Differences in Consumers of Fresh Tomatoes at Four Retail Venues

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This paper presents the results of surveys of fresh tomato consumers conducted in 1990 in four New Jersey produce venues: a supermarket, a farmers' market, an at-the-farm store, and two roadside stands. The surveys were conducted through face-to-face interviews. Consumers' preferences, purchasing patterns, attitudes and demographics were examined. Results of the surveys suggest that supermarkets should emphasize price and convenience in marketing fresh tomatoes; whereas farmers' markets, at-the-farm stores, and roadside stands should emphasize taste and freshness.

Rutgers Cooperative Extension conducted surveys at four different marketing outlets to determine what motivates consumers to purchase Jersey Fresh tomatoes at each of the outlets. A second aim of the 1990 survey was to determine the differences, if any, in the demographics of these respondents.

During two previous Rutgers surveys, which were conducted only at supermarkets, a few consumers mentioned that they also purchased tomatoes at other outlets (Brumfield, et al., 1993, Brumfield 1989a, Brumfield 1989b). These specific places were roadside stands, farmers' markets and at-the-farm stores (those located right on the farm). Data on consumers who purchase tomatoes from supermarkets were already obtained in the 1988 and 1989 Rutgers Cooperative Extension studies. Therefore, for a better representation of additional tomato outlets, a third study was conducted at a supermarket, two roadside stands, a farmers' market, and an at-the-farm store.

Table 1 indicates that a roughly equal percentage of people purchase tomatoes yearly or seasonally at the farmers' market. While the majority of the respondents at the other sites purchase tomatoes year round, purchasers who frequented at-the-farm stores and roadside stands tended to be more likely to purchase tomatoes seasonally than the supermarket purchasers, who tended to purchase tomatoes year-round. This seems to indicate that shoppers who visit non-supermarket locations are looking for local tomatoes produced in season, and tend not to buy tomatoes when vine-ripened local tomatoes are not available.

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Although preference for Jersey Fresh tomatoes is quite high at supermarkets, this figure is nearly 20 percent higher at the other three retail outlets (Table 2). This indicates that non-supermarket shoppers seek out local, vine-ripened tomatoes more than supermarket shoppers do.

When shoppers were asked for a reason as to why they preferred Jersey Fresh to other tomatoes, the most common answers were taste and freshness. Another reason was that they felt Jersey Fresh was the best tomato overall (Table 3).

When given a list of attributes and asked to rate Jersey Fresh tomatoes as better, worse, or the same as other tomatoes in each category, Jersey Fresh tomatoes were rated higher by respondents at non-supermarket venues than by A&P supermarket respondents (Table 4). An explanation may be that respondents who frequent supermarkets are convenience shoppers (see Table 20). They may not go out of their way to shop for specialty items such as Jersey Fresh tomatoes and therefore appear to be less knowledgeable than non-supermarket shoppers. Respondents at the other three sites go specifically to these sites for the freshness and taste of Jersey Fresh tomatoes. Unlike A&P, which carried other tomato brands, the other three sites carried Jersey Fresh tomatoes exclusively.

Over half of the respondents felt that the price of Jersey Fresh tomatoes was better than prices of other tomatoes (Table 4). However, when asked which was a more expensive place to purchase tomatoes, a larger majority of the respondents at the non-supermarket sites said supermarkets were 10 percent to 50 percent more expensive than places where they were shopping (Tables 5 & 6).

Almost three-quarters of the respondents were not aware of any of the Jersey Fresh promotional pro-

Table 1. When tomatoes are purchased (in percentages)

Purchase pattern	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Year Round	79	66	49	69	66
Seasonal	21	32	51	31	34
Off-season	0	2	0	0	0
Never	0	0	0	0	0

Table 2. Percentages of people who prefer Jersey Fresh

Purchase pattern	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Prefer	79	98	94	99	95
Do not prefer	15	2	4	0	3
Unsure	6	0	2	1	2

Table 3. Reasons respondents give for preferring Jersey Fresh tomatoes (in percentages)

Reasons	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Taste	41	62	49	80	64
Freshness	15	8	11	3	8
Best tomato	6	20	23	12	15
Loyalty	6	2	4	1	3
Other	6	0	2	0	1

Table 4. Attributes that were rated better in Jersey Fresh tomatoes than other tomatoes (in percentages)

Attributes	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Overall	85	97	94	93	93
Freshness	74	97	96	95	92
Taste	74	97	96	94	92
Color	77	81	100	88	84
Appearance	74	80	79	85	81
Nutrition	50	73	68	57	62
Uniformity	53	66	55	71	64
Price	50	68	55	64	62
Storage Life	44	58	43	64	55

Table 5. Are tomatoes more expensive at specific venues?

	Location of Survey			
Venue where tomatoes are more expensive	A&P	At-the-farm store	Farmers' market	Roadside stands
Supermarket	94	92	84	79
Roadside stand	6	6	16	16
At-the farm	0	2	0	2
Farmers' market	0	0	0	2

Table 6. Respondents' estimates of increased expense (in percentages)

	Location of Survey			
Percent Higher Price	A&P	At-the-farm store	Farmers' market	Roadside stands
1 - 9	1	5	0	2
10-19	7	17	10	31
20-29	18	14	25	26
50-100	0	8	7	7

grams (Table 7). The most frequently mentioned factor in awareness was television.

Over a third of the respondents from non-supermarket venues ate tomatoes seven days a week, while only 15 percent of supermarket respondents ate tomatoes every day (Table 8). The most popular meal at which tomatoes were eaten was dinner (Table 9). About one-fifth of the respondents also ate tomatoes at lunch.

The majority of respondents at all sites believe that all attributes are either very important or important to their decision to purchase tomatoes (Table 10). The top three categories in order of importance to consumers' purchasing decisions were lack of blemishes, appearance, and color.

Most consumers prefer a medium size, relatively firm tomato (Tables 11 and 12). Although more consumers at the roadside stand said medium-sized tomatoes were the preferred size, their preference for the small and large sized tomato are almost equally distributed. However, other consumers at other locations overwhelmingly preferred the medium size.

Only 11 to 12 percent of shoppers at farmers' markets and at-the-farm stores earned over $70,000 per year, while over one-third of A&P and roadside stand shoppers earned over $70,000 yearly (Table 13). No A&P shopper earned under $30,000 per year, but nearly a third of shoppers at farmers' markets and at-the-farm stores had annual incomes of less $30,000. This means that if the shelf life and quality of Jersey Fresh tomatoes is improved and consistent, this market segment can be increased at supermarkets and roadside stands. Also, supermarkets would be more willing to purchase more Jersey Fresh tomatoes for their produce section.

Sixty-three percent of A&P shoppers have either a college degree or have a degree beyond college; this is true for less than 50 percent of the non-supermarket shoppers (Table 14). This higher percentage of educated consumers either have less time to shop or are convenience shoppers. They tend not to have had home gardening experience and therefore are not aware of any taste or freshness differences between vine-ripened tomatoes and gassed tomatoes.

Most of the respondents are over 35 years of age (Table 15). Another study has shown that those who fall within this age group are conscious of nutrition. However, the largest group of the respondents who bought tomatoes at A&P supermarkets were under 25 years of age. None of the supermarket respondents were over 65. The opposite was true for at-the-farm store respondents. Nearly 30 percent of these respondents were over 65, but a minimal number of people under 25 appeared to purchase tomatoes at this location.

The respondents in this Rutgers study were, for the most part, caucasian and female (Tables 16 & 17). A slightly higher percentage of shoppers at the A&P supermarkets were female than at the other three locations.

Although price ranges were different at the four locations, most consumers paid about $0.99 per pound for their tomatoes. The exception were farmers' market respondents who paid $0.90 per pound. Most of the respondents said the supermarket was a more expensive place to shop for tomatoes. However, in spite of this perception, supermarket prices were actually lower, ranging from $0.79 to $2.00, while farmers' market prices ranged from $0.90 to $2.50 (Table 18).

A majority of respondents at all four sites said they were aware of that most tomatoes grown outside New Jersey and sold in New Jersey were gassed tomatoes (Table 19). Respondents from the farmers' markets and at-the-farm stores were more aware of this fact than roadside stand and supermarket respondents. However, roadside stands and supermarket respondents had about the same percentage response for this question. An explanation for this may be that respondents at the roadside stand also shop at supermarkets, and stop at roadside stands on their way to or from work.

It appears that these respondents do not go out of their way to seek roadside stands. A majority of them drove an average of two miles to this site (Table 20). Respondents who frequented the at-the-farm store traveled longer distances. These shoppers probably make a special trip to this location to purchase fresh produce.

Conclusions

Our survey of consumers who purchase tomatoes at four market venues (supermarket, roadside stand, farmers' market, and at-the-farm store) suggests that consumers who prefer Jersey Fresh tomatoes are willing to make a special trip to a venue that sells in-season, vine-ripened tomatoes. These consumers believe that they will find fresher, tastier, less expensive, higher quality tomatoes when they purchase them at a direct marketing outlet. Consumers' perception that supermarket tomatoes are more expensive than those at the other three venues was, in fact, wrong.

The results of this survey suggest that direct marketers of fresh tomatoes should emphasize promotions based on taste and quality rather than convenience or price when marketing. Supermarkets should emphasize convenience and price while pointing out that they, too, sell Jersey Fresh tomatoes in season.

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Table 7. Awareness of Jersey Fresh program (in percentages)

	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Are you aware of the Jersey Fresh Promotional Program?					
No	79	68	68	79	74
Yes	21	32	32	21	26
Method of awareness (in percentages)					
Television	38	25	33	28	30
In-store promotion	25	11	19	24	18
Newspaper/magazine	13	14	7	24	15
Radio	13	11	15	12	13
Billboard	13	7	7	4	7
Personal use	0	14	15	4	10
Other	0	11	0	4	5
Word of mouth	0	7	4	0	3

Table 8. Times a week tomatoes are eaten (in percentages)

	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Once	9	3	3	6	6
Twice	15	8	16	9	11
Three	26	10	10	14	14
Four	21	20	18	15	18
Five	9	10	8	12	10
Six	3	3	0	9	5
Seven	15	41	39	35	34
Over 7	0	2	0	0	0

Table 9. Meals at which tomatoes are eaten (in percentages)

	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Breakfast	3	0	2	1	1
Lunch	21	18	28	19	20
Dinner	76	80	70	80	77
Snack	0	2	0	0	0

Table 10. Importance of tomato attributes (in percentages)

Attributes are very important

Attributes	A&P	At-the-farm store	Farmers' market	Roadside stands
Lack of Blemishes	56	47	45	49
Appearance	44	42	43	42
Color	32	32	38	31
Shelf Life	35	27	23	25
Price	26	22	36	16
Size	12	8	23	14

Attributes are important

Attributes	A&P	At-the-farm store	Farmers' market	Roadside stands
Lack of Blemishes	38	42	45	41
Appearance	53	49	51	52
Color	62	59	62	64
Shelf Life	44	49	34	44
Price	62	54	45	47
Size	65	58	45	51

Attributes are unimportant

Attributes	A&P	At-the-farm store	Farmers' market	Roadside stands
Lack of Blemishes	6	10	11	10
Appearance	3	8	6	6
Color	6	8	0	5
Shelf Life	21	24	43	31
Price	12	24	19	37
Size	24	34	32	36

Table 11. Preferred tomato size (in percentages)

	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Small	3	7	2	31	15
Medium	71	69	79	46	62
Large	26	22	17	23	22

Table 12. **Preferred firmness (in percentages)**

	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
1	0	0	0	0	0
2	0	2	0	0	0
3	0	3	0	6	1
4	0	2	2	20	3
5	18	19	22	12	20
6	18	5	18	19	12
7	9	12	10	19	14
8	32	29	22	18	24
9	9	7	12	9	9
10	14	22	12	15	16

Table 13. Average annual household income of respondents (in percentages)

In Dollars	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Under 20,000	0	13	10	11	10
20,000-30,000	0	18	20	8	12
30,001-40,000	13	15	17	18	16
40,001-50,000	25	9	17	11	14
50,001-60,000	16	19	17	11	15
60,001-70,000	9	15	7	4	9
70,001-80,000	6	4	7	8	7
80,001-90,000	6	0	2	6	3
90,001-100,000	6	4	0	11	6
Over 100,000	19	4	2	10	8

Table 14. Highest level of education attained by respondents (in percentages)

Education Level	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Below High School	6	5	4	2	4
High School Graduate	24	36	28	28	29
Some College	9	22	21	27	22
College Graduate	47	31	23	25	29
Degree Beyond College	14	7	23	16	15

Table 15. Age of respondents (in percentages)

Age	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Under 25	41	3	2	1	8
25-35	29	14	13	15	17
36-45	12	17	26	21	19
46-55	6	19	30	21	20
56-65	12	19	17	20	18
Over 65	0	29	11	20	18

Table 16. Gender of respondents (in percentages)

Gender	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Female	91	92	71	91	88
Male	6	2	17	5	7

Table 17. Race of respondents (in percentages)

Race	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Caucasian	79	71	57	64	67
African-American	18	24	36	32	29
Other	0	0	2	3	0

Table 18. **Tomato prices at various locations (in percentages)**

Prices	A&P	At-the-farm store	Farmers' market	Roadside stands
$ .79	29	49	0	0
$ .89	3	0	0	22
$ .90	0	0	35	0
$ .99	61	45	3	78
$1.00	0	0	7	0
$1.25	0	0	21	0
$1.29	3	0	0	0
$1.50	0	2	0	0
$1.55	0	2	0	0
$1.75	0	0	3	0
$1.80	0	2	0	0
$2.00	3	0	24	0
$2.25	0	0	3	0
$2.50	0	0	3	0

Table 19. Awareness of gassed tomatoes (in percentages)

	A&P	At-the-farm store	Farmers' market	Roadside stands	Overall Mean
Yes	68	86	72	62	71
No	32	14	28	38	29

Table 20. Miles driven to purchase tomatoes

Miles	A&P	At-the-farm store	Farmers' market	Roadside stands
< 1 mile	23	9	31	15
1 - 2 miles	40	31	46	46
2.1 - 5 miles	30	37	17	24
> 5 miles	7	23	6	15