"	Tomatoes	Tomatoes, peppers, asian greens
Joseph	Zucchini, squash, watermelon, cantaloupe, tomato, corn, peas, cucmbers	Cattle and hay	Mustard greens, squash, pickling cucumbers, tomatoes	Zucchini/squash, mustard greens
Catharine	Tomatoes, cucumbers,	Eggs, transplants	Tomatoes	Squash
Gary	Tomatoes, eggplant, peppers, squash, zucchini, cucumbers, potatoes		Net – Squash Gross-tomatoes	Squash
Anne	Blackberries, Greens, brussel sprouts, cabbage, broccoli, cauliflower, carrots, onions, spinach, lettuce, squash, tomatoes,	Cattle Jam	Berries Jellies and pickles on corner (pg 9)	

	cucumbers, peppers, eggplant, beans,			

Table 5 Market Outlets Used in order of importance

Ryan	Pick your own	Farmers' market	
Blayne	CSA	Restaurant	Roadside stand
Joseph	Produce retailer		
Catharine	Grocery stores (Kroger)	Produce retailer	Farmers' market
Gary	Pick your own	Farmers' market	Grocery store (rarely)
Anne	Farmers' market	Delivery	

Respondents	Years growing	Years at FM
Ryan	30	~17
Blayne	16 in hort, 5 in full time veg	-
Joseph	60+	-
Catharine	5	3
Gary	27	25
Anne	43	2 ½

"What factors influence where the grower decides to sell?"

Labor	Ryan, Blayne, Joseph
Time	Ryan, Blayne, Joseph, Catharine
Risk	Blayne, Joseph, Catharine
Marketing	Blayne, Joseph
Loyalty	Joseph
Profit	Catharine
Reputation	Catharine
Volume	Ryan, Catharine, Gary
Convenience	Joseph
Social	Catharine, Anne
Age/Aging	Ryan, Joseph, Anne

Ryan – labor (ex. Pg 3), time (ex. Pg 6), profit (pg 5)
Blayne – risk (pg 2), labor and time (pg 3)
Joseph – time, convenience, marketing (pg 4), risk (pg 6), loyalty (pg 6), time (pg 6)
Catharine – Interview 1 -profit (pg 2), Interview 2 - volume (pg 3), time & labor (pg 1) risk? (pg 1), time (pg 2), profit, reputation (pg 3), profit versus volume (pg 3), time (pg 4), time, profit, social (pg 4)
Gary – volume, marketing (pg 3)

Anne – "we thought about having a pick-it-yourself type arrangement here, but I decided I didn't want to do that at this time because of the highway, but down the road I'm not getting any younger and down the road it will be more difficult for me to farm" (pg 5)

"Factors influencing participation at farmers' markets"
Blayne – surplus (pg 2)
Joseph – time (pg 3, 6)

"What are their reasons for growing/selling?"
Ryan – enjoyment (ex. Pg 2, 4), profit (ex. Pg 4, 5, 6)
Blayne – environment (pg 6), health (pg 6)
Joseph – enjoyment "being my own boss and living on the land, living in the country, that was my reward" (pg 2), legacy and family (pg 3, 4), enjoyment (pg 4, 5), education (pg 4/5)
Catharine - enjoyment, profit
Gary – quality (pg 2), profit (pg 2), enjoyment (pg 2),
Anne – profit (pg 3), enjoyment (pg 3), social (pg 3-4)

Reasons to reduce or stop growing
Ryan – age/aging
Joseph – quality, age/aging (pg 3, 7)
Anne – age/aging

"What are their expectations in a farmers' market?"
Ryan – profit (ex. Pg 5, 9), comfort (ex. Pg 7)
Blayne – profit, marketing, and management (pg 7), "guaranteed more customers there because those markets were established," "any good farmers' market I think is going to be in a bigger metroplex," "meeting the folks and meeting other farmers and people you can relate to, and feeling like you're a part of a little bigger community.
Catharine – profit, education, enjoyment (pg 4), "variety, multicultural, nice quiet serene location, entertainment, training seminars, more than just fruits and vegetables, most of all it's like atmosphere, it needs to have a good atmosphere. When you have a good atmosphere people are going to be happy, they're going t o spend money, they're going to come back" (pg 4).
Gary – quality (pg 5), "quantity of vendors and quality of vendors"
Anne – "we need more vendors" (pg 8)

Positive comments about fm's
Ryan – social (pg 8), marketing (pg 8), appreciation (pg 9), "cover," "real commercial… first class.. booths," "lots of top quality stuff," "big, lots of place to park, in the shade,"
Blayne – profit (pg 6), social and community (pg 7)

Joseph – social (pg 3)
Catharine – social (pg 3), appreciation (pg 3), community (pg 4)
Gary – appreciation (pg 5),
Anne – social,

About BVFMA –
Ryan - "I've made a lots of friends of folks that come in and the people are nice," "The location, I think is a pretty nice location the way we've got it set up there on the corner."
Catharine – "it's a social outlet for all the farmers and you get to really mingle with your customers."

Negative comments about fm's
Ryan - "a long drive," "
Blayne – risk "you've still got a risk involved because there might not be a good turn out of buyers… you're taking more of a risk of having good sales," "there was three new ones starting out in Houston, but they were new ones, just starting out too," "disappointment in sales," "not really farmer friendly, it's more hobbyists and a tea party," "not advertised well and it's really seasonal,"
Joseph – time (pg 3), time more important than social (pg 3),
Anne – time and labor (pg 4)

Negative comments about BVFMA
Ryan – comfort (pg 8), "give us more room," "no shade," "
Blayne – "wasn't a lot of producers,"
Joseph - "some of them are just little backyard gardeners"
Catharine – location (pg 3), "was kind of disappointed with what they had to offer" (pg 3), "we're located on a busy street, it's noisy, it's dangerous, and it stinks and it's loud. Worst location ever. And there's no bathrooms" (pg 3), dangerous, loud
Anne – "the market is slow in the winter time" (pg 2), "

"Where did you hear about the BVFMA for the first time?"
Ryan – Bryan Eagle
Anne – from local grower

APPENDIX E

RESIDENT SURVEY

Bryan and College Station Residents' Knowledge and Perceptions of Farmers' Markets

Thank you for participating in this study. This survey consists of 37 questions and should take approximately less than 5 minutes to complete.

For this survey a farmers' market is defined as a place where local farmers gather to sell food directly to consumers. This food may include fresh vegetables and fruits, baked goods, cheeses, jams, and other locally grown and made products.

For this first section please circle the number that best represents how you feel about each statement, with the scale being:

1. Strongly Disagree (SD)
2. Disagree (D)
3. Neither Disagree nor Agree (NDA)
4. Agree (A)
5. Strongly Agree (SA)

		SD	D	NDA	A	SA
1.	I follow the Food Pyramid's suggestion of eating 2 ½ cups of fruits and vegetables daily.	1	2	3	4	5
2.	I enjoy buying produce at the grocery store.	1	2	3	4	5
3.	I prefer to buy processed food products.	1	2	3	4	5
4.	I buy organic foods.	1	2	3	4	5
5.	When I buy produce, quality is more important to me than price.	1	2	3	4	5
6.	Shopping for produce is a social occasion for me.	1	2	3	4	5
7.	I enjoy buying produce at a farmers' market.	1	2	3	4	5
8.	If I moved to a new town I would try to find the local farmers' market.	1	2	3	4	5
9.	I enjoy gardening.	1	2	3	4	5
10.	I enjoy cooking.	1	2	3	4	5

For the next section, please mark your choice with either a check mark or an "x".

11. I have been to a farmers' market before.
    - ○ Yes
    - ○ No

12. I have heard about the local farmers' markets.
    - ○ Yes
    - ○ No

Please continue on to the next page….

13. How did you hear about the local farmers' markets?
    - ○ Have not heard of them
    - ○ Television
    - ○ Radio
    - ○ Newspaper
    - ○ Internet
    - ○ Word of mouth
    - ○ Other_____

14. I have been to one of the Bryan/College Station farmers' markets.
    - ○ Yes
    - ○ No

15. I regularly attend one of the Bryan/College Station farmers' markets.
    - ○ Yes**(If yes, continue with Question 16)**
    - ○ No **(If no, skip to Question 20 on the next page)**

16. The farmers' market I attend most is _____.

17. On average, I go to a farmers' market:
    - ○ Twice a week
    - ○ Once a week
    - ○ Once a month
    - ○ Several times a year
    - ○ Once a year or less

18. On average, when I go to a farmers' market I spend $_____ .
    - ○ Less than $10
    - ○ $11 to $20
    - ○ $21 to $30
    - ○ $31 to $40
    - ○ More than $40

19. The current products I buy most at the farmers' market are:
    1. _____
    2. _____
    3. _____
    4. _____
    5. _____

Please continue on to the next page….

20. I am the primary grocery shopper for my household.
    - ○ Yes
    - ○ No

21. When I am shopping for food, I am typically shopping for:
    - ○ Myself
    - ○ 2 people
    - ○ 3 people
    - ○ 4 people
    - ○ More than 4 people

22. The average weekly grocery budget for my household is:
    - ○ Less than $50
    - ○ $50 to $100
    - ○ $101 to $200
    - ○ More than $200

23. I buy most of my produce at:
    - ○ A supermarket (ex. H.E.B., Kroger)
    - ○ A produce retailer (ex. Farm Patch)
    - ○ A farmers' market (ex. Brazos Valley Farmers' Market)
    - ○ Other _____

24. Five fresh produce items I most commonly purchase are:
    1. _____
    2. _____
    3. _____
    4. _____
    5. _____

25. I would be interested in attending a farmers' market.
    - ○ Yes
    - ○ No

26. I would be willing to travel _____ miles traveling to a farmers' market.
    - ○ Less than 1 mile
    - ○ 2 to 5 miles
    - ○ 6 to 10 miles
    - ○ More than 10 miles

Please continue on to the next page….

27. The primary reason I do not go to a farmers' market is because:
    - ○ Unaware of them
    - ○ Not interested in going
    - ○ Too far away
    - ○ I'm too busy
    - ○ Inconvenient times
    - ○ Inconvenient locations
    - ○ Produce too expensive
    - ○ Inconsistent availability of produce
    - ○ Inconsistent quality of produce
    - ○ Other _____

28. I would prefer to go a farmers' market on (check all that apply):
    - ○ Weekday mornings
    - ○ Weekday afternoons
    - ○ Saturday mornings
    - ○ Saturday afternoons
    - ○ Sunday mornings
    - ○ Sunday afternoons
    - ○ No preference

29. I would be interested in there being _____ activities at a farmers' market (Check all that apply).
    - ○ Cooking demonstrations
    - ○ A kid's playground
    - ○ Music
    - ○ Nutrition classes
    - ○ None
    - ○ Other _____

30. From the following choices, I would say I get most of my news about the community from:
    - ○ Television
    - ○ Radio
    - ○ Newspaper
    - ○ Internet
    - ○ Other_____

31. The local television station I watch the most is:
    - ○ KAMU - PBS
    - ○ KBTX - CBS
    - ○ KRHD - ABC
    - ○ KYLE - FOX

Please continue on to the next page….

32. The local radio station I listen to most is:

FM Radio

- KEOS 89.1
- KAMU 90.9
- KHTZ 92.5
- KULF 94.1
- KNDE 95.1 Candy 95
- KAGG 96.1 Aggie 96
- KORA 98.3
- KRXT 98.5 Real Country
- KNFX 99.5 The Fox
- KZTR 101.9
- KVJM 103.1
- KXCS 103.9 The X
- KKYS 104.7 Mix
- KEZB 105.3
- KTTX 106.1
- KLTR 107.3

AM Radio

- KZNE 1150 AM The Zone – Sports Radio
- KMVL 1220 AM
- KTAM 1240 AM
- KWHI 1280 AM News 1280
- KMIL 1330 AM
- KAGC 1510
- KWBC 1550
- WTAW 1620 AM News Talk

33. I am a:
- Female
- Male

34. My age is between:
- 20-30
- 31-40
- 41-50
- 51-60
- 61-70
- 71+

35. I would consider myself to be a/an:
- White
- Black
- American Indian, Eskimo, and Aleut
- Asian and Pacific Islander
- Hispanic origin

36. My household income is:
- Under $20,000
- $20,001 to $40,000
- $40,001 to $60,000
- $60,001 to $100,000
- $100,001 to $150,000
- More than $150,000

Please continue on to the next page….

37. The zipcode of my home address is:

- ○ 77801
- ○ 77802
- ○ 77803
- ○ 77804
- ○ 77805
- ○ 77806
- ○ 77807
- ○ 77808
- ○ 77840
- ○ 77841
- ○ 77842
- ○ 77843
- ○ 77844
- ○ 77845

Thank you for completing the survey and assisting us with our research. If you would like to make any comments about this survey please write them below.

Again, thank you for completing this survey.

APPENDIX F

RESIDENT SURVEY RESULTS

Table F1

Home Zipcode of Respondents by Survey Source

Zipcode		Survey Source				
		Farmers' Market Listserve	Farmers' Market	Produce Retailer	Grocery Store	Total
77801	*f*	3	0	4	2	9
	% of zipcode	33.3	.0	44.4	22.2	100.0
	% of source	6.7	.0	7.4	3.6	5.1
77802	*f*	7	2	9	0	18
	% of zipcode	38.9	11.1	50.0	.0	100.0
	% of source	15.6	10.0	16.7	.0	10.3
77803	*f*	3	3	3	0	9
	% of zipcode	33.3	33.3	33.3	.0	100.0
	% of source	6.7	15.0	5.6	.0	5.1
77804	*f*	0	0	1	0	1
	% of zipcode	.0	.0	100.0	.0	100.0
	% of source	.0	.0	1.9	.0	.6
77805	*f*	0	0	0	1	1
	% of zipcode	.0	.0	.0	100.0	100.0
	% of source	.0	.0	.0	1.8	.6
77807	*f*	4	5	2	0	11
	% of zipcode	36.4	45.5	18.2	.0	100.0
	% of source	8.9	25.0	3.7	.0	6.3
77808	*f*	2	1	2	0	5
	% of zipcode	40.0	20.0	40.0	.0	100.0
	% of source	4.4	5.0	3.7	.0	2.9
77840	*f*	9	3	18	8	38
	% of zipcode	23.7	7.9	47.4	21.1	100.0
	% of source	20.0	15.0	33.3	14.3	21.7
77845	*f*	12	4	13	42	71
	% of zipcode	16.9	5.6	18.3	59.2	100.0
	% of source	26.7	20.0	24.1	75.0	40.6
Other	*f*	5	2	2	3	12
	% of zipcode	41.7	16.7	16.7	25.0	100.0
	% of source	11.1	10.0	3.7	5.4	6.9
Total	*f*	45	20	54	56	175
	% of zipcode	25.7	11.4	30.9	32.0	100.0
	% of source	100.0	100.0	100.0	100.0	100.0

Note: 4 missing responses.

Table F2

Number of People Shopping for

Number	*f*	%
1	34	19.2
2	81	45.8
3	32	18.1
4	21	11.9
>4	9	5.1
Total	177	100.0

Table F3

Average Weekly Grocery Budget

Amount	*f*	%
<$50	28	15.6
$50-100	84	46.9
$101-200	57	31.8
>$200	9	5.0
Total	178	99.4

Table F4

Crosstabulation of Age by Survey Source

	20-30		31-40		41-50		51-60		61-70		71+	
Survey Source	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Farmers' market list-serve	19	41.3	10	21.7	8	17.4	5	10.9	3	6.5	1	2.2
Farmers' market	1	5.3	5	26.3	2	10.5	6	31.6	2	10.5	3	15.8
Grocery store	12	21.8	9	16.4	13	23.6	9	16.4	9	16.4	3	5.5
Produce retailer	17	29.3	8	13.8	17	29.3	4	6.9	10	17.2	2	3.4
Total	49	27.5	32	18.0	40	22.5	24	13.5	24	13.5	9	5.1

Table F5

Crosstabulation of Gender by Survey Source

	Female		Male		Total	
Survey Source	*f*	%	*f*	%	*f*	%
Farmers' market listserve	36	80	9	20	45	100.0
Farmers' market	14	73.7	5	26.3	19	100.0
Grocery store	25	45.5	30	54.5	55	100.0
Produce retailer	41	70.7	17	29.3	58	100.0
Total	116	65.5	61	34.5	177	100.0

Table F6

Crosstabulation of Ethnicity by Survey Source

	White		Black		Asian		Hispanic	
Survey Source	*f*	%	*f*	%	*f*	%	*f*	%
Farmers' market email list-serv	40	90.9	1	2.3	0	0.0	3	6.8
Farmers' market	17	89.5	0	0.0	0	0.0	2	10.5
Grocery store	33	61.1	2	3.7	14	25.9	5	9.3
Produce retailer	50	86.2	0	0.0	2	3.4	6	10.3
Total	140	80.0	3	1.7	16	9.1	16	9.1

Table F7

Crosstabulation of Household Income by Survey Source

	<$20,000		$20,000-40,000		$40,001-60,000		$60,001-100,000		$100,001-150,000		>$150,000	
Survey Source	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Farmers' market listserve	8	19	11	26.2	7	16.7	8	19	5	11.9	3	7.1
Farmers' market	3	15.8	4	21.1	5	26.3	5	26.3	1	5.3	1	5.3
Grocery store	10	19.6	11	21.6	10	19.6	10	19.6	7	13.7	3	5.9
Produce retailer	5	9.3	9	16.7	13	24.1	8	14.8	11	20.4	8	14.8
Total	26	15.7	35	21.1	35	21.1	31	18.7	24	14.5	15	9

Table F8

Source for Purchasing Produce

Source	*f*	%
Grocery store	128	65.0
Produce retailer	48	24.4
Farmers' market	17	8.6
Other	4	2.0
Total	197	100.0

Note: 2 missing responses.

Table F9

Respondents' Answers to Produce Purchased Most Commonly and at Farmers' Markets

	Purchased at Farmers' Market		Most Commonly Purchased	
Produce	*f*	%	*f*	%
Tomatoes	34	11.6	86	10.9
Peppers	19	6.5	29	3.7
Apples	9	3.1	75	9.5
Lettuce	4	1.4	72	9.2
Bananas	5	1.7	65	8.3
Onions	11	3.8	58	7.4
Potatoes	9	3.1	40	5.1
Carrots	1	.3	34	4.3
Broccoli	4	1.4	28	3.6
Greens	9	3.1	28	3.6
Citrus	6	2.1	26	3.3
Squash and zucchini	18	6.2	22	2.8
Grapes	2	.7	19	2.4
Avocado	1	.3	19	2.4
Beans and peas	10	3.4	18	2.3
Strawberries	2	.7	15	1.9
Celery	1	.3	13	1.7
Cucumber	2	.7	10	1.3
Eggplant	7	2.4	8	1.0
Melons	8	2.8	12	1.5
Cabbage	4	1.4	7	.9
Herbs	11	3.8	7	.9
Corn	3	1.0	7	.9
Okra	9	3.1	6	.8
Peaches	2	.7	5	.6
Eggs	18	6.2	4	.5
Mushrooms	3	1.0	4	.5
Berries	1	.3	4	.5
Cauliflower	1	.3	4	.5
Sweet Potato			4	.5
Green onions			4	.5
Lemons and limes			4	.5
Pineapple			4	.5
Garlic			3	.4
Asparagus			2	.3
Ginger			2	.3
Tofu	2	.7	1	.1
Pears	1	.3	1	.1
Persimmon			1	.1
Plums			1	.1
Mango			1	.1
Honey	12	4.1		

Table F9. Continued

	Purchased at Farmers' Market		Most Commonly Purchased	
Produce	*f*	%	*f*	%
Potted plants and flowers	10	3.4		
Soap	2	.7		
Crafts and processed foods	2	.7		
Milk	1	.3		
Other	48	16.4	33	4.2
Total	292	100.0	786	100.0

Table F10

Awareness and Attendance of Farmers' Markets

	Yes		No	
Statement	*f*	%	*f*	%
I have been to a farmers' market before.	171	95.5	6	3.4
I have heard about the local farmers' markets.	160	89.4	16	8.9
I have been to one of the Bryan/College Station farmers' markets.	137	76.5	38	21.2
I regularly attend one of the Bryan/College Station farmers' markets.	82	45.8	92	51.4
I would be interested in attending a farmers' market.	171	95.5	6	3.4

Note: Number of missing responses to questions were 2, 3, 4, 5 and 2 respectively.

Table F11

Average Amount Spent at Farmers' Markets

Amount	*f*	%
<$10	9	25.7
$11-20	18	51.4
$21-30	5	14.3
$31-40	1	2.9
>$40	2	5.7
Total	35	100.0

Note: 3 missing responses.

Table F12

Attendance at Local Farmers' Markets

Frequency of attendance	*f*	%
Twice a week	2	5.3
Once a week	23	60.5
Once a month	8	21.1
Several times a year	5	13.2
Total	38	100.0

Table F13

Accuracy of Perception of Farmers' Market

Validity of Response	*f*	%
Valid	38	48.7
Invalid	36	46.2
Cannot be determined	4	5.1
Total	78	100.0

Table F14

Survey Source for Valid Responses

Source	*f*	%
Farmers' market email listserve	13	34.2
Farmers' market	18	47.4
Produce retailer	3	7.9
Grocery store	4	10.5
Total	38	100.0

Table F15

Time Preference for Farmers' Market

Time	*f*	%
Weekday mornings	32	12.6
Weekday afternoons	25	9.9
Saturday mornings	89	35.2
Saturday afternoons	43	17.0
Sunday mornings	18	7.1
Sunday afternoons	26	10.3
No preference	20	7.9
Total	253	100.0

Table F16

Preferred Time for Farmers' Market from Respondents Listing Inconvenient Time as Primary Reason for Not Attending

Time	*f*	%
Saturday afternoons	11	23.4
Weekday afternoons	10	21.3
Saturday mornings	8	17
Sunday afternoons	6	12.8
Weekday mornings	6	12.7
Sunday mornings	3	6.4
No preference	3	6.4
Total	47	100.0

Table F17

Primary Reason Given for Not Attending Farmers' Markets by Validity of Farmers' Market Responses

Reason	Valid	Invalid	Cannot be Determined	Total
Too busy				
f	6	8	2	16
% of Reason	37.5	50	12.5	100.0
Inconvenient times				
f	7	4	1	12
% of Reason	58.3	33.3	8.3	100.0
Inconvenient locations				
f	2	5	1	8
% of Reason	25	62.5	12.5	100.0
Inconsistent availability of produce				
f	6	2	0	8
% of Reason	75	25	0	100.0
Unaware of them				
f	3	4	0	7
% of Reason	42.9	57.1	0.0	100.0
Too far away				
f	0	6	1	7
% of Reason	0.0	85.7	14.3	100.0
Produce too expensive				
f	0	1	0	1
% of Reason	0	100	0	100.0
Inconsistent quality of produce				
f	0	1	0	1
% of Reason	0	100	0	100.0
Other				
f	5	4	0	9
% of Reason	55.6	44.4	0	100.0

Table F18

One Way Analysis of Variance Comparing Survey Source and Score for Attitudinal Questions

Survey Source	*n*	*M*	*SD*
Farmers' market email listserve	45	36.42	3.361
Farmers' market	20	36.15	7.876
Grocery store	55	33.15	5.093
Produce retailer	58	31.88	5.493
Total	178	33.90	5.550

Table F19

Correlation between Attitudinal Score for Grocery Store and Produce Retailer and Variable Listed

Variable	*p*	*r*	*Strength**	N
If moved would look for new farmers' market.	.001	.738	Very Strong	113
Enjoy buying produce at farmers' market.	.001	.654	Substantial	112
Enjoy gardening.	.001	.607	Substantial	112
Shopping for produce social occasion.	.001	.597	Substantial	112
Quality more important than price.	.001	.589	Substantial	113

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F20

Correlation between Attitudinal Score for Produce Retailer and Farmers' Market and Variable Listed

Variable	*p*	*r*	*Strength**	N
If moved would look for new farmers' market.	.001	.754	Very Strong	75
Enjoy buying produce at farmers' market.	.001	.738	Very Strong	75
Shopping for produce social occasion.	.001	.638	Substantial	74
Quality more important than price.	.001	.609	Substantial	75
Food Pyramid	.001	.609	Substantial	74
Enjoy cooking.	.001	.576	Substantial	75

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F21

Correlation between Attitudinal Score for Farmers' Market and Farmers' Market Listserve and Variable Listed

Variable	*p*	*r*	*Strength**	N
If moved would look for new farmers' market.	.001	.767	Very Strong	65
Enjoy buying produce at farmers' market.	.001	.712	Very Strong	65
Enjoy cooking.	.001	.668	Substantial	65
Buy organic.	.001	.663	Substantial	63
Shopping for produce social occasion.	.001	.581	Substantial	65
Enjoy gardening.	.001	.478	Moderate	65

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F22

Primary Source for Local Community News

News Source	*f*	%
Newspaper	79	35.1
Television	50	22.2
Radio	44	19.6
Internet	42	18.7
Other	10	4.4
Total	225	100.0

Table F23

Primary Source for Local Community News for Respondents from Farmers Market and Farmers' Market Listserve

News Source	*f*	%
Newspaper	25	33.3
Internet	22	29.3
Radio	13	17.3
Television	11	14.7
Other	4	5.3
Total	75	100.0

Table F24

Local News from which Television Station for Respondents from Farmers Market and Farmers' Market Listserve

Television Station	*f*	%
KBTX	33	60.0
KAMU	13	23.6
KYLE	5	9.1
KRHD	4	7.3
Total	55	100.0

Table F25

Local Radio Stations Listened to by Respondents from Farmers Market and Farmers' Market Listserve

Radio Station	*f*	%
KAMU	15	18.8
WTAW	15	18.8
KEOS	10	12.5
KKYS	8	10.0
KAGG	7	8.8
Total	55	80.9

Table F26

Local News Received from which Television Station

Television Station	*f*	%
KBTX	95	59.0
KAMU	29	18.0
KYLE	23	14.3
KRHD	14	8.7
Total	161	100.0

Table F27

Local Radio Stations listened to by respondents

Radio Station	*f*	%
KAMU	42	17.4
WTAW	35	14.5
KEOS	23	9.5
KKYS	22	9.1
KAGG	21	8.7
KORA	19	7.9
KNDE	15	6.2
KZNE	14	5.8
KNFX	12	5.0
KRXT	6	2.5
KLTR	6	2.5
KXCS	4	1.7
KTAM	4	1.7
KTTX	3	1.2
KAGC	3	1.2
KHTZ	2	.8
KEZB	2	.8
KWHI	2	.8
KZTR	1	.4
KVJM	1	.4
KMLV	1	.4
KWBC	1	.4
OTHER	2	.8
Total	241	100.0

Table F28

Primary Shopper for household

I am the primary shopper for my household.	*f*	%
Yes	156	87.2
No	19	10.6
Total	175	100.0

Note: Four respondents did not indicate a response.

Table F29

Perception of Farmers' Market

Stated Name of Perceived Farmers' Market	*f*	%
Name of Produce Retailer	30	38.5
Bryan	22	28.2
Brazos Valley Farmers' Market	20	25.6
Other	5	6.4
No Response	1	1.3
Total	78	100.0

Table F30

Respondents' Answers to Attitudinal Statements

	Strongly Disagree		Disagree		Neither Disagree nor Agree		Agree		Strongly Agree	
Statement	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
If I moved to a new town I would try to find the local farmers' market.	5	2.8	7	3.9	16	8.9	59	33.0	92	51.4
I enjoy buying produce at a farmers' market.	3	1.7	4	2.2	22	12.3	63	35.2	86	48.0
I enjoy cooking.	2	1.1	7	3.9	21	11.7	64	35.8	85	47.5
When I buy produce, quality is more important to me than price.	4	2.2	12	6.7	31	17.3	70	39.1	61	34.1
I enjoy gardening	14	7.8	27	15.1	34	19.0	51	28.5	52	29.1
I follow the Food Pyramid's suggestion of eating 2 ½ cups of fruits and vegetables daily.	8	4.5	19	10.7	33	18.5	71	39.9	47	26.4
I enjoy buying produce at the grocery store.	6	3.4	27	15.4	52	29.7	59	33.7	31	17.3
I buy organic foods.	19	10.6	35	19.6	52	29.1	45	25.1	26	14.5
Shopping for produce is a social occasion for me.	31	17.3	52	29.1	48	26.8	31	17.3	16	8.9
I prefer to buy processed food products.	80	45.2	59	33.3	28	15.8	8	4.5	2	1.1

Table F31

Farmers' Market Respondents' Answers to Attitudinal Statements

	Strongly Disagree		Disagree		Neither Disagree nor Agree		Agree		Strongly Agree	
Statement	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
If I moved to a new town I would try to find the local farmers' market.	1	1.5	0	0.0	1	1.5	17	25.8	47	71.2
I enjoy buying produce at a farmers' market.	1	1.5			1	1.5	22	33.3	42	63.6
I enjoy cooking.	1	1.5	1	1.5	3	4.5	24	36.4	37	56.1
I enjoy gardening	4	6.1	5	7.6	9	13.6	23	34.8	25	37.9
When I buy produce, quality is more important to me than price.	2	3.1	4	6.2	10	15.4	25	38.5	24	36.9
I follow the Food Pyramid's suggestion of eating 2 ½ cups of fruits and vegetables daily.	3	4.5	9	13.6	8	12.1	27	40.9	19	28.8
I buy organic foods.	1	1.6	10	15.6	21	32.8	17	26.6	15	23.4
Shopping for produce is a social occasion for me.	5	7.6	20	30.3	16	24.2	16	24.2	9	13.6
I enjoy buying produce at the grocery store.	5	7.8	11	17.2	23	35.9	18	28.1	7	10.6
I prefer to buy processed food products.	44	68.8	15	23.4	4	6.3	0	0.0	1	1.6

Table F32

Correlations between "survey source" and variable listed

Variable	*p*	*r*	*Strength**	N
Enjoy buying produce at grocery store.	.004	.216	Low	175
Prefer processed foods.	.001	.324	Moderate	177
Buy organic.	.001	.243	Low	177
Shopping for produce social occasion.	.005	.209	Low	178
Enjoy buying produce at farmers' markets.	.001	.318	Moderate	178
If moved would look for new farmers' market.	.001	.358	Moderate	179
Enjoy gardening.	.008	.199	Low	178
Household income.	.048	.154	Low	166

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F33

Correlations between "I enjoy buying produce at a farmers' market" and variable listed

Variable	*p*	*r*	*Strength**	N
If moved would look for new farmers' market.	.001	.798	Very Strong	178
Shopping for produce social occasion	.001	.405	Moderate	177
Interested in attending a farmers' market	.001	.374	Moderate	176
Enjoy gardening	.001	.326	Moderate	177
Food Pyramid	.001	.254	Low	177
Buy organic	.001	.250	Low	176
Willing to travel	.001	.247	Low	177
Quality more important than price	.002	.228	Low	177
Enjoy cooking	.002	.227	Low	178

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F34

Correlations between "I enjoy buying produce at a farmers' market" and variable listed for only surveys from farmers' market and farmers' market list-serve

Variable	*p*	*r*	*Strength**	N
If moved would look for new farmers' market.	.001	.820	Very Strong	66
Enjoy cooking	.001	.439	Moderate	66
Shopping for produce social occasion	.009	.318	Moderate	66
Enjoy gardening	.010	.317	Moderate	66
Food Pyramid	.023	.279	Low	66

Table F35

Correlations between "If I moved to a new town I would try to find the local farmers' market" and variable listed

Variable	*p*	*r*	*Strength**	N
Enjoy buying produce at farmers' market	.001	.798	Very Strong	178
Shopping for produce social occasion	.001	.420	Moderate	178
Enjoy gardening	.001	.402	Moderate	178
Interested in attending a farmers' market	.001	.402	Moderate	177
Buy organic	.001	.360	Moderate	177
Food Pyramid	.001	.303	Moderate	178
Willing to travel	.001	.303	Moderate	178
Enjoy cooking	.001	.282	Low	179
Regularly attend a farmers' market	.001	.265	Low	174
Quality more important than price	.002	.230	Low	178
Prefer processed foods	.002	-.230	Low	177
Been to farmers' market before	.005	.212	Low	177

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F36

Correlations between "If I moved to a new town I would try to find the local farmers' market" and variable listed for only surveys from farmers' market and farmers' market list-serve

Variable	*p*	*r*	*Strength**	N
Enjoy buying produce at farmers' markets	.001	.820	Very Strong	66
Enjoy cooking	.001	.501	Substantial	66
Buy organic	.002	.373	Moderate	64
Enjoy gardening	.002	.371	Moderate	66
Shopping for produce a social occasion	.003	.357	Moderate	66

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F37

Correlations between "I buy organic foods" and variable listed

Variable	*p*	*r*	*Strength**	N
Shopping for produce social occasion	.001	.320	Moderate	176
Quality more important than price	.001	.264	Low	176
Enjoy buying produce at farmers' market	.001	.250	Low	176
Enjoy gardening	.002	.232	Low	176
Willing to travel	.008	.198	Low	176
Prefer processed foods	.011	-.190	Low	176
Been to farmers' market before	.047	.150	Low	176

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F38

Correlations between "I buy organic foods" and variable listed for only surveys from farmers' market and farmers' market list-serve

Variable	*p*	*r*	*Strength**	N
Shopping for produce a social occasion	.001	.400	Moderate	64
If moved to new town would look for farmers' market	.002	.373	Moderate	64

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F39

Correlations between "I enjoy gardening" and variable listed

Variable	*p*	*r*	*Strength**	N
If moved would look for new farmers' market	.001	.402	Moderate	178
Enjoy buying produce at farmers' market	.001	.326	Moderate	177
Shopping for produce social occasion	.001	.303	Moderate	177
Enjoy cooking	.001	.270	Low	178
Quality more important than price	.001	.266	Low	177
Buy organic	.002	.232	Low	176
Age	.020	.175	Low	177
Been to local farmers' market	.049	.149	Low	174

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F40

Correlations between "I enjoy gardening" and variable listed for only surveys from farmers' market and farmers' market list-serve

Variable	*p*	*r*	*Strength**	N
Enjoy cooking	.001	.527	Substantial	66
If moved to new town would look for new farmers' market	.002	.371	Moderate	66
Enjoy buying produce at farmers' market	.010	.317	Moderate	66

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F41

Correlations between "I enjoy cooking" and variable listed

Variable	*p*	*r*	*Strength**	N
Quality more important than price	.001	.310	Moderate	178
If moved would look for new farmers' market	.001	.282	Low	179
Enjoy gardening	.001	.270		178
Been to local farmers' market	.001	.265	Low	177
Enjoy buying produce at farmers' market	.001	.227	Low	178
Interested in attending a farmers' market	.011	.191		177
Primary shopper	.022	.172	Low	175
Shopping for produce social occasion	.023	.170	Low	178
Average grocery budget	.028	.165	Low	178
Willing to travel	.028	.165	Low	178
Shop for how many	.041	.154	Low	177

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F42

Correlations between "I enjoy cooking" and variable listed for only surveys from farmers' market and farmers' market list-serve

Variable	*p*	*r*	*Strength**	N
Enjoy gardening	.001	.527	Substantial	66
If moved to new town would look for new farmers' market	.001	.501	Substantial	66
Enjoy buying produce at farmers' market	.014	.439	Moderate	66
Shopping for produce a social occasion	.014	.300	Moderate	66
Average grocery budget	.030	.267	Low	66

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F43

Correlations between "Shopping for produce is a social occasion for me" and variable listed

Variable	*p*	*r*	*Strength**	N
If moved would look for new farmers' market	.001	.420	Moderate	178
Enjoy buying produce at farmers' market	.001	.405	Moderate	177
Buy organic	.001	.320	Moderate	176
Enjoy gardening	.001	.303	Moderate	177
Quality more important than price	.001	.251	Low	177
Regularly attend a farmers' market	.006	.208	Low	173
Ethnicity	.009	.198	Low	175
Enjoy cooking	.023	.170	Low	178
Interested in attending a farmers' market	.031	.162	Low	176

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F44

Correlations between "Shopping for produce is a social occasion for me" and variable listed for only surveys from farmers' market and farmers' market list-serve

Variable	*p*	*r*	*Strength**	N
Buy organic	.001	.400	Moderate	64
If moved to new town would look for new farmers' market	.003	.357	Moderate	66
Enjoy buying produce at farmers' market	.009	.318	Moderate	66
Enjoy cooking	.014	.300	Moderate	66
Quality more important than price	.024	.280	Low	65

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F45

Correlations between "I would be interested in attending a farmers' market" and variable listed

Variable	*p*	*r*	*Strength**	N
If moved would look for new farmers' market	.001	.402	Moderate	177
Enjoy buying produce at a farmers' market	.001	.374	Moderate	176
Willing to travel	.001	.306	Moderate	177
Prefer processed foods.	.001	.238	Low	175
Buy organic	.007	.204	Low	175
Gender	.010	.195	Low	175
Enjoy cooking	.011	.191	Low	177
Shopping for produce a social occasion	.031	.162	Low	176
Household income	.236	.093	Low	164
Zipcode	.392	.066	Negligible	173
Age	.771	.022	Negligible	176
Ethnicity	.997	.000	Negligible	173

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F46

Correlations between "Average grocery budget" and variable listed

Variable	*p*	*r*	*Strength**	N
Household income	.001	.540	Substantial	165
Shop for how many	.001	.444	Moderate	177
Willing to travel	.001	.292	Low	178
Enjoy cooking	.028	.165	Low	178

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F47

Correlations between "Average grocery budget" and variable listed for only surveys from farmers' market and farmers' market list-serve

Variable	*p*	*r*	*Strength**	N
Household Income	.001	.618	Substantial	61
Shop for how many	.002	.372	Moderate	65
Enjoy cooking	.030	.267	Low	66

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F48

Correlations between "Household income" and variable listed

Variable	*p*	*r*	*Strength**	N
Average grocery budget	.001	.540	Substantial	165
Shop for how many	.001	.279	Low	164
Age	.001	.270	Low	166
Quality more important than price	.003	.233	Low	165
Ethnicity	.004	.226	Low	165
Willing to travel	.009	.202	Low	165
Survey source	.048	.154	Low	166

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F49

Correlations between "Household Income" and variable listed for only surveys from farmers' market and farmers' market list-serve

Variable	*p*	*r*	*Strength**	N
Average grocery budget	.001	.618	Substantial	61
Primary shopper	.010	.336	Moderate	58
Shop for how many	.024	.292	Low	60
Food Pyramid	.032	.275	Low	61

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F50

Correlation between "When I buy produce, quality is more important to me than price" and Variable Listed for Grocery Store and Produce Retailer

Variable	*p*	*r*	*Strength**	N
Enjoy cooking.	.001	.409	Moderate	113
Enjoy gardening.	.001	.406	Moderate	113
Buy organic.	.002	.286	Low	113
Enjoy buying produce at farmers' market.	.004	.267	Low	112
If moved would look for new farmers' market.	.007	.253	Low	113
Shopping for produce social occasion.	.013	.235	Low	112

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F51

Correlation between "When I buy produce, quality is more important to me than price" and Variable Listed for Produce Retailer and Farmers' Market

Variable	*p*	*r*	*Strength**	N
Enjoy cooking.	.001	.419	Moderate	75
Food Pyramid	.001	.374	Moderate	74
Enjoy buying produce at farmers' market.	.002	.346	Moderate	75
If moved would look for new farmers' market.	.012	.290	Low	75
Enjoy gardening.	.013	.288	Low	74

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F52

Correlation between "I enjoy cooking" and Variable Listed for Farmers' Market and Farmers' Market Listserve

Variable	*p*	*r*	*Strength**	N
Enjoy gardening.	.001	.527	Substantial	66
If moved would look for new farmers' market.	.001	.501	Substantial	66
Enjoy buying produce at farmers' market.	.001	.439	Moderate	66
Shopping for produce social occasion.	.014	.300	Moderate	66

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F53

Correlation between "Shopping for produce is a social occasion for me" and Variable Listed for Farmers' Market and Farmers' Market Listserve

Variable	*p*	*r*	*Strength**	N
Buy organic.	.001	.400	Moderate	64
If moved would look for new farmers' market.	.003	.357	Moderate	66
Enjoy buying produce at farmers' market.	.009	.318	Moderate	66
Enjoy cooking.	.014	.300	Moderate	66

* The Davis (1971) convention was used to describe the magnitude of relationships: .01-.09=negligible association, .10-.29=low association, .30-.49=moderate association, .50-.69=substantial association, .70 or higher=very strong association.

Table F54

"When I buy produce, quality is more important than price" by Survey Source

	Strongly Disagree		Disagree		Neither Disagree nor Agree		Agree		Strongly Agree	
Statement	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Farmers' market listserve	0	0.0	3	6.7	8	17.8	20	44.4	14	31.1
Paper farmers' market	2	10	1	5	2	10	5	25	10	50
Produce retailer	1	1.8	2	3.6	14	25.5	22	40	16	29.1
Grocery store	1	1.7	6	10.3	7	12.1	23	39.7	21	36.2
Total	4		12		31		70		61	

Table F55

"When I buy produce, quality is more important than price" by Mean Scale Score

Survey Source	*n*	*M*	*SD*
Farmers' market listserve	45	4.0	.879
Farmers' market	20	4.0	1.338
Produce retailer	55	3.91	.928
Grocery store	58	3.98	1.034

VITA

Name:	Patrick T. Lillard
Address:	107 Scoates Hall, Texas A&M University College Station, TX 77843-2116
Email Address:	ptlillard@gmail.com
Education:	B.A., English, Texas A&M University, 2000 M.S., Horticulture, Texas A&M University, 2008