



Advancing Sales of Hawai'i-Grown Avocados Through Labeling

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Hawai'i imports over one-third of its total market demand for avocados. In 2007, avocado production in Hawai'i was about 1.16 million pounds, and 2.3 million pounds were imported (NASS 2008). Considering the higher prices received for imported avocados, almost three to four times the price of local avocados (Chan-Halbrendt et al. 2007), there clearly is a great potential for import substitution by the local avocado industry. According to a study on the Hawai'i's avocado industry by Bittenbender et al. (1989), lack of coordination and provision of marketing information to the industry is severely hindering its expansion to meet demand. Coordinated marketing strategies to promote local avocados, such as labeling and consumer-awareness efforts (e.g., "Buy Fresh, Buy Local," "Hawai'i County Grown," etc.) have been lacking (Chan-Halbrendt et al. 2007).

This publication evaluates the effect of labeling locally grown avocados on consumer purchasing decisions in the context of their option to purchase labeled imported avocados. Stickers stating "Hawai'i Grown Avocados" and the avocado cultivar name were designed and printed with assistance from the UH College of Tropical Agriculture and Human Resources (CTAHR) Office of Communication Services.



Two techniques were applied to gather information:

- Activity 1. The purchase decisions of buyers were observed by simulating retail situations with different avocados and prices at farmers' markets in Kona, Hawai'i County, and at Kapi'olani Community College in Honolulu.
- Activity 2. Buyers who purchased avocados at these locations were asked to fill in a follow-up questionnaire regarding their purchase choice circumstance and decision-making.

For Activity 1, in addition to the currently available choices of unlabeled local avocados and labeled imported avocados, a third option of labeled local avocados was introduced. This is also the option that is of key interest to the study. Labels for the most preferred varieties of avocados were made and distributed by Ken Love, executive director of Hawaii Tropical Fruit Growers. Since Activity 1 involved simulating a real-market situation by providing avocado purchase options to buyers, prices of the avocados had to be determined. In order to do this, market prices for local and imported avocados were observed from several different avocado retailers during September 20–26, 2009, and the average price was calculated. The price for labeled local avocados (which did not readily exist) was estimated to be 10 cents

(considered to be the labeling and related cost) more than the unlabeled local avocado. The buyers were provided the following options, and their choices were observed and noted after each decision:

- Unlabeled local avocados priced at \$2.09 each
- Labeled local avocados priced at \$2.19 each
- Labeled imported avocados priced at \$2.49 each.

For Activity 2, the same respondents were asked to take a paper-based survey. Review of literature has indicated that socio-demographic variables, product attributes, purchasing behavior, and product place of origin all influence purchasing decisions of commodities. Therefore, data were collected from the respondents on purchasing behavior, preferences for avocado product attributes, socio-demographics, and other variables that influence the consumers' choice of avocados. 495 respondents were interviewed face-to-face in Kona and Honolulu for this study. The socio-demographic profiles of the study population from the data collected matched well with the Hawai'i general population profiles except for two categories: more respondents were female, and respondents were more educated. This can be explained by the assumptions that women are more likely to shop for food in a household and educated people are more likely to participate in surveys. The data were analyzed using descriptive statistics and multinomial logistic regression analysis. This publication summarizes the general results that are of significance to Hawai'i's avocado growers and marketers. For the project final report, which presents additional references and the details of the data analysis, see Chan-Halbrendt et al. 2010.

Respondents' preferences for avocado choices

The study results showed that 80 percent of the respondents chose local avocado, with 47 percent choosing the labeled fruit and 33 percent choosing the unlabeled fruit. We observed that eight out of ten respondents read the labels when they bought the fruits. This is consistent with previous studies indicating that buyers prefer information to be provided through labels (e.g., country of origin labeling) (Puduri et al. 2006). Preference for labels is an important attribute, as studies have indicated that product labeling can increase the buyers' willingness to pay more for the product.

Respondents' preferences for avocado product attributes

Review of relevant literature has indicated that product attributes, also referred to as "quality cues," significantly influence purchase decisions. In the case of avocados, the key attributes we chose to present were size, shape, and color. We observed that for color, preferences were mixed among black and green and no preference. For size, preference was overwhelmingly for medium. For shape, preference was largely for pear shape.

Respondents' purchase behavior

Previous studies indicated that purchase behavior also affects respondents' choice of products. Purchase behavior may include their purchasing history of avocados (in other words, how long they have been buying avocados), their frequency of purchasing avocados, and the quantity of avocados bought at one time. Most (83 percent) of the respondents had been buying avocados for more than 4 years, 40 percent said they purchase avocados at least once a week, and 60 percent said they purchased three to four fruits at a time.

Using these findings, we used regression analysis to evaluate the respondents' choices in relation to their socio-demographics, the avocado attributes, and their purchasing behavior. This helped to identify significant positive and negative relationships indicating which of these factors significantly affected their choice in terms purchasing fruits with or without labels indicating product origin.

Unlabeled vs. labeled local avocados

Regarding the choice of unlabeled local versus labeled local avocados, we found the following:

- Those respondents who "prefer labels" are less likely to choose unlabeled local avocados.
- No significant correlation was found between respondents who are "price conscious" and their choosing local avocados.
- The larger the size of avocados that buyers prefer, the more likely they are to buy unlabeled local avocados.
- No significant correlation was found between quantity of avocados bought at each purchase and the choice of unlabeled local avocados versus labeled local avocados.
- As the age of the buyers increases, they are more likely to buy unlabeled local avocados than labeled local avocados.
- Those with full-time employment are less likely to buy

unlabeled local avocados than labeled local avocados.

- Gender, yearly household income, location, and residency did not have any significant influence on purchases.

Imported vs. local labeled avocados

Regarding the choice of purchasing labeled imported avocados versus labeled local avocados, we found the following:

- Those who “prefer labels” are significantly less likely to choose imported avocados over labeled local avocados.
- Those who are “price conscious” are significantly less likely to choose imported avocados.
- The larger the avocado size, the less likely respondents were to buy imported avocados.
- Those who buy more avocados at one time are significantly more likely to buy imported avocados.
- Females are less likely to choose imported labeled avocados compared to labeled local avocados.
- Residents of Hawai'i are less likely to choose imported labeled avocados compared to labeled local avocados.
- As respondents' age increases, they are less likely to choose imported avocados than local avocados.
- Honolulu residents are less likely to choose imported avocados.
- Annual household income and full-time employment did not have any significant influence.

Discussion and recommendations

The goal of this study is to help to increase the market share of local avocados to replace imports. We hypothesized that through branding (labeling), increased awareness of locally grown avocados will lead to greater sales, which will allow Hawai'i's avocado growers to replace increasing proportions of current imports (and future increases in market demand) with local avocados. The descriptive statistic results indicated that more consumers choose labeled local avocados, and the regression analysis results indicated that there is a preference for labeled local avocados over imported avocados. From these results, we can predict that the Hawai'i avocado industry has the potential to substitute its products for imported avocados and increase its market share.

In addition, if the per-piece price a grower receives for avocado is higher, it will increase the producer's profitability and economic sustainability. The average retail price in 2009–2010 for imports was \$2.49 each, while local fruit was sold for only \$2.09 each.

This study intends to provide information to raise awareness on the potential of local avocados being price-competitive with imported avocados. Also, as indicated in our results, if local labeled avocados are made available, then there is a significant preference for them over imported avocados. Based on market estimation, the per-fruit label cost, including certification, printing, and labor, is estimated to be about 10 cents; the price of labeled local avocado, which is considered to be the sum of the price of an unlabeled local avocado and the label cost, is still far lower than the price of an imported avocado.

Our results showed that despite the additional cost for labeled local avocados, consumers prefer them over imported avocados. Compared to the higher priced imported avocados, the local avocados have potential to increase in price, due to their unique taste and other attributes. Through appropriate marketing strategies such as labeling, this goal can be achieved, as the results indicate that those who prefer labels and are price-conscious are more likely to choose labeled local avocados over imported avocados. Also, there is a specific segment of the population that cares about labels, shows a preference for labeled local avocados over unlabeled local avocados, and does not think price is important. Local avocados can be a major player in developing high-value products, given the advantages of the made- or grown-in-Hawai'i brand identity, which is a mark of excellence and quality recognized by people all over the world. There is also a general trend change for food consumers to show keen interest in knowing the origin of their food, with a preference for locally grown food. This is also obvious in the case of local avocados, based on the results of our study.

Many states in the US, including Hawai'i, have used promotional campaigns for local fresh and processed foods to influence consumer purchases. Hawai'i's “Buy Fresh Buy Local” campaign is likely to have played a key role in influencing preferences of local fresh food shoppers. This needs to be pushed further by introducing effective marketing strategies such as labeling. Labeling laws such as COOL (country of origin labeling) (Saulo 2008, AMS 2010) are perhaps a step in the right direction to enhance local agricultural and food processing sales. It can increase consumer awareness about the product and ensure customer satisfaction.

Based on our findings it is clear that labeled local avocados can capture the local market, thereby substituting Hawai'i fruits for imports. Labeled local avocados are

in a better position to capture the local market provided they are consistently made available, both in terms of quantity and quality.

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References

[URLs are hyperlinked in the pdf file of this publication, available at www.ctahr.hawaii.edu/oc/freepubs/pdf/F_N-16.pdf.]

- Agriculture Marketing Services, USDA. 2010. www.ams.usda.gov/AMSV1.0/cool (accessed July, 2010).
- Bittenbender, H.C., N. Kefford, and K.G. Rohrbach. 1989. Agricultural industry analysis: The status, potential, and problems of Hawaiian crops; Avocado industry analysis. University of Hawai'i at Manoa, College of Tropical Agriculture and Human Resources (CTAHR).
- Chan-Halbrendt, C., J. Krishnakumar, K. Love, and P. Sullivan. 2007. Hawai'i avocado industry analysis, part 1: Supply focus. CTAHR. Economic Issues, EI-12. www.ctahr.hawaii.edu/oc/freepubs/pdf/EI-12.pdf.
- Chan-Halbrendt, C., J. Krishnakumar, Q.A. Zhang, and K. Love. 2010. Final report: Reclaiming Hawaii's avocado market through branding of Hawaii County avocados. [URL...avobranding.pdf].
- National Agricultural Statistical Services (NASS). 2008. www.nass.usda.gov/Statistics_by_State/Hawaii/Publications/Fruits_and_Nuts/avocado.pdf (accessed on December 2008).
- Puduri, V., R. Govindasamy, and B. Onyango. 2006. Country of origin labeling of fresh produce: a consumer preference analysis. Rutgers University Dept. of Agriculture, Food and Resource Economics Policy Brief P02145-2-06. http://dafre.rutgers.edu/documents/ramu/countryoriginjun_2006.pdf.
- Saulo, Aurora A. 2008. Country of Origin Labeling (COOL) rule on fresh produce mandatory on September 30, 2008. CTAHR, Food Safety and Technology, FST-30. www.ctahr.hawaii.edu/oc/freepubs/pdf/FST-30.pdf.