To: Briana Warner, Jesse Baines, Zoe Croft
From: Aaron Cappelli
Date: 13AUG2021
RE: Frozen Kelp Cubes (Cranberry and Blueberry) GTM for Atlantic Sea Farms (ASF)

***Cube/Frozen Market Overview*:** The Berry kelp cubes do not fall purely in any particular category, but using frozen fruit is a good proxy, since it will probably be used as an additive to smoothies. The frozen fruit industry is currently valued at around $3B and is projected to grow to about $5B[i] by 2025 with an approximately 6% CAGR.[ii] Frozen has some advantages over fresh because of its longer shelf life and its ability to hold nutrients for longer. Packaging innovation and online channels are driving the frozen fruit boom[iii]

***Differentiate*:** Berry cubes can differentiate themselves from other frozen offerings on the market due to Atlantic Sea Farm's (ASF) already robust social/environmental mission and branding. Kelp offers many unique social and environmental boons that few other foods can match. Continuing to highlight this in the berry cube rollout is important. Generally, millennials and younger generations respond positively to companies with social missions and are willing to pay more for sustainable offerings.[iv] ASF has already received a lot of positive press and awards celebrating this mission and can leverage this to stand out from other frozen fruit/smoothie add ins. While ASF is well differentiated on its mission/environmental aspect, there is more direct competition in its actual use and perhaps some confusion over its internal benefits with regard to nutrients and flavor. Some add-ins are performance boosters, like Athletic Greens. These promise to give its consumers myriad benefits by consuming it[v]. ASF markets kelp as one of the most nutrient dense foods on the planet, but has not really expanded that claim to include any athletic or mental enhancement/benefits. This is wise as competing on the athletic front will require more research to back up any performance benefit claims, while also possibly offering more expensive branding/promotion/partnerships to demonstrate any athletic benefit. If such benefit is discovered in the future, then there is probably a way to integrate that into the ASF message at a later date.

Exhibit A shows the positioning of ASF and some other competitors on a Mission-Agnostic and Flavor-Utility axis. As discussed, Athletic Greens is focused on performance and less on flavor. Crush Cubes make a variety of generally savory cube flavor enhancers and is not really in the fruit space. Sambazon, however, produces a relatively rare fruit that was only recently broadly introduced to the American palette. They have done a lot to shore up their sustainable supply chain and organic certifications and will therefore compete more directly with ASF when it comes to both mission and use. Acai has established itself as a superfood of sorts, and there is still room for kelp to take the same mantle. There are even opportunities for potential partnership between two such mission driven companies that offer unique ingredients to a smoothie or shake.

Another aspect of differentiation that is important internally as well as externally. Kelp cubes are probably currently being used in the same ways for which the berry cubes are being positioned. This provides a risk for cannibalization to potentially hurt ASF's bottom line. Assuming the margin on berry cubes is smaller (because of the berry and ginger additions), then any time someone buys a berry cube instead of a kelp cube without also increasing their volume of purchase, ASF will generate fewer profits. Differentiating the use cases between kelp and berry cubes will require more content on savory uses of kelp cubes on ASF social media and ads. In order to prevent marginal losses however, berry cubes will have to broaden the appeal of kelp to more marginal consumers who were potentially unsure about experimenting with kelp, but may have less of a barrier when presented with a familiar berry AND kelp.

This novelty of kelp is a double-edged sword in that its newness is interesting, but its new flavor may actually be off-putting. In fact, studies show that foods that had stronger kelp flavoring scored lower on hedonic ratings than those same foods with less intense kelp flavoring (Exhibit B). Berry cubes can actually alleviate this issue because the berries ostensibly lower the intensity of the kelp flavoring. In addition, the antioxidant profiles of the berries will attract more of those marginal consumers who were possibly on the edge about kelp. Highlighting antioxidants in kelp products has been shown to increase interest in that product amongst consumers (Exhibit E).[vi]

Target: ASF is already targeting higher income and well-educated consumers given the premium cost of their products and the retail partners. These berry cubes (if priced similarly to kelp cubes) will target the same market, namely individuals and who want to improve their diet, are typically more highly-educated[vii] and interested in environmentally friendly food.[viii] Furthermore, "20% of millennials actively seek out new flavors to try on a regular basis, 68% of consumers … are more likely to visit a restaurant that offers new flavors, (but) 46% of consumers are hesitant to try new flavors."[ix] For kelp specifically, there is some indication that middle aged consumers (35-44) and consumers that earn between $101-$125K have positive preferences for products with kelp (Exhibit C). Looking specifically at women, however, shows some troubling trends. Namely, women suffer significant willingness to pay penalties when considering kelp. This means that if a man is willing to pay $5 for a product, women are willing to pay less for that same product because they have less demand for it. Specifically, women have -$1.74 WTP penalty if a product has seaweed, and primary shoppers are 20% less likely to buy kelp with a -$1.85 penalty.[x] Another way of stating this is that women would only buy this kelp product if they were offered a -$1.74 discount. Berry cubes could alleviate this by lowering the kelp barrier, so to speak. Affluent men of younger and middle age should be good targets generally, but berry cubes can be important to getting these marginal female consumers to try kelp. For primary shoppers who could be women shopping for kids with conservative tastes, having a berry cube could overcome that consternation and open up more women to being potential consumers. This broadening of the market is essential to avoiding cannibalization, so women in particular should be heavily targeted. Demonstrating easy ways to integrate berry cubes into known recipes will also be important to entice more people to experiment.

Retail partners that cater to more affluent consumers will be good channel partners in which to roll out the berry cubes (Exhibit D). What could be more impactful, however, is reaching out to smoothie stores to increase brand salience and reach more experimental and mainline consumers which will be discussed more in the next section.

Engage: Driving trial, since berry cubes are not a ready to eat product, is a challenging aspect of this strategy. Where kimchi can be put in a sample booth, frozen cubes cannot. Finding a channel to roll out berry cubes in which consumers are more likely to experiment with new flavors is crucial. Smoothie stores could be this channel. The Smoothie King franchise FAQ designates their target consumer as millennials between the ages of 16-35, 55% skewed towards women, a broad range of family types but those with enough ancillary income to afford their premium product. They prefer franchises to open in locations with average or higher than average household incomes.[xi] Essentially, smoothie stores already target much of the same demographic that already prefers kelp. Consumers also are more experimental in general when ordering dine-in or takeout,[xii] and smoothie bars are already well-accustomed to looking for and innovating new flavors, combinations, and superfood add-ins to accommodate the dynamic demand of their experimental consumers which incentivizes them to create innovative and high-quality offerings. [xiii] Furthermore, Smoothie King has recently become more vocal about removing unhealthy ingredients from their smoothie offerings like high fructose corn syrup.[xiv] This aligns well with the positioning of the berry cubes, which are an innovative superfood product that needs to make more inroads among affluent millennial women. Approaching these target consumers in an environment where they are most likely to experiment with new flavors could pay dividends if they then seek out that product in other channels. Partnering with Smoothie King, Jamba Juice, or other smaller/regional healthy smoothie brands could be a way to achieve this, with berry cubes fitting in well as a superfood booster.

Social media influencers are another way to increase engagement with berry cubes and ASF products in general. ASF has already partnered with some influencers with their other products and understands how the relationships can amplify ASF's mission and demonstrate uses and applications of ASF products to their followers. Identifying influencers already associated with various smoothie brands to also be proponents of berry cubes would appeal more directly to these target consumers as well.

Geotargeting/Geofencing is another way to get ads delivered directly to target consumers. These ads can provide brand salience near the time and place of potential purchase. For example, partnering with a Smoothie King, and putting a geofenced ASF ad around the shop would give people information about berry cubes around the location where they would ostensibly buy it. Pizza Hut demonstrated how this worked by gathering consumer preferences on its mobile app, utilizing geofencing, and targeting customers near its restaurants.[xv] Pizza Hut discovered "that the use of this mobile-based strategy was 2.6 times as effective as an online display ad."[xvi]

Case Study: To provide some context, I profiled Sambazon's growth to see if we can learn anything from their journey. Sambazon began by supplying pulp to local juice bars, which means they began by targeting wealthier consumers who were more willing to experiment with this unknown acai berry. They used this success to transition into ready-to-eat smoothies and drinks. These products made them attractive to Whole Foods, with which Sambazon secured a large acai contract. Throughout this time, Sambazon meticulously cultivated its brand and aligned it with its actual operations, being strong proponents of organic agriculture and a just supply chain in the tropical places where acai grows. As it continued to grow, they created more line extensions like sweetened and unsweetened offerings along with acai blends to appeal to their diverse consumers, some of whom like the unadulterated acai, and some who prefer more watered-down versions. ASF has already accomplished some of these steps, and the berry cube is a start in the right direction to expand the customer base, just like Sambazon. ASF already has the brand, the mission, and the contracts with popular retailers. Berry cubes can be the important step to broaden the consumer base and provide more mainstream growth for ASF.

Next Steps: In order to execute this integrated marketing plan, ASF needs granular information on the consumers of their products. Working with companies like Numerator, 8451, or Nielsen, would give more insight into which types of people buy which products in which places. Using this information to build profiles of consumers and expanding that into consumer segments will help ASF have more targeted and efficient ad spend. Presenting these findings to current and potential retail and restaurant partners would be an important part of the pitch, in that it would help retail partners better understand ASF consumers and sell them product more effectively. Getting this data and making sense of it can be expensive and could take time to build effective profiles, but it would pay dividends down the road as ASF's targeting and promotional spend would become more effective.

ASF already has experience working with restaurants to integrate ASF offerings into their fare. Reaching out to innovation officers at various smoothie brands could be an important step in getting berry cubes in front of more consumers.

ASF has a unique and strong brand along with delicious products. Building an omnichannel marketing presence through a combination of digital ads, geofencing, influencers, and smoothie brands while leveraging consumer insights to better target consumers and get data on ASF performance will be important to guiding ASF towards more growth opportunities.

Exhibits:

Exhibit A: Mission-Agnostic, Flavor-Utility Matrix

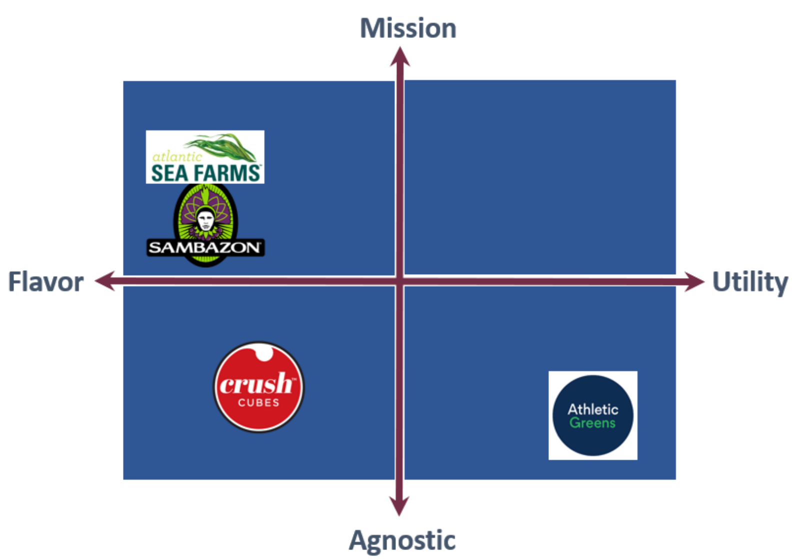

Exhibit B: Kelp formulations and Sensory Ratings[xvii]

Table 4.5 Consumer acceptance of bread containing seaweed [a]

Mean 9-Point Hedonic Attribute Ratings [b]					
Attribute	Flake	Meal	Powder	Probability	Significance [c]
Appearance	6.9 ± 1.5 ab	7.5 ± 1.1 a	6.5 ± 2.0 b	0.0001	***
Color	6.9 ± 1.5 ab	7.3 ± 1.2 a	6.6 ± 1.9 b	0.0157	*
Aroma	6.6 ± 1.5 a	6.7 ± 1.5 a	5.6 ± 1.8 b	0.0001	***
Taste	6.7 ± 1.5 a	7.0 ± 1.4 a	5.3 ± 2.0 b	0.0001	***
Texture	6.7 ± 1.7 ab	7.1 ± 1.6 a	6.4 ± 1.8 b	0.0124	*
Overall	6.7 ± 1.5 a	7.1 ± 1.3 a	5.6 ± 2.1 b	0.0001	***

[a] Means ± standard deviation (n=65) followed by a different letter within the same row are significantly different from each other (Tukey's HSD, $p \leq 0.05$).

[b] 9-point hedonic scale: 1 = dislike extremely, 2 = dislike very much, 3 = dislike moderately, 4 = dislike slightly 5 = neither like nor dislike, 6 = like slightly, 7 = like moderately, 8 = like very much, 9 = like extremely (Peryam & Pilgrim, 1957).

[c] One-Way Analysis of Variance between sample groups: * < 0.05, ** < 0.01, *** < 0.001, NS = No significance.

Exhibit C: Demographic Influences on seaweed flavor acceptability in bread[xviii]

Table 4.13 Two-way analysis of variance (ANOVA) of demographic influences on bread acceptability [a]

Category	Seaweed Bread Formulations [b,c]			Mean values
	Flake	Meal	Powder	
Gender (n=65)				
Male (n=25)	6.8 ± 0.3 a	7.2 ± 0.3 a	6.0 ± 0.3 ab	6.6 ± 0.2
Female (n=40)	6.7 ± 0.3 a	7.1 ± 0.3 a	5.4 ± 0.3 b	6.4 ± 0.2
Age (n=65)				
18 - 24 years (n=3)	6.0 ± 0.9 a	6.3 ± 0.9 a	5.3 ± 0.9 a	5.9 ± 0.5
25 - 34 years (n=14)	6.9 ± 0.4 a	7.1 ± 0.4 a	4.7 ± 0.4 a	6.2 ± 0.3
35 - 44 years (n=6)	7.0 ± 0.7 a	7.8 ± 0.7 a	6.5 ± 0.7 a	7.1 ± 0.4
45 - 54 years (n=5)	7.4 ± 0.7 a	6.6 ± 0.7 a	5.8 ± 0.7 a	6.6 ± 0.4
55 - 64 years (n=14)	6.5 ± 0.4 a	6.9 ± 0.4 a	4.9 ± 0.4 a	6.1 ± 0.3
65 - 74 years (n=20)	6.7 ± 0.4 a	7.3 ± 0.4 a	6.3 ± 0.4 a	6.7 ± 0.2
75 years or older (n=3)	7.0 ± 0.9 a	7.7 ± 0.9 a	7.0 ± 0.9 a	7.2 ± 0.5
Income (n=61)				
Less than $25,000 (n=6)	6.8 ± 0.7 a	7.3 ± 0.7 a	6.0 ± 0.7 a	6.7 ± 0.4
$26,000 - $50,000 (n=16)	6.6 ± 0.4 a	6.9 ± 0.4 a	5.3 ± 0.4 a	6.3 ± 0.2
$51,000 - $75,000 (n=15)	6.9 ± 0.4 a	7.0 ± 0.4 a	5.2 ± 0.4 a	6.4 ± 0.3
$76,000 - $100,000 (n=11)	7.0 ± 0.5 a	7.3 ± 0.5 a	5.6 ± 0.5 a	6.6 ± 0.3
$101,000 - $125,000 (n=4)	7.0 ± 0.8 a	7.0 ± 0.8 a	7.0 ± 0.8 a	7.0 ± 0.5
$126,000 - $150,000 (n=2)	4.0 ± 1.2 a	7.5 ± 1.2 a	5.5 ± 1.2 a	5.7 ± 0.7
More than $150,000 (n=7)	6.4 ± 0.6 a	7.6 ± 0.6 a	6.4 ± 0.6 a	6.7 ± 0.4

[a] The independent variables consist of each demographic trait, dried seaweed particle size, and their interaction.

[b] 9-point hedonic scale: 1 = dislike extremely, 2 = dislike very much, 3 = dislike moderately, 4 = dislike slightly 5 = neither like nor dislike, 6 = like slightly, 7 = like moderately, 8 = like very much, 9 = like extremely (Peryam & Pilgrim, 1957).

[c] Means ± standard deviation followed by a different letter within the same row are significantly different from each other (Tukey's HSD, $p \leq 0.05$).

Exhibit D: Target Retail Channels

Exhibit E: Reasons for buying marginally more seaweed[xix]

What would make you consume seaweed bread more often [c]	
More availability	854 (23.6%)
Natural preservatives	589 (16.2%)
More seaweed flavor	237 (6.5%)
Sustainably-grown	429 (11.8%)
Minimally processed	600 (16.5%)
Lower calories	850 (23.4%)
Good source of iodine	496 (13.7%)
Less seaweed flavor	582 (16.1%)
Vegan source of vitamin B_{12}	392 (10.8%)
Organic	561 (15.5%)
Local	351 (9.7%)
Grown in Maine	232 (6.4%)
Source of antioxidants	760 (21%)
Good source of calcium	665 (18.3%)
I have no interest in purchasing	619 (17.1%)
None of the above motivates me	832 (22.9%)

Sources:

Amick, Brian. "Dining Occasion Impacts Consumer Willingness to Try New Flavors." *Bake Magazine RSS*, Bake Magazine, 4 Nov. 2019, https://www.bakemag.com/articles/12693-dining-occasion-impacts-consumer-willingness-to-try-new-flavors.

"Athletic Greens® - Ingredients and Benefits." *Athletic Greens*, https://athleticgreens.com/ingredients/en?gclid=CjwKCAjwsNiIBhBdEiwAJK4khqOiAwD1REvYDWhy242ZMPg-p35ZLhj0MqRuZ4LVG2u2Yuh1LjYi_hoCaHMQAvD_BwE.

Berman, Barry. "Planning and Implementing Effective Mobile Marketing Programs." *Business Horizons*, vol. 59, no. 4, 2016, pp. 431–439., https://doi.org/10.1016/j.bushor.2016.03.006. Accessed 2 Apr. 2022.

Carman, Tim. "For Sweetgreen, 2020 Is the Year Kelp Becomes Cool." *The Washington Post*, WP Company, 28 Oct. 2021, https://www.washingtonpost.com/news/voraciously/wp/2020/02/11/for-sweetgreen-2020-is-the-year-kelp-becomes-cool/.

Li, Tongzhe, et al. "Is There a Potential US Market for Seaweed-Based Products? A Framed Field Experiment on Consumer Acceptance." *Marine Resource Economics*, vol. 36, no. 3, 2021, pp. 255–268., https://doi.org/10.1086/714422.

Mayer, Marina. "Items Tagged with 'Frozen Fruit Trends'." *Refrigerated Frozen Foods RSS*, 16 Sept. 2020, https://www.refrigeratedfrozenfood.com/keywords/frozen%20fruit%20trends.

"Researchandmarkets.com Adds Report: Frozen Fruit Market." *Food & Beverage Close-Up*, 6 Jan. 2021. *Gale General OneFile*, https://link.gale.com/apps/doc/A647546084/ITOF?u=duke_perkins&sid=summon&xid=34bbf405. Accessed 2 Apr. 2022.

Rudominer, Ryan. "Corporate Social Responsibility Matters: Ignore Millennials at Your Peril." *Center for Social Impact Communication*, https://csic.georgetown.edu/magazine/corporate-social-responsibility-matters-ignore-millennials-peril/.

Simone, Laurel. "Consumer Acceptability of Gulf of Maine Sugar Kelp Seaweed in Baked Bread." *Electronic Theses and Dissertations. 3221.*, Aug. 2020. *Digitalcommons@UMaine*, https://digitalcommons.library.umaine.edu/etd/3221. Accessed 2021.

Sloan, A. "A New Wave of Asian Cuisine." *IFT*, May 2019, https://www.ift.org/news-and-publications/food-technology-magazine/issues/2019/may/columns/consumer-trends-asian-cuisine.

Smoothie King Franchises, Inc. "Smoothie King Announces Shift to Cleaner Blending." *Smoothie King Announces Shift To Cleaner Blending*, 27 June 2018, https://www.prnewswire.com/news-releases/smoothie-king-announces-shift-to-cleaner-blending-300514230.html.

"Smoothie King Franchises, Inc.." *Smoothie King Franchising*, https://www.Smoothiekingfranchise.com/why-us/faq/.

Thomas, Brigette. “Juice and Smoothie Bars.” *IBISWorld*, May 2021, https://my-ibisworld-com.proxy.lib.duke.edu/us/en/industry-specialized/od4325/industry-at-a-glance . Accessed 2021.

---

[i] https://www.refrigeratedfrozenfood.com/keywords/frozen%20fruit%20trends
[ii] ResearchAndMarkets.com Adds Report: Frozen Fruit Market. (2021, January 6). *Food & Beverage Close-Up*. https://link.gale.com/apps/doc/A647546084/ITOF?u=duke_perkins&sid=summon&xid=34bbf405
[iii] https://www.refrigeratedfrozenfood.com/keywords/frozen%20fruit%20trends
[iv] https://csic.georgetown.edu/magazine/corporate-social-responsibility-matters-ignore-millennials-peril/
[v] https://athleticgreens.com/ingredients/en?gclid=CjwKCAjwsNiIBhBdEiwAJK4khqOiAwD1REvYDWhy242ZMPg-p35ZLhj0MqRuZ4LVG2u2Yuh1LjYi_hoCaHMQAvD_BwE
[vi] Simone, 28
[vii] Li, 2
[viii] Li, 16-17
[ix] https://www.bakemag.com/articles/12693-dining-occasion-impacts-consumer-willingness-to-try-new-flavors
[x] Li, 28
[xi] https://www.Smoothiekingfranchise.com/why-us/faq/
[xii] https://www.bakemag.com/articles/12693-dining-occasion-impacts-consumer-willingness-to-try-new-flavors
[xiii] IBISWorld, https://my-ibisworld-com.proxy.lib.duke.edu/us/en/industry-specialized/od4325/industry-at-a-glance
[xiv] https://www.prnewswire.com/news-releases/smoothie-king-announces-shift-to-cleaner-blending-300514230.html
[xv] Berman 2016
[xvi] Berman, 433
[xvii] Simone, 48
[xviii] Simone, 59
[xix] Simone, 28