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## LOCATION, LOCATION, LOCATION: DO PRODUCTION SOURCES INFLUENCE CONSUMER PERCEPTIONS?

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### Introduction

Consumers' buying behavior can be influenced by many factors, and one current line of investigation focuses on the perceptions and importance of food miles and the production source of foods on consumer choices. In terms of market conduct, the fact that organic and local production market segments are both growing, yet relatively independent, suggests there are a fairly complex set of consumer preferences for the food system to consider. The immediate question we examine in this fact sheet is what factors are important to fresh produce consumers, and specifically, we differentiate quality perceptions with respect to local, domestic or imported fresh produce.

The United States Department of Agriculture (USDA) predicted that between 2000 and 2020, total consumption of fruit is expected to increase between 24 to 27 percent, mainly due to an increase in per-capita consumption (as well as an increase in the number of consumers in the U.S market). Furthermore, the per capita consumption of fruits and vegetable is expected to escalate, fueled by expected increases in household income, population, and education levels (<http://www.ers.usda.gov/publications/aib792/aib792-2/aib792-2.pdf>).

Figure 1 shows the per-capita availability for fresh fruits and vegetables, which had increased by 26 and 31% between 1970 and 2007, respectively. This general trend of growth is expected to continue, or even accelerate, as the U.S. population grows. Figure 2 shows that both total domestic production and imports to the U.S increased between 1970 and 2007. Nevertheless, the trends for domestic production and imports shows domestic production levels are increasing at a slower rate than imports of fresh vegetables. From 1990 to 2007, the annual growth rate for domestic production was 1.30% while imports grew by 1.77% annually.

### Major Suppliers for the US Fresh Produce Market

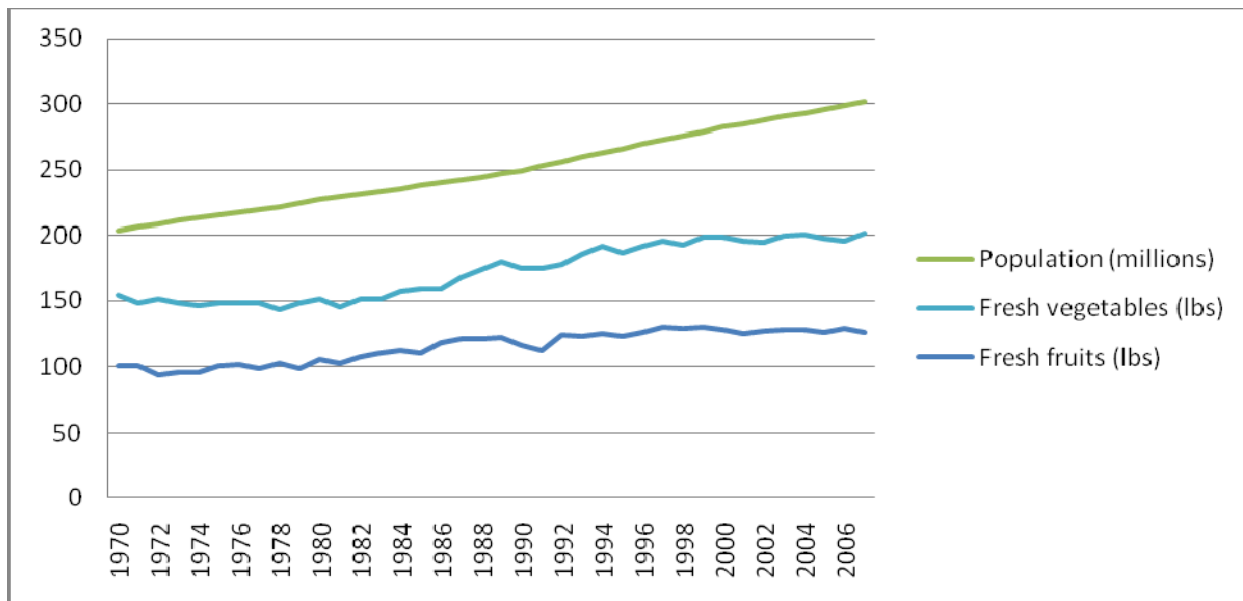
In 2007, California and Florida were the two-largest producing states for fresh market vegetables and melons. In California, fresh-market production increased 3 percent, accounting for 50 percent of the annual fresh vegetable and melon domestic production, followed by Florida with 8 percent of total output.

According to the USDA, about 17 percent of all the vegetables and melons consumed domestically were imported in 2007. Imports of all fresh produce increased 9 percent, led by increases in fresh vegetables, melons, and dehydrated vegetables. Mexico

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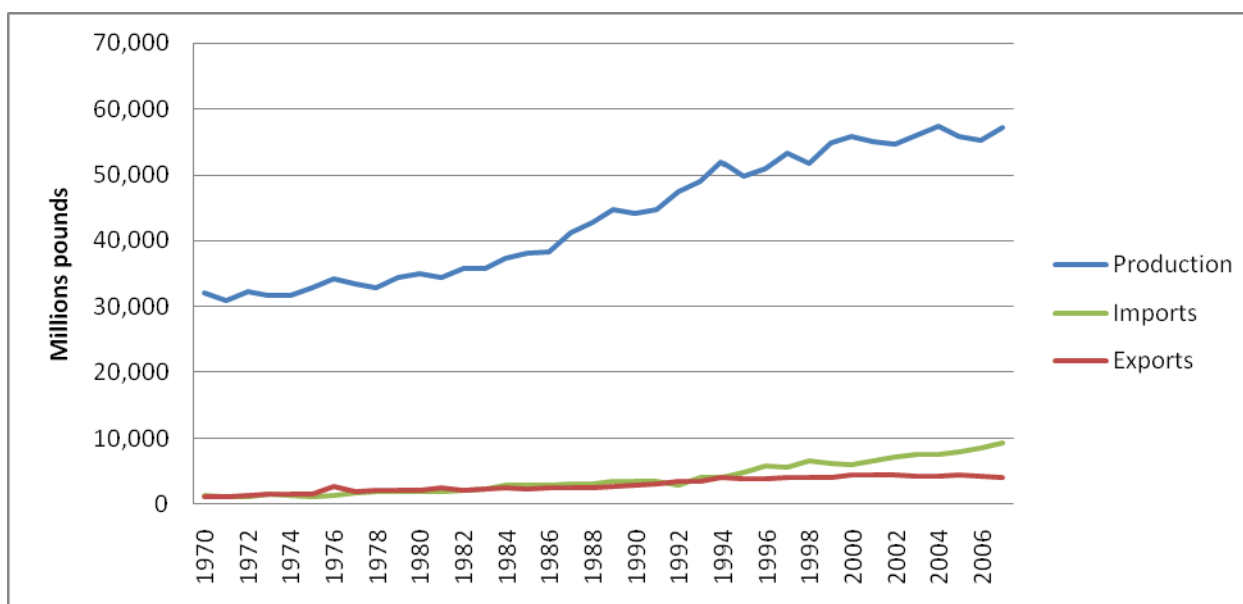
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Data Source: <http://www.ers.usda.gov/Data/Food/Consumption/>

**Figure 1. Fresh vegetables per-capita availability and population growth**



Data Source: <http://www.ers.usda.gov/Data/Food/Consumption/>

**Figure 2. U.S Fresh vegetables production, imports and exports**

remains the top import source with 45% of import value; followed by Canada (23%), China (6%), Peru (4%), and Spain (4%). (<http://usda.mannlib.cornell.edu/MannUsda/>)

Meanwhile, the value of fresh-market vegetable exports (excluding potatoes and melons) rose 8

percent. In 2007, U.S exports of fresh vegetables had three primary destination markets; Canada (80%), Mexico (7%), and Japan (5%). Fresh vegetables exports to Japan continue to contract from 1990, decreasing about 11% as other suppliers (such as China) increasingly compete for the Japanese market.

Consumer Perceptions of Fresh Produce by Production Source

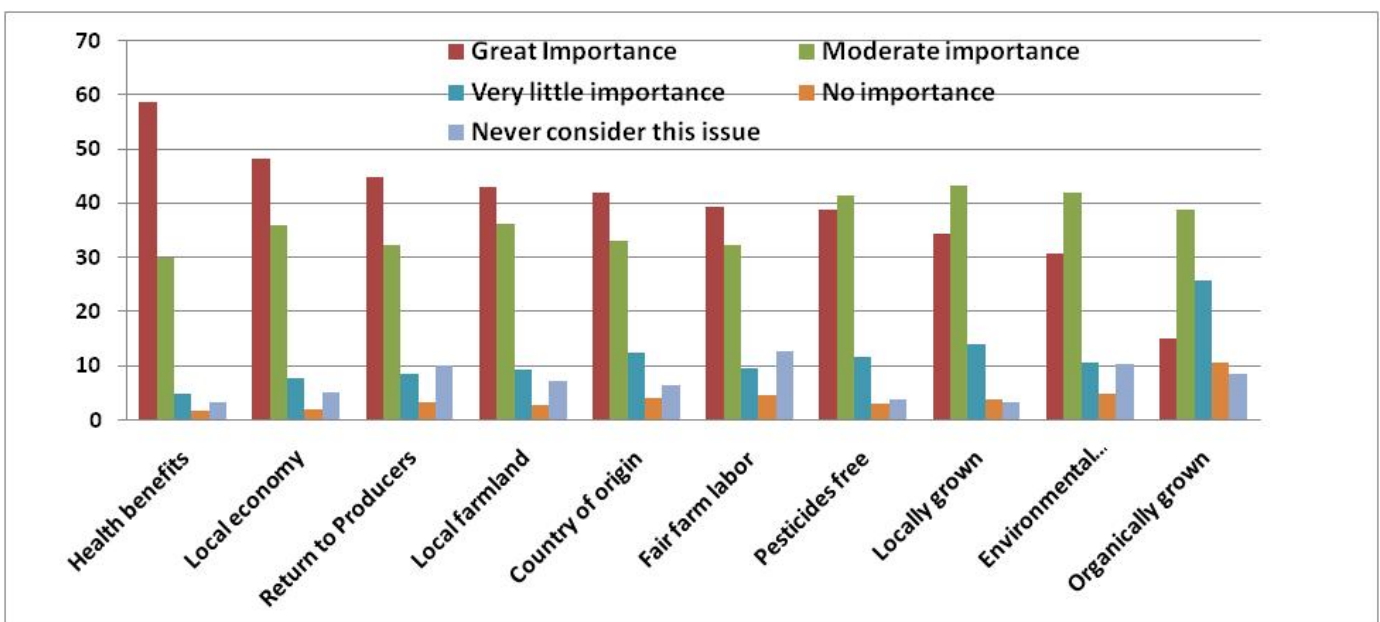
To better understand some of the trends in fresh produce production, consumption and trade, we make use of data from a 2008 survey focused on fresh produce consumer behavior that resulted in 1052 responses from a national sample (with an oversampling of Intermountain West consumers). The objective of this analysis is to identify the main location-specific factors that might permit food marketers to differentiate local, domestic and imported fresh fruits and vegetables.

Past studies suggest that attributes such as eating quality, food safety, social justice, and environmental friendliness are important factors consumers consider when shopping for fresh products. In this survey, we asked consumers about the relative importance of product attributes related to these issues, namely, locally grown, organically grown, country of origin, health benefits, environmental impact, free of pesticides, conservation of local farmland, supporting the local economy, and fair treatment of farm labor during production and harvest. The responses were elicited using five points scale, ranging from no importance (one) to great importance (five), and an option of choosing “never considered the issue.” Figure 3 summarizes the responses.

Health issues were given the highest level of importance; almost 60 percent of respondents considered health benefits of great importance, and another 30 percent stated this issue as moderately important. The second most important factor (as rated by frequency of high scores) was supporting the local economy with about 43% and 34.53% of consumers ranking it of moderate or great importance, respectively.

Given the strong market presence of organic foods, it is somewhat surprising to note its relatively low importance. Other unexpected results are the relatively low importance ratings of local and environmental impact factors. One possible explanation for the relatively infrequent importance ratings for organic, local, and environmental claims is that the non-specificity of these claims leaves consumers more ambiguous than other claims that are directly linked to outcomes the consumer may favor.

It is unclear how stated importance translates to purchasing behavior, but we can cross reference ratings and behaviors to check consistency. For example, Figure 4 shows the importance of the locally grown factor, segmented by respondents’ past local produce purchase behavior. Consistent with our expectations, Figure 4 shows that the level of importance respondents place on local production is directly correlated with their previous shopping choices to buy locally



**Figure 3 Importance of Production Attributes to Consumers**  
(% rating as varying levels of importance)

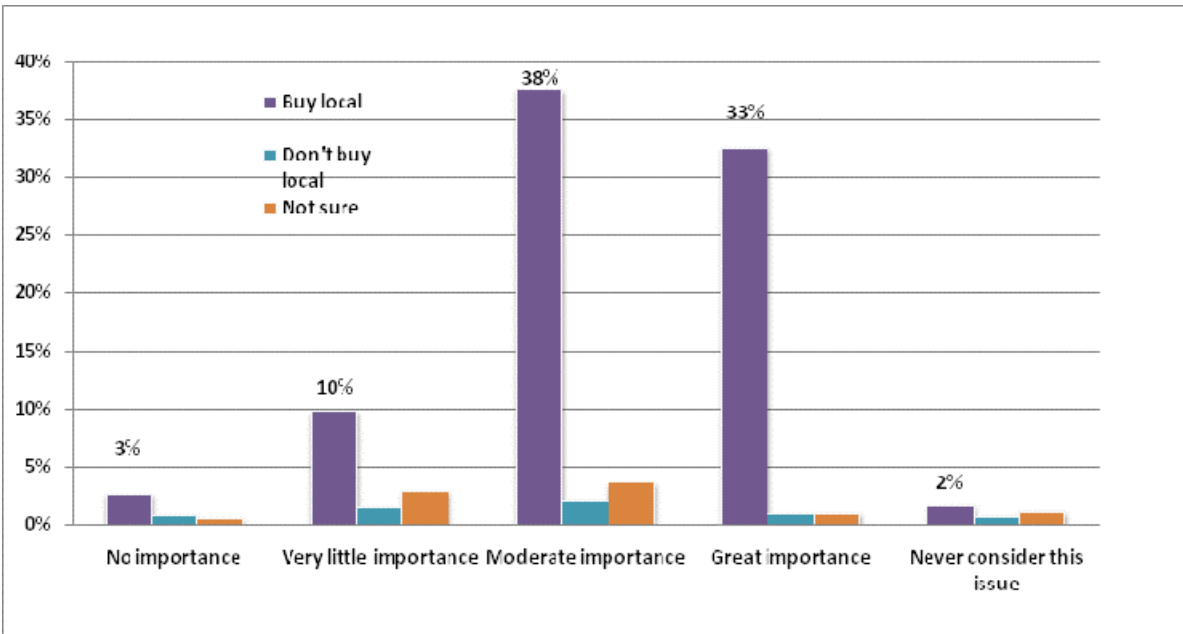
grown fresh products. In other words, there is consistency among responses to give us confidence in stated importance translating to purchase choices.

**Is Locally Grown Produce Perceived Differently?**

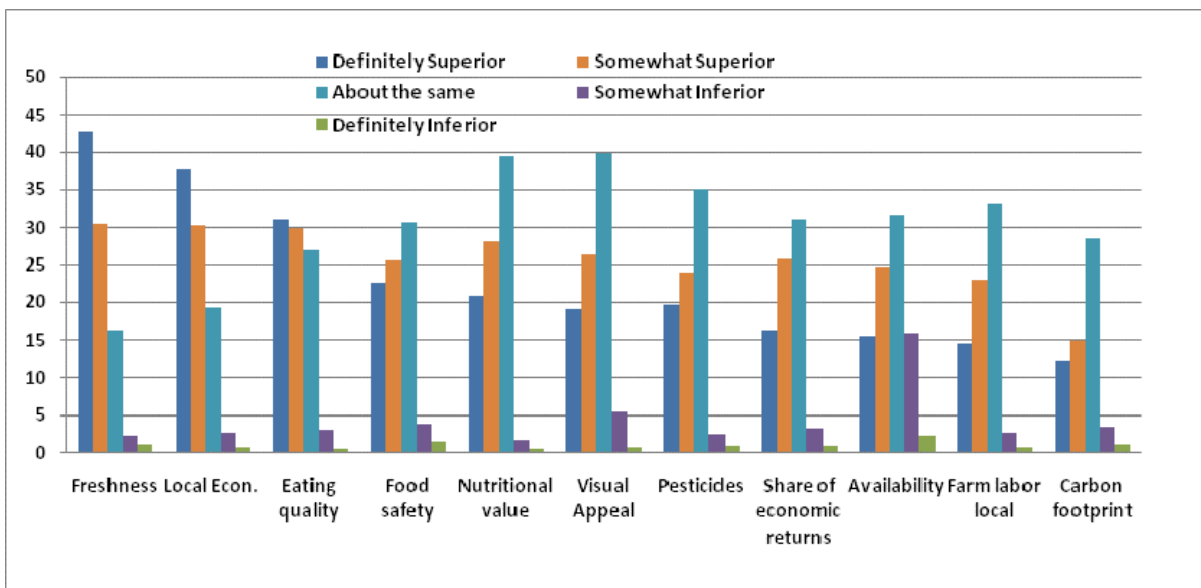
In the survey, we asked respondents to share their perceptions on how fresh fruits and vegetables that are grown locally compare to those produced domestically (but not locally). The list basically mimicked the production issues rated earlier, with a few additional quality aspects added. The entire set

includes: freshness, eating quality (taste, texture), food safety (such as bacterial contamination, pesticide residues), nutritional values and other health benefits, visual appeal, availability, farmers receiving fair share of economic returns, produced with no pesticides, carbon footprint (greenhouse gas emissions), supporting local economy, and fair treatment of farm labor.

Figure 5 groups all these attributes and their ratings, ordered from left to right beginning with those for which the highest share of consumers felt local goods were relatively superior to allow for a quick



**Figure 4. Locally grown importance rating, by local buyers**

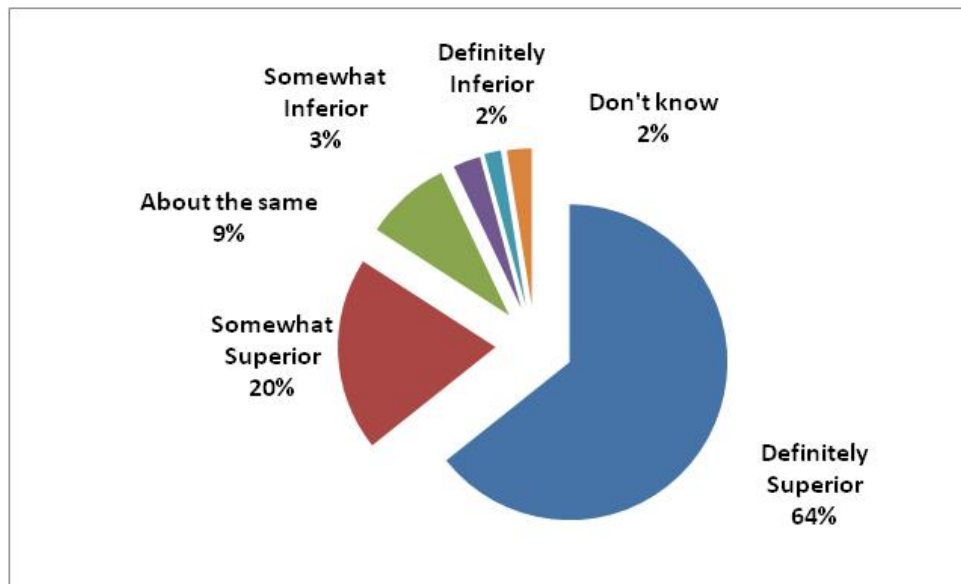


**Figure 5. Perceptions of locally grown compared to domestic produce (% of all respondents assigning various ratings)**

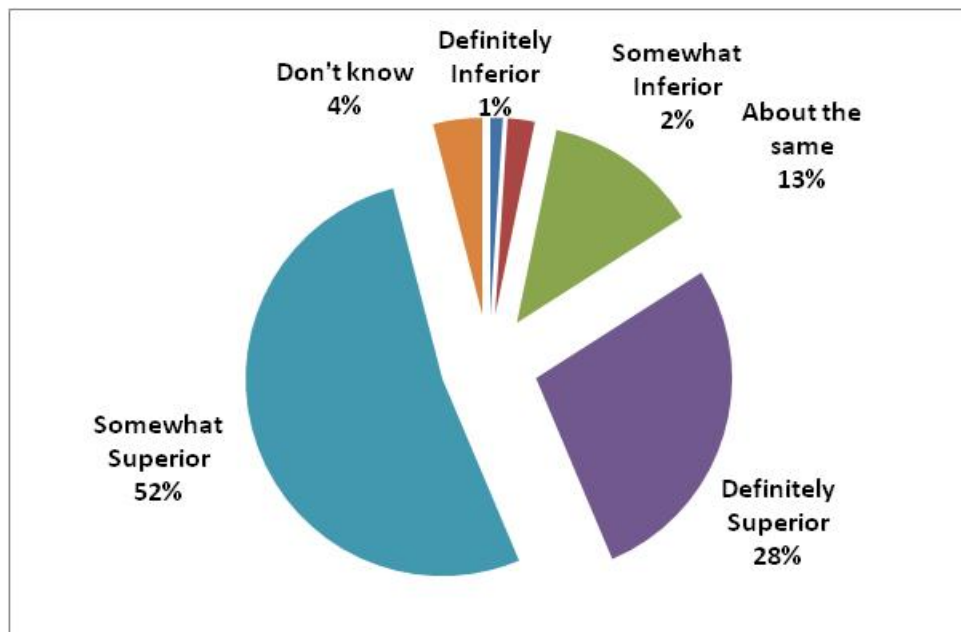
visual comparison. First of all, it should be noted that a large share of respondents felt there were no significant differences between local and domestic produce. But, for comparison's sake, the ordering in the figure allows one to identify that local produce was commonly considered superior in terms of freshness and more effective in supporting the local economy. Only availability and visual appeal were considered relative weaknesses of local produce by any notable share of consumers. Somewhat expectedly, many self-reported they "don't know" as their response regarding carbon footprint and fair farm labor standards, suggesting these are still relatively unknown issues.

The importance of various claims is important, as it indicates what factors may be essential to buying decisions, but comparisons across production source are what indicate factors that may be most effective for product differentiation strategies.

To further explore some of the attributes where local produce was perceived positively, Figures 6 and 7 illustrates that those who rated freshness and support to the local economy as important (a subset of the total sample) also felt local produce was superior with respect to those attributes. Figure 6 shows that more than 64% of consumers who placed great importance



**Figure 6. Perceptions of Local Produce Freshness among those who rated Freshness as Important**



**Figure 7. Perceptions of Local Produce Purchases Showing Support to the local economy for those who rated Support to the local economy as Important**

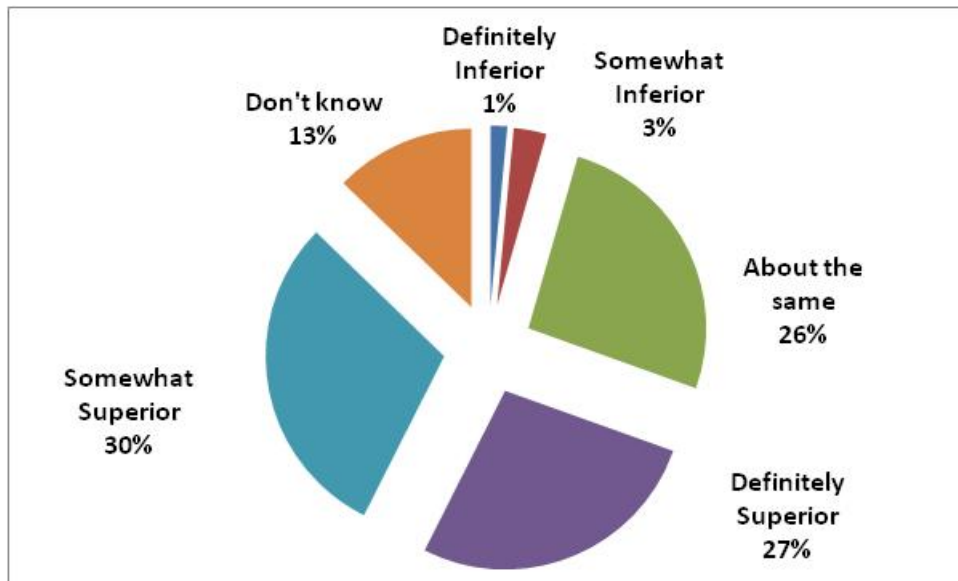
on local production of fresh produce also responded that freshness is definitely superior for local products compared to those produced domestically, followed by 20% that local products are somewhat superior, and 9% that perceived that domestically and locally produced fruits and vegetables are about the same.

Similarly, Figure 7 shows that those who placed great importance on support to the local economy also ranked locally grown products as definitely superior (52%) or somewhat superior (28%) to other domestic supplies. Although the categorizations are not so clear cut, Figure 8 shows how those who rated

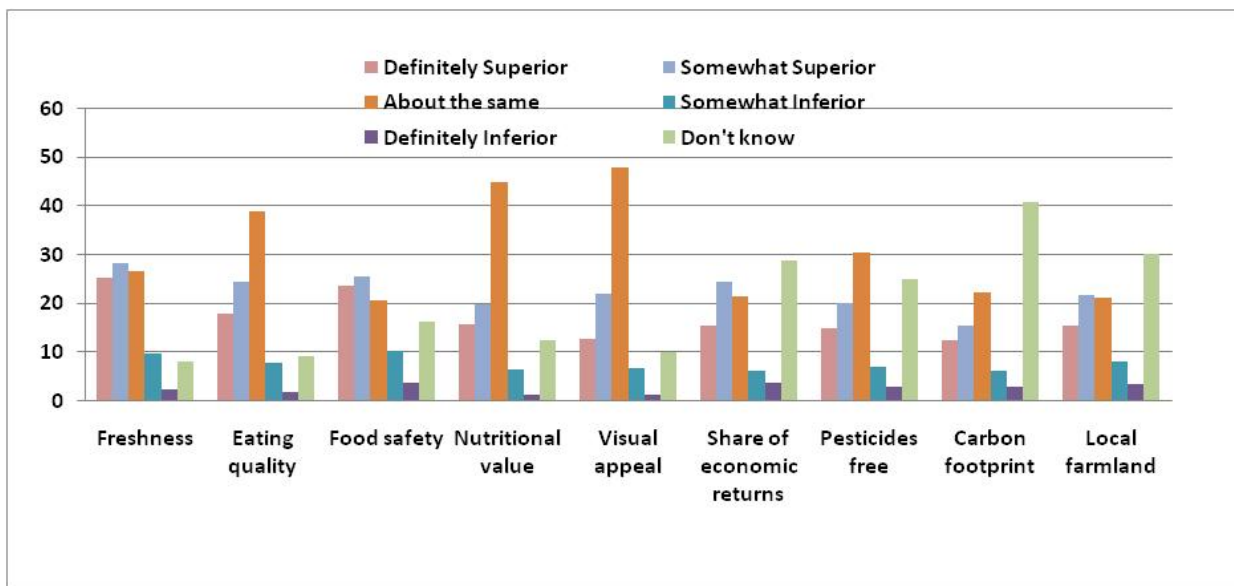
health concerns relatively important rated local produce with respect to food safety (admittedly only a weak linkage to health issues, but the correlation with perceptions about local seems strong nonetheless).

**Perceptions of Domestic vs. Imported Fresh Produce**

Respondents were also asked to compare fresh fruits and vegetables that are grown domestically to those that are imported, using the same set of attributes as in the local vs. domestic comparison. Figure 9 shows that respondents perceive freshness and food



**Figure 8. Perception of superior Food Safety among Local by those who rated Health Issues as Important**



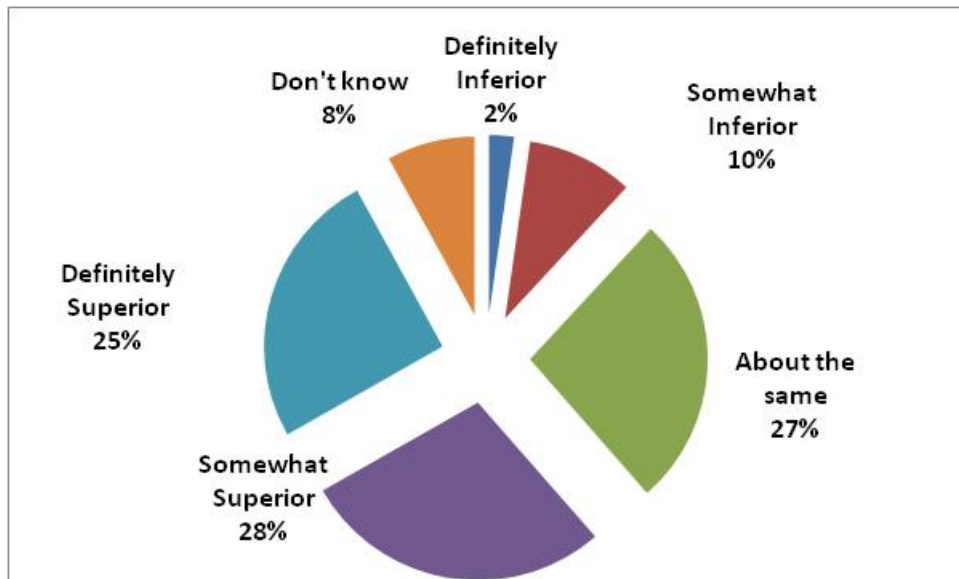
**Figure 9. Perceptions of domestic compared to imported produce (% of all respondents assigning various ratings)**



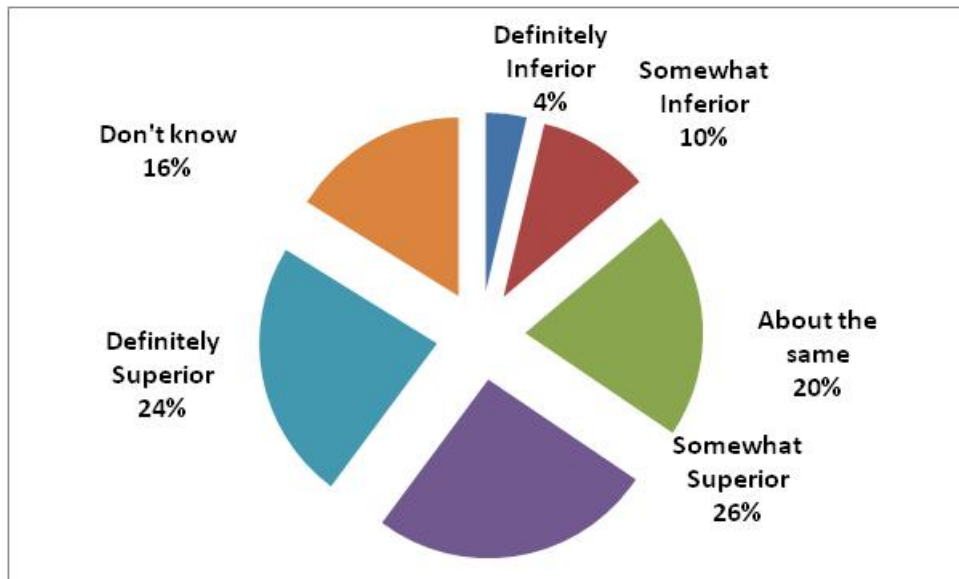
safety as relatively superior for domestic products compared to imported products, suggesting some consistency with the local comparisons. In contrast, eating quality, nutritional value, and visual appeal were considered about the same for domestic and imported products by the majority of respondents. A similar pattern can be observed regarding the carbon footprint and farm labor issues; a large number of respondents choose the “don’t know” option, indicating, once again, unfamiliarity with these issues.

Figure 10 shows more detail on those who rated freshness important, with 25% and 28% respond-

ing that domestic produce is definitely and somewhat superior, respectively, compared to imported products (significantly less than the favorable perceptions about local produce). Overall, there appears to be less differentiation between domestic and import supplies, although some important results are worth considering. In contrast to the local comparisons, just a very small percent (2%) noted that freshness is definitely inferior for domestic products, while about 10% answered domestic was somewhat inferior. In the case of food safety and consumer priorities toward health, Figure 11 shows that 24% and 26% of consumers recognized that domestically grown products are definitely superior



**Figure 10. Perceptions of Domestic Produce Freshness (relative to Imports) among those who rated Freshness as Important**



**Figure 11. Perceptions of Domestic Produce Food Safety (relative to Imports) among those who rated Freshness as Important**

and somewhat superior in terms of food safety to imported, while about 4% and 10% recognized that domestic products are definitely inferior and somewhat inferior to imported products.

### **Conclusions and Marketing Implications**

There are a myriad of attributes which consumers may choose to consider when making their purchase decisions, but indications are that production source and practices are increasingly common considerations. Although there has been a great deal of positive attention surrounding the local food movement, there has been little examination of what positive characteristics motivate consumers to make local produce purchases. Understanding these perceptions is important for several reasons, including information to help those marketing based on production location and “being local.” Moreover, this consumer research complements USDA’s new “Know your Farmer, Know your Food” initiative. USDA’s role is to craft research and programs that assure consumers of any benefits from local or direct purchases, where they exist, so that they are not unintentionally misled.

In this study, we show that a large proportion of consumers perceive locally produced fruits and vegetables as superior in terms of freshness and support for the local economy when compared to domestic products. At the global level, domestic supplies were perceived superior in terms of freshness and food safety assurances compared to imported produce. But, it should be noted that many consumers reported no differences among any production source, and sometimes, the similarities dominated over any perceived differences. For example, respondents perceived domestic and imported fresh produce as about the same for eating quality, nutritional value, and visual appeal.

It is important to note that, for all the attention given to such issues, carbon footprint is a topic that may be ambiguous for a large portion of consumers. This, together with the relatively lower importance ratings for several broad claims (organic, local, environmental benefits) suggests that consumers may be seeking claims with clearly defined benefits and outcomes. It also indicates that consumer education may be needed for more comprehensive marketing certifications, especially when they are intended to differentiate produce from different production sources in the eyes of consumers. Currently, few differences are perceived, or understood, for the broader claims. Thus, segmenting the market to differentially value produce from different locales could prove challenging in all but a few cases.

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