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# Consumer and producer information-sharing preferences at Arizona farmers markets

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## Abstract

Venues allowing consumers to purchase foods directly from producers, such as farmers markets, have grown rapidly in recent years. Direct-to-consumer marketing not only allows consumers to buy locally produced foods; it also facilitates interaction with producers through which consumers can learn more information about the foods they buy. Although information exchange is important in consumer purchasing decisions, little research has been conducted on information consumers and producers would like to share at farmers markets. This mixed-methods survey study (i.e., including quantitative and qualitative methods) explored interests of both consumers and producers regarding the types of information they would like to learn or share at farmers markets, as well as preferred methods by which they would like this information communicated. Quantitative results showed that consumers and producers were most interested in sharing information regarding pesticide use, flavor, freshness, food safety, animal welfare, nutrition, and environmental impacts; qualitative results indicated consumers were strongly interested in local sourcing, organic production, and animal care. Both groups were interested in sharing information via consumer-initiated conversations. Consumers noted purchasing needs and vendor relationships as drivers for choosing which producers to buy from. These findings could facilitate consumer-producer interactions at farmers markets as well as informed purchasing decisions by consumers.

## Keywords

communication, consumers, farmers markets, health, local food, nutrition, producers, sustainability

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## Introduction

Farmers markets represent an important intersection of rural and urban communities, where consumers can directly interact with producers to make informed food-purchasing decisions, often including consideration of specific forms of information, such as the sustainability, ethics, or locality of food production, nutrition, food safety, freshness, and novelty of available goods. The purpose of this study was to better understand how information-sharing between consumers and producers could be optimized at farmers markets. Increasing food-related information transparency has the potential to increase consumer patronage and vendor sales. Utilizing both quantitative and qualitative methods, the study explored interests of both consumers and producers regarding the types of information they would like to learn or share at farmers markets, as well as preferred methods by which they would like this information communicated.

## Literature Review

Direct-to-consumer marketing of locally and regionally produced foods has been a rapidly growing trend in the United States over the past several decades. Data from the most recent U.S. Census of Agriculture, for example, showed that direct-to-consumer sales accounted for $1.2 billion of total agricultural sales in 2007, a 77 percent increase since 1992 (Low & Vogel, 2011). To meet this growing demand, the number of farmers markets, community supported agriculture programs, and other local foods venues are all increasing in number each year (MacMillan, Uribe, Winham, & Wharton, 2012; McCormack, Laska, Larson, & Story, 2010). Farmers markets make up the largest proportion of direct-to-consumer marketing venues and have seen considerable growth both in rural and urban areas. In the early 1990s, fewer than 2,000 markets existed in the U.S; by 2014, however, 8,268 markets had been established (Low & Vogel, 2011; U.S. Department of Agriculture [USDA] Agriculture Marketing Service, 2014). Further, farmers markets are now seen as important venues for healthy food access and improving the food environments in which consumers make food choices (Holben, 2010; McCormack et al., 2010; USDA and U.S. Department of Health and Human Services, 2011).

Across several regions, consumers have identified freshness (Andreatta & Wickliffe, 2002; Eastwood, Brooker, & Gray, 1999; Hunt, 2006), quality, (Eastwood et al., 1999; Hunt, 2006; Walton, Kirby, Henneberry, & Agustini, 2002; Wolf, Spittler, & James, 2005), selection, (Eastwood et al., 1999; Hunt, 2006; Onianwa, Mojica, & Wheelock, 2006), and price (Eastwood et al., 1999; Onianwa et al., 2006; Wolf et al., 2005) as attributes that influence farmers market patronage. In addition, multiple values-based motivators likely contribute to consumers' interest in purchasing foods at farmers markets. Along with access to nutritious foods, a number of studies have identified local or organic production as key values among consumers who shop at farmers markets (Andreatta & Wickliffe, 2002; Baker, Hamshaw, & Kolodinsky, 2009; Byker, Shanks, Misyak, & Serrano, 2012; Dukeshire, Garbes, Kennedy, Boudreau, & Osborne, 2011; Eastwood et al., 1999; Kremen, Greene, & Hanson, 2004; Wolf et al., 2005). Similarly, perceived sustainability of growing, harvesting, and other production practices are important aspects of consumers' motivation for buying local foods (Byker et al., 2012; Dukeshire et al., 2011). Finally, consumers frequently note support for small-scale, local agriculture and perceive community connectedness as strong motivators for purchasing food at farmers markets (Eastwood et al., 1999; Hinrichs, 2000; Hunt, 2006; Onianwa et al., 2006; Walton et al., 2002; Zepeda & Li, 2006). For a more detailed review of the literature on farmers market consumers, please see Fehrenbach and Wharton (2012).

A number of the motivators identified above also relate to consumer food choice in conventional venues, especially in relation to fruit and vegetable purchase. In particular, quality and taste attributes remain some of the most important factors in choosing and consuming fruits and vegetables, regardless of venue (Pollard, Kirk, & Cade, 2002). Among consumers purchasing organic fruits and vegetables at any venue, quality is still a key attribute in decision-making. However, the presumed impact of such a choice on the environment, on personal health, and in relation to supporting the local economy are also of concern

to consumers (Hughner, McDonagh, Prothero, Shultz, & Stanton, 2007).

Importantly, consumers can expect to find standardized food-related information at conventional retail venues due to government-regulated content, such as ingredient lists and nutrition information. Such standardization is absent from farmers markets. Additionally, consumers have indicated a desire for increased disclosure of unique food attributes (i.e., social, environmental, and ethical information) in traditional grocery outlets (Howard & Allen, 2006), as well as such transparency as a reason for attending farmers markets (see studies cited above). Neither standardized nutrition and ingredients nor disclosure of unique attributes are systematically transparent at farmers markets. Fulfilling consumer desire for food-related information at farmers markets has the potential to improve consumer patronage and vendor sales. Communicating values-based food information might also require different modes of communication than are currently used in conventional retail venues.

Despite a good understanding of the values that motivate consumers to attend farmers markets, very little research thus far has considered what information consumers seek and producers provide at farmers markets, and how information is sought and provided. Most studies to date have considered values and interests of consumers alone (Fehrenbach & Wharton, 2012; Gao, Swisher, & Zhao, 2012; Svenfelt & Carlsson-Kanyama, 2010) or vendors or market managers alone (Kremen et al., 2004; Lea, Worsley, & Crawford, 2005). To our knowledge, only two studies examined both consumers and producers at farmers markets in relation to each other (Hunt, 2006; Kirwan, 2006). Hunt (2006) focused on social interaction and did not include an assessment of the types of information, nor the modes of communication, of interest to both consumers and producers. However, Hunt noted that social interaction is a key element of farmers markets: consumers have reported producers' influence on their food purchasing, while producers have reported consumers' influence on their production practices. Kirwan (2006) evaluated shared perceptions of value in direct-to-consumer market interactions and found that social interaction was an important element of farmers markets for both producers and consumers. As such, this present study explored interests of both consumers and producers regarding desired information sharing and communication methods. The study also included a qualitative assessment of how consumers make decisions about what booths to shop at, as well as the attributes of greatest interest by specific food categories, including produce, eggs, dairy, meat, and prepared foods.

## Methods

### *Procedure*

We recruited consumers and producers who regularly attend or vend at farmers markets in three U.S. geographic areas (Phoenix, Tucson, and Prescott, Arizona) to complete an online survey. As an incentive to participate, we raffled two $100 farmers market gift certificates (one for consumers and one for producers). In all three geographic areas, we recruited farmers market consumers and producers using online sampling procedures. We also recruited participants in-person at farmers markets in greater Phoenix. Participants learned about the survey through farmers markets' websites and Facebook pages, e-newsletter announcements, and/or on-site at participating markets. In addition, we emailed invitations to each producer listed on market websites (excluding those who sold prepared foods) for whom we could locate an email address. In the Phoenix area only, we set up tables at farmers markets for consumers to stop by and either fill out a survey or provide their email address to be sent the survey link. For producers, we stopped at the booths to offer a personal invitation to participate.

The survey took approximately five to 10 minutes to complete. The survey began with an informed consent page, followed by measures of preferred information content, preferred communication methods, and demographic questions. The raffle entry page was not tied to survey responses.

### *Consumer Sample*

Consumer participants in this study ($N$=257) comprised frequent attendees of one of 14 farmers markets in metro-Phoenix, Arizona ($n$=207), one

of five markets in Tucson, Arizona (*n*=39), or one of three markets in Prescott, Arizona (*n*=10). Consistent with the Arizona Farmers market Nutrition Program guidelines (Arizona Department of Health Services, 2013), all farmers markets included in the study had at least two fruit and vegetable producers. All consumers regularly attended and made purchases at their local farmers market: 50 percent of participants (*n*=125) made purchases 1 to 2 times per month and 50 percent (*n*=126) made purchases 1 to 2 times per week. Consumers who made purchases less than once a month were excluded from all analyses. Most of the consumers in the sample (75 percent, *n*=132) were recruited in-person; a quarter of the consumers (25 percent, *n*=45) were recruited via online methods. See Table 1 for consumer demographic characteristics.

*Producer Sample*

Producer participants in this study (*N*=48) were those who sold raw food products (e.g., fruits, vegetables, or animal food products) at Arizona farmers markets in the areas of Phoenix (69 percent, *n*=33, representing 11 markets), Tucson (17 percent, *n*=8, representing 4 markets), and Prescott (15 percent, *n*=7, representing 2 markets). All producers regularly vended at their local market: the majority (96 percent, *n*=44) sold products 1 to 2 times per week and two (4 percent) sold products 1 to 2 times per month. Farmers who vended less than once a month were excluded from all analyses. Vendors who exclusively sold prepared food were also excluded from analyses. Eighty-seven percent indicated they sold food from Arizona (*n*=27) and the remaining 13 percent stated that they sold food from other states: Alaska (*n*=2), California (*n*=1), and Rhode Island (*n*=1). Of the 28 producers who indicated that they sold produce, 18 percent (*n*=5) indicated that they used conventional production methods. The remainder indicated that they used other method(s), including USDA-certified organic (18 percent, *n*=5), noncertified organic (64 percent, *n*=18), certified naturally grown (14 percent, *n*=4), noncertified naturally grown (64 percent, *n*=18), pesticide-free (79 percent, *n*=22), low pesticide or chemical use (7 percent, *n*=2), biodynamic (14 percent, *n*=4), crop rotation (61 percent, *n*=17), conservation tillage (11 percent, *n*=3), or other (11 percent, *n*=3). Most of the producers in the sample (75 percent, *n*=24) were recruited in-person; a quarter of the producers (25 percent, *n*=8) were recruited via online methods. See Table 1 for producer demographic characteristics.

**Table 1. Characteristics of the Consumer and Producer Samples**

| | Consumers (*n*=257) | | Producers (*n*=48) | |
|---|---|---|---|---|
| **Characteristic** | % | *n* | % | *n* |
| Sex | | | | |
| Female | 75 | 184 | 51 | 21 |
| Male | 25 | 60 | 49 | 20 |
| Age | | | | |
| 18–29 | 15 | 38 | 20 | 8 |
| 30–39 | 28 | 67 | 15 | 7 |
| 40–49 | 17 | 42 | 13 | 5 |
| 50–59 | 21 | 50 | 25 | 10 |
| 60 or older | 18 | 44 | 25 | 10 |
| Ethnicity | | | | |
| Hispanic, Latino, or of Spanish origin | 7 | 16 | 9 | 3 |
| Race | | | | |
| White/Caucasian | 96 | 224 | 91 | 39 |
| American Indian or Alaskan Native | 2 | 5 | 0 | 0 |
| Black/African American | 1 | 3 | 2 | 1 |
| Asian | 1 | 2 | 5 | 2 |
| Employment | | | | |
| Employed | 71 | 168 | - | - |
| Unemployed | 29 | 70 | - | - |
| Education | | | | |
| College Degree | 74 | 181 | 71 | 30 |
| No College Degree | 26 | 113 | 29 | 12 |
| Income | | | | |
| Less than $25,000 | 17 | 38 | 24 | 8 |
| $25,000–$49,999 | 19 | 42 | 24 | 8 |
| $50,000–$74,999 | 23 | 50 | 24 | 8 |
| $75,000 or more | 41 | 92 | 27 | 9 |

## Materials

For consumers, the survey began with open-ended questions. The first question was very broad and asked, "When you visited the farmers market this past year, how did you decide what booths to purchase foods from?" The next question was, "If you could find out anything about the food available at the farmers market, what would you like to know?" in relation to five categories of food: produce, meat, eggs, dairy, and prepared food.

Both consumers and producers responded to closed-ended questions. The first set of questions focused on preferred food-related information (i.e., for consumers, information they wanted to know; for producers, information they wanted to share). On 7-point single-item scales, consumers and producers indicated the degree of importance (1=*not important*, 7=*very important*) for each of 15 randomly sorted food-related topics. Topics focused on social, environmental, and economic aspects of the food system, including farm size, flavor, animal welfare, ownership of farm, farm location and distance from market, price of food, environmental impact of food production, farm worker wages or working conditions, pesticide use, nutrition, how to prepare/cook food, freshness, and water use. Next, the survey asked consumers and producers to identify their preferred methods of acquiring (in the case of consumers) or sharing (in the case of producers) information about food at the market. On 7-point single-item scales, participants indicated their degree of likelihood (1=*very unlikely*, 7=*very likely*) of adopting each specific communication method. The 11 randomly sorted communication methods included product labels, handouts, farmers market website, banners and signs, vendor-initiated conversations, consumer-initiated conversations, farm photos, market-wide coding system, handouts, Facebook, and Twitter.

The survey concluded with demographic questions and questions about the nature of participant shopping habits (for consumers) or vending habits (for producers), such as how they purchased or sold food at the farmers market and at which farmers market they most often purchased or vended. Producers were also asked what types of food they sold as well what methods they employed to produce foods they sold. Concluding demographic questions asked about sex, age, ethnicity, race, education level, employment status, and household income. See Appendix A and B for the full set of consumer and producer survey questions.

### *Data Analysis*

#### *Qualitative Analysis*

Analysis of the open-ended data began by examining participants' responses for potential emergent codes. Unitizing the responses was not needed because the responses were fairly succinct. Two researchers independently examined the data to develop a list of potential codes and then worked together to create a codebook. The codebook provided a description of each code and identified several representative examples. The final codebook included 29 codes for the desired food-related information question, 39 codes (the original 29 plus 10 additional codes) for the food-purchasing decision question, and an "other" code that represented a meaningful but unique response.

Two additional researchers, who were each naïve to the participants' responses, independently assigned one or more codes to each response. The coder agreement rate for the purchasing decision question was 76 percent. The overall coder agreement rate across food categories for the desired food-related information question was 86 percent (produce: 90 percent; dairy: 89 percent; eggs: 89 percent; meat: 89 percent; prepared food: 76 percent). Nonsensical responses were excluded from all analyses. To obtain definitive codes for each response, all four researchers met to discuss discrepancies. The reported codes reflected consensus among the four researchers regarding emergent themes. Each response could be assigned multiple codes, so there were more assigned codes than participant responses.

Some codes represented subthemes that related to an overarching theme. For instance, the two codes, "vender reputation" and "vendor friendliness/knowledge" were conceptualized together as the theme Vendor Relationship. In these cases, we reported the percentage of assigned codes for each sub-theme as well as the overarching theme. Codes that were unique and not closely related to another code remained alone as a major

theme. To be considered a major theme, the proportion of codes within at least one of the food categories had to be greater than 10 percent. To be considered a minor theme, the proportion of codes within at least one of the food categories had to be greater than 2 percent. Due to these inclusion criteria, not all codes are reported as themes in the results.

To capture the relative importance of each theme within the five food categories (produce, dairy, eggs, meat, prepared foods), it was necessary to report percentages rather than frequencies. Reporting the code frequency within each category would have been a misleading comparison because each food category had a different number of participant responses. For instance, the theme, Organic Production, represented 24 percent of the total codes (89 out of 369) in the produce category and 10 percent of the total codes (25 out of 244) in the dairy category.

*Quantitative Analysis*

For both consumers and producers, we reported the mean ratings and standard deviations for each desired food-related information topic and each desired communication method. First, in order to define *topics* that consumers and producers found important, we set a cutoff of ≥6.00 for each rating (on the 7-point Likert-type scale, a score of 6.00 indicated that a topic was *important* and a score of 7.00 indicated that a topic was *very important*). In order to define *communication methods* that consumers and producers preferred to use, we also set a cutoff of ≥6.00 for each rating (on the 7-point Likert-type scale, a score of 6.00 indicated that a communication method was *likely to be used* and a score of 7.00 indicated that a communication method was *very likely to be used*).

All topics and communication methods that received ratings ≥6.00 from *both* consumers and producers were defined as mutually significant. We summed the producer and consumer scores that made the initial cutoff to produce a "Total" score (see Brescoll, Kersh, & Brownell, 2008, for similar methodology). Thus, the Total scores for mutually significant items were ≥12.00. For example, the mean rating for the desired food-related information, Pesticide Use, was 6.59 for consumers and 6.96 for consumers. The sum of these two means created the Total score of 13.55, which represented a topic that consumers found important to know about and producers found important to share. A Total score of ≥12.00 indicated a topic or communication method that might be feasible to foster in the farmers market setting. We also compared consumer and producer ratings using a one-way between-subjects Analysis of Variance (ANOVA) for each topic and communication method. We set the alpha level at .05.

## Results

*Qualitative Data*

The number of participant responses varied both by question as well as by food category. The number of participant responses for the food-purchasing decisions question was 454. The number of participant responses regarding desired information about foods available at farmers markets ranged from 154 to 253. Data analyses revealed a number of relevant, emergent themes, which are organized

**Table 2. Food Purchasing Decisions**

| Themes | Percentage of Assigned Codes |
|---|---|
| **Product Qualities** | **39%** |
| Product appearance | 10% |
| Price | 9% |
| Taste | 8% |
| Product quality | 5% |
| Freshness | 4% |
| Booth appearance | 3% |
| **Vendor Relationship** | **18%** |
| Vender reputation | 11% |
| Vender friendliness and knowledge of product | 7% |
| Purchasing Needs | 18% |
| Organic Production | 5% |
| Local Sourcing | 4% |
| Wandering/Browsing | 4% |
| Produce Availability/Scarcity at Time of Purchase | 4% |
| Availability of Unique Offerings | 3% |

Note: A total of 250 responses were received for the food-purchasing decision question. A total of 476 codes were assigned to the responses.

by question and occasionally followed by example quotes (in italics).

**Food-purchasing decisions.** Major themes that emerged related to the question, "When you visited the farmers market this past year, how did you decide what booths to purchase foods from?" included the following: Product Qualities, Vendor Relationship, and Purchasing Needs. Product Qualities comprised a number of sub-themes, such as Product Appearance, Price, Taste, Product Quality, Freshness, and Booth Appearance. Respondents noted, for example, that purchase decisions were based on *those offering free samples of fresh produce* as well as *how the food looks and how it is presented*. Vendor Relationship included two sub-themes related to consumers' relationship with, or knowledge of, vendors at the market. Vendor Reputation as well as Vendor Friendliness and Knowledge of Product were of greatest importance. For example, one respondent only purchased from *businesses I had heard about before*, and others purchased from *friendly people*, *vendors I trust*, or from *farmers [who] are old friends*. Purchasing Needs represented a broad interest of consumers in purchasing foods that they needed for the week or staples for cooking meals. One consumer noted, *[I] usually [buy] based on what I need to make pre-planned meals*, while another stated, *we buy as much for our week's meals as possible*. Minor themes were also noted, including Organic Production, Local Sourcing, Wandering/Browsing, Produce Availability/Scarcity at Time of Purchase, and Availability of Unique Offerings. See Table 2 for percentages of assigned codes.

**Desired food-related information.** Major themes that emerged in response to the question, "If you could find out anything about the food available at the farmers market, what would you like to know?" included Animal Care, Local Sourcing, and Organic Production. Animal Care comprised several related subthemes: animal welfare, animal inputs in terms of feed, and animal inputs in terms of supplements and additives. Consumers were concerned here with issues such as animal living conditions, animal transportation, and slaughtering practices, as well as feeding practices (e.g., grass-fed) and the use of antibiotics or hormones during the life of the animal. Local Sourcing was important across food categories. Consumers wanted to receive information about, for example, where farms were located in the state, as well as foods' specific source or production site. Organic Production also emerged as a major theme for all food cate-

**Table 3. Desired Food-Related Information**

| | Percentage of Assigned Codes | | | | |
|---|---|---|---|---|---|
| Themes | Produce | Dairy | Eggs | Meat | Prepared Food |
| **Animal Care** | **N/A** | **33%** | **43%** | **46%** | **1%** |
| Animal Welfare | N/A | 13% | 19% | 15% | 0% |
| Feed | N/A | 8% | 16% | 20% | 0% |
| Supplements/Additives | N/A | 12% | 8% | 11% | 1% |
| Local Sourcing | 29% | 16% | 14% | 16% | 7% |
| Organic Production | 24% | 10% | 10% | 9% | 10% |
| Freshness | 7% | 2% | 7% | 2% | 6% |
| Farming/Soil Inputs | 12% | 2% | 1% | 1% | 3% |
| Producer Qualities | 4% | 2% | 1% | 1% | 4% |
| Seasonality | 3% | 0% | 0% | 0% | 0% |
| Usage Ideas | 3% | 0% | 0% | 1% | 1% |
| Availability of Raw Milk Products | 0% | 5% | 0% | 0% | 0% |
| Ingredient Disclosure | 0% | 0% | 0% | 0% | 25% |
| Nutritional Information | 1% | 2% | 2% | 1% | 7% |
| Ingredient Sourcing | N/A | N/A | N/A | N/A | 7% |
| Preparation Methods | N/A | N/A | N/A | N/A | 5% |
| Preparation Location | N/A | N/A | N/A | N/A | 4% |
| Use of Preservatives or Additives | N/A | N/A | N/A | N/A | 4% |
| Producer Qualities | 4% | 2% | 1% | 1% | 4% |

Note: A combined total of 931 responses were received across food categories for the desired food-related information question (produce: *n*=253; dairy: *n*=134; eggs: *n*=182; meat: *n*=179, and prepared food: *n*=183). A combined total of 1,961 codes were assigned to the 931 responses across categories (produce: *n*=369; dairy: *n*=244; eggs: *n*=288; meat: *n*=314, and prepared food: *n*=270).

gories. Though not a major theme, Freshness emerged as a minor theme across several food categories, including produce, eggs, and prepared food.

Several themes emerged that were specific to particular food categories. Farming/Soil Inputs was a major theme important in relation to produce; consumers were interested in knowing, for example, whether herbicides, pesticides, or fertilizers were used in producing the food. Minor themes in the produce category included: Farming/Soil Inputs, Freshness, Producer Qualities, Seasonality, and Usage Ideas. Ingredient Disclosure was a major theme important for prepared foods. In this case, respondents wanted to know what specific ingredients were included in a prepared food product. The prepared foods category also had several minor themes: Nutritional Information, Ingredient Sourcing, Preparation Methods, Preparation Location, Use of Preservatives or Additives, Producer Qualities (e.g., working conditions or farm size), Freshness, and Ingredient Sourcing (e.g., how and where sourced). Finally, Availability of Raw Milk Products was a minor theme in the dairy food category. See Table 3 for percentages of assigned codes for each food category.

*Quantitative Data*

**Desired food-related information.** Table 4 presents the means, standard deviations, sample sizes, and sum of consumer and producer ratings for desired food-related information. Pesticide Use, Flavor, Freshness, Food Safety, Animal Welfare, Nutrition and Environmental Impacts all received high scores (≥6.00) from both consumers and producers (see Total column, Table 4). Consumers, but not producers, rated Seasonality of Produce highly (≥6.00). Producers, but not consumers, rated Cooking/Preparation Methods highly (≥6.00).

We computed a one-way between-subjects ANOVA comparing consumer and producer rat-

**Table 4. Mean Ratings of Desired Food-Related Information**

| | Consumers | | | Producers [a] | | | |
|---|---|---|---|---|---|---|---|
| Topic | *M* | *SD* | *n* | *M* | *SD* | *n* | Total [b] |
| Freshness | 6.79 | 0.54 | 248 | 6.56 | 1.14 | 39 | 13.35** |
| Flavor | 6.65 | 1.88 | 250 | 6.78 | 0.99 | 41 | 13.43** |
| Pesticide use [c]* | 6.59 | 0.88 | 249 | 6.96 | 0.21 | 23 | 13.55** |
| Food safety | 6.57 | 0.82 | 239 | 6.54 | 0.93 | 37 | 13.11** |
| Nutrition | 6.34 | 1.04 | 247 | 6.35 | 1.25 | 40 | 12.69** |
| Seasonality of produce [c] | 6.21 | 1.09 | 248 | 5.21 | 1.84 | 24 | 11.42 |
| Animal welfare [d] | 6.20 | 1.24 | 244 | 6.60 | 1.10 | 30 | 12.80** |
| Environmental impacts | 6.11 | 1.14 | 244 | 6.32 | 1.13 | 41 | 12.43** |
| Price of food* | 5.86 | 1.28 | 251 | 5.20 | 1.65 | 41 | 11.06 |
| Farm ownership | 5.76 | 1.49 | 249 | 5.90 | 1.47 | 39 | 11.66 |
| Farm location | 5.61 | 1.49 | 245 | 5.73 | 1.34 | 39 | 11.34 |
| Water use | 5.57 | 1.37 | 247 | 5.95 | 1.54 | 39 | 11.52 |
| Farm wages/working conditions* | 5.50 | 1.46 | 246 | 4.71 | 2.10 | 38 | 10.21 |
| How to prepare/cook the food* | 4.91 | 1.82 | 252 | 6.00 | 1.04 | 40 | 10.91 |
| Farm size | 4.47 | 1.88 | 247 | 4.95 | 1.62 | 39 | 9.42 |

[a] Vendors who exclusively sell prepared food were excluded from the analysis.

[b] Mean consumer and producer ratings were summed. Total could range from 2 to 14.

[c] Only producers who sell fruit and vegetables were used in the analysis.

[d] Only producers who sell animal products were used in the analysis.

* Indicates a statistically significant difference between consumers and producers at the .05 level. Significant ANOVA results included: Pesticide use: $F(1, 269)=3.93$, $p=.049$, $\eta^2=.01$; Price of Food: $F(1, 289)=8.95$, $p<.01$, $\eta^2=.03$; Farm Wages/Working Conditions: $F(1, 281)=8.48$, $p<.01$, $\eta^2=.03$; and How to Prepare/Cook the Food: $F(1, 284)=4.03$, $p=.046$, $\eta^2=.01$.

** Indicates an item of mutual significance. Both consumer and producers ratings ≥6.00.

ings for each topic. Consumers rated Price of Food and Farm Worker Wages/Conditions significantly higher than producers rated these topics; producers rated Pesticide Use and Preparation/Cooking Methods significantly higher than consumers rated these topics (see Table 4 notes for statistical results). Otherwise, there were no significant differences found between consumers and producers in their ratings of desired topics.

**Preferred communication methods.** Table 5 presents the means, standard deviations, sample sizes, and a sum of consumer and producer ratings for preferred communication methods. Both consumers and producers rated consumer-initiated conversations highly (≥6.00). In addition, producers rated vendor-initiated conversations and banners/signs highly (≥6.00). We computed a one-way between-subjects Welch's ANOVA comparing consumer and producer scores for each preferred communication method. Consumers rated a market-wide coding system and a Facebook page significantly higher than how producers rated these communication methods. Producers rated banners/signs, vendor-initiated conversations, consumer-initiated conversations, and farm pictures displayed at booth significantly higher than how consumers rated these communication methods. Otherwise, there were no significant differences found between consumers and producers in their ratings of preferred communication methods. See Table 5 notes for statistical results.

## Discussion

*Implications*

A number of studies have focused on demographic characteristics of frequent farmers markets shoppers as well as on motivations for buying locally grown foods (Onianwa et al., 2006; Wolf et al., 2005; Zepeda & Li, 2006). Data from this study showed that our consumer sample reflected the characteristics generally described in previous research. However, this study went beyond demographic issues as well. The major aim of this study was to better understand potential ways to enhance information sharing at farmers markets. To our knowledge, this study was the first to survey both consumers and producers about their desired information topics and preferred communication

**Table 5. Mean Ratings of Desired Communication Methods**

| | Consumers | | | Producers [a] | | | |
|---|---|---|---|---|---|---|---|
| Communication Method | *M* | *SD* | *n* | *M* | *SD* | *n* | Total [b] |
| Customer-initiated conversation* | 6.00 | 1.39 | 255 | 6.62 | 0.92 | 47 | 12.62** |
| Vendor-initiated conversation* | 5.65 | 1.45 | 251 | 6.55 | 0.93 | 47 | 12.20 |
| Product label | 5.38 | 1.75 | 246 | 5.64 | 2.06 | 47 | 11.02 |
| Booth banner or sign* | 5.33 | 1.46 | 135 | 6.65 | 0.90 | 46 | 11.98 |
| Booth display: pictures of farm* | 5.26 | 1.46 | 248 | 5.74 | 1.84 | 47 | 11.00 |
| Farmers market website | 5.19 | 1.7 | 247 | 5.28 | 2.09 | 47 | 10.47 |
| Flyer, pamphlet, brochure, or card | 5.02 | 1.75 | 246 | 5.51 | 2.02 | 47 | 10.53 |
| Market-wide coding system* | 4.83 | 1.72 | 247 | 3.32 | 2.39 | 44 | 8.15 |
| Facebook page* | 3.38 | 2.11 | 248 | 5.13 | 2.40 | 46 | 8.51 |
| Smartphone barcode at booth | 3.33 | 2.04 | 248 | 3.48 | 2.43 | 46 | 6.81 |
| Twitter* | 2.42 | 1.82 | 235 | 3.40 | 2.39 | 25 [c] | 5.82 |

[a] Vendors who exclusively sell prepared food were excluded from the analysis.

[b] Mean consumer and producer ratings were summed. Total could range from 2 to 14.

[c] This item has fewer producer respondents due to accidental omission when the survey was first launched.

* Indicates a statistically significant difference between consumers and producers at the .05 level. Significant ANOVA results included: Consumer-initiated conversations, $F(1, 299)=8.69$, $p<.01$, $\eta 2=.03$; Vendor-initiated conversations, $F(1, 295)=16.64$, $p<.001$, $\eta 2=.05$; Banners or signs, $F(1, 178)=36.38$, $p<.001$, $\eta 2=.17$; Market-wide coding system, $F(1, 288)=25.45$, $p<.001$, $\eta 2 =.08$; Facebook page, $F(1, 291)=14.07$, $p<.001$, $\eta 2=.05$; Twitter, $F(1, 257)=6.12$, $p=.01$, $\eta 2=.02$; and Farm pictures, $F(1, 292)=3.95$, $p=.048$, $\eta 2=.01$.

** Indicates an item of mutual significance. Both consumer and producers ratings ≥6.00.

methods. The type of desired information was explored both qualitatively and quantitatively and the communication methods were explored quantitatively. These results offer insight into communication topics and methods that producers might utilize in order to inform consumers and engage them in areas of mutual interest.

Qualitative analyses revealed that consumers desired information about local sourcing and organic production across all food categories (produce, dairy, eggs, meat, and prepared foods). This is in line with multiple recent studies that have described consumers' growing interest in purchasing local and organic foods as well as their various motivations for doing so (Hughner et al., 2007; Zepeda & Li, 2006). Animal care, however, is a somewhat novel information-related theme, which included animal living conditions and slaughtering practices, feeding practices, and use of hormones and antibiotics. This theme emerged relative to the dairy, eggs, and meat food categories. Although less often identified as an important consideration for food choice, concern about animal welfare and related animal care practices has become more prevalent over time, and thus might be an important consideration for information provision at farmers markets (Makatouni, 2002). For produce specifically, knowledge of farming and soil inputs was important to consumers; for prepared foods, consumers most wanted to know the ingredients and the specific source of the ingredients. These themes likely relate to issues of food safety, nutrition, and sustainability, topics that consumers repeatedly note are of greater importance (Seyfang, 2006).

Quantitative results showed that both consumers and producers were most interested in sharing information regarding pesticide use, flavor, freshness, food safety, animal welfare, nutrition and environmental impacts. Consumers also wanted to know more information about the seasonality of produce, while producers also wanted to share cooking and preparation methods with their customers. Several topics were rated significantly different between consumers and producers. Consumers rated price of food and farm worker wages/conditions significantly higher than producers did, while producers rated pesticide use and preparation/cooking methods significantly higher than consumers did.

Regarding how best to communicate desired information, both consumers and producers indicated a preference for sharing information via consumer-initiated conversations. In addition, producers were also interested in initiating conversations themselves. Compared to producers, consumers were significantly more interested in obtaining information via a market-wide coding system and a Facebook page. Compared to consumers, producers were significantly more interested in consumer- and vendor-initiated conversations, as well as booth banners and signs, farm pictures displayed at the booth, and Twitter. Several communication methods received moderate ratings ("somewhat important") from both consumers and producers, but these could easily be implemented in a farmers market setting. These feasible communication methods included hanging booth banners or signs, labeling products, displaying photographs of the farm, and developing a farmers market website. Compared to other methods, consumers in our sample did not indicate a strong preference for communicating with vendors via social media or use of mobile devices. However, given the exploratory nature of this study and the increasing popularity of social media marketing practices, it is likely premature to rule out these channels as effective communication strategies between farmers market consumers and farmers.

A final aim of this study was to understand better how consumers choose which booths to purchase foods from when visiting a farmers market. Qualitative analyses revealed several major themes. Many consumers visited booths in order to obtain specific items, such as foods they needed for the week or staples for cooking. This suggests the potential importance for producer to offer recipes along with items for sale to impart information about their potential use in weekly meal preparation. Product qualities, including quality, food and booth appearance, taste, price, and freshness were also major themes. Vendor relationships were also important, and consumers often choose booths based on the friendliness, knowledge, or reputation of the vendor.

### *Strengths and Limitations*

This study builds upon a previous study (Fehrenbach & Wharton, 2012) in which only consumers at a single university farmers market were surveyed about their desired communication topics and preferred communication methods. In addition to using both qualitative and quantitative methodology, the major strengths of the present study were incorporating producer perspectives and surveying many farmers markets across the state of Arizona. However, because we sampled consumers and producers who regularly attend farmers markets in Arizona, our findings might not be applicable to farmers market consumers and producers in other states. The demographic characteristics of our consumer sample were consistent with samples generally described in previous farmers market research (i.e., primarily female, Caucasian, educated, and middle class). However, these characteristics might influence consumers' reported communication preferences; as such, our findings might not be applicable to markets that serve populations with different demographic characteristics. Finally, our findings might not reflect attitudes and preferences of the general population.

## Conclusion

This mixed-methods study sheds light on the type of information consumers and producers would like to share at farmers markets, as well as the preferred methods by which they would like it communicated. Farmers markets are an important aspect of both rural and urban communities, allowing consumers access to fresh, local foods and allowing small-scale producers direct access to consumers. Moreover, the market setting facilitates interaction between consumers and producers, through which consumers can learn more information about the foods they wish to purchase and producers can share specific food qualities with customers. These findings may be used to improve communication between consumers and producers, thereby increasing transparency and sales at farmers markets. Future studies, particularly those employing experimental designs, could implement some of these communication topics and methods and examine potential outcomes such as changes in farmers market attendance and booth sales.

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## References

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

Arizona Department of Health Services. (2013). Arizona farmers' market nutrition program guidelines. Phoenix, AZ: Arizona Department of Health Services. Retrieved January 5, 2013, from http://www.azdhs.gov/azwic/farmers-market.htm

Baker, D., Hamshaw, K., & Kolodinsky, J. (2009). Who shops at the market? Using consumer surveys to grow farmers' markets: Findings from a regional market in Northwestern Vermont. *Journal of Extension*, *47*(6), 1–9.

Brescoll, V. L., Kersh, R., & Brownell, K. D. (2008). Assessing the feasibility and impact of federal childhood obesity policies. *The Annals of the American Academy of Political and Social Science*, *615*(1), 178–194. http://dx.doi.org/10.1177/0002716207309189

Byker, C., Shanks, J., Misyak, S., & Serrano, E. (2012). Characterizing farmers' market shoppers: A literature review. *Journal of Hunger & Environmental Nutrition*, *7*(1), 38–52. http://dx.doi.org/10.1080/19320248.2012.650074

Dukeshire, S., Garbes, R., Kennedy, C., Boudreau, A., & Osborne, T. (2011). Beliefs, attitudes, and propensity to buy locally produced food. *Journal of Agriculture, Food Systems, and Community Development*, *1*(3), 19–29. http://dx.doi.org/10.5304/jafscd.2011.013.008

Eastwood, D. B., Brooker, J. R., & Gray, M. D. (1999). Location and other market attributes affecting farmer's market patronage: The case of Tennessee. *Journal of Food Distribution Research*, *30*(1), 63–72.

Fehrenbach, K. S., & Wharton, C. (2012). Consumer information-seeking preferences at a university farmers' market. *Journal of Hunger & Environmental Nutrition*, *7*(1), 53–63. http://dx.doi.org/10.1080/19320248.2012.649669

Gao, Z., Swisher, M., & Zhao, X. (2012). A new look at farmers' markets: Consumer knowledge and loyalty. *HortScience*, *47*(8), 1102–1107.

Hinrichs, C. C. (2000). Embeddedness and local food systems: Notes on two types of direct agricultural market. *Journal of Rural Studies*, *16*(3), 295–303. http://dx.doi.org/10.1016/S0743-0167(99)00063-7

Holben, D. H. (2010). Farmers' markets: Fertile ground for optimizing health. *Journal of the American Dietetic Association*, *110*(3), 364–365. http://dx.doi.org/10.1016/j.jada.2009.11.015

Howard, P. H., & Allen, P. (2006). Beyond organic: Consumer interest in new labeling schemes in the Central Coast of California. *International Journal of Consumer Studies*, *30*(5), 439–451. http://dx.doi.org/10.1111/j.1470-6431.2006.00536.x

Hughner, R. S., McDonagh, P., Prothero, A., Shultz II, C. J., & Stanton, J. (2007). Who are organic food consumers? A compilation and review of why people purchase organic food. *Journal of Consumer Behavior*, *6*(2-3), 94–110. http://dx.doi.org/10.1002/cb.210

Hunt, A. R. (2007). Consumer interactions and influences on farmers' market vendors. *Renewable Agriculture and Food Systems*, *22*(1), 54–66. http://dx.doi.org/10.1017/S1742170507001597

Kirwan, J. (2006). The interpersonal world of direct marketing: Examining conventions of quality at U.K. farmers' markets. *Journal of Rural Studies*, *22*(3), 301–312. http://dx.doi.org/10.1016/j.jrurstud.2005.09.001

Kremen, A., Greene, C., & Hanson, J. (2004). *Organic produce, price premiums, and eco-labeling in U.S. farmers' markets* (Report No. VGS-301-01). Washington, D.C.: United States Department of Agriculture, Economic Research Service. http://www.ers.usda.gov/media/269468/vgs30101_1_.pdf

Lea, E., Worsley, A., & Crawford, D. (2005). Australian adult consumers' beliefs about plant foods: A qualitative study. *Health Education & Behavior*, *32*(6), 795–808. http://dx.doi.org/10.1177/1090198105277323

Low, S. A., & Vogel, S. (2011). Direct and intermediate marketing of local foods in the United States. Washington, DC: United States Department of Agriculture, Economic Research Service. ERR-128. http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5097250

MacMillan Uribe, A. L., Winham, D. M., & Wharton, C. M. (2012). Community supported agriculture membership in Arizona. An exploratory study of food and sustainability behaviours. *Appetite*, *59*(2), 431–436. http://dx.doi.org/10.1016/j.appet.2012.06.002

Makatouni, A. (2002). What motivates consumers to buy organic food in the UK? Results from a qualitative study. *British Food Journal*, *104*(3/4/5), 345–352. http://dx.doi.org/10.1108/00070700210425769

McCormack, L. A., Laska, M. N., Larson, N. I., & Story, M. (2010). Review of the nutritional implications of farmers' markets and community gardens: A call for evaluation and research efforts. *Journal of the American Dietetic Association*, *110*(3), 399–408. http://dx.doi.org/10.1016/j.jada.2009.11.023

Onianwa, O., Mojica, M., & Wheelock, G. (2006). Consumer characteristics and views regarding farmers markets: An examination of on-site survey data of Alabama consumers. *Journal of Food Distribution Research*, *37*(1), 119–125.

Pollard, J., Kirk, S. F. L., & Cade, J. E. (2002). Factors affecting food choice in relation to fruit and vegetable intake: A review. *Nutrition Research Reviews*, *15*(2), 373–387. http://dx.doi.org/10.1079/NRR200244

Seyfang, G. (2006). Ecological citizenship and sustainable consumption: Examining local organic food networks. *Journal of Rural Studies*, *22*(4), 383–395. http://dx.doi.org/10.1016/j.jrurstud.2006.01.003

Svenfelt, Å., & Carlsson-Kanyama, A. (2010). Farmers' markets: Linking food consumption and the ecology of food production? *Local Environment*, *15*(5), 453–465. http://dx.doi.org/10.1080/13549831003735411

U. S. Department of Agriculture Marketing Service. (2014). Farmers' market growth and local food marketing. National count of farmers market directory listing graph: 1994-2013. Washington, DC: USDA Agriculture Marketing Service. http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateS&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers+Market+Growth

U. S. Department of Agriculture & U. S. Department of Health and Human Services. (2011). Dietary guidelines for Americans, 2010. Washington, DC: USDA and HHS. http://www.health.gov/dietaryguidelines/2010.asp

Walton, D., Kirby, C., Henneberry, S., & Agustini, H. (2002). Creating a successful farmers market. In Kerr Center for Sustainable Agriculture, *Future Farms 2002: A Supermarket of Ideas* (p. 113). Norman, Oklahoma: Author. http://www.kerrcenter.com/publications/2002_proceedings/successful_farmmarket.pdf

Wolf, M. M., Spittler, A., & James, A. (2005). A profile of farmers' market consumers and the perceived advantages of produce sold at farmers' markets. *Journal of Food Distribution Research*, *36*(1), 192–201. http://ageconsearch.umn.edu/bitstream/26768/1/36010192.pdf

Zepeda, L., & Li, J. (2006). Who buys local food? *Journal of Food Distribution Research*, *37*(3), 1–11. http://ageconsearch.umn.edu/bitstream/7064/2/37030001.pdf

## Appendix A. Consumer Questions

Which farmers' market do you attend most often?

- ☐ Ahwatukee Farmers' Market
- ☐ ASU Tempe Farmers' Market
- ☐ Chandler Farmers' Market
- ☐ Chino Valley Market (Thursdays)
- ☐ Downtown Phoenix Public Market
- ☐ Flagstaff Community Market
- ☐ Gilbert Farmers' Market
- ☐ Mesa Community Farmers' Market
- ☐ Old Town Scottsdale Farmers' Market
- ☐ Prescott Farmers Market (Saturdays)
- ☐ Prescott Valley Market (Tuesdays)
- ☐ Roadrunner Park Farmers' Market
- ☐ Tucson – East at Jesse Owens Park (Fridays)
- ☐ Tucson – Maynard's (Saturdays)
- ☐ Tucson – Oro Valley (Saturdays)
- ☐ Tucson – St. Philips' Market (Sundays)
- ☐ Other (please specify) _____

How often do you purchase groceries at the farmers' market?

- ☐ Never
- ☐ Every few years
- ☐ Once or twice a year
- ☐ Several times a year
- ☐ Once or twice a month
- ☐ Once or twice a week

When you visited the Farmers' Market this past year, how did you decide what booths to purchase foods from?

_____

_____

_____

_____

_____

If you could find out anything about the food available at the farmers' market, what would you like to know?

Fruits/Vegetables: _____

Meat: _____

Eggs: _____

Milk Products: _____

Prepared Food: _____

To what extent are each of the following topics important issues that YOU CURRENTLY CARE ABOUT AND WANT TO KNOW when purchasing your food products?

| **Food Topics** | **1=Not Important; 4=Neutral; 7=Very Important** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | N/A |
| Animal welfare | | | | | | | | |
| Environmental impacts | | | | | | | | |
| Farm location / distance from market | | | | | | | | |
| Farm size | | | | | | | | |
| Farm worker wages or working conditions | | | | | | | | |
| Flavor | | | | | | | | |
| Food safety | | | | | | | | |
| Freshness | | | | | | | | |
| How to prepare / cook the food | | | | | | | | |
| Nutrition | | | | | | | | |
| Ownership of farm (e.g., family or corporation) | | | | | | | | |
| Price of food | | | | | | | | |
| Production methods: pesticide use | | | | | | | | |
| Production methods: water use | | | | | | | | |
| Seasonality of produce | | | | | | | | |
| Other (please specify)_____ | | | | | | | | |

In what ways would you prefer to learn about the food at the farmers' market?

| **Communication Methods** | **1=Very unlikely to use; 4=Neutral; 7=Very likely to Use** | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Booth display: banner or sign | | | | | | | |
| Booth display: barcode for smartphone app | | | | | | | |
| Booth display: pictures of farm | | | | | | | |
| Booth display: use of a market-wide coding system | | | | | | | |
| Conversation with vendor: initiated by the vendor | | | | | | | |
| Conversation with vendor: initiated by you | | | | | | | |
| Facebook page | | | | | | | |
| Farmers' market website | | | | | | | |
| Handouts: flyer/pamphlet/brochure/card | | | | | | | |
| Product label | | | | | | | |
| Twitter | | | | | | | |
| Other (please specify)_____ | | | | | | | |

What is your sex?

- ☐ Female
- ☐ Male
- ☐ Other

What is your age? _____

Where do you live? City: _____ State: _____ Zip: _____

Are you of Spanish, Hispanic, or Latino origin?

- ☐ No - I am not Spanish, Hispanic, or Latino
- ☐ Yes - Mexican
- ☐ Yes - Mexican-American
- ☐ Yes - Chicano
- ☐ Yes - Puerto Rican
- ☐ Yes - Cuban, Cuban-American

What is your race?

- ☐ White
- ☐ Black or African-American
- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Native Hawaiian or other Pacific Islander
- ☐ Other (please specify)_____

What is the highest degree or level of school you have completed?

- ☐ Less than a high school degree
- ☐ High school degree or equivalent (e.g., GED)
- ☐ Some college but no degree
- ☐ Associate Degree
- ☐ Bachelor degree
- ☐ Graduate/professional degree (e.g., MA, MD, PhD)

Which of the following categories best describes your employment status?

- ☐ Employed, working 1-39 hours per week
- ☐ Employed, working 40 or more hours per week
- ☐ Not employed, looking for work
- ☐ Not employed, not looking for work
- ☐ Retired
- ☐ Disabled, not able to work

How much total combined money did all members of your HOUSEHOLD earn in 2010? [All in US$]

- ☐ $0 – $4,999
- ☐ $5,000 – $7,499
- ☐ $7,500 – $9,999
- ☐ $10,000 – $12,499
- ☐ $12,500 – $14,999
- ☐ $15,000 – $19,999
- ☐ $20,000 – $24,999
- ☐ $25,000 – $29,999
- ☐ $30,000 – $34,999
- ☐ $35,000 – $39,999
- ☐ $40,000 – $49,999
- ☐ $50,000 – $59,999
- ☐ $60,000 – $74,999
- ☐ $75,000 – $99,999
- ☐ $100,000 – $149,999
- ☐ $150,000 or more

## Appendix B. Producer Questions

Which farmers' market do you most often vend?

- ☐ Ahwatukee Farmers' Market
- ☐ ASU Tempe Farmers' Market
- ☐ Chandler Farmers' Market
- ☐ Chino Valley Market (Thursdays)
- ☐ Downtown Phoenix Public Market
- ☐ Flagstaff Community Market
- ☐ Gilbert Farmers' Market
- ☐ Mesa Community Farmers' Market
- ☐ Old Town Scottsdale Farmers' Market
- ☐ Prescott Farmers Market (Saturdays)
- ☐ Prescott Valley Market (Tuesdays)
- ☐ Roadrunner Park Farmers' Market
- ☐ Tucson – East at Jesse Owens Park (Fridays)
- ☐ Tucson – Maynard's (Saturdays)
- ☐ Tucson – Oro Valley (Saturdays)
- ☐ Tucson – St. Philips' Market (Sundays)
- ☐ Other (please specify) _____

How often do you sell your products at the farmers' market?

- ☐ Never
- ☐ Every few years
- ☐ Once or twice a year
- ☐ Several times a year
- ☐ Once or twice a month
- ☐ Once or twice a week

Do you sell meat products? Yes/No
Do you sell eggs? Yes/No
Do you sell milk products? Yes/No
Do you sell prepared food? Yes/No

In what state or U.S. territory does the food you sell come from? _____

Production techniques (check all that apply)

- ☐ Biodynamic
- ☐ Conventional methods
- ☐ Conservation tillage
- ☐ Crop rotation
- ☐ Low pesticide and/or chemical use (e.g., IPM)
- ☐ Naturally grown (certified)
- ☐ Naturally grown (non-certified)
- ☐ Organic (certified)
- ☐ Organic (non-certified)
- ☐ Pesticide free
- ☐ Other (please specify) _____

In your opinion, to what extent are each of the following topics important issues that CONSUMERS SHOULD CARE ABOUT AND WANT TO KNOW when purchasing your food products?

| **Food Topics** | **1=Not Important; 4=Neutral; 7=Very Important** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | N/A |
| Animal welfare | | | | | | | | |
| Environmental impacts | | | | | | | | |
| Farm location / distance from market | | | | | | | | |
| Farm size | | | | | | | | |
| Farm worker wages or working conditions | | | | | | | | |
| Flavor | | | | | | | | |
| Food safety | | | | | | | | |
| Freshness | | | | | | | | |
| How to prepare / cook the food | | | | | | | | |
| Nutrition | | | | | | | | |
| Ownership of farm (e.g., family or corporation) | | | | | | | | |
| Price of food | | | | | | | | |
| Production methods: pesticide use | | | | | | | | |
| Production methods: water use | | | | | | | | |
| Seasonality of produce | | | | | | | | |
| Other (please specify)_____ | | | | | | | | |

In the future, in what ways are you likely to communicate with consumers about the food you sell at the farmers' market?

| **Communication Methods** | **1=Very unlikely to use; 4=Neutral; 7=Very likely to Use** | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Booth display: banner or sign | | | | | | | |
| Booth display: barcode for smartphone app | | | | | | | |
| Booth display: pictures of farm | | | | | | | |
| Booth display: use of a market-wide coding system | | | | | | | |
| Conversation with vendor: initiated by the vendor | | | | | | | |
| Conversation with vendor: initiated by you | | | | | | | |
| Facebook page | | | | | | | |
| Farmers' market website | | | | | | | |
| Handouts: flyer/pamphlet/brochure/card | | | | | | | |
| Product label | | | | | | | |
| Twitter | | | | | | | |
| Other (please specify)_____ | | | | | | | |

What is your sex?

- ☐ Female
- ☐ Male
- ☐ Other

What is your age? _____

Where do you live? City: _____ State: _____ Zip: _____

Are you of Spanish, Hispanic, or Latino origin?

- ☐ No - I am not Spanish, Hispanic, or Latino
- ☐ Yes - Mexican
- ☐ Yes - Mexican-American
- ☐ Yes - Chicano
- ☐ Yes - Puerto Rican
- ☐ Yes - Cuban, Cuban-American

What is your race?

- ☐ White
- ☐ Black or African-American
- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Native Hawaiian or other Pacific Islander
- ☐ Other (please specify)_____

What is the highest degree or level of school you have completed?

- ☐ Less than a high school degree
- ☐ High school degree or equivalent (e.g., GED)
- ☐ Some college but no degree
- ☐ Associate Degree
- ☐ Bachelor degree
- ☐ Graduate/professional degree (e.g., MA, MD, PhD)

Which of the following categories best describes your employment status?

- ☐ Employed, working 1–39 hours per week
- ☐ Employed, working 40 or more hours per week
- ☐ Not employed, looking for work
- ☐ Not employed, not looking for work
- ☐ Retired
- ☐ Disabled, not able to work

How much total combined money did all members of your HOUSEHOLD earn in 2010? [All in US$]

- ☐ $0 – $4,999
- ☐ $5,000 – $7,499
- ☐ $7,500 – $9,999
- ☐ $10,000 – $12,499
- ☐ $12,500 – $14,999
- ☐ $15,000 – $19,999
- ☐ $20,000 – $24,999
- ☐ $25,000 – $29,999
- ☐ $30,000 – $34,999
- ☐ $35,000 – $39,999
- ☐ $40,000 – $49,999
- ☐ $50,000 – $59,999
- ☐ $60,000 – $74,999
- ☐ $75,000 – $99,999
- ☐ $100,000 – $149,999
- ☐ $150,000 or more