



Impact of the National Mango Board on Mango Demand

The Big Picture:

The National Mango Board's (NMB) mission is to increase awareness and consumption of fresh mangos in the U.S. The NMB works toward this mission through three core programs: Marketing, Research and Industry Relations. Collecting and analyzing consumer data on households and their buying behaviors are essential in order to help create, support and guide marketing efforts and messages to increase mango demand.

Determining how and why shoppers make the decision to buy mangos is fundamental; knowing these factors helps the NMB create ways for influencing these decisions. Demand drivers include all of those factors influencing buying decisions and range from habits to responses to new promotions. Total demand is a product of the population base, Market Penetration (MP) and Market Intensity (MI). MP is the percentage of households buying mangos in a defined shopping period. MI is measured with the number of buyers bought in a specific time period. Then, Population x MP x MI yields the volume of mangos demanded. Essentially, mango demand occurs when households decide to buy and then choose how many mangos to purchase. A key factor for the NMB is to know how their efforts influence MP and MI since both impact the demand for mangos.

With this goal in mind, the NMB commissioned a research study to track how and why consumers buy mangos. An ongoing research has been conducted since 2008 led by Dr. Ronald Ward, Emeritus professor at the University of Florida, to analyze the total demand for mangos and measure how the NMB programs have impacted the market demand over the years. All of the analyses are based on consumer household data that have been collected by the NMB since early 2008 and from U.S. Department of Agriculture, Foreign Agriculture Service (USDA-FAS) market import data. Each month the NMB receives about 600 to 1,000 household panel reports documenting each household's mango purchases. Through July 2013, there were over 75,000 household observations in the data set. All household data are maintained and updated monthly. All of these analyses are based on scientifically accepted methods for measuring demand. The following are the key findings from his research.

Key Findings:

- **Patterns in the Demand for Mangos**
 - Most of the changes in the demand for mangos come from attracting new households to buy (MP) and far less in changing the number of mangos purchased (MI) per buyer.
 - The number of new households buying mangos (MP) has increased over time while there are fewer trends in MI.
 - Over a six-year period, MP has shown a strong positive trend. With NMB programs, MP increased from under 3% in 2008 to over 13% in 2013.
 - In 2009, the MI or mangos per buyer became more stable. In fact, between 2010 and 2013 there is almost no trend in the MI with the numbers remaining very close to the 2.73 mangos bought in average.

- The average price per mango remained stable at an average of \$1.11 per mango. Yet both the price and MI show minimal change when compared to the MP growth.
 - MP is where most change has happened and will continue to be the best opportunity for the NMB to influence consumers.
- The retail mango market value has shown positive trends increasing from \$40 million in 2008 to over \$80 million in 2013.
- The basic trend is overall growth in U.S. demand for both mangos in volume and economic value.
- In order to gain better insights, mangos were compared to other fruits that are often displayed around similar areas in food outlets.
 - Households surveyed were asked to record their purchases and prices paid for 13 additional fruits. Within this subgroup of fruits, mangos' share of the dollar has increased from around 2% in 2008 to nearly 9% in 2013.
 - The upward trend in mango's share of the fruit market provides another positive signal for the industry to judge the overall viability of the U.S. market for mangos.
 - Mango share of the retail value averaged 5% of the household expenditures on the selected fruits; which include apples, bananas, watermelons, avocados, cantaloupes, pears, grapefruits, pineapples, honeydews, papayas, pomegranates, and kiwis.
- **Awareness of NMB Programs**
 - Awareness questions were added to the surveys asking consumers if they recalled seeing any promotions about mangos as well as other fruits and vegetables. The survey also asked respondents to identify the source of information – TV, in-store displays, magazines, etc.
 - 7% of respondents indicated some awareness of mango promotions from February-September 2013. In comparison, 19% were aware of banana promotions and 6% of pear promotions.
 - **40% of these households listed in-store promotions as the most frequently used source.**
 - **7% of these households indicated using the internet to find information about mangos; with 3% of them actually using the NMB's mango.org website.**
- **Measured Impact of NMB Programs**
 - Overall, mango promotions were highly successful in attracting new buyers to the marketplace; yet those same programs had little impact on the number of mangos per buyer.
 - The average MP from 2008 through 2013 is about 6% with the NMB programs in place and close to 5% without the NMB programs.
 - Percentage points are higher in recent years; between August 2012 and July 2013, estimated average MP was about 8% with the NMB and close to 5% without the NMB programs.
 - The average number of mangos per buyer has remained very close to 2.7 mangos with the NMB and without the NMB programs.
 - To gain insight into the impact of the programs, sales need to be expressed at the Free-on-Board (FOB) price. The FOB price is 34% of the retail price.
 - From 2008 to 2013, the total retail value at the FOB level was estimated to be \$238 million **greater** as a direct result of the NMB programs.

- During the same periods through July 2013, the NMB spent a total of about \$22 million in all of its programs; compared to \$151.4 million added up to 2012.
 - A total investment of \$22 million led to the estimated gains of \$238 million at the FOB level.
 - **The Return-on-Investment (ROI) from the NMB's programs is estimated to be 10.81. That is, for each mango checkoff dollar spent, the industry realized an additional \$10.81 in gross sales that would have not existed otherwise.**
 - **2010 and 2012 ROI values were 6.22 and 7.95 respectively, showing a positive trend.**
- **Reasons for Buying and Not Buying Mangos**
 - If the NMB can identify some of the major reasons for not buying mangos, they could channel programs into possibly unexplored areas to nudge potential buyers.
 - The top reason for not buying is the dislike taste of mangos. This perception leaves room to wonder about quality and new ways to experiment with the various uses of the fruit.
 - The second and third primary reasons are related to awareness and state-of-mind. Both reasons are potential targets for promotional information since they can change the potential consumers' minds through awareness
 - Fourth and fifth on the scale are prices, both of which the NMB has no role.
 - The remaining reasons have smaller importance but particular note should be made about issues of preparation such as "cutting and preparing them." Those issues could immediately lend themselves to educational messages.

Concluding Observations

Demand is the most direct and practical way to monitor consumer purchasing behavior since it reflects all of the conditions impacting buying decisions. Through this study, it is clear that the marketing and educational efforts of the NMB are making a difference in U.S. demand for mangos.

Over the full time span from March 2008 through July 2013, the FOB revenues were estimated at \$1 billion and about \$22 million were spent in enhancing the programs to promote mango consumption in the U.S. FOB revenues were \$238 million more than would have occurred without the NMB. The ability of the NMB to move demand for mangos has been established with several years of seeing a positive ROI.