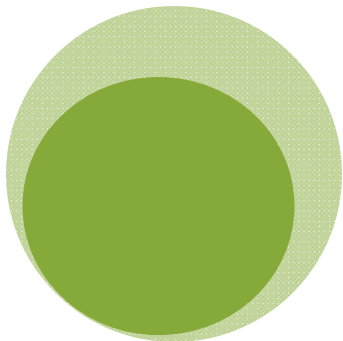
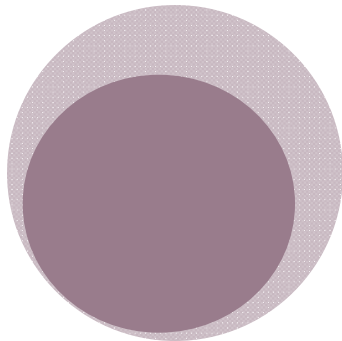
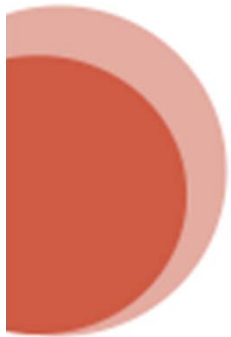


Mango Usage & Barriers Research



One Three-Day
Online Discussion Board
April 16-18, 2013





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Background, Objectives, and Methodology



Background and Objectives

The National Mango Board (NMB) has undertaken qualitative research with mango buyers and non-buyers to provide direction for an upcoming quantitative research study.

Objectives for the qualitative research are to understand:

- Knowledge, beliefs and associations about mangos, including health aspects, seasonality, and how to judge ripeness
- How buyers and non-buyers describe the flavor, taste, texture, etc.
- Likes and dislikes about mangos
- Barriers to trial (including if there are any safety concerns)
- In-store experience –what makes a good/bad store experience? How do stores merchandise mangos? What would they have liked to have known when they went to buy their mango? How do they decide which mango to pick? What would be helpful? What would encourage trial?
- The influence of social media, traditional media, family, friends, kids, etc. on purchase decision at retail and foodservice setting
- Home preparation – photos of how they prepared it and how they ate it, where do they get help/suggestions if they need it? How comfortable were they in cutting the mango? How did they determine how to cut it?
- Reaction to nutrition messaging
- Understand what makes an image of mangos, and recipes with mangos, look appealing



Methodology

- One three-day online discussion board - April 16-18, 2013
- Sixteen (16) participants (12 females, 4 males) from across the US
- Seven (7) are current mango buyers and nine (9) are non-buyers
 - Current buyers have purchased and eaten whole, fresh mango at home within the past 6 months
 - Non-buyers have never purchased/eaten whole, fresh mangos at home but do not dislike them
- No food allergies
- Primary shopper and food preparer
- Age 21-69
- Annual household income \$30K+
- Mix of ethnicities (majority Caucasian, but some Hispanic, African American and Asian)
- Have high speed internet access from home and use the internet at least four (4) hours a week for things other than email
- No competitive employment (supermarket, farmer, food manufacturer, nutritionist, doctor, marketing, advertising, market research, etc.)
- No participation in focus groups (in-person or online) in past three (3) months, never on fruit



Methodology

- The discussion covered these areas:
 - The influencers that impacted their purchase of fruit
 - Perceptions of mangos and reasons for buying or not buying mangos
 - Their experience with shopping, buying, preparing and eating a mango (homework prior to, and during, the group)
 - What would improve their experience when buying and using mangos
 - The impact of mango images, recipes and nutrition information on their interest in buying mangos
- Dorrie Paynter moderated the discussion.

This was qualitative research: it is exploratory in nature; that is, it is used to elicit a range of responses, generate ideas, and develop hypotheses. Findings are intended for directional guidance and understanding. The results of qualitative research can not be quantified nor are they meant to take the place of a quantitative study.



Summary



If I had to sum it up in two pages . . .

- Fruit purchases are affected by a variety of influencers. Some are at Point of Sale (POS) (displays, samples); other influencers come from traditional media (TV health and food shows, women's magazines), Internet and social media (Facebook, Pinterest), and family/friends.
- Respondents usually perceive mangos to be more like occasional/tropical fruits than everyday staples. Buyers' associations focus on the attributes they value in mangos (sweet, juicy, fleshy). Non-buyers' associations are diverse (exotic, seasonal, unfamiliar).
 - Occasional fruits include "tropical" fruits (pineapples, papaya). These tend to be available only seasonally, require some preparation, and tend to be more expensive than their fruit staples.
- A few buyers have been enjoying mangos since they were kids. Others first tried them as adults in restaurants/bars.
- Mangos are not top-of-mind for non-buyers. They say they never noticed them in stores, never were offered a sample in stores, never saw recipes for mangos, and never saw anyone eating one. They do not know how to choose or prepare a mango.
- When choosing a mango for the shopping exercise, respondents tend to rely on the same sensory cues they use for buying other fruits (e.g., its color, how it feels when they squeeze it, and how it smells.)
 - Non-buyers and some buyers assume green means the mango is not ripe while red means it's a little riper.



If I had to sum it up in two pages . . .

- Before preparing the mango, non-buyers often assume it will be similar to a peach, with soft flesh that's easy to cut, and possibly with a small stone/pit inside.
- After prepping and eating their mangos, buyers and some non-buyers give it a thumbs-up due to its sweet taste and satisfying texture. Other non-buyers give it a thumbs-down.
 - Some of the unhappy non-buyers find it bitter or sour-tasting (their mango likely was not ripe based on their photos.) Others are discouraged because it was hard to cut, the unexpectedly "large" seed and/or because their mango was hard (and likely was not ripe.)
- The Mango.org links ("How to choose" and "How to cut") are helpful and motivating to non-buyers. The content provides helpful new learning for buyers as well.
- Respondents like a touch of tropical imagery in mango photos but not too much. They like seeing various colors of mangos and all forms (whole, half and slices) in one photo.
- They are attracted to brightly colored photos featuring mangos in recipes that look simple and easy to prepare. They also like seeing mangos' versatility in the array of recipes.
- Respondents seem most impressed by knowing fiber and folate are in mangos. Vitamins C, A and B6 also are nice to know for mangos. Copper is unfamiliar in the context of food and tends to be a turn-off as a nutritional claim.
- For Vitamin C, they lean toward "antioxidant" rather than "high potency" because the former is familiar while the latter sounds potentially dangerous. "Excellent" seems more compelling for folate, while "good source" is more descriptive for fiber.



Implications



Implications

- This research suggests that the biggest barrier to mango trial among non-buyers is that mangos simply are not top of mind. Secondary to this is the lack of knowledge and confidence in how to choose and prepare a mango among non-buyers and among some buyers, too.
 - The upcoming quantitative research should explore these key barriers in-depth to help guide future communications and merchandising strategies.
 - The quantitative research may also want to seek to identify the relative importance of the various influencers identified in the qualitative findings to help the NMB focus future efforts on the most influential targets.
- The qualitative findings suggest the NMB should pursue (or continue to pursue) a multi-faceted educational campaign to make mangos more top of mind to non-buyers and to make them more inviting and approachable to non-buyers and less frequent buyers.
- The campaign should use tactics targeted to all of the channels that influence respondents' fruit purchase decisions.
 - POS: Encourage retailers to feature mangos in prominent displays and to offer samples and demonstrations on how to cut and prepare them.



Implications cont.

- Offer POS merchandising guidance and aids to retailers such as:
 - Colorful, inviting, fun-looking signage.
 - Easy-to-follow tips on choosing mangos (e.g., “Green is good.”)
 - Take-home materials for shoppers such as tips and pictures of how to prepare mangos, nutritional information, and uncomplicated, easy recipes, including recipes that are kid-tested and approved.
 - Include links to the relevant Mango.org pages on these materials.
- Traditional media: Get mangos featured on TV shows, placed in movies, and in magazines that focus on health/wellness and food.
- Internet: Be sure the content of the Mango.org site is structured to optimize search engine results. Get mango recipes on sites related to hosting parties, baby showers, picnics, etc.
- Social media: Maintain a high profile in social media. Use “influencers” in various social media vehicles to blog about mangos and post recipes, tips, pictures and videos on how they use mangos. Encourage users to post their own recipes, tips and videos.
- Encourage well-known chef celebrities to promote mangos in traditional and social media
- Foodservice: Offer promotions and materials to restaurants and bars to feature mangos in their recipes (e.g., “Mango Madness Month.”) and encourage food companies to introduce new products that incorporate mangos (mango yogurt, mango ice cream, mango cereal, etc.)



Detailed Findings: Buying Fruit



Some fruits were year-round staples; others were occasional or seasonal purchases

- Fruit staples usually were bananas, apples, grapes and oranges; also berries for some.
 - Fast and easy to use because little or no preparation was involved
 - Available and fresh year-round
 - Family members (especially kids) liked and asked for these fruits
- Occasional purchases included berries, melons, kiwis, pineapples and pomegranates.
 - Not always available and/or flavorful year-round
 - Relatively expensive, especially off-season
 - Buy as a treat for a change of pace or special event
 - Not a favorite of everyone in the household
 - Some preparation required (e.g., peeling and cutting)
- Typically shopped for fruit from one (1) to three (3) times a week.
 - At their usual grocery store(s) year-round
 - Also at farmers markets or fruit stands on weekends or seasonally

"I'll occasionally get kiwi or some type of melon. It just depends on what we're in the mood for as to whether or not I get the 'once in a while' fruits. I tend to be more open to trying new foods on weekends. During the week I feel rushed so I typically just go to my standby fruits." (Buyer)



Many influences on fruit purchase decision

- In-store
 - Prominent, attractive displays and signage
 - Samples near displays
 - Recipes and recipe ingredients accompanying the fruit featured in the display
 - Knowledgeable produce clerks
 - Sales and coupons
- Traditional media
 - TV shows (health shows like Dr. Oz, cooking shows like Food Network)
 - Health/wellness magazines or women's magazines with information about fruit's health benefits and recipes using fruit
- Internet and social media
 - Online searches for recipes (general searches and specific sites like allrecipes.com, tasteofhome.com)
 - Internet ads for healthy ingredients (acai berry juice)
 - Recipes and pictures on Facebook, Pinterest, Instagram

"I saw a box of apple crisp next to the apples. It made me want apple crisp, so I bought the apples along with the mix next to it." (Non-buyer)
"If a fruit is pricey (like pineapple), I'm more likely to buy it if I can taste a free sample first before spending money on it." (Buyer)
"In-store samples really get me to try a new kind of fruit." (Buyer)
"I saw a display of starfruit in the grocery store and was intrigued to buy them because of their shape." (Buyer)

"On the Food Network, if a chef I trust cooks with a specific fruit, I'd absolutely be influenced." (Buyer)
"Women's World says acai berry is a super fruit. Now I buy juices that include this berry." (Buyer)

"Instagram is the best for food posts." (Buyer)
"I've found some healthy recipes on Pinterest. I've bought fruits after seeing a recipe on Pinterest that looked really good." (Non-buyer)



Family and friends were influential

- Respondents often bought specific fruits with kids' or other household members' preferences in mind.
- They also bought their own favorite fruits even if others in the household didn't like or eat it.

"No one in my family asks me to buy mangos. I buy them for myself because I like their rich taste." (Buyer)

- Social events could introduce them to new fruits.
 - Tried new fruits at parties, showers and picnics, then bought them to use at home
 - Bought new fruit to include in recipes for a special occasion

"I'll go outside of my fruit comfort zone if I'm hosting a baby shower." (Buyer)



Mango Perceptions, Usage and Usage Barriers



Positive or neutral associations with mangos

- Tropical, salsa and smoothies were common associations for buyers and non-buyers.
 - Buyers also talked about mangos' attributes
 - Juicy, sweet, tasty, delicious
 - Unique texture and color: fleshy, meaty, filling, golden yellow
 - Variety of skin colors: greens, reds, yellows
 - Takes time to prepare a mango
 - Non-buyers' additional associations were diverse
 - Exotic, Caribbean, Hawaiian, beaches, palm trees
 - Seasonal (i.e., spring/summer, not fall/winter)
 - Unfamiliar: don't know how to choose mangos or how to prepare and eat them
 - Clothing brand or laundry scent

"It's more satisfying than other fruits and fills me up better than other fruits." (Buyer)

"Mangos have a deep rich color not found in other fruits. A smooth, silky texture when they're ripe." (Buyer)

"I didn't even know what a mango looked like until a few weeks ago. A demonstrator at Sam's gave out free samples." (Non-buyer)

"It looks interesting but I've never eaten one. I think mango smells good, or at least perfumes and sprays with mango are pleasant." (Non-buyer)



Positive or neutral associations with mangos

- Buyers and non-buyers usually categorized mangos with tropical fruits.
 - e.g., papaya, kiwi, pineapple, melons, pomegranate and starfruit
 - Some non-buyers called these “exotic” or “occasional” fruits
- Mangos were unlike fruits that took little or no time to prepare.
 - e.g., unlike berries, grapes, apples and bananas
 - These were “everyday” fruits according to mango non-buyers

“Mangos are like tropical fruits that we didn’t grow up with. Exotic fruits that you don’t eat everyday.” (Non-buyer)
“You can’t just peel and eat a mango or pop it in your mouth.” (Buyer)



Some differences in buyers' mango usage

- There were differences in buyers' history with mangos.
 - Some first ate them as kids when their parents introduced them to mangos
 - As an adult for others, first in a restaurant or bar, then bought mangos to eat at home
- Mango buying habits also varied for buyers.
 - Ranged from once or twice a week to a couple times a month to 3-4 times a year
 - Some bought 2 or 3 mangos at a time; others bought 1 at a time
 - Some bought them mostly in spring and summer
 - Mangos were in-season then
 - Fresher, tastier, more "local," and less expensive than fall/winter mangos
 - Year-round for others because they were always available
- Household usage varied among buyers.
 - Some family members, including some but not all kids, also enjoyed mangos
 - Other family members disliked them, so buyers bought mangos for themselves
- Buyers re-bought mangos because they enjoyed the taste.
 - Sweet, tangy sweet, fresh and sweet
 - Their filling texture was another benefit for some
 - Also healthy, nutritious, and a good value (\$1 each on sale) too

"The flavor is so bright and cheery and sunny, and I always want more." (Buyer)
"When they're ripe, they have this effortless way about them when you bite into one, a smooth almost silky-like texture." (Buyer)

"I prefer buying local food when I can. I'm concerned about the environmental cost of transporting produce from outside the US." (Buyer)

"One of my kids loves mangos but the other one won't eat them." (Buyer)



Buyers were mostly satisfied with mangos

- Buyers valued mangos' versatility and used them in different ways.
 - As an ingredient in smoothies, shakes, salads and in main meal recipes
 - Ate slices they cut from whole mango
 - A few occasionally bought pre-cut fresh or frozen slices or chunks
 - Saved time and preparation hassle
 - But these were expensive and were not as ripe, tasty or as juicy as whole mangos
 - Also bought mangos in pre-made foods and beverages
 - Smoothies, yogurt, frozen yogurt, frozen fruit bars, salad bar, salsa, balsamic vinegar, margaritas

"If I need my mango fix ASAP, I'll buy pre-sliced, but not very often because they're expensive (that way)." (Buyer)

- Some buyers had a few complaints about mangos.
 - Takes time to choose the right mango, for some (but others thought it was easy)
 - Time-consuming and messy to prepare, for some
 - A few used a mango cutter to make it easier
 - Messy and sticky to eat (but others thought this was part of an enjoyable mango-eating experience)
 - Wasted fruit and money if they can't get all the fruit away from the seed
 - No local sources of mangos

"The other day I was in the mango area for about 5 minutes, digging to the bottom to find a good one." (Buyer)
"They're a pain to prepare." (Buyer)
"I feel like I need to be at home to eat one so I don't get the juice all over my desk." (Buyer)



Mangos were not top of mind for non-buyers

- Not a familiar fruit to most non-buyers.
 - Never saw mangos or ate them as kids
 - Don't know what mangos taste like
 - Don't see or notice them in grocery stores
 - Never offered a sample while shopping
 - Never saw recipes with mango as ingredient
 - Don't know what to look for if they wanted to buy a mango
 - Never even thought about buying a mango
 - Did not buy pre-cut slices
 - A few bought salsa or sauce containing mango

"I've been in Weight Watchers since 2007 and have plowed through hundreds of fruit recipes, but other than peach salsa (which I've never made from scratch,) I can't think of any recipe that called for a mango." (Non-buyer)

"Buying mangos never occurred to me. I don't have a reason, other than the thought just never entered my mind." (Non-buyer)

"(When I bought this mango), the display wasn't very prominent. I would have just rolled right by it." (Non-buyer)

"I don't know how to judge a mango's quality." (Non-buyer)

- Different expectations before tasting the mango they bought for "homework" exercise.
 - Possibly sweet, juicy and refreshing
 - Mild taste since it's used as an ingredient in salsa
 - Soft peach-like texture that's easy to cut and prepare
 - Healthy with vitamins, just like other fruits
 - Might be messy to eat if it's juicy
 - Might not like the taste of the skin
 - Not sure what to expect

"I like most fruit and tropical fruit, so there's nothing I would expect to dislike about a mango." (Non-buyer)

"I've never seen anyone eating a fresh mango." (Non-buyer)



Homework: Shop for and Buy a Mango



Good and bad mango merchandising

- Some stores did a good job of merchandising.
 - Large, noticeable display and signage in produce section
 - Display sign included information about mangos



"A grocery store in NY has great descriptions of the produce on their signs. I read the information for the mangos." (Buyer)



"The mangos were pretty easy to find (grocery in Los Angeles). They were prominently featured in the front of the produce section with a big Sale sign." (Buyer)

- Mangos were hard to find in other stores
 - No display or signage
 - Low inventory



"Hard to locate and signage was small. I had to ask a clerk where they were." (Non-buyer)



"A grocery store in Nebraska only had these two mangos. I never thought it would be so hard to find a decent mango!" (Non-buyer)



Choosing mangos was a challenge for some

- Respondents used different sensory cues to judge mangos' ripeness. These were the same cues they used when buying fruit that seemed similar to mangos.
 - *"What color is it?"*
 - Some (especially non-buyers) assumed green meant it was not ripe (like bananas) and red meant it was more ripe or was starting to ripen.
 - Some looked for a combination of green and red on a mango.
 - They tried to avoid mangos with noticeable brown spots which could indicate over-ripeness.
 - *"How does it feel when I squeeze it?"* They tried to avoid very hard mangos and looked for mangos with a little softness. However, if mangos were too soft, they assumed they were over-ripe. This was similar to how they chose avocados.
 - *"How does it smell?"* A few used this for melons and tried it with mangos. A noticeably sweet smell implied a sweeter, riper taste.

"I just assume the softer it is, the riper it is, up to a point."

(Buyer)

"I never want it too hard or too soft. If it's too soft it goes bad in a couple days. If it's too hard, it takes several days to ripen."

(Buyer)

"I looked at the color and wanted one that was not too green."

"I squeeze them and smell them to see if they smell sweet."

"I have no idea how to judge the ripeness."

"Is it color, feel, or smell? I'm not sure what's best. It's a challenge to me."



Want guidance when buying mangos

- How to choose a mango was more of an issue for non-buyers than buyers, although a few buyers were unsure of this, too.
- They suggested offering different kinds of POS help to make it easier:
 - Big displays and signage for mangos to catch their attention
 - Tips at the mango display on how to choose a mango
 - Knowledgeable produce clerks who could advise them
 - Recipes and tips on how to prepare and use mangos
- A few non-buyers searched online before buying their mango or asked for advice from a neighbor who bought mangos.
 - If this had been a “real-world” situation, others said they would have searched for buying tips online first before shopping for the mango.
- No one had any unique safety concerns for mangos that would prevent them from buying mangos again.
 - Some were concerned about pesticides on all fruit, not just on mangos
 - They washed skin thoroughly before using fruit to minimize the risk from pesticides
 - A few sometimes bought organic fruit

“I just Googled ‘How to choose a mango’ and looked at several sites. They all had basically the same information.” (Non-buyer)

“I just wash fruit really well. I think washing does the trick.” (Non-buyer)



Homework: Prepare and Eat a Mango



Mixed expectations before prep and eating

- Buyers knew what to expect.
 - Flavor that's sweet, tangy sweet, or tropical
 - Very juicy
 - Bright orange inside
 - Fleshy, meaty texture
- Non-buyers' expectations usually were based on their perceptions of how mangos compared to other fruits.
 - Typically expected mangos to have a soft texture, like peaches, pears, melons or pineapple
 - Soft smooth-textured flesh that's easy to cut
 - Possibly with a pit or stone inside
 - Some expected to peel the mango then slice or dice it
 - Expected to see yellow or orange flesh inside
- Nutrition expectations were similar for buyers and non-buyers.
 - Generally healthy and good for you, like all fruits
 - High in Vitamin C
 - High in antioxidants, for some
 - Possibly high in fiber due to its "meaty" flesh
 - High in natural sugars

"It's very juicy, almost like a drink. That's why I prepare it over the sink." (Buyer)

"I make sure to have lots of paper towels on hand." (Buyer)

"I don't know about its nutrition, but it must be good for you because it's a fruit." (Non-buyer)



Thumbs up and thumbs down after tasting it

- Buyers gave their mango a thumbs up.
 - Same sweet taste, juiciness, and texture as expected
- Some non-buyers also liked it.
 - Sweet taste was a surprise; sweeter than expected
- Other non-buyers were less enthusiastic.
 - Not as sweet as expected, with a sour or bitter taste (note: their mangos did not look ripe in their photos)
 - Unappealing texture
 - Not as soft as expected
 - Stringy, slimy or squishy
 - Other disappointments for non-buyers
 - Harder to prepare than expected
 - Did not peel as expected
 - One tried to eat the rind/skin
 - "Pit" (seed) was big/too big
 - Not as fragrant as expected
- Others in their household had mixed reactions after trying it.
 - Some adults in the household liked its sweet taste
 - Others disliked it because it tasted bitter or sour (note: appeared to be unripe mangos)
 - Most kids did not like it; some kids would not even try it

"It was messy but that's not a bad thing because then it's sweeter and juicier." (Buyer)
"It was pure enjoyment!" (Buyer)
"It satisfied my sweet tooth." (Buyer)

"I was surprised it was ripe and sweet because I associated the green color with not being ripe." (Non-buyer)

"Maybe it was so bitter because I don't know how to pick a ripe mango." (Non-buyer)
"It had a huge pit inside. There wasn't a lot of flesh for the size of the fruit." (Non-buyer)
"The texture did me in." (Non-buyer)



Prepping the mango was easy for some

- Some buyers and a non-buyer used a “halve and score” technique
 - The non-buyer learned this technique on the Internet (YouTube, ehow, simplyrecipes)
 - Cut out scored flesh or scooped it out
 - One buyer enjoyed taking her first bites right off the rind



“For the first slice, I actually ate the chunks right off the peel!” (Buyer)

“It was pretty easy. It sounded more difficult reading it online.” (Non-buyer)

- Other buyers used their own preferred techniques.
 - A long-time buyer who grew up eating mangos in South Florida peeled it with a knife then cut it into slices
 - A few used a mango slicer
 - After eating most of the flesh, some buyers gnawed on the seed to eat as much of the remaining flesh as possible



“The absolute best part is gnawing and sucking on the seed until there’s nothing left. I love it. That delicious sticky juice dripping on my forearms and pulp between my teeth. It was worth it.” (Buyer)



Prepping was harder for non-buyers

- They agreed that preparing it was the hardest part about eating mangos.
 - Non-buyers (and a few buyers) used a trial and error approach depending on how soft it was and how easy or hard it was to cut
 - They tried (often unsuccessfully) to cut it in half and remove the seed, which was how they cut and prepared an avocado
 - Some were frustrated and seemed hesitant to buy a mango again
- They tried different tactics if they were not able to cut it in half.
 - Tried to pull apart the two halves, then tried to cut out the seed and flesh as best they could
 - Or sliced off the skin then cut it like an apple
 - Or tried to cut the seed out
 - Or started cutting at the softest spot, hoping they'd be able to expand beyond this as they cut



"I didn't have a technique. I just cut away at mine." (Non-buyer)
"I just winged it. I just cut away at it." (Non-buyer)

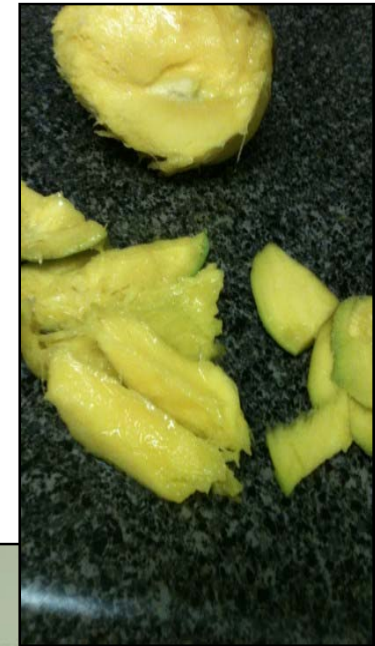
"It was very messy. I had juice all over me." (Non-buyer)
"When I couldn't split it open neatly in the center, I tried to pull it apart to no avail, then just resorted to cutting the slick, slimy little chunks off as best I could. It was quite a different experience than I expected." (Non-buyer)
"I mangled it trying to get the pit out." (Non-buyer)





Prepping was the “pits” for some

- The “pit” (as many called it) was a common source of frustration for non-buyers.
 - Surprised when they discovered it existed and realized how big it was
 - Disappointed because it was relatively large vs. the overall size of the mango, which made them question the mango’s value
 - Hard to cut flesh away from the seed
 - Wasted flesh (and money) if they could not cut close to the seed
 - Hard to hold the pit while cutting the sides



“Maybe that’s why it’s called a mango, because you have to ‘mangle’ it to cut it off the pit.” (Non-buyer)
“My poor butchered little mango!” (Non-buyer)
“I was pulling on it and squishing it and making a huge mess!” (Non-buyer)
“I felt like I wasn’t getting as much flesh as I could have because the pit was attached.” (Non-buyer)





Mango.org links were well-received

- Before exposure to the links, non-buyers wished they could have watched a video first or read tips to help them choose and prepare a mango.

"I really enjoyed the mango. But the next time I'll have to Google the best way to peel and dice a mango." (Non-buyer)

- The "How to choose" link and "How to cut" link were very helpful.
 - Especially helpful to non-buyers, but even some buyers learned something new about mangos from the information
 - One non-buyer found the "Choose" link earlier in her Google search
 - This information would motivate non-buyers to buy mangos again

"I swore after making the mess that I would never buy a mango again! But now seeing the correct way to cut it, it looks simple and I'll definitely purchase mangos again." (Non-buyer)
"I will have to give mangos a second chance now that I know more about them." (Non-buyer)

"Both are great webpages to read. Wish I (an infrequent mango buyer) had seen them sooner in life!" (Buyer)
"I was never happy with how I tried to cut mangos before. Now I know the correct way to do it." (Buyer)

- The information in the "Nutrition" link was impressive to buyers and non-buyers.

"I love mangos but never bothered to check their nutritional value. I learned something today. I always thought mangos were high in calories only because they taste so good." (Buyer)
"Wow! Mangos are really good for you!" (Non-buyer)
"I had no idea about the health benefits. Now I'll definitely give mangos a second chance." (Non-buyer)



Reaction to Mango Images, Recipes and Nutrition Information



A hint of tropical imagery was appealing



K

- Strengths for K
 - Colorful, simple and inviting
 - Shows whole mango, half mango and mango slices
 - Woven mat fits mango's tropical or beachy image, without going overboard

"These look really tasty. Way more appealing than my mango did!" (Non-buyer)

- Strengths for M
 - Bright colors are appetizing, inviting
 - Halved mango shows it has no seeds
 - Includes whole, half and slices of mango
 - Tropical, natural leaf fits mango imagery
- Weaknesses for M
 - Tropical palm frond implies mangos are not for everyday use
 - Background is dark, not inviting
 - Too tropical for how/where they usually ate mangos



M

"The gold flesh color says this tastes best." (Buyer)

"The tropical leaf fits with mangos being a tropical fruit." (Non-buyer)

"This looks too tropical for my home." (Buyer)



Mixed reactions to other images



L

- Strengths for L
 - Shows wide variety of mango colors
 - Slices are appetizing
 - Casual setting fits where they eat mangos
- Weaknesses for L
 - Does not show half mango (as in other images)
 - Background is blah and plate looks “old”

“This setting feels like my home, my kitchen table.” (Buyer)

“This doesn’t show what the inside of a mango looks like.” (Buyer)

- Strengths for N
 - Mango with a cut in it implies this is how to slice it
 - Window looks icy, refreshing
- Weaknesses for N
 - Big slice does not look appetizing
 - No small slices
 - Spoon is a disconnect for eating mangos
 - Bathroom-like background did not fit



N

“I don’t eat mangos with a spoon.” (Buyer)

“The window reminds me of a bathroom. I wouldn’t eat mangos in the bathroom.” (Non-buyer)



Nearly all recipe images were appealing

- Buyers and non-buyers enjoyed learning of new ways to use mangos. The colorful, appetizing pictures helped draw them in.



A

- Strengths for A
 - Simple and easy to make
 - Fun food for party or picnic
- Weaknesses for A
 - Time-consuming to make
 - Doesn't fit with how some buyers eat mangos

"I like this idea but it would take forever to cut all those squares and it would take a lot of mangos." (Buyer)



B

- Strengths for B
 - Easy, fun and refreshing
 - New way to use mangos
 - Texture would not be an issue in a drink
- Weaknesses for B
 - Doesn't fit with how some buyers enjoy mangos

"It would be fun to try mangos in sangria. I love sangria." (Non-buyer)



H

- Strengths for H
 - Simple and easy to make
 - Fun food with chips
 - Family will like it

"The mango salsa looks delicious and the photo looks colorful and refreshing." (Non-buyer)



Other colorful recipe images were appealing



D

- Strengths for D
 - Simple and easy to make
 - Family will like it

"My family loves chicken and this looks simple to prepare." (Non-buyer)



G

- Strengths for G
 - Love watermelon and/or fruit salad
 - Fresh, cold salad is appetizing

"I love a cold salad. This looks colorful and refreshing." (Non-buyer)



E

- Strengths for E
 - Simple and easy
 - Family will like it
 - Love tacos

"Mangos would be amazing in a taco!" (Buyer)



A few other recipe images had mixed appeal



J

- Strengths for J
 - Curious to try
 - Will be easy to do
- Weaknesses for J
 - Cream cheese is not a favorite

*"This looks good. I never thought of this combination."
(Buyer)*



F

- Strengths for F
 - Meat and fruit combo is appealing
- Weaknesses for F
 - Dislike sweet/savory
 - Steak/mango combo is hard to imagine

*"The color doesn't look appetizing and it looks like bitter lettuce."
(Buyer)*



I

- Strengths for I
 - Curious to try with soup
- Weaknesses for I
 - Can't identify what this is
 - Can't imagine mango with soup or warm food

*"I can't envision a soup with mangos in it."
(Non-buyer)*



C

- Strengths for C
 - Curious to try
- Weaknesses for C
 - Not colorful or appetizing
 - Hard to imagine mango in muffins

*"I love muffins with fruit but these don't look appetizing."
(Buyer)*



Some of these nutritional elements were expected in mangos; others were a surprise

Vitamin C	Vitamin A	Vitamin B6
<ul style="list-style-type: none"> • Very familiar and expected in mangos • C is in bright-colored and tropical fruits • Antioxidant that fights colds and helps immune system 	<ul style="list-style-type: none"> • Familiar and not surprising to some • A is in orange and yellow fruits and vegetables • Helps skin and eyes • Not a familiar vitamin to others 	<ul style="list-style-type: none"> • Surprised it's in mangos • Usually in grains not fruits • For energy • Not a familiar vitamin to others

"Vitamins A and C are in brightly colored fruits and vegetables."

(Buyer)

"I honestly know nothing about B6." (Buyer)

"I'm a big fan of daily fiber!" (Buyer)
"I've recently learned that folate is good for people over 50 like me to help retain memory." (Non-buyer)
"Is copper even good for you?" (Buyer)

Fiber	Folate	Copper
<ul style="list-style-type: none"> • Familiar • Not surprised it's in mangos • Fleshy fruit implies fiber • Aids digestive health • Can always use more fiber in diet 	<ul style="list-style-type: none"> • Usually familiar • Surprised it's in mangos • Associated with dark leafy greens not fruit • For pregnant women • Brain and memory aid in older people 	<ul style="list-style-type: none"> • Unfamiliar in the context of fruit • Surprised it's in mangos • Associations (metal, non-food) are a negative for food



Fiber and folate had more impact on interest in buying mangos

More Impact

Fiber	Folate
<ul style="list-style-type: none">• Important to get more fiber in diet• Possibly unique for a fruit to have fiber	<ul style="list-style-type: none">• Hard to get enough folate in diet if they don't like greens• Disliked taking pills for folate

"This makes it easier to eat more fiber." (Buyer)
"This (fiber) sets it apart from other fruits." (Non-buyer)
"I'd rather eat a mango for folate than take a pill." (Non-buyer)

Less Impact

"I need more B6 and energy since I'm borderline anemic." (Non-buyer)
"I have no idea what copper does or why I'd need it." (Buyer)

Vitamin C	Vitamin B6	Vitamin A	Copper
<ul style="list-style-type: none">• Can always use more	<ul style="list-style-type: none">• For energy• Can always use more	<ul style="list-style-type: none">• Can always use more	<ul style="list-style-type: none">• Don't know any benefits



“Antioxidant” was more motivating as a descriptor for Vitamin C

Antioxidant Vitamin C	High Potency Vitamin C
<ul style="list-style-type: none">• Strengths<ul style="list-style-type: none">• Familiar with antioxidants• It’s healthy and good for you• Prevents cancer• Helps immune system• Weaknesses<ul style="list-style-type: none">• Buzz word or fad	<ul style="list-style-type: none">• Strengths<ul style="list-style-type: none">• Sounds stronger• Weaknesses<ul style="list-style-type: none">• Negative associations with “Potency”• e.g., too strong, overdose, harmful, pungent, poisonous

“Everyone today wants to get more antioxidants.” (Non-buyer)
“Antioxidant means healthy to me. High potency is vague.” (Non-buyer)

“Potency implies there’s a large quantity of this in a food.” (Buyer)
“I’d be leery of something that says ‘high potency.’ Is it possible to overdose in vitamins?” (Non-buyer)
“It almost sounds lethal.” (Buyer)



“Excellent” and “good” were more compelling in messaging

Excellent Source of Folate	Rich in Folate	High in Folate
<ul style="list-style-type: none">• Strengths<ul style="list-style-type: none">• Honest, straightforward• Sounds professional• Memorable	<ul style="list-style-type: none">• Strengths<ul style="list-style-type: none">• Positive imagery associated with “rich”• Implies more or a lot of it• Weaknesses<ul style="list-style-type: none">• Vague meaning	<ul style="list-style-type: none">• Strengths<ul style="list-style-type: none">• Sounds quantifiable• Weaknesses<ul style="list-style-type: none">• Vague• Could ingest too much if it's high

*“It sounds like the best possible solution.” (Buyer)
“I’d remember ‘Excellent source.’” (Non-buyer)*

“‘Rich’ says a high amount per volume.” (Buyer)

“I’d shy away from a mango if it said ‘high in folate.’ I don’t want to overdo it.” (Non-buyer)

Good Source of Fiber	Contains Fiber	Provides Fiber
<ul style="list-style-type: none">• Strengths<ul style="list-style-type: none">• Implies a decent amount• More than a sufficient amount of fiber	<ul style="list-style-type: none">• Weaknesses<ul style="list-style-type: none">• Vague	<ul style="list-style-type: none">• Weaknesses<ul style="list-style-type: none">• Vague

*“This indicates there’s a good amount of fiber in it.” (Non-buyer)
“This sounds like your best choice for fiber.” (Buyer)*

“When I hear ‘Contains Fiber’ or ‘Provides Fiber,’ my first question is ‘How much?’” (Non-buyer)



Mangos' impact on cancer stood out

- Mangos' impact on cancer often was relevant and was motivating.
 - Personally relevant due to family history of cancer or friend's experience with it
 - Important to do as much as possible to prevent cancer
 - Less control over preventing cancer, but diabetes or obesity can be easier to control or prevent
- Impact on diabetes or obesity were relevant to a few respondents.
 - Personal or family history of diabetes and/or obesity
- Disease-prevention was not a consideration at all for a few others.
 - Taste appeal was the main influence on eating more mangos

"Cancer runs in my family and I feel I am in least in control over that." (Buyer)
"I do worry about diabetes but not as much as I worry about cancer." (Buyer)
"I have a huge fear of cancer because it's so widespread and can happen to anyone." (Non-buyer)

"Both diabetes and obesity are important because my blood sugar and insulin problems were caused by being overweight." (Non-buyer)

"Only taste can make me eat more mangos." (Non-buyer)
"I'm not concerned about these issues. I just try to eat healthy." (Buyer)
"I assume all fruits are healthy or good for you." (Buyer)



Respondents' Suggestions for Mangos



Their suggestions were for in-store and beyond

- In-store merchandising
 - Large colorful displays
 - Fresh samples next to display
 - Recipes available at the display
 - Video or chart at the display on how to select and prepare mangos
 - Promotions and coupons
- Recipes from different sources
 - At POS with mango display
 - Online food and health-related sites (Weight Watchers, Healthy Girl)
 - Social media (Facebook, Pinterest)
 - Food and health-related TV and magazines (Dr. Oz, Food Network)
 - Celebrity chefs or food personalities
 - Facebook recipe contest
 - Mango recipe sweepstake
- Video instructions on how to prepare and cut mangos

"I never see many recipes with mangos other than a few times in my Rachel Ray magazine." (Non-buyer)

"I recently entered a Dole contest and won a 6-month supply of free Dole bananas (in the form of weekly coupons)." (Non-buyer)



Thank You!

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