J. Ky. Acad. Sci. 71(1–2):54–58. 2010.

Hispanic Consumer Perceptions of Kentucky-Grown Pigs

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ABSTRACT

Data were collected via a 2010 survey of Hispanic consumers in Kentucky regarding their willingness to purchase pigs from local growers. Focus was given on live animal sales because of the convenience of small-scale livestock producers. Results show that nearly 30% of respondents were willing to buy live pigs; however, only 13% of surveyed consumers were willing to process the live animals. The most popular size of pig was from 4.5 kg (10 lbs) to 18 kg (40 lbs). Hispanic consumers who lived with their families in Kentucky and/or were willing to travel to farms to purchase food products exhibited a significantly higher proclivity to buy pigs. Hence, the data indicated a strong potential for developing a direct-to-consumer market for pigs in Kentucky, particularly if farmers can cooperate with local butchers such that Hispanic consumers could conveniently buy live pigs and have them processed to their specifications.

INTRODUCTION

Pig farming is part of Kentucky's small-scale agricultural tradition, although the total production had diminished significantly from 138,000 farms in 1950 to only 900 farms in 2006 (USDA: NASS 2007). Marketing from small-scale farms is usually a challenge due to the relative high unit costs of production and low output volume. Small-scale Kentucky farmers have been successful in selling various products via direct-to-consumer markets or farmers markets (Dasgupta et al. 2010b). One direct-to-consumer market that is available to Kentucky's producers is the Hispanic consumer market. Anecdotal evidence from farmers and marketing research data simultaneously indicate that many Hispanic consumers are willing to purchase food directly from farms, including live animals (Sande et al. 2005; Dasgupta et al. 2010a). The Hispanic population in Kentucky has been expanding rapidly; in 2000 the Hispanic population in Kentucky was 59,939 (1.39% of Kentucky population), and the estimated Hispanic population in 2009 was 103,538 (2.56% of Kentucky population) (U.S. Census Bureau). Hence, if Kentucky producers could access the Hispanic communities for direct marketing, it would be good news for enhancing profitability for Kentucky's small scale producers.

This paper reports the perceptions of Kentucky's Hispanic consumers towards purchasing pigs locally. Data for this study were obtained via a Hispanic consumer survey as part of a USDA-Agricultural Marketing Service: Federal-State Marketing Improvement Program grant. Results of this paper could be useful tools to delineate the marketability of pigs to Hispanic consumers in Kentucky.

REVIEW OF RELEVANT LITERATURE

During the 1990s, the hog-pork sector in the United States underwent dramatic change with the expansion of large-scale, industrial operations. Since this time, the large-scale corporately-owned hog operations have dominated the market making it challenging for small scale pig farmers to compete using conventional production and marketing meth-

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ods (Ikerd 2001). Consequently, small scale farmers needed different approaches to pig marketing to remain competitive.

One alternative is direct-to-consumer markets that target Hispanic consumers. In research by the USDA, the Continuing Survey of Food Intakes by Individuals (CSFII) found that typically Hispanics ate pork at about the same rate as the rest of the U.S. population, but they have a significant preference for fresh pork products over processed meats (Davis and Lin 2005). Other data showed that Hispanic consumers prefer whole carcasses over specific cuts of pork (Value added agriculture program 2010). For example, in Mexican-American cooking, the spine bone is used for stews. This bone is only available in a whole carcass. Whole carcasses also provide pig skin and pig head that are used for various Hispanic dishes (Value added agriculture program 2010). While whole carcasses are difficult to obtain from large meatpackers, small-scale pig producers might be able to supply live pigs/whole carcasses to Hispanic consumers.

The Hispanic population in the United States has been increasing sharply; there has been a 33% increase from 35.2 million in 2000 to 46.8 million in 2008 (Dockterman and Velasco 2010). It is projected that by 2020 36% or one-in-four people in the United States will be Hispanic, making this ethnic group the largest and fastest growing in the country (Berry 2009). Kentucky has seen a dramatic increase in Hispanic population with a 72% growth from 2000 to 2008 (Kentucky Quick Facts 2008).

Hispanics have been found to spend more money on food purchases than the average American consumer (Wagner and Soberon-Ferrer 1990; Fan and Zuiker 1998; Paulin 1998; Paulin 2001). In general, Hispanics spend an average of $133 per week on groceries as compared with $93 spent per week by non-Hispanics. Hispanics have shown distinctive food preferences including the preference for fresh and authentic ingredients. Hispanics were more likely to cook meals at home than their non-Hispanic counterparts which translated to their spending 16.4% more on meat than non-Hispanic consumers (Diaz-Valensuela et al. 2008). Hispanic consumers in the United States are heavily influenced by the dietary patterns of their home countries with flavor and family-pleasing qualities being the primary attraction to certain foods. While cuisine can vary dramatically among countries of origin, many Hispanics retain the core elements of a Hispanic diet.

MATERIALS AND METHODS

Data for this study came from a 2010 survey of Hispanic consumers in Kentucky. The survey questions were designed after discussions with a Hispanic focus group consisting of consumers, restaurateurs/caterers, and cooperative extension personnel serving Hispanic communities. The survey questionnaire was tested by members of the focus group to ensure relevancy. The survey was conducted by face-to-face interviews during which consumers answered questions regarding 1) grocery shopping habits and willingness to purchase food products from farms or "farmers' market alternatives," 2) willingness to purchase pigs, and 3) consumer demographics. A total of 144 useful observations were obtained from the survey including demographic data (Table 1).

Consumer preference data were analyzed by statistically comparing proportions exhibited by various demographic groups towards their willingness to buy pigs in Kentucky. It was hypothesized that consumer demographics and shopping habits might exert a systematic influence over their preference towards buying pigs. Variables related to consumer demographics and shopping habits were used as independent variables in a logistic regression model (equation 1) where the dichotomous dependent variable exhibited respondents willingness to buy live pigs (Greene 1993).

(1) P[consumer i is willing to buy live pigs] = $\Lambda(\boldsymbol{\beta}_j' \times \mathbf{X}_i)$, where Λ represents the Logistic cumulative distribution function, $\boldsymbol{\beta}_j$ represents a $(k \times 1)$ vector of regression coefficients for the j^{th} attribute of a product, and $\mathbf{X}_i$ represents a $(k \times 1)$ vector of consumer characteristics, as discussed above.

By applying (1) to our data, we developed a logistic likelihood function that was maximized by selecting the appropriate $\boldsymbol{\beta}_j$s. These

Table 1. Distribution of demographic information expressed as a percentage of total respondents. U.S. Hispanic population demographics provided for comparison purposes. N = 144.

	Our data[a]	U.S. Hispanic population[b]
Gender:		
Male	45%	51%
Female	47%	49%
Age:		
30 or less	41%	57%
31–40	31%	17%
41–50	13%	13%
51–60	3%	7%
61–65	1%	2%
66 or more	0%	4%
Education:		
High school or below	67%	71%
Technical	18%	—[c]
4-year degree or more	7%	10%
Country of Origin:		
Mexico	65%	65%
Honduras	6%	1%
Guatemala	4%	2%
El Salvador	3%	3%
Nicaragua	3%	1%
Other	9%	28%
Household income:		
Less than $20K	52%	20%
≥$20K but <$30K	28%	15%
≥$30K but <$40K	10%	13%
≥$40K but <$50K	2%	11%
≥$50K	2%	40%
Occupation of breadwinner:		
Agricultural industry	26%	7%
Labor	27%	27%
Sales	3%	14%
Management	6%	11%

[a] Percentages do not always sum to 100% due to lack of responses from various completed questionnaires.
[b] 2007 data from United States Census Bureau: http://factfinder.census.gov.
[c] Data unavailable.

β_js were used to identify subgroups of consumers that exhibited a significantly (i.e., $P \leq 5\%$) higher/lower willingness to buy live pigs from Kentucky producers.

RESULTS

Survey results showed that most of the respondents (74%) bought groceries primarily from chain stores, such as Wal-Mart and Kroger, with only 26% of respondents buying food mainly from smaller grocery chains such as Save-A-Lot and Hispanic groceries. While Hispanic grocery stores were not always the main grocery outlet, they remained popular among Hispanic consumers; 72% of respondents made at least two grocery-shopping trips to Hispanic grocery stores per month. Interestingly, farmers' markets were rarely visited by Hispanic consumers with 69% of respondents reporting that they did not attend farmers' markets; language barrier was the commonly-cited reason for this result.

Respondents indicated their willingness to travel to a farm to buy food items, including live animals. The data showed that 56% of respondents would be willing to travel to a farm to buy food products, and an additional 16% reported that they would also go to farms, except that they did not have transportation. Twenty-four percent of respondents (35 individuals) were willing to travel to farms within a 5 mile radius of their residence, an additional 27% of respondents were willing to travel up to 10 miles of their residence, and an additional 21% were willing to travel to farms that were up to 20 miles of their residence. Correspondingly, 85% of respondents indicated that they would buy food from vendors if they would bring farm products directly to Hispanic communities.

Surveyed consumers indicated their willingness to purchase live pigs. The focus was on live pigs because it is convenient for small-scale producers to sell a few live animals, instead of going to the expense of processing the animals themselves. The data showed that although very few respondents have bought live pigs in Kentucky (4 affirmative responses; 6%), many more were willing to purchase live pigs from Kentucky's producers (42 affirmative responses; 29%). However, proportionately fewer respondents were willing to butcher pigs by themselves; only 19 respondents (13%) were willing to process pigs.

Respondents were asked to indicate their size preferences for live pigs (Table 2). Of the total 50 (35%) respondents who answered with a size preference, more than half (27) preferred pigs between 4.5 kg (10 lbs) and 18 kg (40 lbs). Adult pigs (approximately 45 kg/100 lbs or more) were the next most popular size class with 13 respondents choosing this size.

Respondents indicated how often they would be willing to buy live pigs from farmers. Nineteen respondents (13%) reported they

Table 2. Size of pigs preferred by respondents. N = 144.

Size of pigs	Number of respondents exhibiting preference (percentage)
10 lbs or smaller	6 (4.17%)
>10 and ≤40 lbs	27 (8.75%)
Adult pig	13 (9.03%)
>10 and ≤40 lbs or adult	3 (2.08%)
Any sized live pig	1 (0.69%)

An additional 30% of respondents indicated that they would not purchase live pigs and the remaining 35% of respondents did not respond to this question.

will buy pigs once a year, while an additional 22 respondents (15%) said that they will buy twice per year. Only 6 respondents (4%) said that they will buy live pigs three times, or more, per year.

Statistical analyses investigated if certain consumer characteristics were associated with respondents who exhibited a willingness to buy live pigs. The data showed that 63% of such respondents had spouse and children living with them in Kentucky. This group of respondents, with families living with them, was significantly more willing to buy live pigs (X^2 test statistic, 1 df, was 6.45; P = 1.11%). Respondents who were willing to travel to farms to purchase fresh foods also showed a significantly higher proclivity to buy live pigs (X^2 test statistic, 1 df, was 12.14; P = 0.05%).

Logit regression results corroborated our results above. The dependent variable was binary with a value of 1 indicating that the respondent was willing to buy live pigs; 0, otherwise. Results of this regression that shows that a consumer's willingness to travel to a farm to purchase food, and having their family living with them in Kentucky significantly increased their likelihood of purchasing live pigs (Table 3). However, consumers that spend $500 or more on monthly groceries, on average, had a significantly lower willingness to buy live pigs.

CONCLUSIONS

This study investigated the perceptions of Hispanic consumers towards buying pigs from Kentucky producers. The results showed that there was a strong potential for small-scale pig producers to sell their product to Hispanics. The survey showed that nearly 30% of the respondents were willing to buy live pigs. With the rapid growth of Kentucky's Hispanic population, this represents a substantial demand for such a product.

The main conclusions from this study are 1) consumers willing to travel to farms to buy food products have a significantly higher willingness to buy live pigs, 2) consumers with families in Kentucky also have a significantly higher willingness to buy live pigs, and 3) pigs of size 18 kg (40 lbs) or less are most popular in this market. Additional information from some of the surveyed consumers seemed to indicate that this pig size typically corresponds to the right size for roasting, particularly at family gatherings.

Other results showed that while a sizeable portion of Hispanic consumers were willing to buy live pigs from Kentucky farmers, few were willing to process the animals. This is consistent with findings of Davis and Lin (2005) that suggests that Hispanics would rather purchase whole pig carcasses. This suggests that small-scale pig producers should consider cooperating with local butcher shops such that Hispanic consumers could purchase live pigs from a farm and conveniently have the animals processed to their specifications.

Table 3. Results of a logistic regression on the willingness to buy live pigs by Hispanic consumers in Kentucky to identify systematic effects of demographic parameters[a].

	Regressors[b]					
	Intercept	AgOccup	GoToFarm	FarmToComm	FKY	SpendMore
Coefficient estimate	−4.63	0.33	2.62	0.76	1.08	−2.22
Standard error	1.49	0.49	1.06	1.16	0.54	1.08
P-value (%)	0.19	49.56	1.32	51.19	4.45	4.03

N = 123; Generalized R^2 = 0.21; LR test = 27.36 (P = 0.01%); Tau-a = 0.228.

[a] Dependent variable: BuyLivePigs = 1 if respondents were willing to purchase live pigs from Kentucky producers; '0' otherwise.

[b] AgOccup is a dichotomous variable which is '1' if a respondent had an immediate family member who had an agricultural occupation; '0' otherwise.

GoToFarm is a dichotomous variable which is '1' if a respondent was willing to travel to a farm to purchase food products including live animals; '0' otherwise.

FarmToComm is a dichotomous variable which is '1' if a respondent was willing to support vendors bringing food products from a farm to their community for sale; '0' otherwise.

FKY is a dichotomous variable which is '1' if respondent's spouse and children lived with them in Kentucky; '0' otherwise.

SpendMore = '1' if respondent spent $500 or more, on average, on monthly groceries; otherwise it is '0'.

In conclusion, this paper indicates that there is a direct-to-consumer market where Kentucky farmers could sell pigs to Hispanic consumers, although this sales potential will be fully realized if fresh pig carcasses of size between 4.5 kg (10 lbs) and 18 kg (40 lbs) could be sold through local butchers. The survey data showed that 72% of respondents would travel 20 miles or less from their residence to a farm to buy various food products, including animals. Hence, Kentucky producers within 20 miles of Hispanic population centers should consider diversifying into direct marketing to Hispanic consumers and pigs could be an important part of their various product offerings.

ACKNOWLEDGEMENTS

The authors are grateful for the USDA Federal State Marketing Improvement Program for funding this study. We are also grateful for all reviewers' comments which improved the manuscript.

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