

CONSUMER PERCEPTIONS, PREFERENCES, & ATTITUDES ABOUT DOMESTIC FARM-RAISED SEAWEED PRODUCTS

Christopher V Davis¹, Anne Langston Noll¹, Qiujiu Zheng², Raymond Bernier³, Randy Labbe³

¹Maine Aquaculture Innovation Center, 193 Clarks Cove Road, Walpole, ME 04573

²Maine Business School, University of Maine, 5723 DP Corbett Business Building, Orono, ME 04469

³Atlantic Corporation, 44 Main Street, Suite 205, Waterville, ME 04901



Introduction

Edible seaweed can provide income diversification for working waterfront communities. Consumer research can provide insights data on which to base market-driven decision making that can lead to increased revenues and higher profitability for seaweed farmers and value-added producers. Survey data will be used to develop an interactive data dashboard for use by seaweed farmers, distributors, wholesalers, aquaculture researchers, and Extension professionals. Regional data on consumption habits, preferences, and willingness to pay will be filtered by demographic characteristics such as age, gender, and income-level enabling seaweed farmers to target the most profitable market segments

Methods

The Maine Aquaculture Innovation Center (MAIC) and Atlantic Corporation conducted a comprehensive nationwide consumer insights survey on seaweed and value-added products. The protocol was reviewed by Solutions IRB, an independent ethical review board (protocol 2020/11/27) and has been verified as Exempt according to 45CFR46.104(d)(2): (2) Tests, Surveys, Interviews on 12/08/2020. The survey was designed by MAIC and Atlantic and fielded by Dynata through their online U.S. survey panels between December 15th and December 28th, 2020. The survey results were analyzed by Dr Qiujiu “Angie” Zheng, Maine Business School, University of Maine.

Descriptive statistics and data visualization were used to explore consumers’ knowledge of seaweed aquaculture and products, seaweed consumption habits, and perceptions and preferences for seaweed attributes. Our analysis for non-seaweed consumers focused on their reasons for not consuming the products and possible motivating factors for encouraging them to try. Lastly, we built several econometric models to investigate the relationship between consumers’ intentions to try new products flavored with and/or containing seaweeds and the factors that influence their intentions, and the relationship between consumers’ preferences for farm-raised seaweeds and the factors that influence their preferences.

Data Dashboard

MAIC and Atlantic Corporation have developed a public, web-based interactive dashboard where users can explore U.S. seaweed consumer insights. Scan this QR code to access the data dashboard.

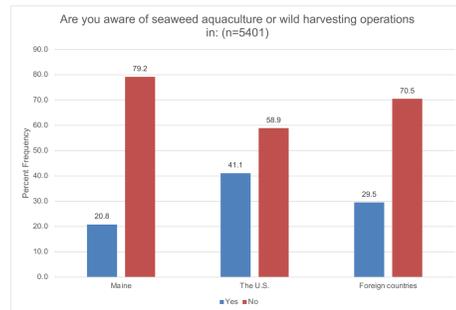


Figure 1. Consumers' awareness of seaweed aquaculture or wild harvesting operations across different geographic scales

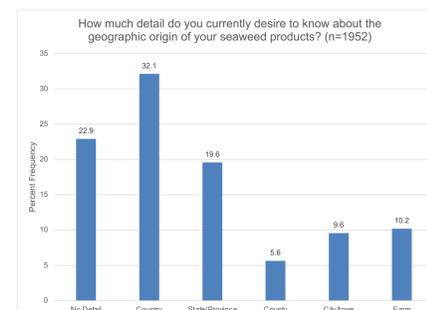


Figure 2. The detail consumers desire to know about the geographic origin of seaweed products

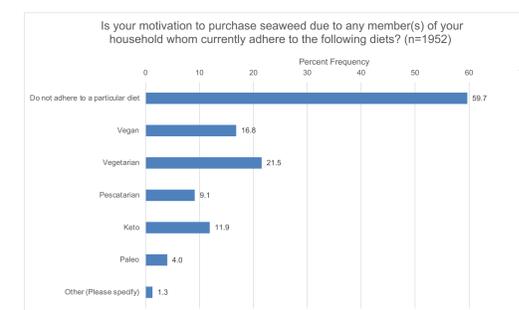


Figure 3. Motivations to purchase seaweeds due to diets

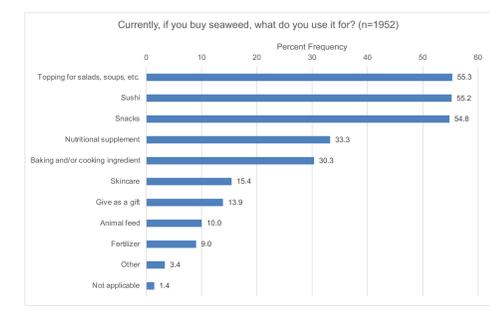


Figure 4. Consumers' use of seaweeds

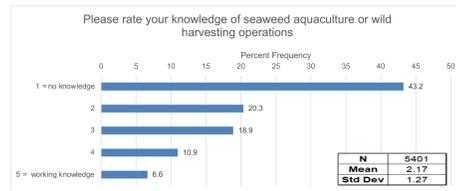


Figure 5. Consumers' self-rating of their knowledge of seaweed aquaculture or wild harvesting operations

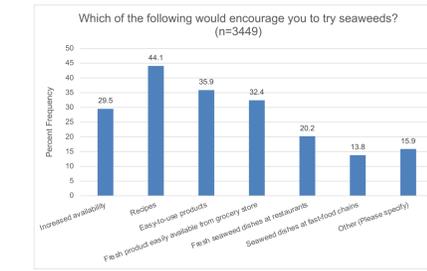


Figure 6. Methods that may encourage consumers to try seaweeds

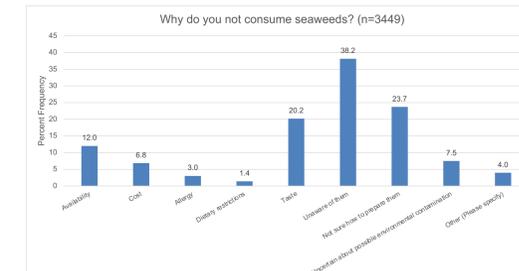


Figure 7. Reasons that consumers do not consume seaweeds

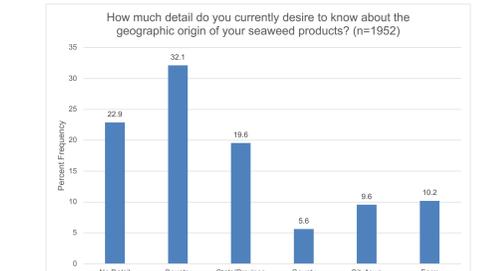


Figure 8. The detail consumers desire to know about the geographic origin of seaweed products

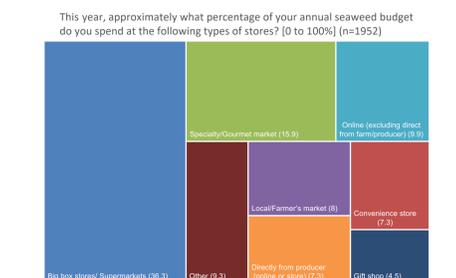


Figure 9. Distribution of consumers' annual seaweed budget in different store types



Figure 10. Availability of seaweed products in different forms

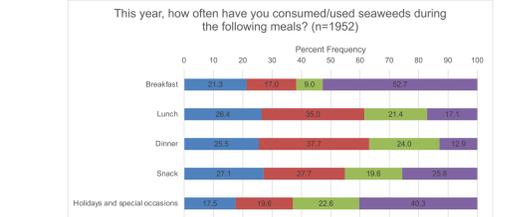


Figure 11. Frequency of seaweed consumption during different meals

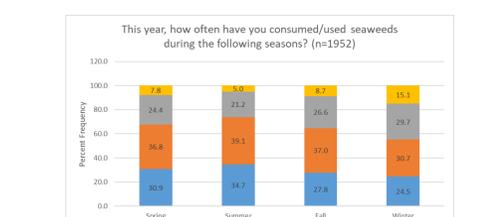


Figure 12. Frequency of seaweed consumption in each season

Conclusions

The Influence of Knowledge:

- Seaweed consumers' knowledge of seaweeds and perceptions of seaweed quality, price, and availability positively affect their intentions to try a new product flavored with seaweeds.
- Knowledge also influences whether non-seaweed consumers try a new product flavored with seaweeds.
- Consumers who do not consume seaweeds due to availability, are also unaware of seaweed products, and are not sure how to prepare them, and have higher purchase intentions to try a new product flavored with seaweeds.
- Our results suggest that providing information to consumers to help them learn about seaweed products, and educating consumers about how to prepare seaweeds at home, may be effective marketing strategies.
- Having more knowledge of seaweed products help consumers build their preference for farmed seaweeds.

Seaweed consumers and non-seaweed consumers have different socio-demographic characteristics. Seaweed consumers:

- live near or closer to the coast,
- are younger,
- have more education
- have more household income,
- have larger household sizes
- have more children in the household

Please feel free to take a print out of our poster

Non-seaweed Consumer Insights:

- Consumers do not eat seaweeds because:
- lack of awareness,
 - uncertainty on how to prepare them,
 - taste

Some consumers find the term “seaweed” unappealing, which is the reason that they do not want to try them. This supports the trend to use the term “sea vegetables”.

Consumers believe that recipes, easy-to-use products, and fresh products easily available from grocery stores will motivate them to try seaweeds. This supports the effort farmers put into recipe development and sharing.

Our results indicate that seaweed products are relatively new to some markets and there is a need to educate consumers.

Seaweed Consumer Insights:

- Seaweed farmers and producers that can find channels to help consumers improve their seaweed-related knowledge and build positive perceptions of seaweed products may expand their customer base.
- Specific seaweed attributes and product certifications are important for their purchase decisions. The most important seaweed attribute to consumers is whether the products are safe for consumption.
- Most consumers desire to know the origin of a seaweed product at the country level.
- Consumers believe seaweed products from the U.S. have the highest quality and indicated in our survey that a U.S.-sourced certification is most important to increase their willingness to purchase while an internationally sourced certification is least important.
- Seaweed consumers believe farmed seaweeds are safer and more sustainable than wild-harvested seaweeds, but wild-harvested seaweeds are higher quality.
- Consumers indicated that products directly marketed from the farm/harvester is an important factor to increase their willingness to purchase, which suggests an possible effective marketing channel.
- Consumers do not perceive the price of farmed and wild-harvested seaweeds to be significantly different.
- Most seaweed consumers stated they had no preference between farm-raised and wild-harvested seaweeds.
- More seaweed consumers stated they prefer wild-harvested seaweeds than consumers that prefer farmed seaweeds.
- Consumers are more likely to prefer farmed seaweeds if they believe wild-harvested seaweeds are comparatively less safe, less sustainable, and have a lower quality.

Acknowledgments

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