

UNDERSTANDING MUSSEL CONSUMPTION

*A Case Study of the United
States & France*

AUGUST - 2017

Ministry for Primary Industries
Manatū Ahu Matua



ECONOMIC INTELLIGENCE UNIT

DISCLAIMER

While care has been used in compiling this document, the Ministry for Primary Industries do not give any prediction, warranty or assurance in relation to the accuracy of or fitness for any particular purpose, use or application of any information contained in this document. To the full extent permitted by law, Ministry for Primary Industries nor any of its employees, shall not be liable for any cost (including legal costs), claim, liability, loss, damage, injury or the like, which may be suffered or incurred as a direct or indirect result of the reliance by any person on any information contained in this document.

This document is provided subject to NZTE's Terms of Use (see <http://www.nzte.govt.nz/en/terms-of-use/> – “Site” in the Terms means this document). This document only contains general information and is not formal advice. NZTE does not endorse or warrant the accuracy, reliability or fitness for any purpose of any information provided. It is recommended that you seek independent advice on any matter related to the use of the information. In no event will NZTE be liable for any loss or damage whatsoever arising from the use of the information.

DATA LIMITATIONS

French consumers have far less access to e-commerce compared to US consumers. As a result, product feedback and restaurant data was not as readily available for France.

BACKGROUND

This report provides preliminary findings on the nature of fresh, chilled and processed mussel consumption in France and the United States. To accomplish this, we first identified 'dynamic markets' (i.e. where consumers are actively engaged in discussing mussels). By then focusing on the size of international trade, consumer purchasing behaviour, product formats and food service channels in these markets, this work seeks to inform strategic decision making to assist in identifying appropriate paths to, and positioning in market for New Zealand mussels.

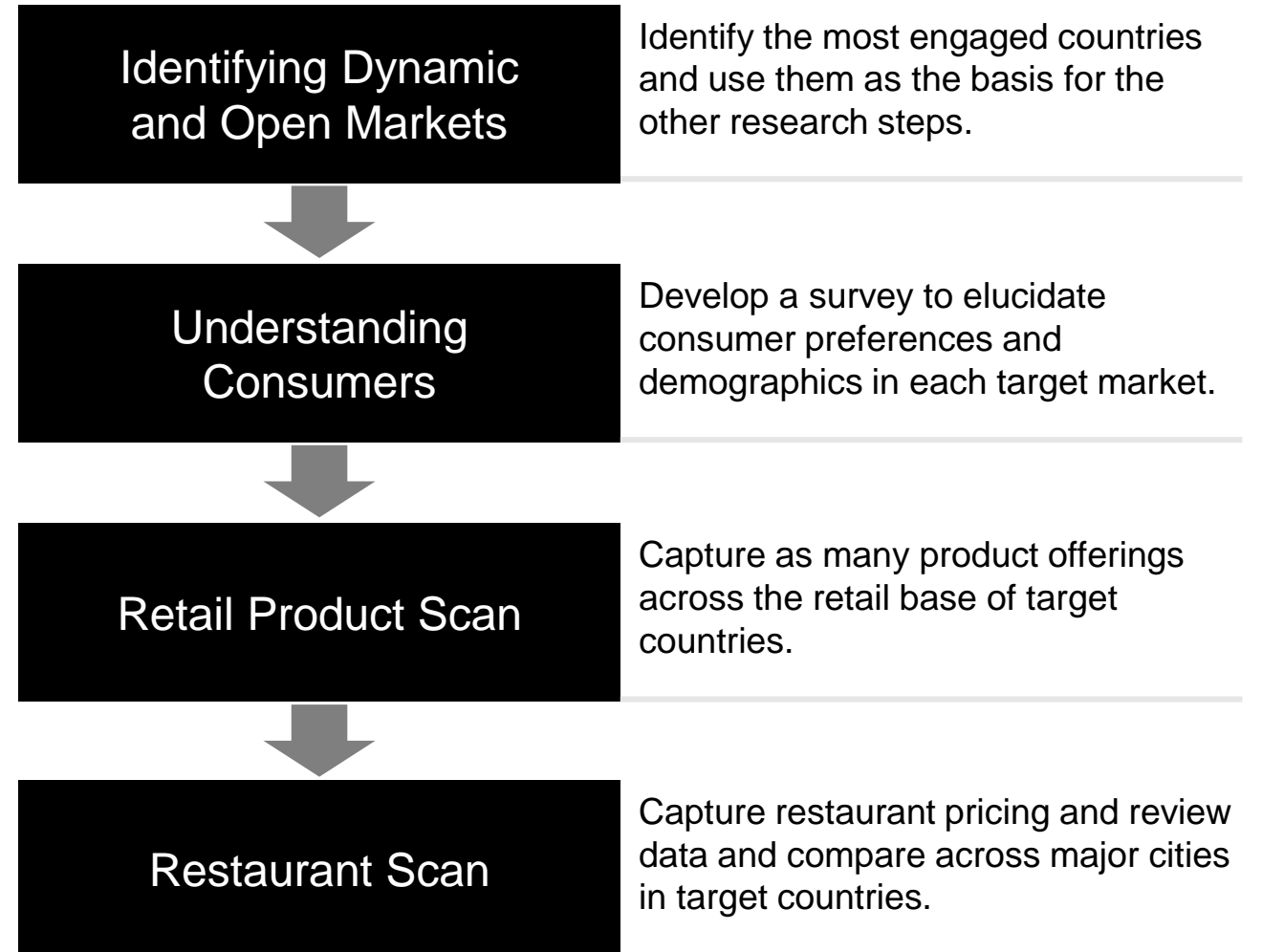
CONTENTS

4	Our Approach
5	Executive Summary
7	Identifying Markets
	Measuring Selection by Engagement
	Supplementing Market Selection by Imports
10	Understanding Consumers (U.S. & France)
	Consumption Behavior
	Format Preference
	Channel Preference
	Purchasing Criteria
	Awareness of Mussel Types
	Consumer Search Interest (United States)
17	Understanding Product Formats (U.S. & France)
	Premiums
	Products of Note
	Recent Product Launches
27	Understanding Food Service Channels (U.S.)
	Restaurant Scan
	Products of Note
	Recent Product Launches
34	Strategic Considerations

OUR APPROACH

To develop a deeper understanding of the global market for mussels, we have focused on measuring four key things:

- **Identifying dynamic markets:** by first measuring the level of social-media and online engagement around mussels, and aggregating this to a country level. These countries were then prioritized on the basis of current import values, and market access conditions.
- **Understanding consumers:** Once dynamic markets were identified, a direct survey of consumers in each country was undertaken to quantify their product and purchase preferences. These responses were triangulated against internet search interest.
- **Comparing retail product attributes:** By scanning the products stocked by a range of retailers (including supermarkets), and by comparing recently released products, a snapshot of high performing products and 'second movers' was developed.
- **Restaurant Scan:** The average pricing and rating of restaurants which are classified as 'seafood' were compared for 2-3 major centers in each country of interest. Desktop research was undertaken to identify recipes which are liked by the market.



EXECUTIVE SUMMARY

In addition to being markets which are open to New Zealand mussels from a regulatory perspective, France and the United States are selected as case studies as:

- They are amongst the largest import markets by volume for both fresh and frozen mussels. While others may offer higher unit prices, these are associated with smaller total annual import volumes; and
- They are dynamic markets from a consumer perspective i.e. consumers are also the most actively engaged online about mussels with 1500 – 2000 daily interactions across multiple social media channels.

By exploring the nature of this social media conversation, the types of products which are rated by consumers, price premiums, restaurant menus, as well as surveying over 6500 consumers in both markets, this work reveals 4 key findings:

1. The current market for mussels is lacking in unique product propositions...

In the US, propositions which extract a premium have some common attributes;

- Convenience is key – 49.4% of US consumers surveyed prefer semi-prepared products, as opposed to fresh and chilled. There is a preference not to cook complicated dishes at home, and product scans show that the right canned product in the right channel can extract a premium, while microwaveable formats are becoming more common on shelves;
- Recipes are conventional, and are aligned to either a distinct cuisine (i.e. 'Mediterranean' – e.g. tomato, onion and olive oil or 'Traditional' – e.g. smoked, white wine, or butter and garlic). Products are also targeted to popular dining trends (e.g. tapas and entertaining of guests); and
- Heritage - Claims about traditional processing methods (e.g. hand sorted) are used to reinforce the authentic nature of the product, but often with respect to European products.

In France, fresh dominates with 80.3% of respondents stating that they prefer live or fresh product. Processed and frozen are emerging however with 98 new product launches in the last 5 years, which extract a significant premium (\$US 30 per kg for stuffed mussels above generic frozen product). The national pride associated with French cuisine dictates consumer purchasing behaviour (e.g. consumers are most likely to buy from the supermarket to prepare at home), and frozen product format (e.g. French recipes and associated principles such minimal quality ingredients).

2. ...Mussels are niche and Green-lipped mussel awareness is low...

Internationally, mussel consumption is low and 88% of US consumers, and 48% of French consumer say that they do not purchase mussels. These are also markets which lack significant presence or awareness of Green-lipped mussels – 85.7% of French, and 61.7% of US consumers had never heard of them.

3. ...but this isn't a bad thing...

Of those who had heard of them, a significant rate of consumers had gone on to try them. In the U.S., that number is 17.2% of respondents. This 'willingness to try' is importantly reflected amongst social media conversation, internet search interest, and popular mussel dishes in U.S. restaurants. There are consumers who are actively looking for ways to experiment with new flavours and experiences which build on the traditional European experience. Premium Green-lipped Mussels from New Zealand, with the associated health benefits could be a compelling proposition. Given the strong association with White Wine that also comes through in social media conversation, there may be additional opportunity to partner with New Zealand wine producers who are currently experiencing record retail sales.

4. There will be some strategic priorities to meet the consumer demand

- Increasing consumer understanding to be proactive in product resonance and positioning;
- Ensure flexibility and creativity in production and processing to spread risk associated with increased volume, meet foreign regulatory requirements, and innovate to drive consumer interest;
- Develop retail solutions and channels particularly for fresh products. Value margins are slim, and the balance of power rests with established players and the supermarkets/buyers.

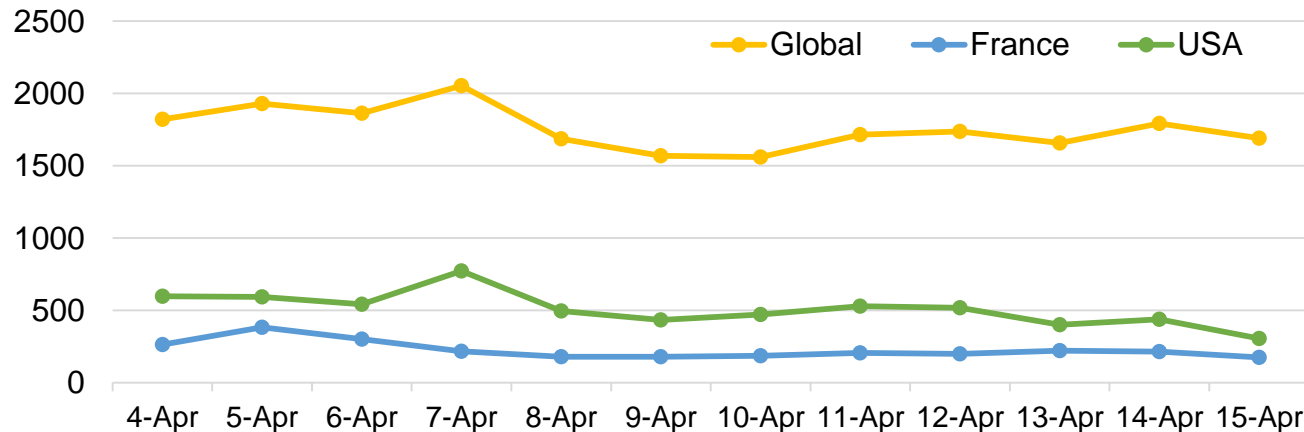
A close-up photograph of several mussels, showing their dark, textured shells and greenish-brown gills. The mussels are piled together, and the lighting is soft, highlighting the wet surfaces. A white rectangular box is centered over the image, containing the text '1 IDENTIFYING MARKETS'.

1 IDENTIFYING MARKETS

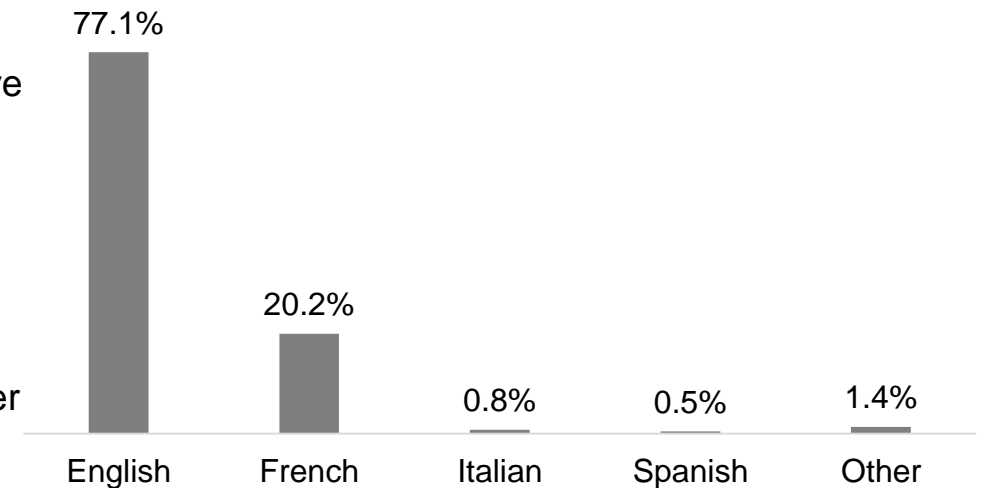
MARKET SELECTION BY ENGAGEMENT

- To first calibrate market selection, global online activity relating to a wide keyword set was collected for a period from April 4 to April 15 2017. Over a short time frame, this data collection showed consistent levels of between 1500 and 2000 activities (i.e. interactions articles, photos etc.) being posted each day. Subsequent assessments have shown consistent levels of social media activity.
- Countries:** *US* and *France* are the most engaged countries on the subject of mussels. This is supported both by the source country and the language data. Subsequent desktop research showed no Green-lipped mussels being posted outside of New Zealand.
- Sources:** The majority of consumers engage on the subject of mussels via either Twitter or Instagram. In the US, posts are strongly orientated towards recipe sharing (particularly of 'traditional' recipes such as mussels in white wine sauce), and 'foodie' culture (i.e. the sharing of restaurant experiences, cooking 'successes' or pairings with wine).

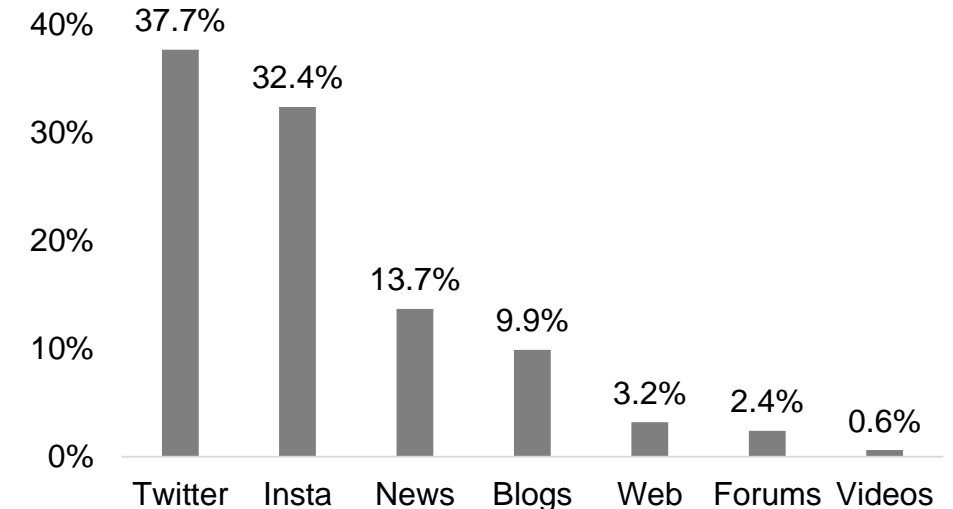
Activity Levels



Language Prevalence of Online Activity



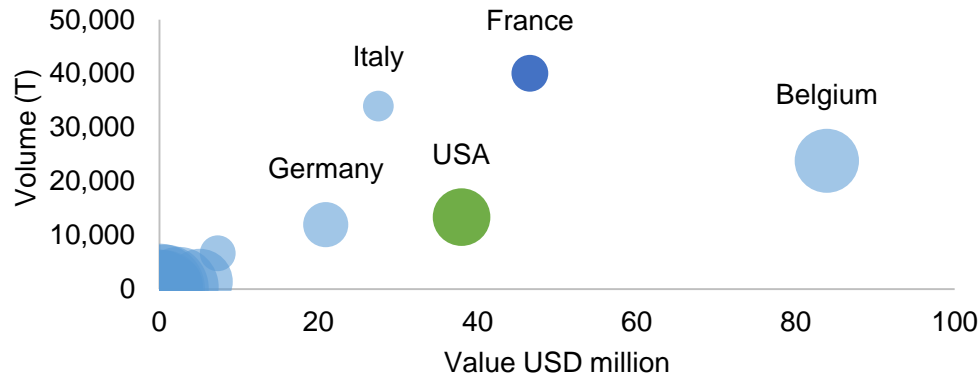
Engagement Sources



SUPPLEMENTING MARKET SELECTION BY IMPORTS

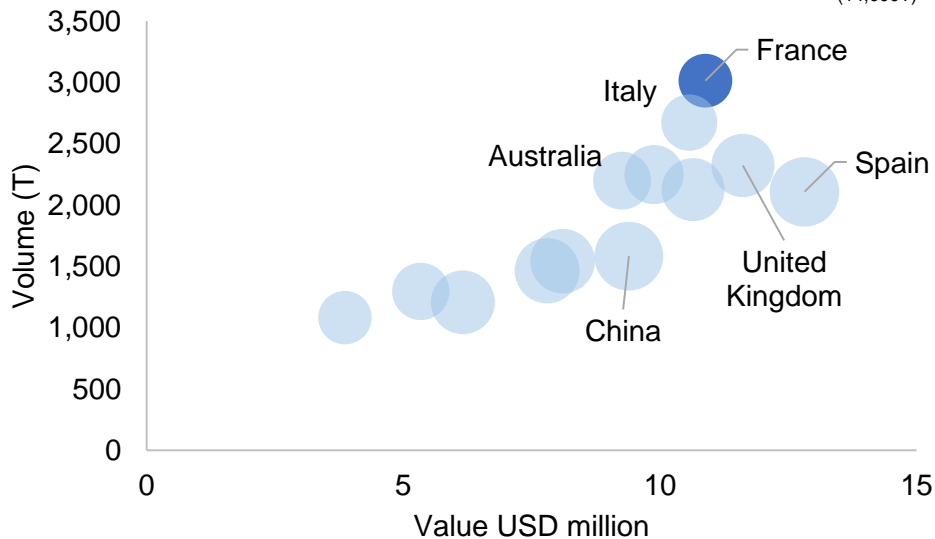
Live Mussel Imports by Country

Bubble size = unit price, 2016



Frozen Mussel Imports by Country

Bubble size = unit price, 2016



- Due to the generally strict regulatory barriers associated with imports of bivalve products (like mussels) in major markets, the international trade in such products is often regionally focused. Few countries are able to penetrate distant markets outside their regions, making New Zealand's current export profile uncommon.
- When pre-existing import data was triangulated with global online activity, further market prioritisation was made possible. In short, France and the US are both dynamic, and valuable markets. While other markets may be of greater value, international import statistics of frozen and fresh/chilled mussels highlight France and the United States as worthy of further exploration:

France

- Largest importer of live mussels, second largest frozen.
- Growing import demand (5 yr. CAGR: live 3%, frozen 1%)
- New Zealand products get a unit price premium over average French import prices:
Live +\$NZ 2.87
Frozen +\$NZ 2.88

United States

- Largest importer of frozen mussels (14,000 tonnes 2016)
- New Zealand has major frozen market share (NZ 65%)
- New Zealand products have a price premium over average United States import prices:
Live +\$NZ 3.01
Frozen +\$NZ \$1.05

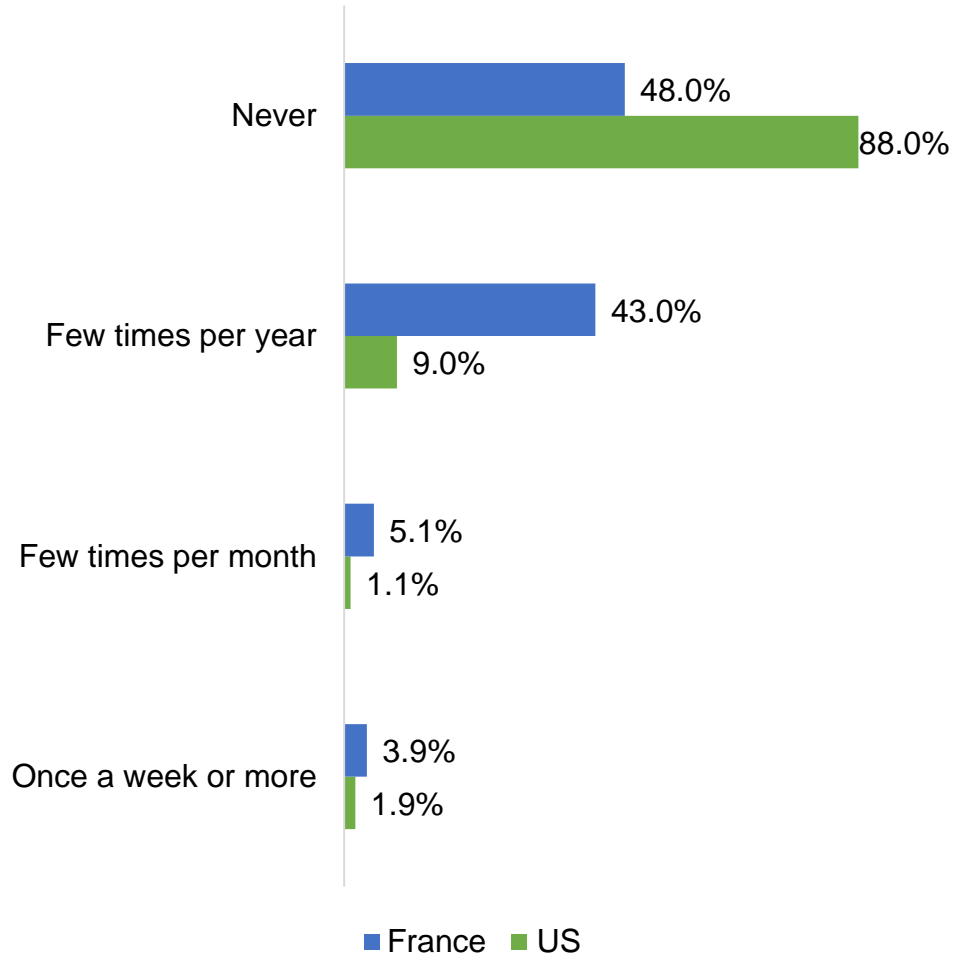
A close-up photograph of several mussels, showing their dark, textured shells and greenish-brown gills. The mussels are piled together, and the lighting is soft, highlighting the wet surfaces. A white rectangular box is centered over the image, containing the text '2 UNDERSTANDING CONSUMERS' in white, bold, sans-serif font.

2 UNDERSTANDING CONSUMERS

CONSUMER INSIGHTS

Consumption Behaviour

Question | How often do you purchase mussels?



United States

- In 2014, seafood was one of the least consumed protein foods on a weekly per capita basis (76 grams a week), and shrimp (27%), salmon (16%) and canned tuna (15%) made up more than half of all US seafood consumption. This equates to an approximate annual average per capita consumption of 0.6kg.
- Of the 12% of respondents that purchase mussels, 33% of this group (and 3% of the total sample size) purchase mussels a few times a month or more often. Combined, these figures show that despite being the largest global import market for frozen product, mussels remain a niche product category.
- Survey information demonstrates that these findings present similarly across age groups, but show a slight difference in gender where males are more likely to purchase mussels (14.8%) versus females (9.5%).

France

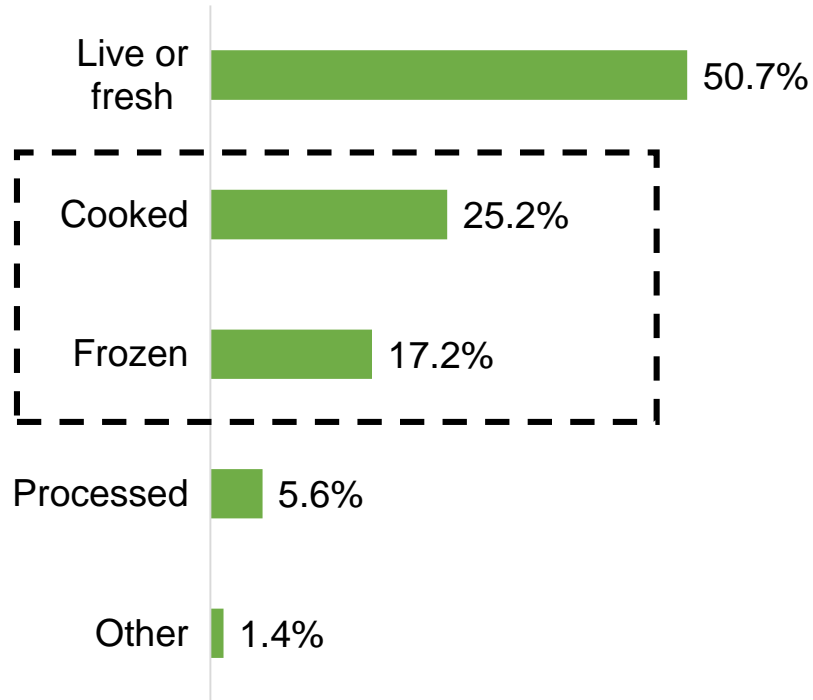
- The average consumption of molluscs and cephalopod (which includes mussels) is much higher than the US, with an approximate annual average per capita consumption of 1.8kg/capita/year. Mussels are growing quickly, with a total household expenditure on fresh product totalling \$NZ 247.4 million in 2015, up 12% from 2011.
- These numbers are reflected in our survey data: of the 52% of consumers that purchase mussels, 17% of this group eat mussels a few times month or more often.
- While females are more likely to purchase mussels (52.8% of respondents), males are more likely to purchase them with a higher frequency (9.3% at least once a month, vs. 8.7% for females).

CONSUMER INSIGHTS

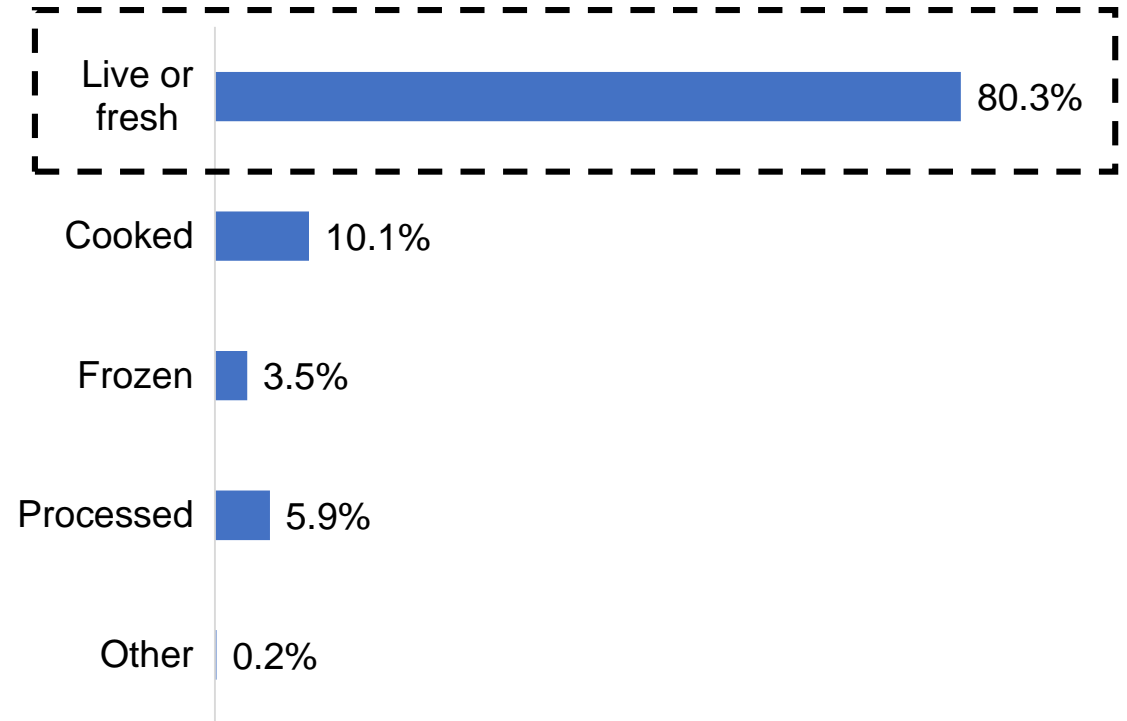
Format Preference

Question | How do you like to purchase mussels?

United States
All Respondents



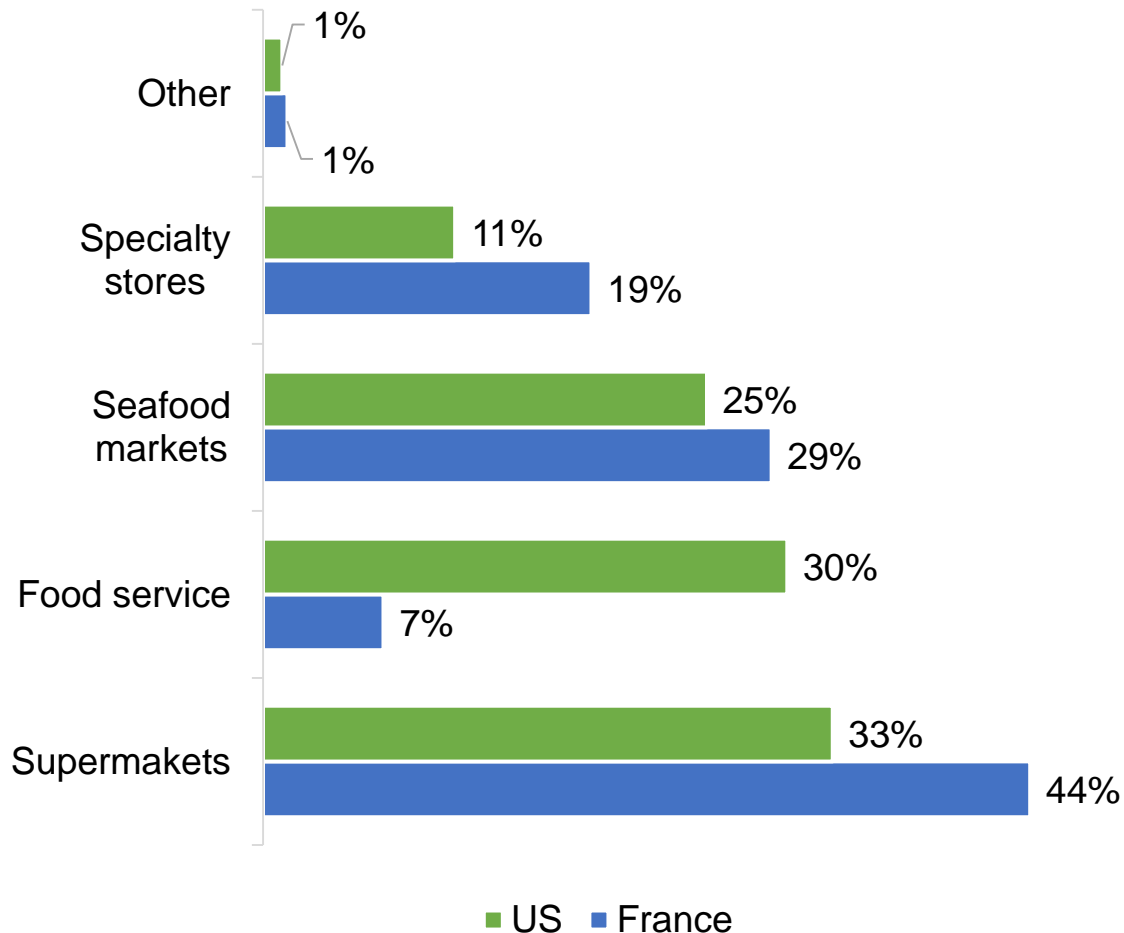
France
All Respondents



CONSUMER INSIGHTS

Channel Preference

Question | Where do you mainly buy mussels from?



United States

- Further reflecting consumer preferences for cooked product, US consumers have a strong preference for food service (restaurants/bars).
- This preference is consistent with broader market commentary which highlights that US consumers have long demonstrated an aversion towards complicated home preparation of seafood (Euromonitor 2017).
- Survey demographics demonstrate that these findings present similarly across age groups and gender. There is a slightly greater chance that consumers between the ages of 55 – 64 (33%) and 25 – 34 (31.2%) will purchase through food service.

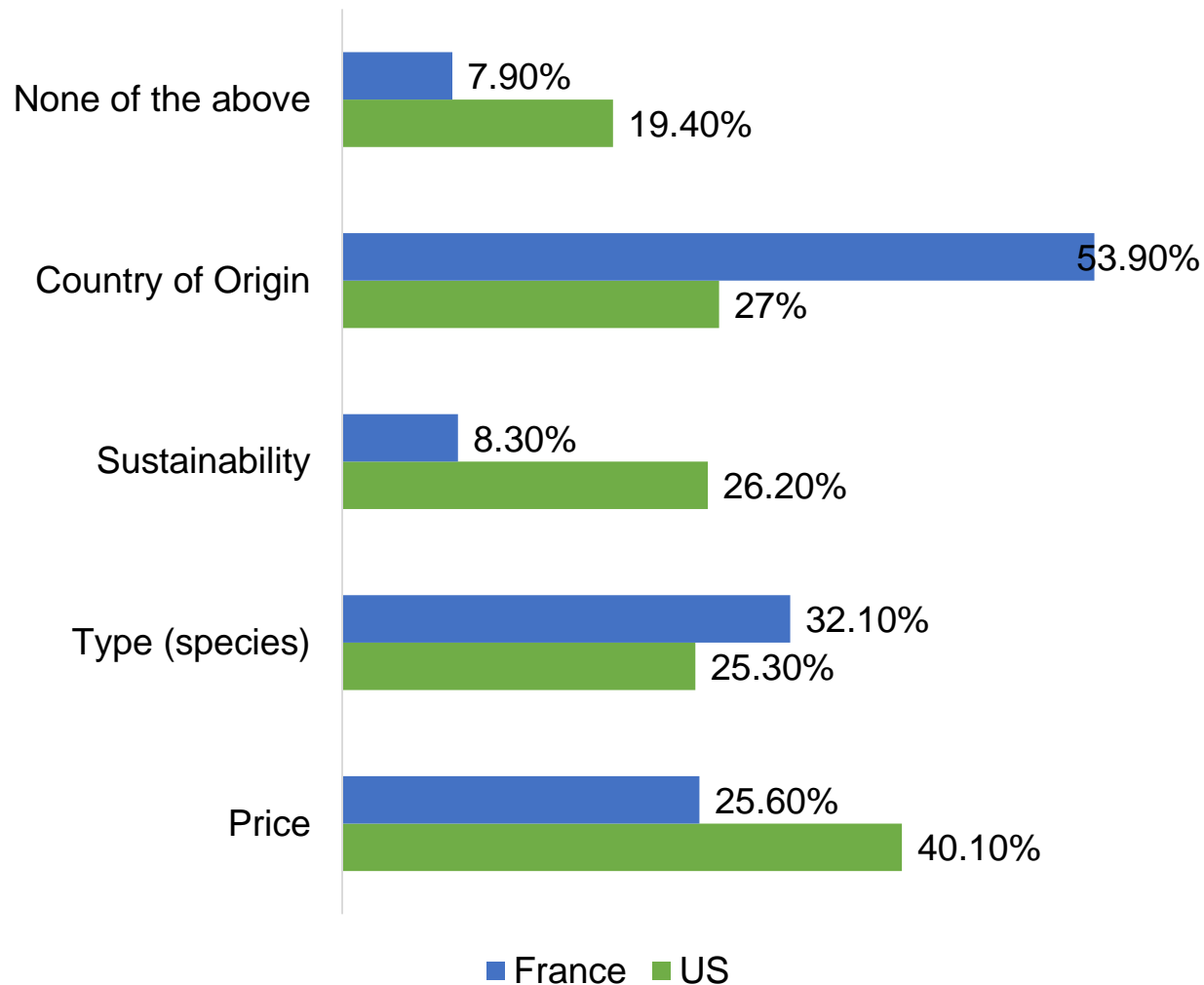
France

- The strong preference for supermarket channels, and seafood markets is definitive of French preferences.
- However, female consumers are much more likely to purchase from a supermarket (49.7%), while males are more likely to purchase from seafood markets (32.3%).
- Again, there is a slightly greater chance that consumers between the ages of 55 – 64 (34.7%) and 25 – 34 (32.5%) will purchase through a different channel. In this instance its seafood markets.

CONSUMER INSIGHTS

Purchasing Criteria

Question | What factors are important to you when buying Mussels



United States

- 40.1% of US respondents indicated price remains the most important factor when purchasing mussels. It is consumers aged between 18 – 24 who are most price conscious (54.3%).
- There are no major differences between age and gender.
- A smaller proportion (approximately 25% of respondents) are concerned about the species, sustainability and/or the country of origin. Younger consumers (18 – 24) are cognisant of species type (29.8% of respondents)
- Consumers with the most 'well rounded' purchasing decision drivers are those aged between 55 – 64%.

France

- In France, 54% of respondents indicated that country of origin was an important factor when purchasing mussels. Males (59.7% vs. 49.1%) are much more aware of where a product is from. Consumers over the age of 55, and between 18 – 24 are most conscious of this factor. Previous research would suggest that French consumers have a strong nationalistic tendency with respect to origin of food.
- Female consumers on the other hand show a greater preference toward the species (25.6% vs. 27.7%).
- Sustainability of production rates lowly across all age groups and genders.

CONSUMER INSIGHTS

Awareness of Mussel Types

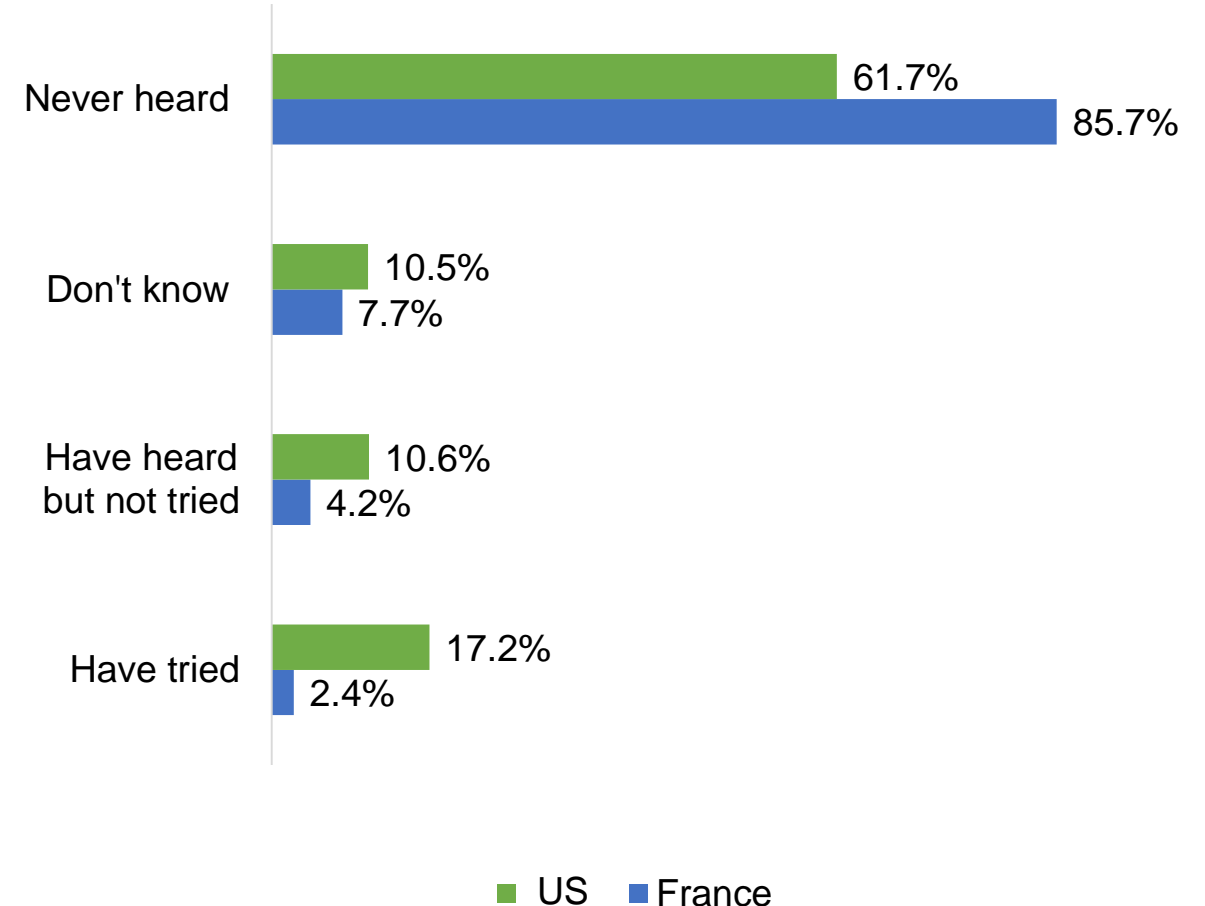
United States

- In the United States, 27.8% of respondents have heard of Green-lipped Mussels. Of those, 61.8% had tried them.
- While these findings are generally reflective across genders and age groups, males (19%) and respondents over the age of 65 (23.1%) are more likely to have tried Green-lipped mussels.
- Of those consumer who had heard of Green-lipped mussels, 38.8% of respondents were then able to correctly identify that they were from New Zealand.

France

- Level of awareness of Green-lipped Mussels is significantly lower when compared to the US. 36.4% of those who heard of the Green-lipped Mussels had tried them.
- When asked about where Green-Lipped Mussels were from however, 35.7% of respondents correctly identified New Zealand. Interestingly, females were more likely to know this fact (40.9%)
- New Zealand mussels account for only 20% of total mussel imports.

Question | Have you heard of Green-lipped mussels?

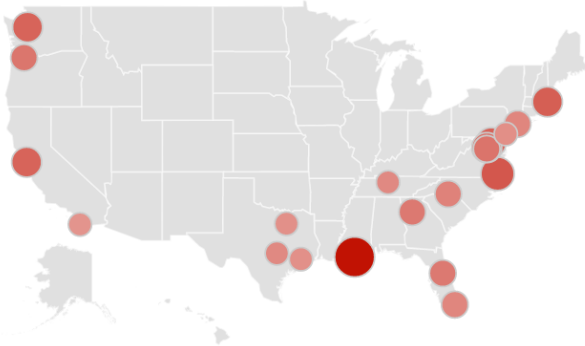


CONSUMER SEARCH INTEREST

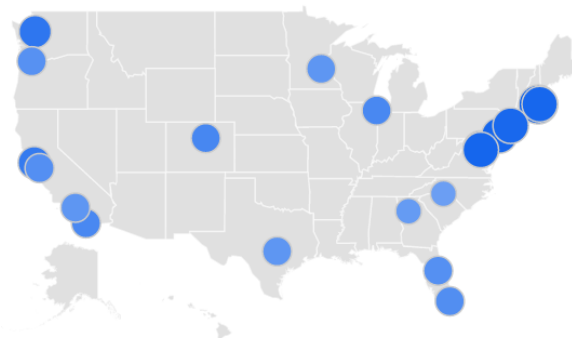
United States

- Comparing United States search interest reinforces survey findings. When compared to other seafood types, mussels attract much lower interest.
- Top key-word searches show that consumers are most actively looking for 'how to' prepare mussels.
- As is reflected in the restaurant and product scan data, recipe searches are focused on traditional recipes. In order of descending popularity, these are: white wine, steamed, garlic, pasta and combination dishes (e.g. clams and mussels).
- Conversely, related oyster searches are focused on 'experience' elements e.g. oyster bars, 'best' or 'the' oyster. This reflects a growing interest in oyster bars across the US.
- Geographically, search interest also reflects a dominance on the east coast. Interestingly, this again is reflected in the restaurant scan data.

Search Interest by City

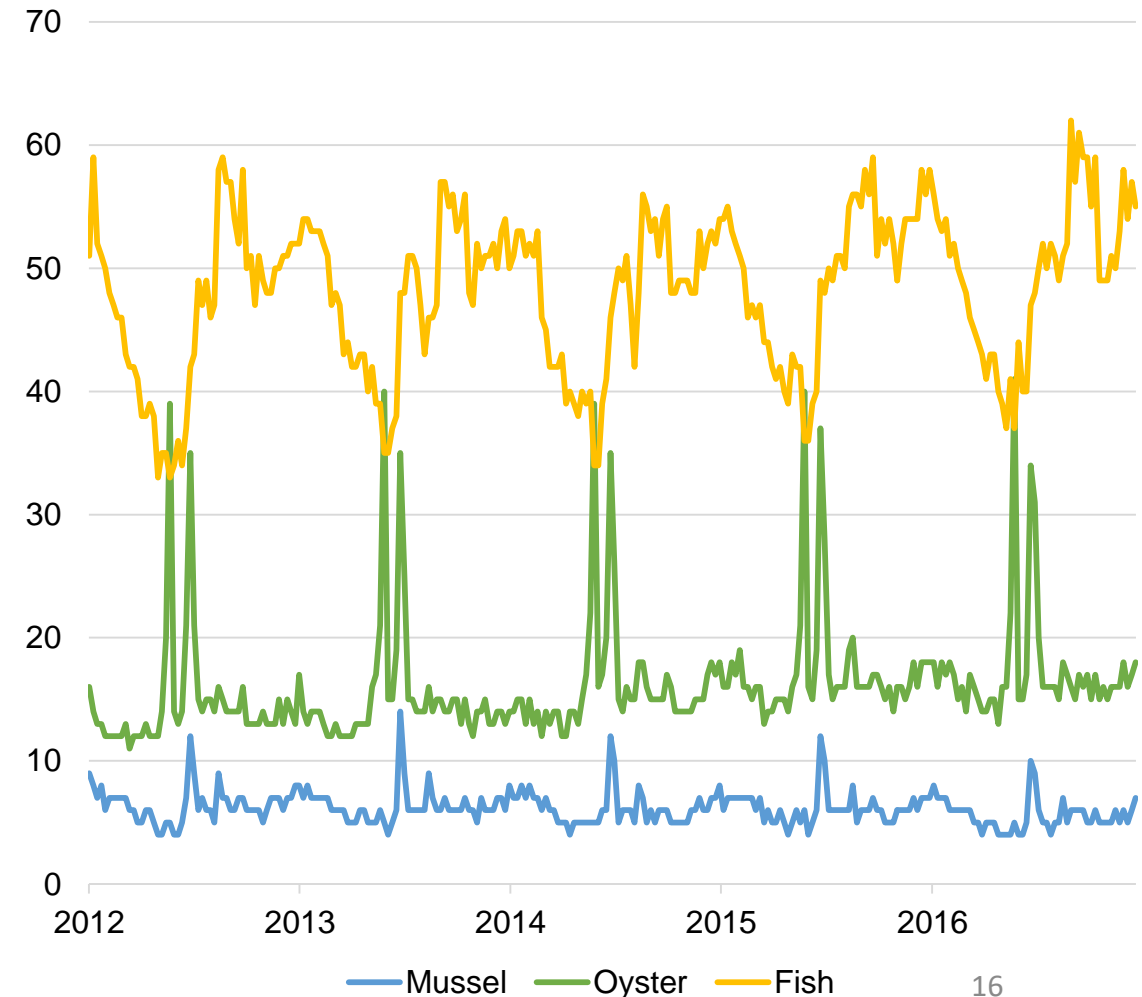


Oysters



Mussels

Consumer Food & Beverage Search Interest
2012 - 2017: United States



The background of the slide is a close-up photograph of several mussels. The shells are dark, almost black, with some greenish-blue iridescence. Some mussels are open, revealing the pale, fleshy interior. The overall texture is wet and glossy.

3 UNDERSTANDING PRODUCT FORMATS

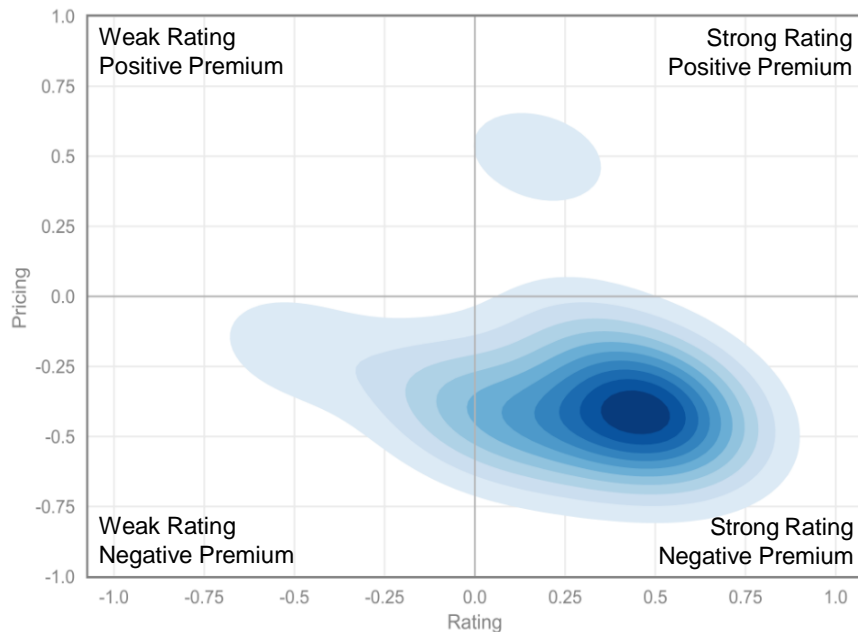
RETAIL PRODUCT SCAN

United States

Product data was collected across all major US retailers where possible. This includes online-only retailers such as Amazon, and online-offline retailers (including supermarkets) such as Walmart, Sears, and Costco. Collected data includes price, product description, and where possible, customer reviews.

This chart shows premiums plotted against consumer ratings to identify which products consumers pay more for. The lower right quadrant shows products which achieve a high consumer rating but are underpriced. Products in the upper right quadrant achieve high consumer ratings and a pricing premium.

Distribution of Relative Premium and Ratings for Mussel Products (US)



About the data

- **122** Unique Products collected
- **490** Products offered

The majority of identified products are relatively underpriced when compared to levels of consumer satisfaction

Product Success Factors:

- Target consumers that care about convenience and quick preparation, with product recipes aligned with either a distinct cuisine (i.e. Asian, Mediterranean or 'traditional' – e.g. butter and garlic, flavors), or leveraging a companies heritage.
- Visibly align to their core-values, e.g. “ethical harvest” with appropriate packaging, branding, and information.
- Smoked mussels are favoured and there may be scope to leverage Manuka smoked product – especially targeting Chinese and/or health-conscious consumers. Survey data would suggest ideal consumer would be aged between 25 – 34, of either gender.

Features of premium products:

- Improved packaging
- Organic/Ethically harvested
- Targeting demographics (e.g. Chinese consumers in US)

Country of Origin:

- Large volumes of smoked mussels from China
- Domestic US mussels are not automatically favored by consumers
- Almost no Green-Lipped data available. Although consumers seem to be aware of the product, it isn't readily available except as “health powder”

RETAIL PRODUCT SCAN

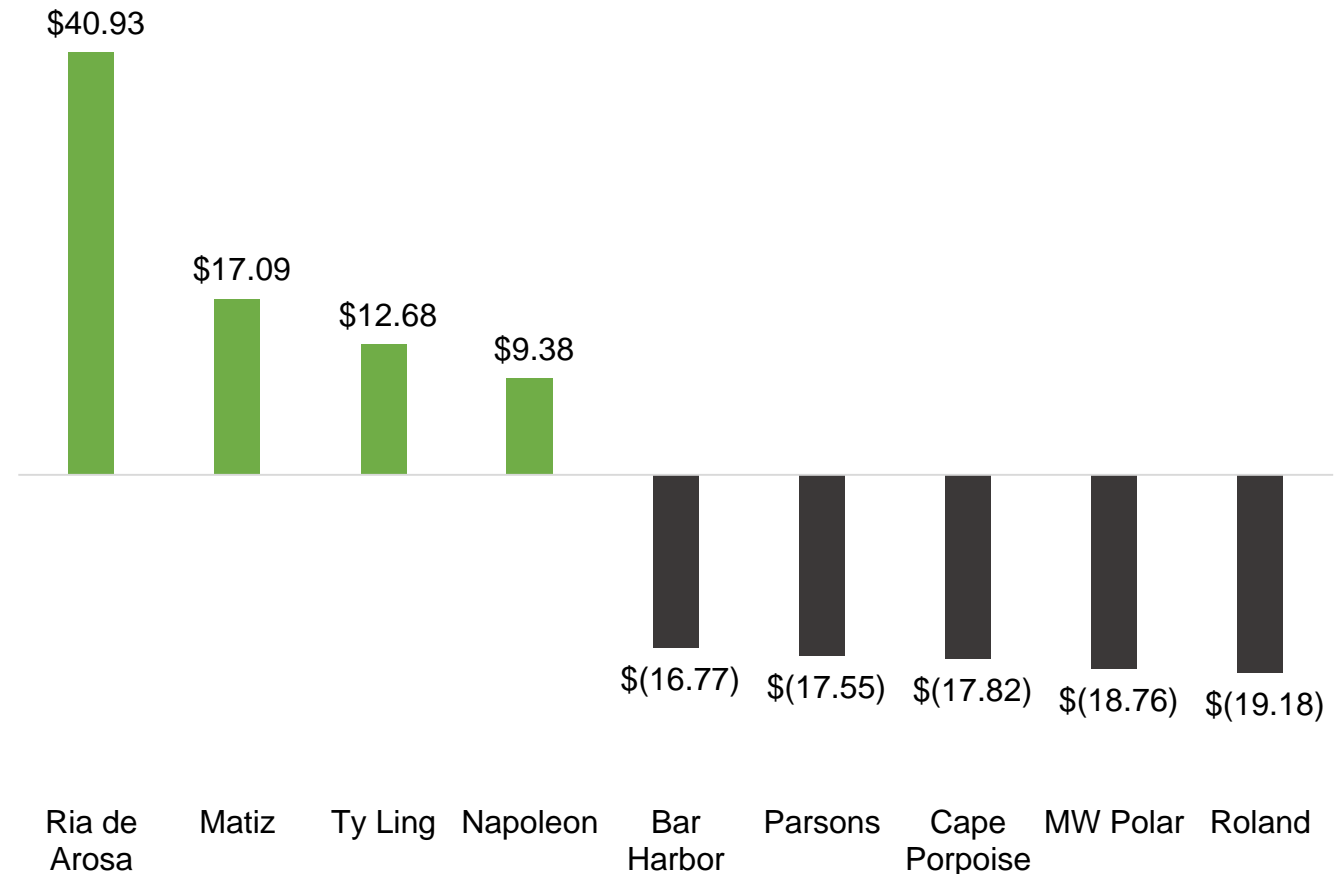
United States Premiums

Standardised Average Premium by Brand *USD / kg*

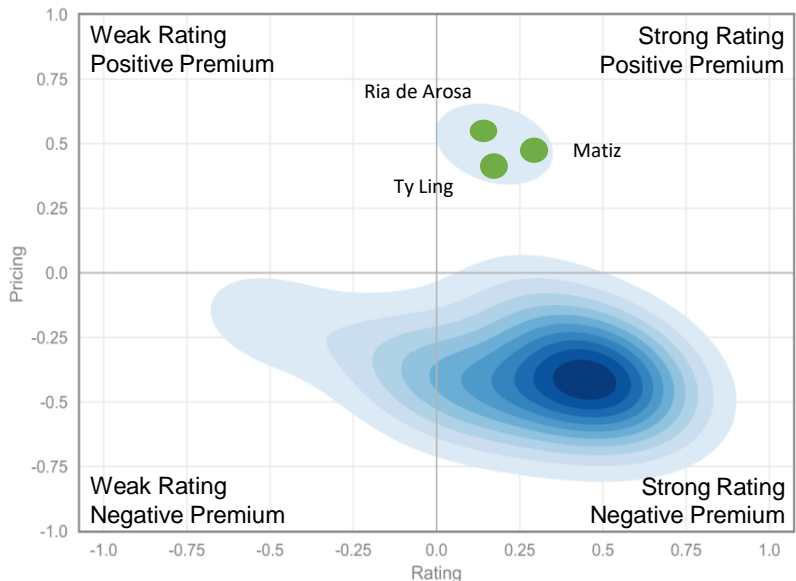
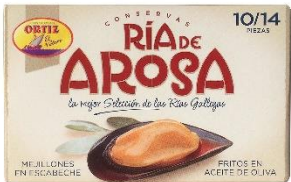
The high performing products:

- **Ty Ling:** Imported Chinese mussels targeted as a high-end product. Relatively few product claims are made, however the packaging, marketing, and pricing are clearly designed to target higher-end Chinese consumers in the United States. Ty Ling mussels can sell for up to 50% more per ounce than comparable Chinese canned mussels.
- **Roland:** Mussels imported from China and the US, sold in various sizes and preparations. This brand consistently has the highest consumer satisfaction levels, but fails to extract its share of value from the market. Comparing with Matiz and Ria de Arosa mussels highlights Roland's deficiencies in packaging and the lack of claims such as fishing methods, heritage, and modern preparation.

In addition to Ty Ling premium, other brands achieving premium are focused on good packaging, consumers of Mediterranean-diet, ethical/sustainable harvest, and organic credentials.



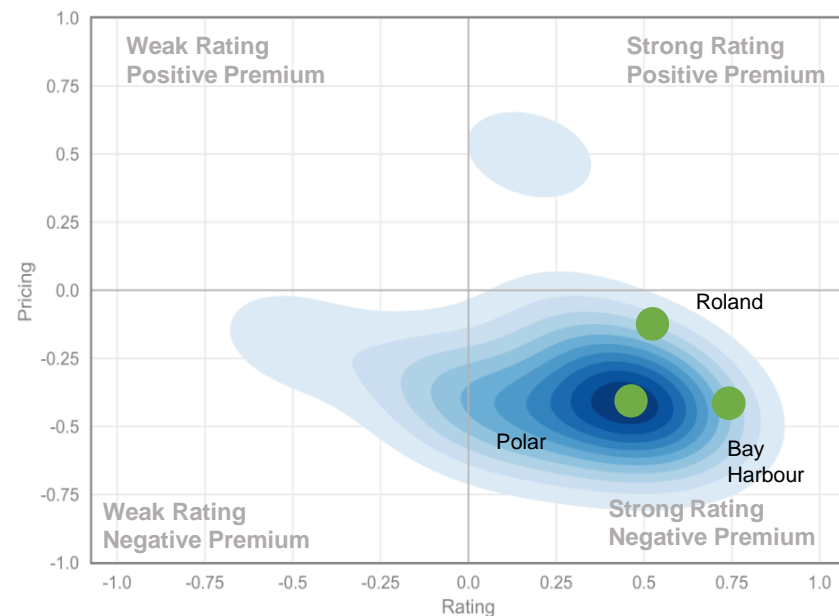
US PRODUCTS OF NOTE



These products receive positive consumer ratings through all channels scanned, and achieve a premium price when compared to equivalent products.

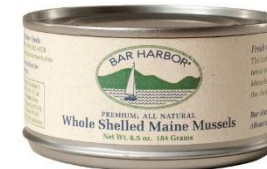
Awareness around what constitutes a premium product is key if exporters are chasing price premiums themselves.

Brand	Ty Ling			Ria de Arosia	Matiz
Weight	3.66 oz.. * 10 cans			4.0 oz.. * 1 can	4.2 oz.. * 2 cans
Price Range	\$21.86 – \$34.00 (\$0.58 - \$0.93/oz.)			\$8.55 – \$13.30 (\$2.14 - \$3.33/oz.)	\$12.59 – \$15.39 (\$1.50 - \$1.83/oz.)
Product Description	<ul style="list-style-type: none">Ty Ling Smoked Mussels in cottonseed oil are packed in a convenient easy open can and are ready to eat.Imported, high quality and a convenient treat.Ty Ling Oriental products make cooking authentic Chinese meals easy and provides everything you need to create today's most popular Chinese dishes at home.			<ul style="list-style-type: none">New from Ortiz, mussels cooked in olive oil and packed in escabeche. The sauce is a delicious blend of olive oil, vinegar, bay and paprika.These mussels are perfect to serve right out of the can.	<ul style="list-style-type: none">Once harvested, the mussels are prepared by hand using old master cannery know-how and then packed with the highest quality organic olives oil, vinegar, and spices to produce mussels that are moist, tender, and uncommonly flavorful.These mussels are exquisite right out of the can, in salads, on sandwiches.
Product Claims	<ul style="list-style-type: none">Smoked mussels anytimeHigh qualityEasy to open can			<ul style="list-style-type: none">These high-quality mussels are perfect for tapas platters, or served over rice, pasta, or beansPacked in a modestly spicy, vinegar-based Escabeche marinade, they add a boost of flavor to quick meals	<ul style="list-style-type: none">Organic Mussels, organic extra virgin olive oil, organic cider vinegar, salt, spicesCan be eaten fresh from the can or mixed with lemon and parsleyArtisan fishing methods usedNo preservatives or chemical additives.
Country of Origin	China			Spain	Spain



While these products receive consistently high consumer ratings, they are priced lower across all channels.

One reason for this is that the packaging, marketing, and attribute claims for these products do not resonate with premium consumers.



Brand	Polar	Roland	Bay Harbour
Weight	3 oz * 24 cans	3.0 oz * 10 cans	6.5 oz * 12 cans
Price Range	\$46.80 (\$0.65/oz.)	\$20.95 – \$25.61 (\$0.70 - \$0.85/oz.)	\$49.60 - \$57.87 (\$0.64 - \$0.74/oz.)
Product Description	<ul style="list-style-type: none"> Smoked mussels which come from the waters of the Yellow sea near the Shan Dong Peninsula of China are free of heavy metals and bio toxins. The mussels are carefully selected for their quality, texture and size. Mussels are high in protein and did you know that they have nearly three times more iron than most meats. 	<ul style="list-style-type: none"> For 79 years Roland Foods has provided customers with exceptional gourmet food. Our dedication to providing quality and consistency has made us a leader amongst specialty food importers and suppliers. This item is suitable for use by restaurants, professional chefs or industrial foodservice facilities. 	<ul style="list-style-type: none"> Bar Harbor's fancy seafood meats are perfect starters for your favorite seafood recipes – lobster rolls, pasta dishes, sauces, soups and more. Enjoy seafood made the authentic Maine way. The folks at Bar Harbor's hand-sort every mussel, used in their delicious seafood products, and prepare everything in their kitchen just a stone's throw from the water.
Product Claims	<ul style="list-style-type: none"> Naturally smoked mussels; no chemicals or artificial flavorings. Free of heavy metals and bio toxins. Perfect for canapés. 	<ul style="list-style-type: none"> Smoked mussels are packed in cottonseed oil and are cherry wood smoked. Each 3 ounce can contains approximately 50 mussels with no shells. Precooked and may be served right out of the can or warm Gluten free with zero grams of trans fat. 	<ul style="list-style-type: none"> Premium, all-natural whole shelled Maine Mussels. No artificial preservatives or MSG. Simple, understandable ingredients. Hand-sorted & hand-packed from the cold North Atlantic.
Country of Origin	China	China	United States

RECENT PRODUCT LAUNCHES

United States Products of Note: 2010 - 2017

- 52 new mussel containing products were identified - over 20% of these were microwaveable, with most launched over the past 18 months.
- Both premium products, as well as more budget-friendly options continue to target consumer preferences for convenient seafood and traditional flavours. The products below are a cross section showing that manufacturers are continuing to emphasise: Asian (e.g. Thai Curry), Mediterranean (e.g. tomato, onion and olive oil); and traditional (e.g. butter and garlic, white wine sauce) recipes.



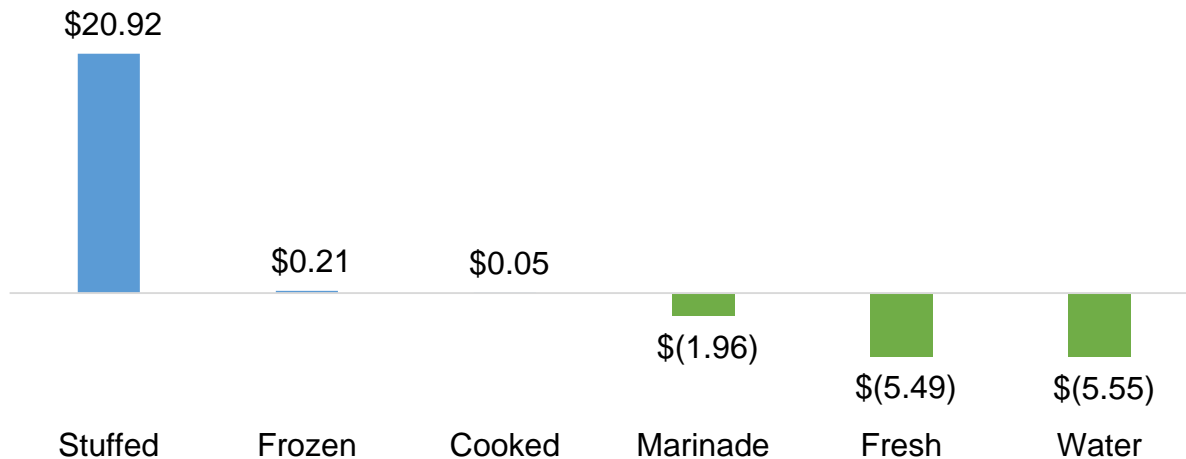
Brand	José Andrés Galician Style Mussels	Mascato Bantry Bay Premium Seafood Mussel Meats in a Thai Curry Sauce	Sogel Fresh Cooked Mussels with Garlic Butter
Weight	5.3oz	9.0oz	32.0oz
Price (at date of product release)	\$18.99 (\$3.58/oz)	\$5.98 (\$0.66/oz)	\$8.88 (\$0.28/oz)
Product Description	Galician Style Mussels are prepared all naturally, using only the most pristine, plump shellfish. These mussels are served with a simple sauce of olive oil, red pepper, onion and tomato, and can be enjoyed as an easy meal with pasta, rice or potatoes. The product retails in a 5.3-oz. pack.	Mascato Bantry Bay Premium Seafood Mussel Meat in a Thai Curry Sauce are now available. These mussel meats are out of shell, cooked and frozen with a traditional sauce from Thai spices in coconut milk and white wine, with just the right hint of heat. This microwaveable product can be ready in four minutes and retails in a 9-oz. pack, sufficient for two servings and featuring the Best Aquaculture Practice logo.	Sogel Fresh Cooked Mussels with Garlic Butter are cultivated on Prince Edward Island. This microwaveable product is never frozen, and is quick and easy to prepare in four minutes. It is cooked and pasteurized and retails in a 32-oz. carton containing two 1-lb. packages.
Product Claims	<ul style="list-style-type: none">• All Natural Product, Ease of Use	<ul style="list-style-type: none">• Microwaveable, Premium, Ethical - Environmentally Friendly Product, Ethical - Animal, Social Media	<ul style="list-style-type: none">• Microwaveable, Time/Speed, Ease of Use
Country of Origin	United States	United States	United States

RETAIL PRODUCT SCAN

France

- The survey of French consumers showed only around 20% would buy non-fresh mussels, compared to around 50% for US consumers. This is consistent with broader French supermarket strategy where fresh products (including mussels) are seen as a critical part of their brand positioning.
- Frozen mussels do however extract a greater premium over their fresh product. While over 43,000 tonnes of fresh mussels were purchased by French households at an average price of € 3.6 / kg, the 2,264 tonnes of frozen mussels were priced at an average of € 9.6 / kg.
- In turn, the majority of premium is captured by ‘stuffed’ mussel products such as moules a la persillade.

Distribution of Premium by Preparation (USD/kg)



About the data

- **13** Unique Brands
- **26** Individual Products

Product Success Factors:

- Premium products focus on more traditional French cuisine.

Features of premium products:

- Most attention is given to the method of preparation, with stuffed mussels focusing on minimal but quality additional ingredients.
- Packaging is of a generally higher quality, and focuses on ensuring long-term freezer life.
- A higher prevalence of store-brand mussels tends to drag premiums down overall.

Country of Origin:

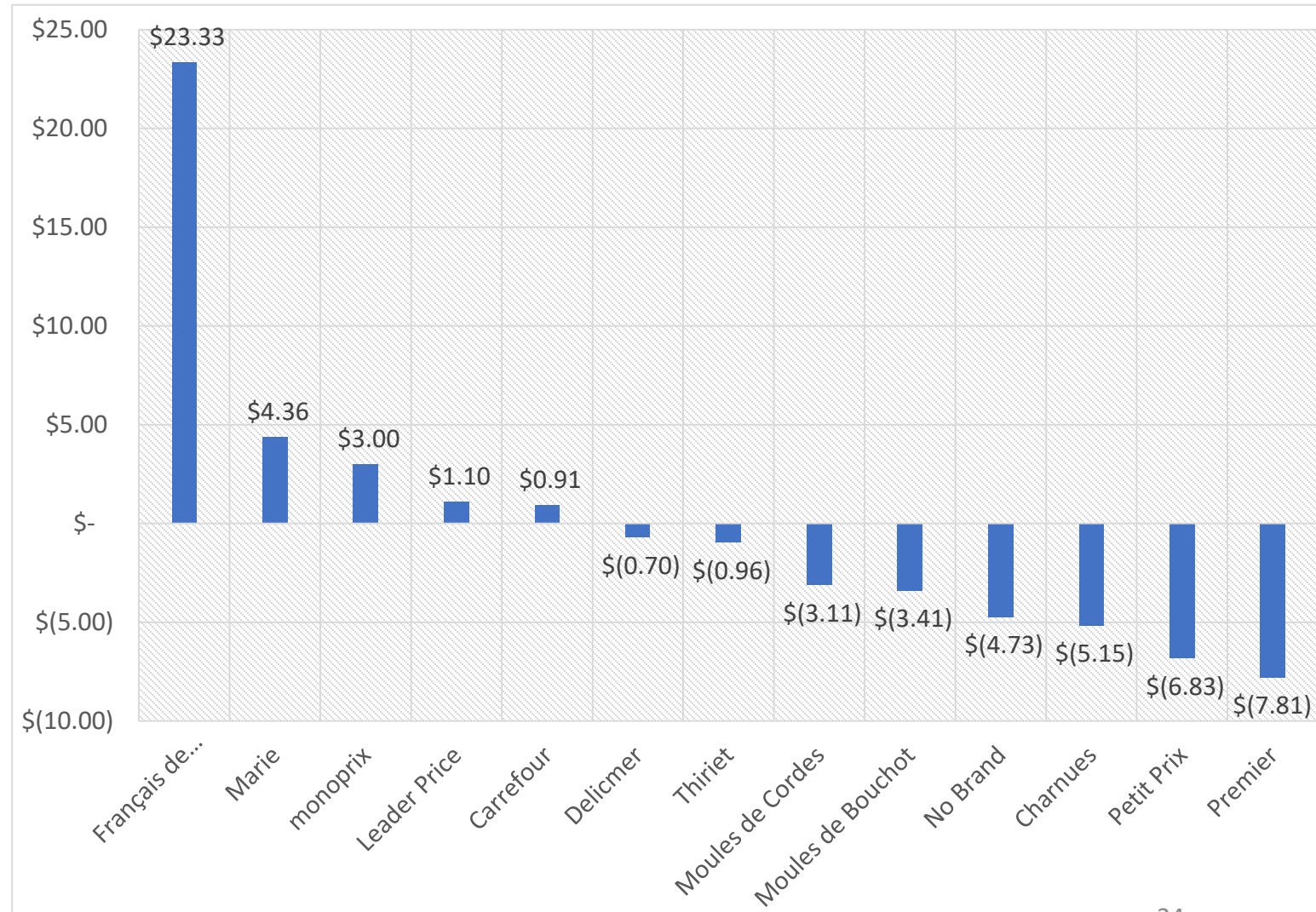
- Mainly of French origin. Dutch, Chilean, and Belgian products are available, but these only accounts for a small proportion.
- No New Zealand mussel products were captured during our data collection, though they may be available in restaurants or from specialty importers.

RETAIL PRODUCT SCAN

French Premiums

- French premiums show a much lower range than US products; Around \$70 for US products, compared to \$31 for French.
- With the exception of the top premium holder, all the other brands have very little variance in premium. Store brands such as monoprix and Carrefour attract \$4 - \$5 per kg more than plain/bulk packaged products.
- The top premium is captured by French brand **Français de Gastronomie**. The firm produces higher-end frozen and pre-prepared French meals. The brand heavily leverages the traditions of French Gastronomy to achieve its premiums.
- 54% of French consumers place high importance on country of origin, and Français de Gastronomie is well positioned to take advantage of this fact. They are also an exporter of products to Europe and elsewhere. They are controlled by Belgian firm Floridienne, which targets niches in the sectors of Specialty chemicals & Recycling, Gourmet food and Lifesciences.

Average Premium by brand (USD/kg)



RETAIL PRODUCT SCAN

French Products of Note



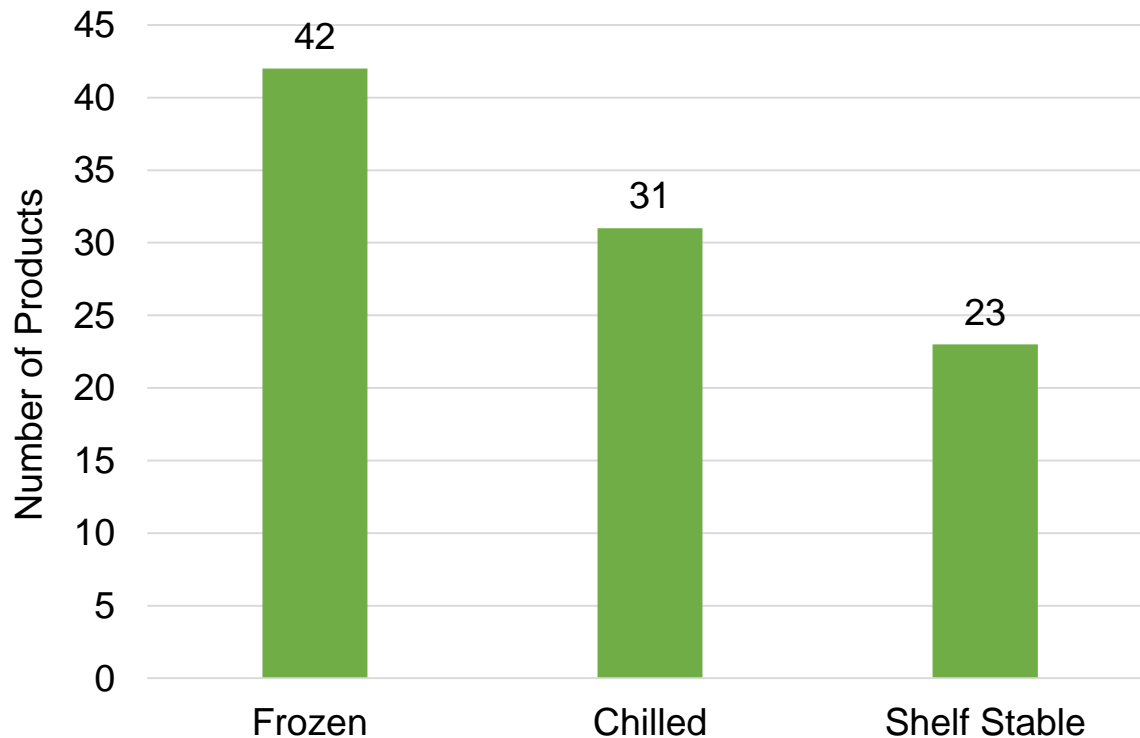
Brand	Français de Gastronomie	Monoprix	Thiriet
Weight	4.4 oz.	14.11 oz.	17.6
Price (USD)	\$0.99 per oz.	\$0.31 per oz.	\$0.30 per oz.
Product Description	Delicately highlighted by a generous and tasty stuffing made of butter, cooked with garlic, parsley and subtly flavoured with white wine These mussels, presented in half shells, they are ready to cook in a few minutes and will delight the most discerning palate.	Pacific Mussels 85%, water, white wine 4% (contains sulphites), onions 1.7%, butter, processed starch of corn, rice or cassava, garlic paste (garlic, salt, acidifier: citric acid , Preservative: sodium disulphite), natural flavors (contains crustaceans and fish), sunflower oil, parsley, carrots, mussel juices (mussels, aromatic plants, white wine, spices) White, cayenne pepper.	Pacific Mussels (Mytilus chilensis) grown in Chile, deshelled and baked
Country of Origin	France	France	Chile, processed in France

RECENT PRODUCT LAUNCHES

French Products of Note: 2012 - 2017

Between 2012 and 2017, 98 new mussels product launches were identified in France. 69% of these were of French Origin.

New Mussel Products By Type
France, 2012 -2017



While consumers have a preference for fresh, there are large premiums for prepared and frozen products

Frozen products

Frozen mussel meals do enjoy a noticeable price premium. In particular, frozen cooked stuffed mussels have the highest premium of approx. 30\$ USD per kg above average price for frozen mussels.


- Average price for recently launched frozen products was \$US 21.7/kg.
- 33% are plain frozen (mainly as a sea food mix), while 67% are frozen mussel-based meals, including stuffed mussels, creamy and sauce dishes – mainly in the shell.

Chilled segmentation

- 12.5 USD per kg - average price for new chilled products.
- 65% in shell / 35% no shell.
- The main reason being that the majority of chilled mussel products are not cooked and do not command a premium associated with the higher level of preparedness like cooked frozen.

Shelf stable:

- 28.7 USD per kg - average price of new shelf-stable products.
- Majority of products are pickled and only a few canned products.
- Only 2 of the identified products were with shell.

A close-up photograph of several mussels, showing their dark, textured shells and some greenish-brown algae or seaweed growing on them. The mussels are piled together, creating a sense of abundance and freshness.

4 UNDERSTANDING FOOD SERVICE CHANNELS

RESTAURANT SCAN

United States

The accompanying chart shows the distribution of pricing and consumer ratings for seafood restaurants across the US. While this is not specific to mussels, the restaurant data does indicate the density and location of high-value, high-quality seafood locations.

Of the cities included in the data capture, **Washington DC** was the highest performing city in terms of premium, followed by **New York**. **This reflects a broader concentration of east coast restaurants with** very high premiums and strong consumer reviews. Restaurants on the West coast (e.g. Seattle or San Francisco) tend to be lower rated by consumers and also tend to draw a lower premium overall.

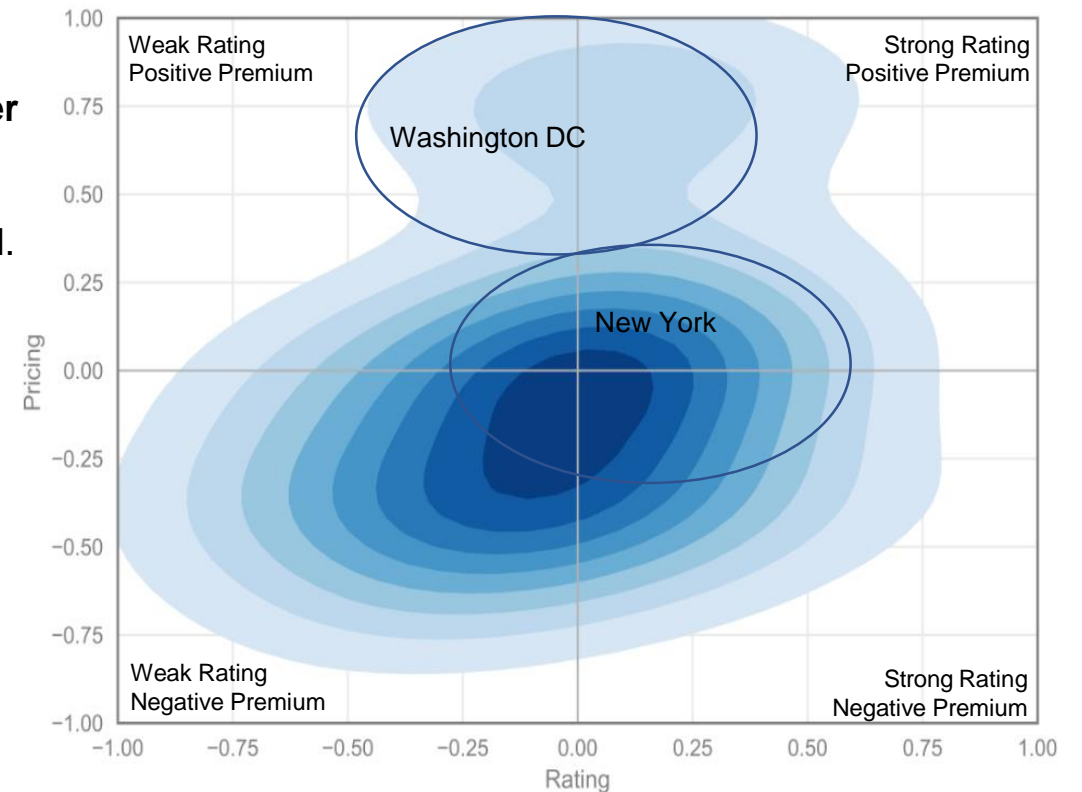
Additional research suggests that in both Washington DC and New York, high performing restaurants with Mussel dishes remain focused on traditional flavors. There remains a strong Belgian or French influence. That said, there are new and interesting flavours and dishes which are resonating with consumers. This reflects the nature of social media engagement, with consumers actively seeking new cooking styles, and 'foodie' experiences.

However, there are also a number of highly rated restaurants with relatively low pricing. This is in line with the market trend toward more casual dining experiences.

About the data

- **10** Highest income cities
- **100** Top-rated seafood restaurants in each
- **1000** Seafood restaurants in total
- **204,944** Customer reviews/ratings

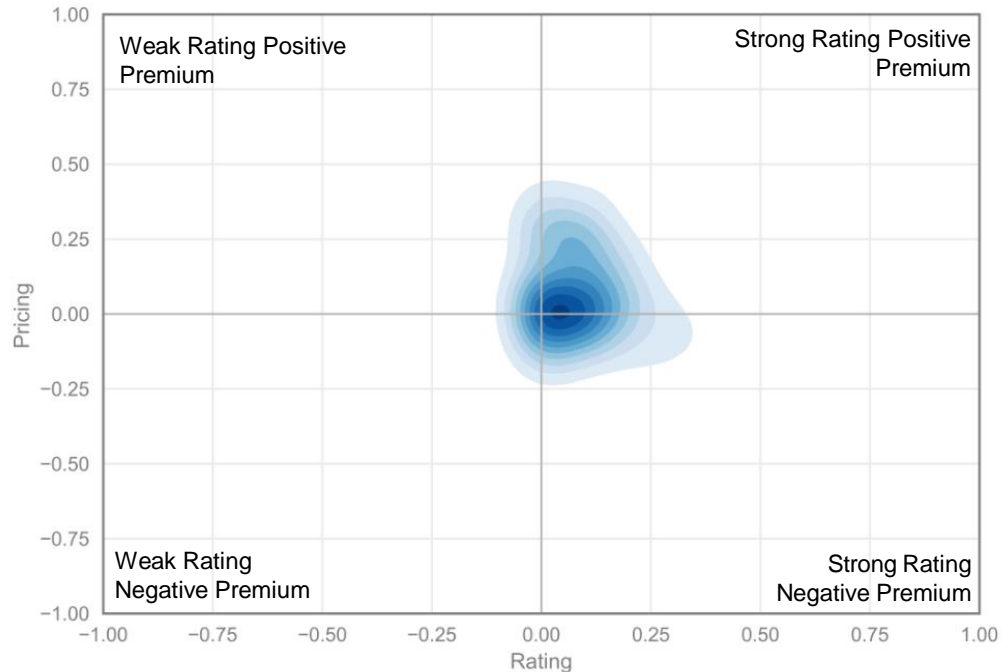
Distribution of Premium and Ratings
US Seafood Restaurants



RESTAURANT SCAN

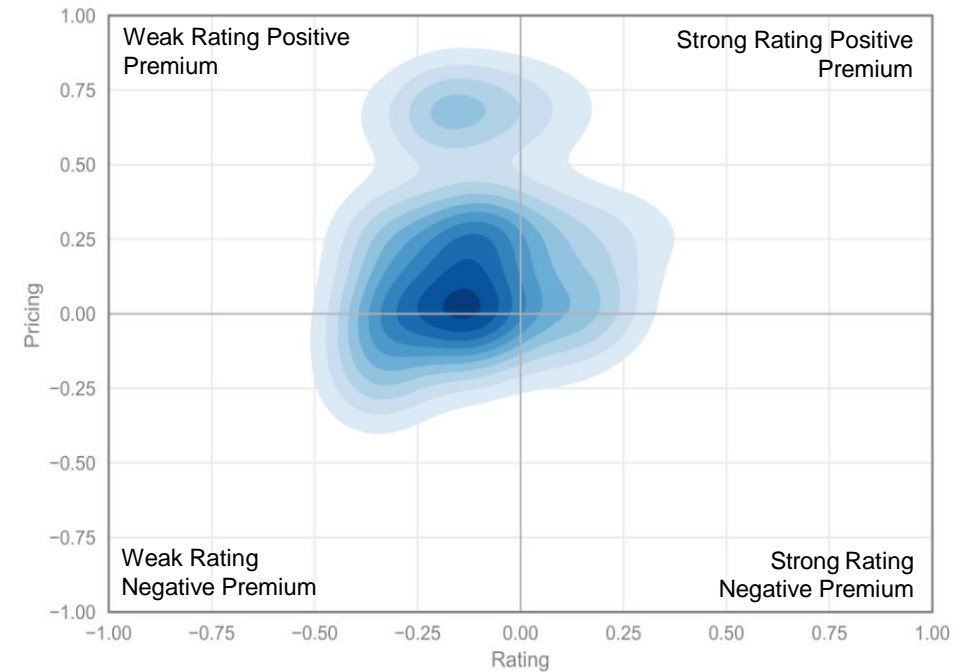
United States

New York, NY



New York has a highly competitive seafood market with generally high ratings. The premium in the city is relatively low compared to other Northeastern cities (e.g. Boston), where consumer satisfaction is lower.

Washington, DC



Washington DC captures the highest overall premium of the cities within our data collection. In general Washington's higher-end restaurants command higher prices than the rest of the country.

Notably, the perceived quality of Washington seafood restaurants is considerably lower than average.

RESTAURANT SCAN

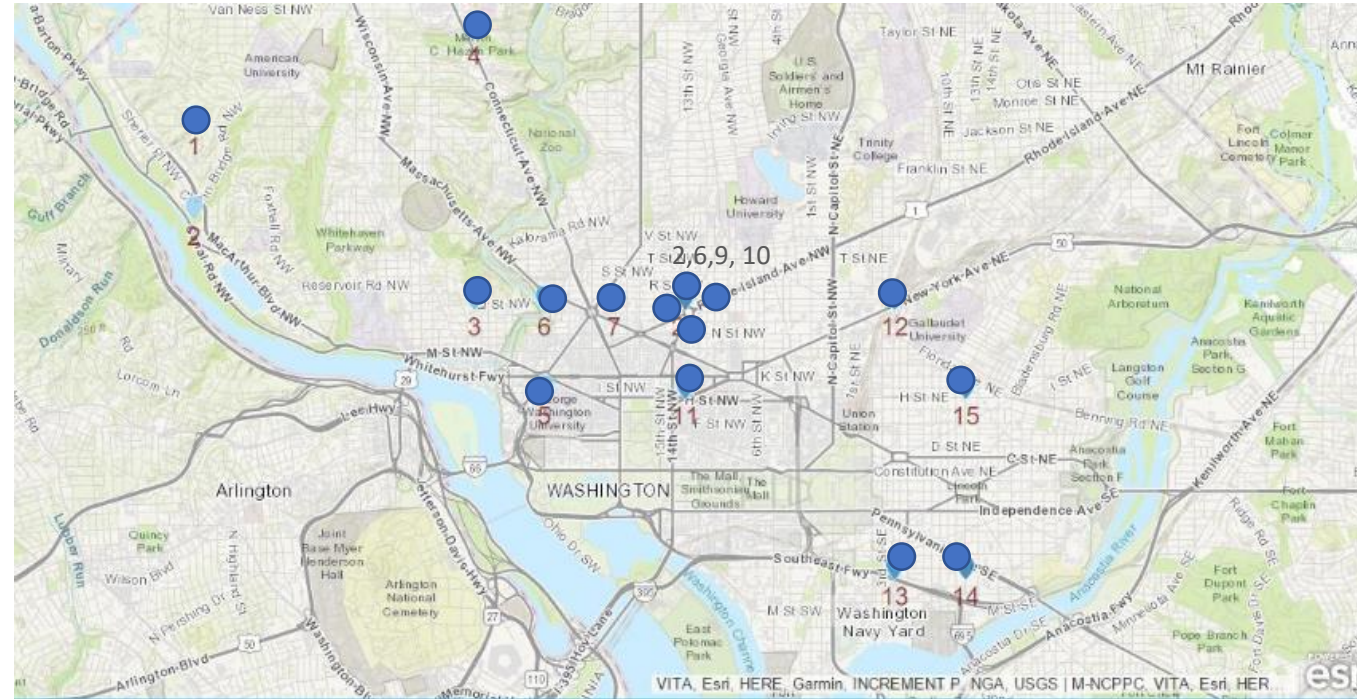
Washington D.C.

Washington DC restaurants which do resonate with consumers emphasise an 'authentic' European experience, but there are some emerging flavours:

The top rated restaurant is **Granville Moore's**

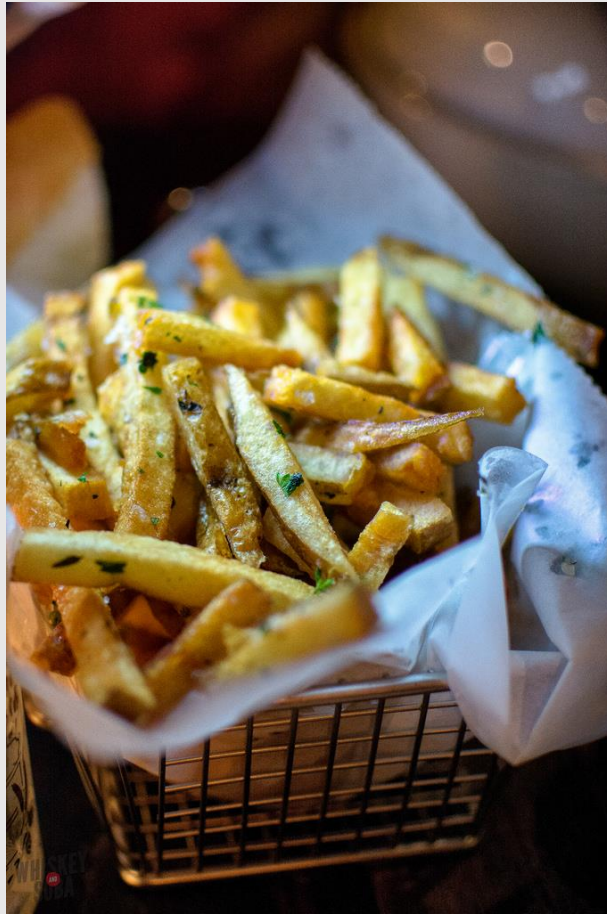
- The 'go-to' place for Mussels in Washington, its motto is "*A cosy tavern with a healthy Belgian fetish*". They prepare over half a tonne of mussels every week;
- Recipes include:
 - *Mariniere*: With White Wine, Garlic, Herbs
 - *Bleu* (Featured on the Food Network): Hook's Blue cheese, Pork Belly, Shallots, Spinach, White Wine, Lemon;
 - *Saison*: Lemongrass, Thai Chili, Ginger, Coconut Milk, Pineapple;
 - *Roasted*: Tomatillo, Poblano, Jalapeno, Tomato, Garlic, White Wine, Cilantro;
 - *Mediterranean*: Tomato, Onion, Garlic, Olive, Fennel, Peppers, Saffron.

Other Restaurants also emphasise European flavours (namely French); or fresh seafood platters of which Mussels are only one part.



"The 15 best places for Mussels in Washington DC"

- | | |
|--------------------------------|------------------------------|
| 1. Granville Moore's | 8. The Sovereign |
| 2. Brasserie Beck | 9. B Too |
| 3. St. Arnold's on Jefferson | 10. Pearl Dive Oyster Palace |
| 4. St. Arnold's Cleveland Park | 11. Blacksalt |
| 5. Bistrot Du Coin | 12. Neopol Savory Smokery |
| 6. Belga Café | 13. Ambar Balkan Cuisine |
| 7. Et Voila | 14. Ris |
| | 15. Le Diplomate |



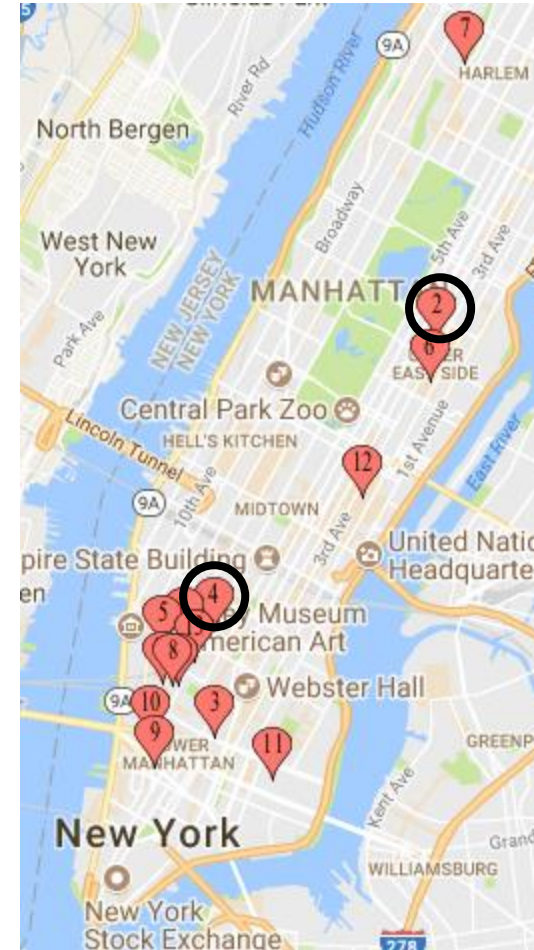
RESTAURANT SCAN

New York City

While there is slightly more variety than Washington in D.C. the majority of popular New York City restaurants are weighted also towards Belgian and French styles.

Flex Mussels occupies both the number 1 and 2 spots, with an average rating of 9.3/10 from 155 reviews and 165 reviews respectively. Mussel recipes include:

- *Classic* with white wine mussels
- *South Pacific* with kaffir lime, cilantro, white wine, lemongrass
- *Dijon* mustard, white wine, crème fraîche, parsley
- *San Daniele* with prosciutto, caramelized onions, cream, white wine, garlic
- *Parma parmigiano* with cream, lemon, scallions, toasted garlic, crispy shallots
- *Florencio* with shrimp, pesto, parmesan, cream, basil
- *Fungi* wild mushrooms, double smoked bacon, garlic, cream, rosemary
- *Amatriciana* with san marzano tomato, Italian bacon, onion, chili flake
- *Italiano* with calamari, roasted garlic, red wine, tomato
- *Fra Diavolo* with san marzano tomatoes, olive oil, fresh basil, red pepper
- *Thai* with curry coconut broth, lemongrass, kaffir lime, coriander, lime, ginger, garlic
- *Bisque* with lobster, brandy, tomato, garlic, cream
- *Bombay* with Indian curry, garlic, cinnamon, star anise, white wine
- *Bangkok* with jalapeno, cilantro, ginger, scallions, coconut milk



“The 15 best places for Mussels in New York City”

1. Flex Mussels (13th Street)
2. Flex Mussels (82nd Street)
3. Estela
4. Petite Abeille
5. Tartine
6. B. Café
7. Maison Harlem
8. Pearl Oyster Bar
9. Pepolino
10. La Sirene
11. Pig and Khao
12. Le Bateau Ivre
13. Alta
14. Fish
15. Vol de Nuit



STRATEGIC CONSIDERATIONS

Below are several priorities for specific consideration. This is not intended as an exhaustive list.

UNDERSTANDING CONSUMER TRENDS

In order to differentiate, the industry will need to not only be aware of consumer trends, but also be proactive with this knowledge in terms of creating products and flavours that appeal to changing consumer demands and desires.

For example, vacuum packed items sold fresh, with or without sauce, enjoy a longer shelf-life and facilitate the distribution of the product. This sort of convenience product has proved to be effective in attracting new categories of clients.

INCREASED FLEXIBILITY AND CREATIVITY IN PRODUCTION AND PROCESSING

To achieve leading edge differentiation, and spread risk, there needs to be openness towards and investment in experimentation and innovation. This will require creative ways to work with increased foreign regulation requiring proactive planning, flexibility and creative thinking.

DEVELOPING RETAIL SOLUTIONS AND CHANNELS

The balance of power in the supply chain is an ongoing challenge for industry. Similarly there will be a need to invest in new/appropriate channels to market to ensure that the industry can compete going forward.



NEW ZEALAND
TRADE & ENTERPRISE

Ministry for Primary Industries
Manatū Ahu Matua

