

# Branding the Berries: Consumers' Strawberry Purchasing Intent and their Attitude toward Florida Strawberries

Taylor K. Ruth

Joy N. Rumble

Follow this and additional works at: <http://newprairiepress.org/jac>

## Recommended Citation

Ruth, Taylor K. and Rumble, Joy N. (2016) "Branding the Berries: Consumers' Strawberry Purchasing Intent and their Attitude toward Florida Strawberries," *Journal of Applied Communications*: Vol. 100: Iss. 2. <https://doi.org/10.4148/1051-0834.1028>

This Research is brought to you for free and open access by New Prairie Press. It has been accepted for inclusion in Journal of Applied Communications by an authorized administrator of New Prairie Press. For more information, please contact [cads@k-state.edu](mailto:cads@k-state.edu).

---

# Branding the Berries: Consumers' Strawberry Purchasing Intent and their Attitude toward Florida Strawberries

## **Abstract**

Florida is the largest producer of strawberries in the United States during the winter months. Recently, Florida has faced competition from strawberries imported from Mexico during peak season. Studies have shown that using state branding can help promote local produce. Branding can create perceived differences between identical items, as well as strong positive associations with the product. This study examined consumers' strawberry purchasing intent and attitudes toward Florida strawberries to aid agricultural communicators in creating effective communication and branding strategies. An online survey was distributed throughout Florida (n = 500). Results indicated that freshness and taste were the most important qualities of strawberries for purchasing decisions and that Florida strawberries were viewed more positively than Mexico strawberries. When respondents were given the option between labels with and without a Fresh from Florida brand logo, the majority preferred to purchase the package labeled Fresh from Florida. Consumers with a lower income were less likely to purchase state branded strawberries. Gender did not have an impact on purchasing intent for strawberries. Using the Fresh from Florida brand for Florida strawberries was a key recommendation from this study, along with using sensory words, like taste and freshness, when marketing strawberries. Also, developing outreach programs to inform lower- income families when produce is in season will help promote the sale of local products. These recommendations could be expanded to other states and commodities.

## **Keywords**

Branding, Competition, Imports, Local, Locally Grown, Strawberries

## **Creative Commons License**



This work is licensed under a [Creative Commons Attribution-Noncommercial-Share Alike 3.0 License](http://creativecommons.org/licenses/by-nc-sa/3.0/).

# Branding the Berries: Consumers' Strawberry Purchasing Intent and their Attitude toward Florida Strawberries

Taylor K. Ruth and Joy N. Rumble

## Abstract

*Florida is the largest producer of strawberries in the United States during the winter months. Recently, Florida has faced competition from strawberries imported from Mexico during peak season. Studies have shown that using state branding can help promote local produce. Branding can create perceived differences between identical items, as well as strong positive associations with the product. This study examined consumers' strawberry purchasing intent and attitudes toward Florida strawberries to aid agricultural communicators in creating effective communication and branding strategies. An online survey was distributed throughout Florida (n = 500). Results indicated that freshness and taste were the most important qualities of strawberries for purchasing decisions and that Florida strawberries were viewed more positively than Mexico strawberries. When respondents were given the option between labels with and without a Fresh from Florida brand logo, the majority preferred to purchase the package labeled Fresh from Florida. Consumers with a lower income were less likely to purchase state branded strawberries. Gender did not have an impact on purchasing intent for strawberries. Using the Fresh from Florida brand for Florida strawberries was a key recommendation from this study, along with using sensory words, like taste and freshness, when marketing strawberries. Also, developing outreach programs to inform lower-income families when produce is in season will help promote the sale of local products. These recommendations could be expanded to other states and commodities.*

## Key Words

Branding, Competition, Imports, Local, Locally Grown, Strawberries

## Introduction

The United States is the world's largest strawberry producer, accounting for 30% of the products sold globally (Boriss, Brunke, Kreith, & Morgan, 2012). In 2010, the United States grew more than one million metric tons of strawberries. Known to be high in vitamin C, potassium, and fiber, strawberries are the fifth most preferred fresh fruit in the United States, and demand has continued to grow. California has been the United States' largest producer of strawberries and yielded more than two billion pounds of strawberries during the 2012 season (United States Department of Agriculture-Economic Research Service [USDA-ERS], 2013). The USDA-ERS reported Florida as the second highest strawberry producer in the United States; Florida produced approximately 200 million pounds of strawberries in 2012. Due to the warm climate, Florida's strawberry season occurs during winter months from December until April, during California's off-season. Florida has been responsible for 100% of the fresh strawberry production in the United

*Funding for this research was provided by the Florida Strawberry Research and Education Foundation. This article was presented at the Southern Association of Agricultural Scientists on February 1, 2015 in Atlanta, Georgia.*

States during those winter months (Boriss et al., 2012). Florida agriculture contributed \$8.3 billion to the state's economy in 2011 (Hodges & Stevens, 2013), and \$300 million dollars came from strawberry sales alone in 2012 (Florida Department of Agriculture and Consumer Services [FDACS], 2013). Wu and Guan (2015) estimated that the overall economic contribution of the Florida strawberry industry to the state's economy to be one billion dollars in 2013. Florida has 8,700 acres of strawberry farms and produced 21,000 pounds of strawberries per acre in 2012 (USDA-ERS, 2013). Even though large volumes of product have been produced domestically, there has been a trend of increasing numbers of imported strawberries over the past decade (Wu, Guan, & Whidden, 2012).

The North American Free Trade Agreement (NAFTA) in 1993 caused an increase in imported vegetables and fruits into the United States, as well as direct competition with domestic produce (Tyson, Hochmuth, Lamb, Hochmuth, & Sweat, 2001). With strawberries in particular, the net trade has decreased dramatically from 120 million pounds in 2008 to 20 million pounds in 2011 (Wu et al., 2012). The United States has also increased imports from Mexico during Florida's strawberry season. In 2003, 88 million pounds of strawberries were imported from Mexico. By 2012, the volume had increased to 350 million pounds, which was almost twice the volume produced by Florida (Wu & Guan, 2015).

Imported strawberries have typically only been sold in United States stores when domestic strawberries were out of season (Boriss et al., 2012). However, the dramatic increase in strawberries imported from Mexico has led to more competition for local farmers (Shope, 2013). In 2011, 36% of the imported product arrived between March and April while Florida strawberries were still in season (Boriss et al., 2012). Plant City, Florida has been called the "winter strawberry capital of the world" (Florida Strawberry Growers Association, 2012, para. 2) and has harvested about 11,000 acres of strawberries a year. In early 2013, a supermarket chain began selling imported Mexico strawberries on shelves next to the locally grown, Plant City strawberries. Executive director for the Florida Strawberry Growers Association said, "I understand what they are trying to do, but this is just insulting to our community that depends so much on our local crop, and that's the point I am trying to make, that this is just inappropriate" (Shope, 2013, para. 3). Florida's market share has dropped due to Florida's increase in imports from Mexico (Ohlemeier, 2013). The recent rise in Mexico strawberries is due, in part, to their increase in strawberry acreage from 15,000 acres in 2010 to about 21,000 acres in 2012. The influx of imports caused more market competition, and Mexico farms use of inexpensive labor led to heightened competition with the local producers (Boriss et al., 2012; Ohlemeier, 2013). Even though Florida strawberries have been reported as "fresher since they grow 2,000 miles closer" (Campbell, 2013, para. 6), there is a valid threat from the imported Mexico strawberries due to the lowered price for grocery stores. In 2010, Florida strawberry growers earned \$1.87 per pound of strawberries, and by 2012, the price dropped to \$1.10 per pound. This price was lowest strawberry farmers earned in Florida since 2005 (USDA-ERS, 2013).

There is a need to better promote Florida grown strawberries considering the increase in imported strawberries has created direct competition with the local economy. Understanding consumers' attitudes toward a product is the first step for agricultural communicators to develop effective strategies to promote the sale of Florida strawberries. These strategies are in accordance with priority two of the national research agenda, New Technologies, Practices, and Products Adoption Decisions (Doerfert, 2011). The purpose of this study was to determine consumers' strawberry purchasing intent and attitudes toward Florida grown strawberries to develop Florida strawberry communication and brand strategies.

## Literature Review

Brands, often attached to consumer goods, represent more than a product itself and carry social meaning (Loken, Ahluwalia, & Houston, 2010). These social constructs add value to organizations and the consumer (Settle, 2012). A brand represents value to the customer and reduces consumer' perceptions of risk and uncertainty (Franzen & Moriarty, 2009; Kornberger, 2010). Implementing and maintaining successful brands requires understanding how the brand is communicated to consumers and how consumers respond to the brand (McEnally & de Chernatony, 1999).

Brand positioning is the process of creating a mental image for the consumer to establish brand identity and value (Kotler & Keller, 2006). To determine the brand position, marketers first must understand who the product's consumers are, who the main competitors are, similarities between the brand and competitors, as well as differences among them. Proper positioning relies heavily on the points of parity and points of difference being established (Kravetz, 1977). The points of differences are positive attributes consumers associate with a product that they believe would not be found in products sold by a competitor's brand (Barwise & Meehan, 2004). Perceived uniqueness of the brand is often what leads a consumer to make final purchasing decisions (Keller, 1998). Points of differences can relate to performance of the product, as well as imagery associations. Points of parity differ from points of differences because they describe attributes that are shared with other brands. Competitive points of parity demonstrate how a brand is good enough when comparing a particular benefit to competitors. Once consumers feel the product is adequate, they can make purchasing decisions based on perceived differences and benefits of the product (Keller, 2008).

Product strategy is a subset of branding where marketers choose both tangible and intangible benefits the product will offer. Perceived quality is the perception of overall superiority of a product (Keller, 1998). Quality can include performance, reliability, and features of the product (Garvin, 1985; Kotler, 2000). The perceived quality can often influence the behavior and attitudes consumers have toward a brand (Keller). Product branding has been used by states for decades to differentiate agricultural commodities by their quality attributes (Adelaja, Brumfield, & Lininger, 1990).

State branding for agricultural products exists in all 50 states (Onken & Bernard, 2010), and there are a number of studies that have researched the effectiveness of the brands. The Jersey Fresh program is an example of a successful state branding program. For every one dollar fruit and vegetable growers invested into the program, they have received approximately a \$32 return (Govindasamy et al., 2004). Adelaja, Brumfield, and Lininger (1990) found that consumers had positive associations with the Jersey Fresh brand and perceived branded tomatoes as having a higher quality than competitors. Many of the high quality attributes identified by the consumers were related to the fact the Jersey Fresh tomatoes had been locally grown. Settle and Rumble (2014) examined Florida consumers' perceptions of local strawberries. Consumers believed the Florida strawberries were fresher and a higher quality than imported strawberries. When given the choice between Fresh from Florida branded strawberries and a non-branded product, the consumers chose the package with Fresh from Florida because it was easy to see and recognizable. The participants from the study reported not always being able to locate the growing location on the label in the absence of the Fresh from Florida logo.

Consumers' preference for local and state-branded food has also increased their willingness to pay for these products. Nganje, Hughner, and Lee (2011) concluded that Arizona consumers were willing to pay more for state branded spinach due to a higher perception of safety associated with the product. Additionally, the study suggested that differentiating products by state brands would provide added value for the consumers. Carpio and Isengildina-Massa (2008) similarly found that South Carolina consumers were willing to pay a 27% premium on locally produced

food. The amount the consumers would pay for local products was greatly influenced by age, gender, and income. Willingness to pay for state-grown products increased with age and income, and women were willing to pay more than men for local animal products. Demographic differences in food purchases have been identified in other research as well. In a study of Indiana residents, females were found to have a higher probability to purchase locally grown food than men, and households with higher incomes were more susceptible to branding and less susceptible to price than lower income households (Jekanowski, Williams, & Schiek, 2000). Females have been reported as the primary shoppers for households (Bellows, Alcaraz, & Hallman, 2010). Females have also been found to hold stronger positive attitudes toward local food compared to males. Research has concluded that men and women likely assign different values and meaning to food, which leads to differences in preferences toward the products (Beardsworth et al., 2002; Wardle et al., 2004).

Local food preferences extend beyond tangible qualities, and consumers have felt that purchasing local food supported the social ideology of the small farmer or business (Darby, Batte, Ernst, & Roe, 2006). Additionally, buying local food has extended beyond the geographical origins of the product, and consumers have preferred purchasing local food due to personal interactions with farmers (Brown & Miller, 2008; Hunt, 2007). Gay, Rumble, and Lamm (2014) identified differences in how consumers perceived the Fresh from Florida brand differently than simply identifying a product as local. The results between the two were similar, except for more trust being placed in the Fresh from Florida brand. Even though consumers have reported preferences for locally grown food, a study by Liefeld (2004) found the majority of consumers do not use country of origin labelling when purchasing food. Out of the consumers who did use the label to find the growing location, less than one third reported making their purchasing decision based on the country of origin labeling.

Developing a brand image to differentiate produce by where it was grown is a way for states to create perceived product differences and create customer loyalty (Jekanowski et al., 2000). Branding products enable consumers to make purchasing decisions based not only on price, but on intangible quality attributes as well (Jekanowski et al., 2000). Agricultural communicators could use this type of state branding to better promote produce like Florida strawberries.

### **Purpose and Objectives**

The purpose of this study was to identify Florida consumers' strawberry purchasing intent and their attitudes toward Florida grown strawberries to develop effective communication and brand strategies. The objectives of this study were to:

1. Describe Florida consumers' purchasing intent of strawberries based on the importance of different strawberry characteristics while making purchasing decisions.
2. Describe Florida consumers' purchasing intent of strawberries based on label use and preference of strawberry packages while making purchasing decisions.
3. Compare Florida consumer' attitudes toward Florida grown strawberries and Mexico grown strawberries.
4. Determine if there is an association between income level and label preference, label use, and importance of strawberry characteristics in relation to purchasing intent.
5. Determine if there is an association between gender and label preference, label use, and importance of strawberry characteristics in relation to purchasing intent.

## Methods

An online survey was used to collect data for this study. The instrument was distributed in late February of 2014 and was active for 10 days. The survey was released during this time because it coincided with Florida's strawberry season (Boriss et al., 2012). The survey questions were guided by a previous qualitative study on consumer perceptions of Florida strawberries (Settle & Rumble, 2014). The instrument consisted of 36 questions, and six of the questions were analyzed for this study. Purchasing intent was explored by examining importance of strawberry characteristics, label use, and label preferences when Florida consumers purchase strawberries. Importance of strawberry characteristics was measured by a 7-item Likert-type scale with the following labels: *not at all important*, *slightly important*, *fairly important*, *highly important*, and *extremely important*. A scale is reliable if Cronbach's alpha falls between .70 and .80 (Field, 2013). The Cronbach's alpha for this scale was .70 and was not improved if an item was deleted. Since the scale used categorical data, and an index was not needed for analysis, a reliability measurement of .70 was acceptable.

Strawberry label use and preference was also analyzed to determine Florida consumers' strawberry purchasing intent through two Likert-type scales and one multiple choice question. The first scale used two items to measure the frequency consumers use the growing location on labels when shopping for strawberries. The labels for the scale were as follows: *never*, *rarely*, *sometimes*, *most of the time*, *always*. The second scale measured whether consumers could easily locate the growing location on labels and if they were loyal to specific brands of strawberries. The second Likert-type scale had the labels: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neither agree nor disagree*, 4 = *agree*, 5 = *strongly agree*. One multiple-choice question was used to gather information about Florida consumers' label preference. The question showed two different strawberry packages, one with the Fresh from Florida logo on the label and the other one only identifying the growing location of Plant City, Florida.

Attitudes toward Mexico and Florida strawberries were measured through two questions that used the same 9-item bipolar semantic differential scale (same scale was used to collect attitudes about Florida and Mexico). Cronbach's alpha was .78 for the Florida attitude scale and .83 for the Mexico attitude scale. Reliability increased if an item asking if strawberries came from small or large farms was deleted. After deletion, the Florida scale had a Cronbach's alpha of .85 and the Mexico scale was increased to .88. Indexes for each scale were created by summing the average of each item and dividing by eight.

A panel of experts reviewed the survey before distribution to account for content and face validity (Ary, Jacobs, & Sorensen, 2010). The panel included an assistant professor in the Department of Agricultural Education and Communication (AEC) at the University of Florida (UF), an associate professor in the AEC department at UF, and the director of the Florida Strawberry Growers Association. A soft-launch of the survey was also distributed to ensure there were no issues with data collection. Appropriate edits were made after initial data were recorded before the survey was launched.

Respondents were recruited using non-probability sampling methods by an online survey company. Public opinion researchers have often used non-probability sampling (Baker et al., 2013), which has been proven through literature to be comparable to, if not better than, traditional probability samples (Twyman, 2008; Vavreck & Rivers, 2008). Quota sampling was used to reduce limitations, and the amount of bias, typically associated with non-probability sampling (Baker et al.). Respondents were matched for sex, race/ethnicity, and age to the 2010 Florida Census to increase the generalizability of the sample. The population of interest for this study was Florida residents 18 years of age and older who purchased strawberries. Because demographic questions for the quotas, and whether respondents purchased strawberries, were collected at the beginning of the survey, respondents would be dismissed from the survey if quotas for their demographic characteristics had already been met. As data was collected, not enough men, minorities, and young

respondents were answering yes to purchasing strawberries over the past year, and set quotas had to be adjusted. The quotas for white, middle-aged, and female respondents were increased to collect the appropriate data because the Florida demographics were not reflective of Florida strawberry purchasers.

The survey instrument was distributed to 1,812 respondents in the state of Florida and completed by 500 respondents ( $n = 500$ ) who met the adjusted quota and were strawberry purchasers. The majority of respondents were female ( $n = 310$ , 62%) and white ( $n = 425$ , 85%). The annual income of respondents were as follows: less than \$30,000 ( $n = 155$ , 31%), \$30,000 to \$49,999 ( $n = 135$ , 27%), \$50,000 to \$79,999 ( $n = 139$ , 26%), and more than \$80,000 ( $n = 80$ , 16%). Thirty-seven percent of respondents were between the ages of 18 and 39, 49% were between 40 and 59, and 18% were over the age of 60.

Data analysis was done using SPSS® 21.0. Objective 1 was analyzed using descriptive statistics. Paired t-tests were used to compare attitudes toward Florida and Mexico strawberries as described in objective 2. Demographic differences in purchasing intent between income level and gender were measured in objectives three and four. These characteristics had been identified as predictors of differing values and preference related to food decisions (Beardsworth et al., 2002; Bellow et al., 2010; Carpio & Isengildina-Massa, 2008; Jekanowski et al., 2000; Wardle et al., 2004), and further information was needed for purchasing intent of Florida strawberries specifically. Objective 3 used a Pearson's chi-square test to determine if there was an association between consumers' income level and their purchasing intent for Florida strawberries. Descriptive statistics were used to further examine differences between the income levels. Chi-square tests were also used to determine if there was an association between gender and purchasing intent for strawberries to satisfy the fourth, and final, objective.

## Results

*Objective 1: Describe Florida consumers' purchasing intent of strawberries based on the importance of different characteristics while making purchasing decisions.*

Respondents were asked to rate how important different strawberry attributes were when making purchasing decisions (Table 1). The majority of respondents identified taste (70%,  $n = 349$ ) and freshness (73%,  $n = 365$ ) as *extremely important*. Respondents also indicated the strawberry season and nutrition were *highly* or *extremely important* (74%,  $n = 357$  and 71%,  $n = 370$  respectively).



Table 1

*Characteristics Consumers Believe to be Important when Purchasing Strawberries (N = 500)*

| Characteristic        | Not at all Important |   | Slightly Important |    | Fairly Important |    | Highly Important |    | Extremely Important |    |
|-----------------------|----------------------|---|--------------------|----|------------------|----|------------------|----|---------------------|----|
|                       | <i>n</i>             | % | <i>n</i>           | %  | <i>n</i>         | %  | <i>n</i>         | %  | <i>n</i>            | %  |
| Freshness             | 1                    | 0 | 1                  | 0  | 18               | 4  | 115              | 23 | 365                 | 73 |
| Taste                 | 2                    | 0 | 0                  | 0  | 13               | 3  | 136              | 27 | 349                 | 70 |
| Nutrition             | 10                   | 2 | 31                 | 6  | 89               | 18 | 181              | 36 | 189                 | 38 |
| In Season             | 15                   | 3 | 31                 | 6  | 97               | 19 | 189              | 38 | 168                 | 34 |
| Price                 | 13                   | 3 | 29                 | 6  | 154              | 31 | 170              | 34 | 134                 | 27 |
| Support Local Farmers | 32                   | 6 | 56                 | 11 | 134              | 27 | 152              | 30 | 126                 | 25 |
| Convenience           | 42                   | 8 | 77                 | 16 | 185              | 37 | 116              | 23 | 80                  | 16 |

*Objective 2: Describe Florida consumers' purchasing intent of strawberries based on label use and preference while making purchasing decisions.*

Table 2 shows the strawberry purchasing intent of the respondents in regard to using packaging labels. A little over half of the respondents (55%, *n* = 272) reported that they looked on strawberry packages *most of the time* or *always* to find the growing location of the strawberries. However, only 37% (*n* = 186) of consumers said that they *most of the time* or *always* made their final purchasing decision based off of the growing location.

Table 2

*Florida Consumers' use of Strawberry Labels (N = 500)*

| Characteristic   | Never    |    | Rarely   |    | Sometimes |    | Most of the Time |    | Always   |    |
|--|----------|----|----------|----|-----------|----|------------------|----|----------|----|
|  | <i>n</i> | %  | <i>n</i> | %  | <i>n</i>  | %  | <i>n</i>         | %  | <i>n</i> | %  |
| I look on the label to see where strawberries are grown.                     | 35       | 7  | 58       | 12 | 135       | 27 | 163              | 33 | 109      | 22 |
| I make my purchase based on where the label says the strawberries are grown. | 56       | 11 | 106      | 21 | 152       | 30 | 117              | 23 | 69       | 14 |

Respondents were asked further questions about their use of strawberry package labels when purchasing strawberries. The scale used for this construct was, *strongly disagree* = 1, *disagree* = 2, *neither agree nor disagree* = 3, *agree* = 4, and *strongly agree* = 5. When respondents were asked if they could easily locate the growing location of the strawberries on the label, the average agreed that they could (*M* = 3.74, *SD* = .92). Another question asked if the consumers were loyal to specific strawberry brands. The respondents tended to neither agree nor disagree with the statement (*M* = 2.76, *SD* = 1.07).

The survey also showed two identical images of a strawberry package with the same label indicating the product came from Plant City, Florida to determine label preference. The only difference was one package displayed the Fresh from Florida logo on the label while the other package did not. Before respondents were exposed to the two images, they were told to imagine they were in a supermarket and to take no more than 10 seconds to decide which package they would chose. The majority of the respondents chose the package labeled Fresh from Florida (76%,  $n = 381$ ) and only 23% ( $n = 116$ ) chose the package without the logo on it.

*Objective 3: Compare Florida consumers' attitudes toward Florida grown strawberries and Mexico grown strawberries.*

A semantic differential scale was used to measure attitudes toward Florida and Mexico strawberries; negative adjectives were assigned a 1 and positive adjectives were assigned a 5. The index created for attitudes toward Florida strawberries showed that respondents had an overall positive attitude toward local strawberries ( $M = 4.47$ ,  $SD = .53$ ). The attitudes toward Mexico strawberries were neutral; the mean for the index was 3.22 ( $SD = .76$ ). The difference in the means was 1.25, which was significant at an alpha level 0.01 ( $p < .01$ ).

Table 3 shows respondents' individual attitudes toward Florida grown strawberries and Mexico grown strawberries; adjectives marked with a "1" were reverse coded. There were significant differences in every individual attitude toward Florida and Mexico strawberries ( $p < 0.01$ ). The largest differences were associated with Florida strawberries being safer (*mean difference* = 1.69) and fresher (*mean difference* = 1.69) than the Mexico strawberries. The smallest difference in attitude occurred when respondents were asked about the affordability of strawberries. Respondents believed Florida strawberries were more affordable than strawberries from Mexico.

Table 3

*Consumer Attitudes toward Florida and Mexico Strawberries (N = 500)*

| Attitude                                | Florida  |           | Mexico   |           | Mean Difference |
|---|----------|-----------|----------|-----------|-----------------|
|   | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |                 |
| Unsafe: safe                            | 4.61     | 0.69      | 2.93     | 1.04      | 1.69*           |
| Not fresh: fresh <sup>a</sup>           | 4.68     | 0.64      | 2.99     | 1.09      | 1.69*           |
| Low quality: high quality <sup>a</sup>  | 4.49     | 0.76      | 3.00     | 1.02      | 1.49*           |
| Inconvenient: convenient <sup>a</sup>   | 4.53     | 0.74      | 3.19     | 1.13      | 1.34*           |
| Dirty: clean                            | 4.33     | 0.85      | 3.03     | 1.00      | 1.29*           |
| Unsweet: sweet <sup>a</sup>             | 4.47     | 0.75      | 3.48     | 1.02      | 0.99*           |
| Not nutritious: nutritious <sup>a</sup> | 4.57     | 0.66      | 3.68     | 1.00      | 0.89*           |
| Not affordable: affordable <sup>a</sup> | 4.10     | 0.91      | 3.46     | 0.94      | 0.64*           |

*Note.* 1 = negative adjective and 5 = positive adjective

<sup>a</sup> indicates the answers were reverse coded

\* indicates significance at  $p < 0.01$

*Objective 4: Determine if there is an association between income level and label preference, label use, and importance of strawberry characteristics in relation to purchasing intent.*

Pearson Chi-Square tests were used to determine if respondents' income level was associated with their use and preferences of labels on strawberry packages, as well as the importance of difference strawberry characteristics while shopping. A significant association between income level and label preference was identified ( $\chi^2 = 15.83, p = .02$ ). Descriptive statistics showed that 31% ( $n = 48$ ) of respondents with an annual income below \$30,000 chose the package *without* the Fresh from Florida logo compared to only 11% ( $n = 9$ ) of respondents with an annual income above \$80,000.

An association between income level and if respondents looked on labels for growing location was also identified. The Chi-square analysis was significant ( $\chi^2 = 15.57, p = .02$ ), and results can be seen in Table 4. Descriptive measurements indicated that 28% ( $n = 43$ ) of respondents who earned less than \$30,000 a year never or rarely looked on label for the growing location of strawberries. This percentage was more than double that of respondents who earned between \$50,000 and \$79,999 and over \$80,000 a year who reported never or rarely looking at the growing location for strawberries (11%,  $n = 15$  and 12%,  $n = 10$  respectively).

Table 4

*Association between Income Level and Response to "I look on the label to see where strawberries were grown" (N = 500)*

| Annual Income      | <i>n</i> | Never/Rarely | Sometimes | Most of the Time/<br>Always | $\chi^2$ | <i>p</i> |
|--------------------|----------|--------------|-----------|-----------------------------|----------|----------|
| Less than \$30,000 | 153      | 28%          | 22%       | 50%                         | 15.57    | .02*     |
| \$30,000-\$49,999  | 134      | 19%          | 28%       | 53%                         |          |          |
| \$50,000-\$79,999  | 132      | 11%          | 32%       | 57%                         |          |          |
| \$80,000 or more   | 81       | 12%          | 27%       | 60%                         |          |          |

\* indicates significance at  $\alpha = 0.05$

Table 5 shows that there was a significant association between income level and the frequency purchasing decisions were made based off of the growing location of the strawberries ( $\chi^2 = 12.69, p = .05$ ). Respondents who earned less than \$30,000 annually reported that 43% ( $n = 65$ ) of the time they *never or rarely* made their purchasing decision based on the growing location of the strawberries. Respondents earning \$50,000 to \$79,999 annually and \$80,000 or more annually were about half as likely to rarely or never make their purchases based on the growing location (27%,  $n = 35$  and 25%,  $n = 20$  respectively). Additionally, respondents with an annual income of \$80,000 or more were about 10% more likely to make their purchasing decision based on the growing location (42%,  $n = 34$ ) than those who made an annual income of \$30,000 or less (33%,  $n = 50$ ).

Table 5

*Association between Income Level and Response to "I make my purchase based off of where the label says strawberries are grown" (N = 500)*

| Annual Income      | <i>n</i> | Never/Rarely | Sometimes | Most of the Time/<br>Always | $\chi^2$ | <i>p</i> |
|--------------------|----------|--------------|-----------|-----------------------------|----------|----------|
| Less than \$30,000 | 153      | 43%          | 25%       | 33%                         | 12.69    | .05*     |
| \$30,000-\$49,999  | 134      | 31%          | 29%       | 40%                         |          |          |
| \$50,000-\$79,999  | 132      | 27%          | 36%       | 37%                         |          |          |
| \$80,000 or more   | 81       | 25%          | 33%       | 42%                         |          |          |

\* indicates significance at  $\alpha = 0.05$

A Chi-square analysis was used to determine if there was an association between income level and the importance of the strawberry characteristics described in Table 1. The only significant association was concerned with how important respondents believed the convenience of purchasing strawberries was while shopping ( $\chi^2 = 13.59, p = .04$ ). The descriptive statistics for the income levels and importance of convenience can be seen in Table 6. The only difference was that 31% ( $n = 42$ ) of respondents who earned between \$30,000 and \$49,999 reported that convenience was highly or extremely important, which was 10% less than the other income levels. No other significant associations were found between income level and importance of strawberry characteristics or label use.

Table 6

*Association between Income Level and Importance of Convenience (N = 500)*

| Annual Income      | <i>n</i> | Not at all/<br>Slightly | Somewhat | Highly/Extremely | $\chi^2$ | <i>p</i> |
|--------------------|----------|-------------------------|----------|------------------|----------|----------|
| Less than \$30,000 | 153      | 20%                     | 38%      | 42%              | 13.59    | .04*     |
| \$30,000-\$49,999  | 134      | 35%                     | 34%      | 31%              |          |          |
| \$50,000-\$79,999  | 132      | 20%                     | 38%      | 42%              |          |          |
| \$80,000 or more   | 81       | 20%                     | 38%      | 42%              |          |          |

\* indicates significance at  $\alpha = 0.05$

*Objective 5: Determine if there was an association between gender and label preference, label use, and importance of strawberry characteristics in relation to purchasing intent.*

One significant association was found between gender and the importance of taste while making strawberry purchasing decisions. However, assumptions for a Chi-square test were not met, and conclusions could not be made. There were no significant associations between gender and purchasing intent.

## Conclusions

The "average" Florida consumer, as described by the 2010 Florida Census, was not necessarily purchasing strawberries on a regular basis, which was concluded from the fact the original demographic quotas had to be adjusted. Instead, it appeared that white females, between

the ages of 30 and 50, were the primary strawberry shoppers in this population. This finding was consistent with previous literature that concluded females were the primary food shoppers for the household (Bellows et al., 2000).

The most important characteristics consumers looked at when making their strawberry purchasing decisions were the freshness and taste of the fruit. This supports previous research by Adelaja et al. (1990) and Settle and Rumble (2014). These qualities are tangible characteristics of the strawberries. Intangible attributes, such as supporting local farmers, did not appear as important to the respondents. Tangible attributes may offer more value to the consumers compared to intangible attributes and have greater influence on their purchasing decisions.

More than half of the respondents reported that they looked at the strawberries' label for the growing location most, if not all, of the time. Studies have shown that purchasing local food has been used to meet the social needs of consumers (Brown & Miller, 2008; Hunt, 2007), and this likely influenced how the respondents read food labels. However, less people actually made their purchases based off the growing location, which was consistent with prior research (Liefeld, 2004). This finding may be because even though people wanted to purchase local food, if another product looked like a higher quality or was cheaper, they might pick that option instead. Another possible explanation is that consumers were looking to see if the strawberries were simply domestically produced. If the strawberries were grown in Florida or California, the growing location may not have meant as much, which led to consumers making their final purchasing decisions based off other attributes. Consumers also reported that they could easily find the growing location of the strawberries on the products' labels, which contradicted previous studies that indicated consumers did not always know where their food was from (Liefeld, 2004; Settle & Rumble, 2014). The growing location appeared to be more important than individual strawberry brands. There may not be enough recognizable strawberry brands offering differentiable qualities for consumers to have a brand preference.

When respondents were asked if they would prefer to purchase strawberries labeled Fresh from Florida or identical strawberries without the logo, an overwhelming majority chose to purchase the package labeled Fresh from Florida. These results supported similar research (Adelaja et al, 1990; Gay et al., 2014; Nganje et al., 2011; Settle & Rumble, 2014) that indicated state agriculture brands were preferred by consumers over only providing the growing location on a label, and was associated with high quality products that were produced locally. This choice of the Fresh from Florida logo may have been the result of respondents assigning value or meaning to the brand (Loken et al., 2010). The logo likely provided a visual representation for the growing location and represented the positive qualities respondents associated with Florida strawberries (Keller, 1998). Respondents could easily see the brand and associate the strawberries with Florida without having to read over the label for the growing location.

Overall, consumers had a much more positive attitude toward strawberries grown in Florida than strawberries grown in Mexico. The biggest difference in attitudes was the safety associated with the two location origins, which aligned with previous research (Nganje et al., 2011). Freshness accounted for the second biggest difference. Consumers likely realized that local strawberries did not have to travel as many food miles before they reached the supermarket shelves. The respondents may have also associated a higher perception of safety related to Florida strawberries because they were produced domestically.

Income level was found to be associated with purchasing intent of strawberries. Lower income respondents were less likely to select the branded strawberries. This finding was likely because higher income consumers were more susceptible to brands and were not as influenced by price compared to lower income consumers (Jekanowski, et al., 2000). Similarly, lower income

respondents said they rarely purchased strawberries based off of where the label says they were grown or even looked for the growing location on strawberry packages. These results supported literature that concluded lower income families may not have felt they could afford the locally grown food and perceived it to be more expensive. Overall, the association between income and strawberry purchasing intent supported literature that higher income consumers were more likely to purchase local food (Jekanowski et al., 2000). Differences in the importance placed on convenience may be attributed to the lower income respondents viewing other attributes, like price, as more important. However, respondents who earned less than \$30,000 a year reported convenience to be as important as respondents in the higher income levels. More research will be needed to interpret these results.

Differences in attitudes toward food between men and women has been attributed to values assigned to the product by the sexes (Beardsworth et al., 2002; Wardle et al., 2004). However, this study found no significant associations between gender and purchasing intent. Carpio and Isengildina-Massa (2008) did identify differences for locally raised animal products, but not produce. A commodity like strawberries may not provide different values to the genders, which could explain the findings.

### Recommendations

The respondents' selection of the Fresh from Florida labeled package indicated that the brand represented the positive perceptions consumers had toward Florida strawberries (Franzen & Moriarty, 2009). Agricultural communicators need to capitalize on this knowledge by using the Fresh from Florida logo on strawberry packages to reinforce the positive attitudes toward local strawberries that consumers already have and highlight the presence of characteristics consumers believe to be important. Emphasizing freshness, quality, and taste will reinforce the consumers' perception that Florida strawberries are superior to Mexico strawberries, strengthening the brand's position (Kotler & Keller, 2006) and creating a perceived difference between otherwise identical products (Barwise & Meehan, 2004). These results could be expanded to other commodities both in Florida and in other states because residents likely have positive perceptions of their state's produce (Brown & Miller, 2008).

Even though there were no significant associations between gender and purchasing intent, women should still be a target audience for marketing since they were identified as the primary strawberry purchaser. Freshness and taste should be the focus of messages. The attributes could also be promoted to women by taste tests in grocery stores, cooking demonstrations at state fairs, and providing information on where families could pick their own strawberries. This research indicated that people in lower income households either do not prioritize purchasing local food or do not realize it can be an affordable option. Agricultural communicators should work alongside producers to help support or develop programs to promote local food to lower income families. Extension services could also be used to help educate lower income consumers about when local food is in season and typically sold at a lower price to encourage that audience to purchase locally. Facilitating personal interactions between consumers and Florida strawberries will help reinforce positive associations with the product (Brown & Miller, 2008; Hunt, 2007).

Because Florida is the primary producer of strawberries during winter months (Boriss et al., 2012), how non-Florida consumers view Florida strawberries will be important research as well. Similarly, communicators should determine if use of the Fresh from Florida brand would resonate as strongly with people outside of the state. Point of purchase research would also help to strengthen the findings in this study. Additional messaging research using different frames about freshness, taste, seasonality, and safety of strawberries, or other commodities, should be examined for effective communication and brand strategies as well.

## References

- Adelaja, A.O., Brumfield, R.G., & Lininger, K. (1990). Product differentiation and state promotion of farm produce: An analysis of the Jersey Fresh tomato. *Journal of Food Distribution Research*, 21(3), 73-86. Retrieved from <http://ageconsearch.umn.edu/bitstream/27108/1/21030073.pdf>
- Ary, D., Jacobs, L. C., & Sorensen, C. (2010). *Introduction to research in education* (8th ed.). Belmont, CA: Wadsworth.
- Baker, R., Brick, J. M., Bates, N. A., Battaglia, M., Couper, M. P., Dever, J. A., ... Tourangeau, R. (2013). *Report of the AAPOR task force on non-probability sampling*. American Association for Public Opinion Research. Retrieved at <http://www.aapor.org/AM/Template.cfm?Section=Reports1&Template=/CM/ContentDisplay.cfm&ContentID=5963>
- Barwise, P., & Meehan, S. (2004). *Simply better: Winning and keeping customers by delivering what matters most*. Boston, MA: Harvard Business School Press.
- Beardsworth, A., Bryman, A., Keil, T., Goode, J., Haslam, C., & Lancashire, E. (2002). Women, men and food: the significance of gender for nutritional attitudes and choices. *British Food Journal*, 104, 470-491. doi:10.1108/00070700210418767
- Bellows, A. C., Alcaraz, G., & Hallman, W. K. (2010). Gender and food, a study of attitudes in the USA towards organic, local, U.S. grown, and GM-free foods. *Appetite*, 55, 540-550. doi:10.1016/j.appet.2010.09.002
- Boriss, H., Brunke, H., Kreith, M., & Morgan, K. (2012, June 1). Commodity Strawberry Profile. Retrieved May 28, 2014, from [http://www.agmrc.org/commodities\\_\\_products/fruits/strawberries/commodity-strawberry-profile/](http://www.agmrc.org/commodities__products/fruits/strawberries/commodity-strawberry-profile/)
- Brown, C., & Miller, S. (2008). The impacts of local markets: A review of research on farmers markets and community supported agriculture (CSA). *American Journal of Agricultural Economics*, 90(5), 1296-1302. doi:10.1111/j.1467-8276.2008.01220.x
- Campbell, T. (2013, July 1). Ted's talks: Born in the U.S.A.! *Florida Strawberry Growers Association*. Retrieved May 28, 2014, from <http://flastrawberry.com/teds-talks/Florida-strawberry-growers-face-the-challenge-of-imported-fruit/>
- Darby, K., Batte, M. T., Ernst, S., & Roe, B. (2006). *Willingness to pay for locally produced foods: A customer intercept study of direct market and grocery store shoppers*. Paper presented at the American Agricultural Economics Association Annual Meeting, Long Beach, CA. Retrieved from <http://ageconsearch.umn.edu/bitstream/21336/1/sp06da03.pdf>
- de Chernatony, L. (2001). *From brand vision to brand evaluation: Strategically building and sustaining brands*. Woburn, MA: Butterworth-Heinemann.
- Doerfert, D. L. (Ed.) (2011). *National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015*. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). Thousand Oaks, CA: SAGE.
- Florida Department of Agriculture and Consumer Services. (2013). *Florida agriculture by the numbers*. Retrieved from [http://www.nass.usda.gov/Statistics\\_by\\_State/Florida/Publications/Agriculture\\_Statistical\\_Directory/2012/2012%20FL%20Ag%20by%20the%20Numbers\(FASD\).pdf](http://www.nass.usda.gov/Statistics_by_State/Florida/Publications/Agriculture_Statistical_Directory/2012/2012%20FL%20Ag%20by%20the%20Numbers(FASD).pdf)
- Florida Strawberry Growers Association. (2012). *Home*. Retrieved from <http://Floridastrawberry.com/>
- Franzen, G., & Moriarty, S. (2009). *The Science and Art of Branding*. Armonk, NY: M.E. Sharpe, Inc.

- Garvin, D. (1985, May). Product Quality: An important strategic weapon. *Business Horizons*, 27(3). 40-43. Retrieved from [http://ac.els-cdn.com/0007681384900247/1-s2.0-0007681384900247-main.pdf?\\_tid=018b2e48-d3c0-11e4-968f-00000aacb35e&acdnat=1427378414\\_feb14717e702a9f9c2528d3b04fcb371](http://ac.els-cdn.com/0007681384900247/1-s2.0-0007681384900247-main.pdf?_tid=018b2e48-d3c0-11e4-968f-00000aacb35e&acdnat=1427378414_feb14717e702a9f9c2528d3b04fcb371)
- Gay, K. D., Rumble, J. N., Lamm, A. J. (2014, May) Informing extension programming with research: A look into local food. Paper presented at the annual research conference of American Association for Agricultural Education, Salt Lake City, UT. Abstract retrieved from [http://aaaeonline.org/uploads/allconferences/5-18-2014\\_513\\_Proceedings\\_of\\_the\\_2014\\_AAAE\\_\(Abstracts\).pdf](http://aaaeonline.org/uploads/allconferences/5-18-2014_513_Proceedings_of_the_2014_AAAE_(Abstracts).pdf)
- Govindasamy, R., Schilling, B., Sullivan, K., Turvey, C., Brown, L & Puduri, V. (2004). *Returns to the Jersey Fresh promotional program: The impacts of promotional expenditures on farm cash receipts in New Jersey*. New Brunswick: Rutgers, the State University of New Jersey, Food Policy Institute and Department of Agricultural, Food and Resource Economics
- Hodges, A. W., & Stevens, T. J. (2013). *Local food systems in Florida: Consumer characteristics and economic impacts*. Unpublished manuscript, Food and Resource Economics Department, University of Florida, Gainesville, Florida website: <http://www.fred.ifas.ufl.edu/economic-impact-analysis/pdf/Florida-statewide-local-food-survey-2-6-13.pdf>
- Hunt, A. R. (2007). Consumer interactions and influences on farmers' market vendors. *Renewable Agriculture and Food Systems*, 22(1), 54-66. doi:10.1017/S1742170507001597
- Jekanowski, M. D., Williams II, D. R., & Schiek, W. A. (2000). Consumers' willingness to purchase locally produced agricultural products: An analysis of an Indiana survey. *Agricultural and Resource Economics Review*, 29(8), 43-53. Retrieved from <http://purl.umn.edu/31329>
- Keller, K. L. (1998). *Strategic brand management: Building, measuring and managing brand equity* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
- Keller, K. L. (2008). *Strategic brand management: Building, measuring and managing brand equity* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
- Kornberger, M. (2010). *Brand society: How brands transform management and lifestyle*. New York, NY: Cambridge University Press.
- Kotler, P. (2000). *Marketing management* (10th ed.). Upper Saddle River, N.J: Prentice Hall.
- Kotler, P., & Keller, K. L. (2006). *Marketing management* (12th ed.). Upper Saddle River, N.J: Prentice Hall.
- Kravetz, S. (1977, September 4). Baskin-Robbins scoops up new a new look. *Wall Street Journal*, p. B1.
- Liefeld, J. P. (2004). Consumer knowledge and use of country-of-origin information at the point of purchase. *Journal of Consumer Behavior*, 4(2), 85-87. doi: 10.1002/cb.161
- Loken, B., Ahluwalia, R., & Houston, M. J. (Eds.). (2010). *Brands and brand management: Contemporary research perspectives*. New York, NY: Taylor & Francis Group.
- McEnally, M., & de Chernatony, L. (1999). The evolving nature of branding: Consumer and managerial considerations. *Academy of Marketing Science Review*, 2, 1-30. Retrieved from <http://www.amsreview.org/articles/mcenally02-1999.pdf>
- Nganje, W. E., Hughner, R. S., & Lee, N. E. (2011). State-branded programs and consumer preference for locally grown produce. *Agricultural and Resource Economics Review*, 40(1), 20-32. Retrieved from <http://ageconsearch.umn.edu/bitstream/107472/2/hughner%20-%20current.pdf>
- Ohlemeier, D. (2013, December 2). *Food safety - Florida battles Mexican strawberries*. Retrieved from <http://www.produceops.com/food-safety/Florida-battles-Mexican-strawberries-234089101.html?page=2>



- Onken, K. A., & Bernard, J. C. (2010). Catching the "local" bug: A look at state agricultural marketing programs. *Choices: The Magazine of Food, Farm & Resource Issues*, 25(1), 24. Retrieved from [http://www.choicesmagazine.org/magazine/pdf/article\\_112.pdf](http://www.choicesmagazine.org/magazine/pdf/article_112.pdf)
- Settle, Q. (2012). *Florida resident's perceptions of the Florida forest service brand*. (Doctoral dissertation). Retrieved from <http://gradworks.umi.com/35/69/3569639.html>
- Settle, Q., & Rumble, J. (2014). *Perceptions of Florida strawberries – Focus groups*. PIE2013/14-5a. Gainesville, FL: University of Florida/IFAS Center for Public Issues Education.
- Shope, R. (2013, February 07). Walmart's sale of Mexican strawberries angers Florida growers. *Tampa Bay Times*. Retrieved from <http://www.tampabay.com/news/business/agriculture/walmarts-sale-of-mexican-strawberries-angers-florida-growers/127404>
- Twyman, J. (2008). Getting it right: Yougov and online survey research in Britain. *Journal of Elections, Public Opinions and Parties*, 18, 343-354. Retrieved from [http://www.tandfonline.com/doi/abs/10.1080/17457280802305169#.VC\\_zJildXu8](http://www.tandfonline.com/doi/abs/10.1080/17457280802305169#.VC_zJildXu8)
- Tyson, R., Hochmuth, R., Lamb, E., Hochmuth, G., & Sweat, M. (2001). A decade of change in Florida's greenhouse vegetable industry: 1991-2001. *Proceedings of the Florida State Horticultural Society*, 114, 280-283. Retrieved from [http://fshs.org/proceedings-o/2001-vol-114/280-283%20\(TYSON\).pdf](http://fshs.org/proceedings-o/2001-vol-114/280-283%20(TYSON).pdf)
- United States Department of Agriculture- Economic Research Service. (2013, June). *U.S. strawberry industry*. Retrieved from <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1381>
- Vavreck, L., & Rivers, D. (2008). The 2006 cooperative congressional election study. *Journal of Elections, Public Opinion and Parties*, 18(4), 355-366. Retrieved from [http://www.tandfonline.com/doi/abs/10.1080/17457280802305177#.VC\\_zmyldXu8](http://www.tandfonline.com/doi/abs/10.1080/17457280802305177#.VC_zmyldXu8)
- Wardle, J., Haase, A. M., Steptoe, A., Nillapun, M., Jonwutiwes, K., & Bellisle, F. (2004). Gender differences in food choice: The contribution of health beliefs and dieting. *Annals of Behavioral Medicine*, 27(2), 107-116. doi:10.1207/s15324796abm2702\_5
- Wu, F., & Guan, Z. (2015). Modeling the interactions of strawberry commodity and labor markets in the US and Mexico. Paper presented at the 2015 *Agricultural & Applied Economics Association and Western Agricultural Economics Association Annual Meeting*, San Francisco, CA. Retrieved from <http://ageconsearch.umn.edu/bitstream/205887/2/Modeling%20the%20Interactions%20of%20Strawberry%20Commodity%20and%20Labor%20Markets%20in%20the%20US%20and%20Mexico.pdf>
- Wu, F., Guan, Z., & Whidden, A. (2012). *Strawberry industry overview and outlook*. Unpublished manuscript, Gulf Coast Research and Education Center, University of Florida, Gainesville, Florida. Retrieved from <http://www.fred.ifas.ufl.edu/pdf/webinar/Strawberry.pdf>

### About the Authors

Taylor Ruth is a first year doctoral student in the Department of Agricultural Education and Communication, with a concentration in agricultural communication, at the University of Florida. Taylor works as a graduate assistant in the UF/IFAS Center for Public Issues Education (PIE Center), and her research focus is on public perceptions of different agricultural issues in the state of Florida.

Joy Rumble is an Assistant Professor of Agricultural Communication in the Department of Agricultural Education and Communication at the University of Florida. Joy works in the UF/IFAS Center for Public Issues Education (PIE Center). She conducts research and outreach initiatives to promote effective communication in agriculture. Her research has been focused on public perceptions of local food, transparent communication, and livestock legislation.