



CHARACTERIZING THE U.S. MARKET OF MELONS

What melon consumers want:

Search, Experience, and Credence Attributes for Melons

Enrique Velasco

*Purdue University Horticulture
and Landscape Architecture*

Ariana Torres

*Purdue University Horticulture
and Landscape Architecture
and Agricultural Economics*

Petrus Langenhoven

*Purdue University Horticulture
and Landscape Architecture*

Bridget K. Behe

*Michigan State University
Horticulture*

Purdue Horticulture Business
hort.purdue.edu/HortBusiness

**Purdue Horticulture and
Landscape Architecture**
ag.purdue.edu/HLA

**Purdue Agricultural
Economics**
ag.purdue.edu/AgEcon

Americans are demanding more fresh fruits than ever (Bentley, 2017), and among all fruits, melons are one of the most consumed fresh fruits. To illustrate, the average American consumes on average 8.7 pounds of cantaloupe and 1.5 pounds of honeydew each year (Agricultural Marketing Resource Center, 2018).

A consumer's decision to purchase fruits is driven mainly by three product attributes: search, experience, and credence attributes. Search attributes are those attributes that the consumer can verify at the point of purchase (e.g., price, size); experience attributes are validated only after consumption (e.g., sweetness, flavor); credence attributes are not usually experienced but typically command a price premium and are communicated through labels (e.g., organic, local) (Moser et al., 2011). Understanding which melon attributes are valued by which consumer groups is of interest to academics, growers, and retailers to motivate increased sales and consumption of melon.

This publication illustrates the primary search, experience, and credence

melon attributes that are favored by Americans. This publication uses data from *Characterizing the U.S. Melon Market*, a study published by researchers from Purdue University and Michigan State University. To better understand melon consumers, researchers categorized 1,718 survey respondents into four melon consumption groups: non-eater, light, moderate, and heavy. The study assessed consumer attitudes, consumption, and preferred melon attributes by consumer category and compared their demographic, habits, and preferences for different melon attributes.

Data and Methodology

Data for the study comes from an online survey of 1,718 individuals who purchased melons in the three months prior to data collection, late summer of 2018. The survey gathered information on the consumer's demographic characteristics, melon purchases, and consumption. The survey also asked the consumer's perception, knowledge, and market preferences. The survey asked respondents about the importance they placed on various melon

attributes at the point of purchase, using a 0 to 100 scale (0 = not at all important and 100 = extremely important). Melon attributes included **search** (i.e., size, aroma, appearance, varieties), **experience** (i.e., sweetness, flavor, freshness), and **credence** (i.e., organic and local) attributes.

The survey was distributed to a representative sample of the U.S. population in terms of age, gender and pre-tax income. Overall, respondents were on average 46 years old, almost half of the sample was female (48%), and most of the sample was comprised of Caucasian/white Americans (77%). About half of the sample had college education. Less than half (45%) of the respondents reported less than \$50,000 in annual household income, followed by 33% of respondents reporting between \$50,000 and \$100,000 in annual household income, and 22% of respondents earning more than \$100,000 in annual household income.

Consumer Segments

Torres et al. (2020) divided survey respondents into four melon consumption segments: non-eater, light, moderate, and heavy consumer. The non-eater group was comprised of 20% of the sample and were those participants who reported purchasing but not consuming melons. Light consumers (36%) were those who consumed less than 3 servings of melon per month (1 serving = 1 cup of melon). Moderate consumers (22%) were those who consumed between 3 and less than 6 servings of melon per month. Lastly, heavy consumers (22%) were those who consumed 6 or more servings of melon per month. Figure 1 illustrates the distribution of melon consumers. Researchers used an Analysis of Variance (ANOVA) to make multiple variable comparisons across the different consumer segments.

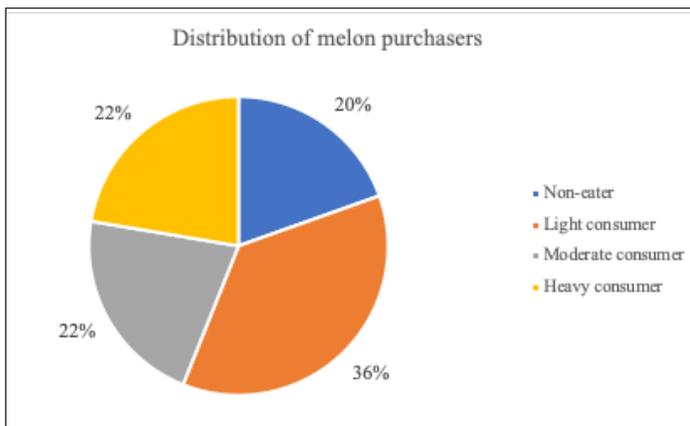


Figure 1. Distribution of the Sample by Consumer Category

What did the study find?

The top 5 attributes among all melon consumers were flavor (84.5% of purchasers), freshness (83.7% of purchasers), ripeness (79.5% of purchasers), sweetness (78.6% of purchasers), and price (75.9% of purchasers). Figure 2 illustrates results from the study revealing that consumers ranked these attributes as the most important at the point of the purchase.

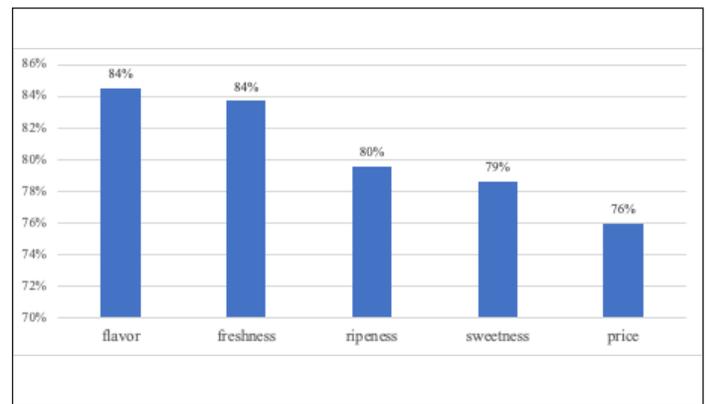


Figure 2. Top 5 Melon Attributes for All Consumers are Flavor, Freshness, Ripeness, Sweetness, and Price

It is interesting to note that four of five top attributes are experience attributes (i.e., flavor, freshness, ripeness, and sweetness). This result highlights the importance of consumer’s past experiences as a major driver of future purchasing decisions. Thus, we expect that businesses using experiential marketing – the creation of experiences between products and consumers – can greatly impact the demand of products and foster lasting connections between customers and businesses. Providing taste samples may help facilitate the use of experience attributes at the point of purchase. Results also show that price is an important attribute that over two-thirds of consumers take in consideration when purchasing melons.

Figure 3 illustrates how the top 5 melon attributes rate across consumer categories. Results show that attributes like flavor, freshness, ripeness, and sweetness (experience attributes) are more important to the heavy consumption group, while price (search attribute) is more relevant for light and non-eater consumers. Figure 3 also shows that moderate and light consumers have similar preferences regarding the top 5 melon attributes, while non-eaters tend to rate the lowest in importance for all attributes except price.

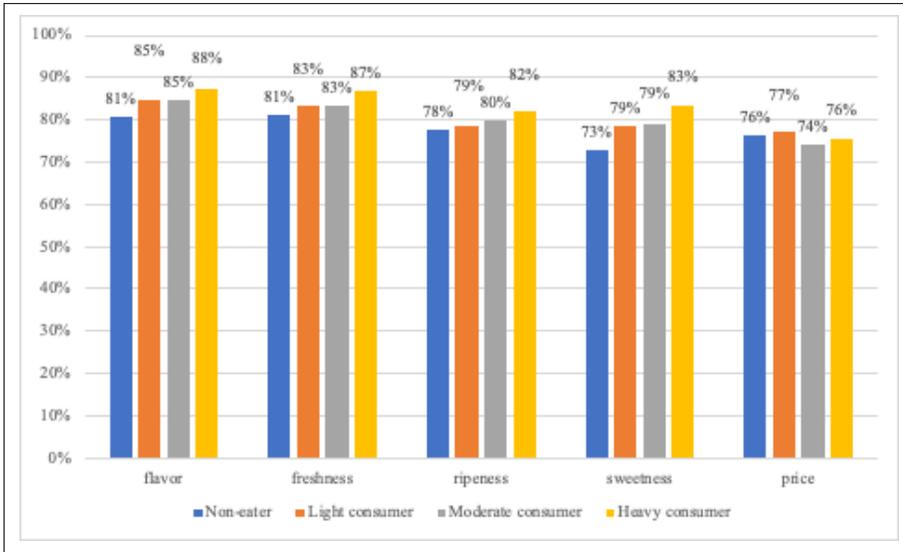


Figure 3. Top 5 Melon Attributes by Consumer Segment

Figure 4 illustrates how heavy melon consumers (those consuming 6+ servings per month) rate melon attributes. The importance of understanding preferences of heavy consumers lies on their high demand of melons. The top 5 attributes that this group of consumers value the most are flavor (87.5%), freshness (86.8%), sweetness (83.4%), ripeness (82.2%) and lack of bruises (78%). Similar to the entire sample of respondents, we can see that four of the top five attributes are experience attributes; the one search attribute (lack of bruises) is highly related to quality of the fruit and food safety.

The importance of Credence, Experience, and Search Melon Attributes

Credence attributes are difficult to ascertain directly by consumers either at the point of purchase or after consumption. The importance of credence attributes is

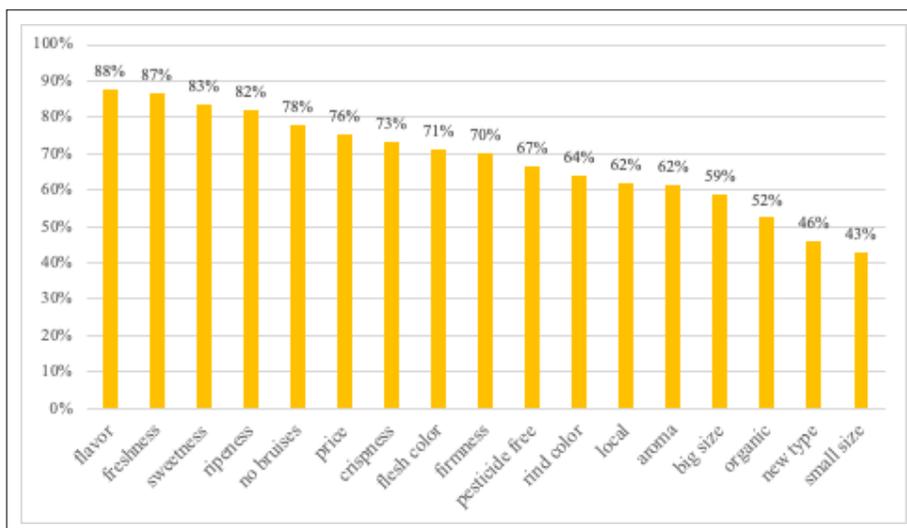


Figure 4. Importance of Attributes for the Heavy Consumption Category

related to the fact that they typically command a price premium and are communicated through marketing labels (e.g., organically grown or locally produced). As shown in Figure 5 (page 4), credence attributes are more valued by heavy and moderate consumers than their counterparts. We can also observe that the “free of pesticides” attribute was the most important credence attribute for consumers, followed by locally produced and organically grown melons. Especially for the high consumer group, clear communication of these credence attributes can help affirm a purchase decision.

Experience attributes are attributes that tend to be validated after consumption (e.g., sweetness, flavor, texture) and received the highest importance among all melon attributes. As observed in Figure 6 (page 4), the top 3 experience attributes are flavor, freshness, and ripeness. Figure 6 illustrates how heavy consumers highly value experience attributes when compared to moderate, light, and non-consumers. This finding suggests the importance of sampling stands to gain exposure and build and maintain a customer base. A free taste of melons can help small brands/farmers attract attention of customers and solidify the experience attributes.

Search attributes are those the consumer can verify at the point of purchase (e.g., price, size, aroma). The top 3 search attributes ranked from the most to least important by consumer category are price, lack of bruises, and firmness. Figure 7 (page 4) illustrates that search attributes are valued similarly among consumer segments; yet heavy consumers rated lack of bruises and firmness higher than their counterparts.

Take-home message

Melon purchasers can be categorized in four groups based on their consumption level: non-eater, light, moderate, and heavy consumers. Heavy and moderate consumers were, on average, 5 years younger than light and non-consumers and had a lower representation of women in the sample. In addition, heavy and moderate consumers had more

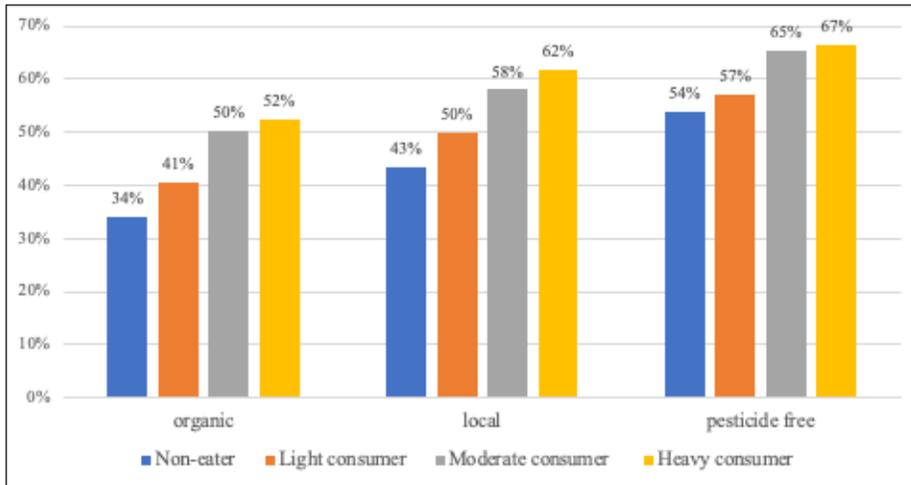


Figure 5. Percentage Importance of Credence Attributes by Consumer Category

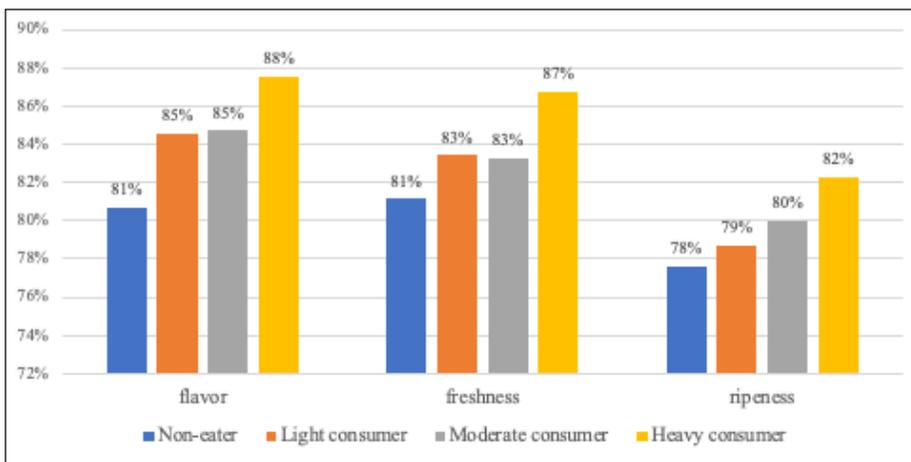


Figure 6. Percentage Importance of Experience Attributes by Consumer Category

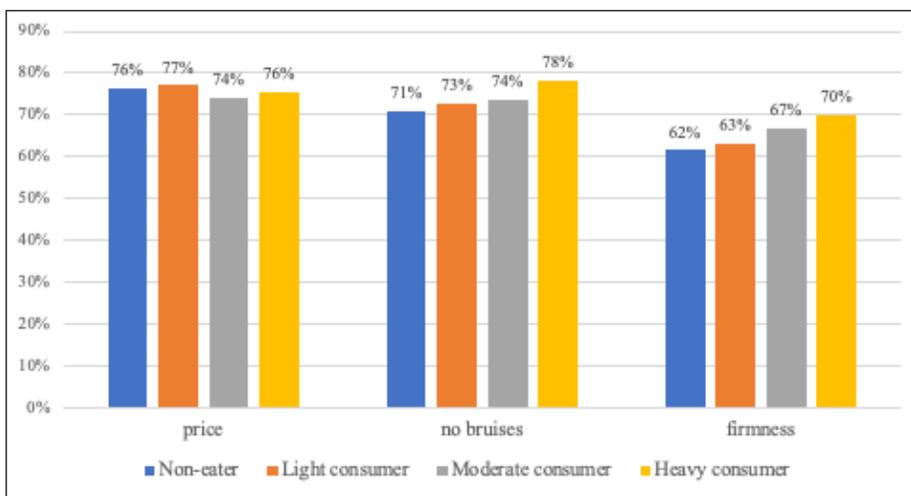


Figure 7. Percentage Importance of Credence Attributes by Consumer Category

children in the household. Finally, the proportion of heavy consumers with college education and higher household income was greater when compared to the other groups. It appears that younger and more highly educated Americans that also have higher disposable income tended to consume more melons and may be willing to pay more for them.

Results from the study show that highlighting the importance of experience and search attributes in marketing campaigns can be an efficient way to attract melon consumers. In addition, heavy and moderate consumers reported a higher valuation of all experience attributes, when compared to light and non-consumers. Similar to experience attributes, credence attributes were more valued by heavy and moderate consumers than their counterparts. An implication of these findings is the opportunity for retailers to signal experience and credence attributes through creative labeling and advertising programs. For example, emphasizing the farm story and melon origin can be useful to advertise melons in local markets.

Results from the study show that melon purchasers value melon attributes differently, and understanding how purchasers' preferences differ could help farmers and food retailers better position the products. For example, the fact that heavy consumers seem to prioritize experiences like freshness and flavor of melons can guide the design of marketing labels at the point of sale. On the other hand, light consumers and non-eaters might be more inclined to compare prices among vendors. The similarities between non-eaters and light consumers, in contrast to moderate and heavy consumers, have compelling industry implications. It seems that those consuming more melons have higher quality standards and care less about the price compared to the other two segments. Lastly, the fact that light- and non-consumers of melons care more about prices than finding a premium fruit should be considered when selecting melon varieties for retail.

What should retailers do with this information? First, marketers need to understand that it is not only the search attributes that likely will help sell the melons – it is mainly the experience attributes. Point of purchase information should highlight the freshness, sweetness, and other experience attributes. This is why sampling is so helpful to sales. Secondly, retailers should understand that credence attributes are more important than the easily observed search attributes. Here, clear communication about production practices (e.g., organic, pesticide free, sustainable production, etc.) will be helpful and supplement the information gained by taste sampling. Understanding the priorities of different product attributes in the purchase decision can greatly aid point of purchase communication and ultimately help foster increased demand.

Literature cited

- Agricultural Marketing Resource Center. 2018. Melons. 30 October 2020. <https://www.agmrc.org/commodities-products/vegetables/melons>.
- Bentley, J. 2017. U.S. Trends in Food Availability and a Dietary Assessment of Loss-Adjusted Food Availability, 1970-2014. U.S. Dept. Agr. Econ. Res. Serv., Washington, D.C. Bull. EIB-166
- Moser R., R. Raffaelli and D. Thilmany-McFadden. 2011. Consumer Preferences for Fruit and Vegetables with Credence-Based Attributes: A Review. *Int. Food Agrib. Man. Rev.* 14(2):121-142, DOI: 10.22004/ag.econ.103990
- Torres, A., Langenhoven, P., & Behe, B. K. (2020). Characterizing the US Melon Market. *HortScience*, 55(6), 795-803.