Consumers' Perceptions of Locally Grown Produce At Retail Outlets

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Introduction

Consumption of fresh fruits and vegetables has received considerable attention over the past ten years. This attention has been partially generated by two separate phenomena. First, rapidly rising food prices fostered renewed interest in the potential for expanded sales through direct-market outlets. Intuitively it would seem that fresh fruits and vegetables are ideally suited for direct sales to final consumers because they require no processing. Secondly, consumption of fresh produce has been stimulated by an apparent surge of consumer interest in food nutrition and personal health. Fresh produce is considered by many to possess the desirable nutrients and fiber associated with healthy lifestyles. These phenomena have increased the interest in locally grown "ripe" produce in spite of the higher post-harvest handling cost and shorter shelf-life.[1] Also, local growers have become more vocal in striving to reach local supermarkets as they observe the saturation of existing local direct-market outlets.

Most studies dealing with the demand for local produce have focused on direct sales outlets, such as farmers' markets, roadside stands, peddlers, and pick-your-own operations. A consistent observation from these studies is that the future expansion of direct sales from farmers to consumers is seriously limited by the structure and standard operating procedures of the industry [Brooker; LaVeen and Gustafson; and O'Rourke]. Major retailers in metropolitan areas obtain supplies primarily from sources capable of shipping products in large volumes of consistent size and quality over extended periods of time. Therefore, a critical access barrier exists for many smaller production regions because smaller volume growers and shippers have difficulty entering major commercial markets due to insufficient quantities, inconsistent grading and packing, and inadequate production over a sufficient time period to satisfy supply requirements of buyers. Whether or not consumers have an effective demand for local produce at supermarkets and/or direct-market sales outlets is an empirical question examined in this study.

Objectives

This report presents results from the first phase of an ongoing project to examine quantitatively consumers' preferences for in-state versus out-of-state produce, across all retail outlets, from pick-your-own to supermarkets. The objectives of the project are to:

1. identify consumer satisfaction toward fresh produce available for sale,

2. identify consumer ratings of locally grown fresh produce in comparison to out-of-state produce, and

3. identify criteria used by consumers in the evaluation of retail outlets.

Source of Data

A random sample of 231 households was interviewed in Knox County, Tennessee, during the summer of 1985. Knox County's estimated population of 329,202 is used as a test market by national firms because of its "representativeness" [Sales and Marketing Management]. Comparison of the sample's characteristics with those of the population (household size, age, race, and income) provided a high level of confidence in the appropriateness of generalizing from the sample results. Five commodities were selected for examination in this study--apples, broccoli, cabbage, peaches, and tomatoes.

Satisfaction with Purchased Produce

Knox County consumers were mostly pleased with their purchases of produce from local retail outlets. Nearly three-fourths of the consumers were satisfied with their purchases of apples, while only 10 percent expressed dissatisfaction (Table 1). However, 31 percent of the consumers were unsatisfied with the tomatoes purchased at retail outlets. The opinions of the consumers about broccoli, cabbage, and peaches were more neutral. Relatively high percentages of unsatisfied ratings for peaches and tomatoes may suggest that Knox County consumers are more discerning with respect to tomatoes and peaches, and less discerning for apples, broccoli, and cabbage.

Consumers' satisfaction with retail purchases of fresh fruits and vegetables may be related to the availability of home-grown commodities. Availability is highest with tomatoes, which were grown in a home garden by 46 percent (Table 2). Friends were also an important source of tomatoes as 71 percent of the surveyed consumers reported receiving tomatoes from a friend's home garden. The home garden availability of the other four products was much lower.

Evaluation of Retail Outlets

Nine criteria for evaluating retail outlets as a source of fresh fruits and vegetables were presented to the surveyed consumers in a random order, and they were asked to rank them in descending order of importance. The criterion receiving the highest average ranking is quality (Table 3). Second and third are good prices and convenience, respectively. In eighth and ninth places are "help local farmers" and "family activity," and the average ranking of these two criteria are significantly lower than the average ranking of the seven others.

Preference for Tennessee Produce

Consumers who purchase apples, broccoli, cabbage, peaches, and tomatoes were asked to select one of three possible situations regarding their willingness to purchase locally grown commodities rather than commodities grown in other states. The question was phrased in terms of each respondent's impression of the locally grown item. The three situations are 1) price of the local product is slightly lower than the out-of-state product, 2) price of the local product is the same as that of the out-

Table 1

Consumer Satisfaction with Purchases of
Selected Fresh Fruits and Vegetables

Product	Unsatisfied	Neutral	Satisfied	Total
	- - - - - - - -	- - - - - - - -	percent - - - - - - - -	- - - - - - - -
Apples (n=230)	10	17	73	100
Broccoli (n=229)	7	31	62	100
Cabbage (n=230)	4	24	72	100
Peaches (n=229)	19	30	51	100
Tomatoes (n=229)	31	14	55	100

Table 2

Home Garden Availability of Selected Fresh Produce Commodities

Product	Consume from household's home garden	Receive from friend's home garden
	- - - - - - - - - - - - - percent[a]	- - - - - - - - - - - - -
Apples	7	17
Broccoli	8	13
Cabbage	8	26
Peaches	2	15
Tomatoes	46	71

[a]Based on survey of 231 households.

Table 3

Average and Overall Ranking of Criteria as Used by Consumers To Evaluate Retail Outlets as a Source of Fresh Produce

Criteria[a]	Households	Overall rank[b]	Average rating[c]
Convenience	230	3	3.46
Good prices[d]	230	2	3.32
Quality	230	1	2.97
Selection	229	5	4.51
Help local farmers	228	8	7.46
Nutrition	228	6	5.30
Family activity	228	9	8.23
Wholesomeness	228	7	5.95
Freshness	230	4	3.76

[a]Random listing of criteria as presented to interviewee.

[b]Most important = 1 to least important = 9.

[c]Based on number of respondents out of a total sample of 231.

[d]If a question arose regarding "good," interviewers were instructed to substitute "competitive."

of-state product, and 3) price of the local product is slightly higher than the out-of-state product.

Analysis of responses to these questions should be approached with caution, since actual marketplace behavior may be different from these stated responses. The most positive response for purchasing local produce was for tomatoes (Table 4). Only 9 percent of the households indicated they would not purchase locally grown tomatoes if offered for sale at a lower price than out-of-state tomatoes. This is the lowest percentage among the five commodities. In contrast, over one-half of the respondents indicated they are willing to purchase locally grown tomatoes at a slightly higher price than that for out-of-state tomatoes.

At least one-quarter of the respondents indicated a willingness to purchase the other four local commodities at a slightly higher price than the prices for the out-of-state products. This suggests that these consumers must perceive some attributes of the locally grown products as superior. Based on responses to other questions, these desired attributes are quality, convenience, and freshness. Therefore, if the price of local produce is equal to or slightly higher than out-of-state produce (and convenience is a negative factor for direct-market outlets due to location), then quality and freshness of locally grown produce must surpass that of the out-of-state product. Of course, convenience is a neutral factor when considering sales at the supermarket outlets.

One-half to almost two-thirds of the respondents expressed a willingness to purchase local produce at a price equal to that of out-of-state produce. An implication would seem to be that the sale of locally grown produce is not hindered by an inbred bias for out-of-state produce.

Consumer Perceptions of Tennessee Produce

When asked directly how they ranked specific local produce commodities in comparison to out-of-state produce, most respondents indicated that they "did not know" (Table 5). The most knowledge was expressed regarding tomatoes. Four quality characteristics were involved in this question--freshness, taste, appearance, and storage life. More than half of the respondents reported that local tomatoes are better than out-of-state tomatoes with respect to taste and freshness. At least half of the consumers were unable to make this comparison for the other commodities. These responses seem logical since a small proportion of consumers, in comparison to tomatoes, had received apples, peaches, cabbage, or broccoli from their own home garden or from a friend's garden. Apparently, a sizable proportion of the surveyed residents have never consciously consumed a "local" produce commodity from any source, even though consumers may have unknowingly purchased locally grown produce from a supermarket, or purchased an out-of-state product from a vendor at a farmers' market or other direct-market type outlet where the consumer may erroneously assume local products are being sold. However, 59 percent of the respondents did not shop at a farmers' market during the current year, while 64 and 79 percent did not shop at either a roadside stand or a pick-your-own operation, respectively.

For apples, one-fourth of the consumers feel that local apples are fresher and have a better taste. Only 15 percent feel the appearance of local apples is better than that of the out-of-state apples. An implication here is that a serious market acceptance problem exists because of the emphasis consumers place on appearance (blemishes) and the consumers' perception of local apples. The percentage of households reporting the appearance of apples as worse than out-of-state apples was only 13 percent, but that is a higher percentage than reported for any of the four other products.

Tomatoes appear to have the best image of the five local commodities among the surveyed consumers. More than half of the respondents, 60 and 58 percent, reported local tomatoes as having "better" freshness and taste than out-of-state tomatoes. Also, 38 percent feel local tomatoes have a "better" appearance than out-of-state tomatoes. Consumer perception of local produce versus out-of-state produce is much higher for tomatoes

Table 4

Stated Willingness of Respondents to Purchase Five Locally Grown Commodities Rather than Out-of-State Commodities

Price of local product compared to price of out-of-state product	Apples n=210	Broccoli n=164	Cabbage n=181	Peaches n=170	Tomatoes n=208
			percent		
Slightly lower price	19.5	12.2	13.3	16.5	9.1
Same price	51.9	62.2	60.2	56.5	37.5
Slightly higher price	28.6	25.6	26.5	27.0	53.4
Total	100.0	100.0	100.0	100.0	100.0

[a]Based on number of respondents out of a total sample of 231.

Table 5

Perceptions of Respondents Regarding Five Fresh Produce Commodities Grown in Tennessee in Comparison to Out-of-State Commodities

Criteria and consumers' perception	Apples n=216	Broccoli n=224	Cabbage n=228	Peaches n=228	Tomatoes n=229
			percent[a]		
Freshness:					
Worse	8.3	0.9	0.9	7.0	0.5
Same	14.3	12.5	12.3	17.5	7.4
Better	26.3	12.9	24.1	19.7	59.8
Do not know	51.1	73.7	62.7	55.7	32.3
Total	100.0	100.0	100.0	100.0	100.0
Taste:					
Worse	9.7	0.5	0.9	10.5	1.3
Same	19.8	15.2	14.5	15.8	8.7
Better	24.0	10.7	21.5	18.0	58.1
Do not know	46.5	73.7	63.1	55.7	31.9
Total	100.0	100.0	100.0	100.0	100.0
Appearance:					
Worse	13.4	1.3	1.3	8.3	5.7
Same	28.7	14.3	18.4	22.4	13.1
Better	14.8	11.2	18.0	14.0	38.0
Do not know	43.1	73.2	62.3	55.3	43.2
Total	100.0	100.0	100.0	100.0	100.0
Storage life:					
Worse	10.1	1.8	1.3	6.2	3.0
Same	18.9	12.1	17.1	18.0	12.7
Better	16.1	10.7	17.1	15.8	45.0
Do not know	54.9	75.4	64.5	60.1	39.3
Total	100.0	100.0	100.0	100.0	100.0

[a]Based on number of respondents out of a total sample of 231.

than for the other four commodities. This partially explains why such a large proportion of respondents are willing to pay a slightly higher price for local tomatoes. Slightly less than one-half of the respondents perceived the local tomatoes as "better" with respect to "storage life," "price," and "nutrition." The implication here is that local apples, broccoli, cabbages, and peaches have an image problem, or perhaps a production problem, if the perceptions of these consumers accurately reflect the true situation.

Consumer Attitude Regarding Produce Origin

Earlier it was noted that one-third to three-fourths of the consumers, depending on the product, do not know enough to make comparisons with out-of-state produce. When asked if they care where the product is grown, consumers were not consistent in their responses about these five products. For tomatoes, 52 percent said they do care where the product is grown (Table 6). On the other hand, only 9 percent care where broccoli is grown. One-fourth of the respondents care where the apples they purchase are grown. One implication is that growers (or merchants) cannot depend on an assumed nationalistic-type spirit on the part of consumers to ensure the local sale (or purchase) of local produce over out-of-state produce, other things being equal.

Relating the consumers' attitude regarding where produce is grown to their stated willingness to purchase local produce if the price is lower, equal, or higher than out-of-state produce revealed in interesting point. The reported willingness to purchase local produce depending on the relative price level did deviate significantly between those who care and those who do not care where apples, cabbages, or tomatoes are grown (Table 7). The differences in responses for broccoli and peaches are not statistically significant.

For apples, the proportion of respondents indicating a negative concern about where the apples are grown and their stated willingness to purchase local apples at the same price as out-of-state apples does not conform to the expected proportions. Based on the proportions of yes and no responses in relation to the lower and higher price options, larger percentages of yes responses were expected regarding concern over apples' origin when the price of local apples is the same as that of out-of-state apples. An implication here would seem to be that consumers are not highly concerned with origin when purchasing apples.

The same interpretation seems appropriate for the significant differences noted in recorded responses regarding cabbages. However, the situation for the tomato-oriented responses is different. The proportion of responses in the yes category regarding concern over tomato origin is much larger than expected for the group of respondents who reported a willingness to buy local tomatoes, even when the price is slightly higher than that of out-of-state tomatoes. The obvious implication here is that 36 percent of the consumers are willing to pay a higher price for local tomatoes because these consumers are concerned with where tomatoes are grown when they are making a purchase. This implies that local tomato growers have a higher level of local consumer support for their product than do growers of the other four products.

Concluding Remarks

Local retail sales of locally grown fruits and vegetables appear to have modest potential. While direct-market outlets need to be more fully utilized, reasonable opportunity appears to exist for substantial expansion of sales of local produce through local supermarkets. The outcome depends upon local growers supplying the quality required by retailers, and upon the retailers being able to benefit from handling local produce. Additional research regarding consumers' actual purchasing behavior when presented with locally grown produce will be necessary in order to evaluate the market potential for such sales adequately.

Table 6

Attitudes of Consumers Regarding Origin of Five Fresh Produce Commodities When Making Purchases

Response	Apples n=217	Broccoli n=224	Cabbage n=228	Peaches n=228	Tomatoes n=229
	- - - - -	- - - - -	percent[a]	- - - - -	- - - - -
Do not care where product is grown	75.1	90.6	84.6	61.0	48.0
Do care where product is grown	24.9	9.4	15.4	39.0	52.0
Total	100.0	100.0	100.0	100.0	100.0

[a]Based on number of respondents out of a total sample of 231.

Table 7

Stated Willingness of Consumers to Purchase Five Locally Grown Commodities Rather Than Out-of-State Commodities

Price of local product compared to price of out-of-state product	Do you care where the product is grown?									
	Apples		Broccoli		Cabbage		Peaches		Tomatoes	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
	- - -	- - -	- - -	- - -	percent[a]	- - -	- - -	- - -	- - -	- - -
Slightly lower price	13	7	9	3	12	2	6	11	5	4
Same price	43	9	57	6	51	9	32	25	22	16
Slightly higher price	19	9	21	4	18	8	15	12	17	36
Total	100.0		100.0		100.0		100.0		100.0	
Chi square	8.3*		4.7		6.1*		3.5		13.4*	

*Statistically significant at the .05 level, chi square test.

[a]Based on responses to these two questions, out of a total sample of 231.

Endnote

[1] The word "ripe" is used here to denote produce allowed to remain on the vine or tree longer than produce picked to withstand the time and rigor of interstate travel.

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