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AGROCAMPUS OUEST

Consumption of edible seaweed in France

IDEALG project

Background and methodology

Edible seaweed consumption in France was assessed thanks to two complementary methods: **face-to-face interviews** and **focus groups**. The interviews were carried out in 2013, with more than 800 respondents, in 7 major French cities: Bordeaux, Lille, Lyon, Montpellier, Paris, Rennes and Strasbourg. They provide quantifiable results, from guided individual interviews. The focus groups were held, in 2014, in 5 major cities of France: Bordeaux, Lille, Montpellier, Paris and Rennes, with more than 80 participants (seaweed consumers or not). These semi-guided interviews make it possible to collect qualitative data on the perception of seaweed as well as the behaviours and motivations of consumers.

N.B.: The work of the AGROCAMPUS OUEST fisheries and aquatic sciences centre only target macro-algae, used in food for their organoleptic properties. **Gelling agents and food additives are therefore excluded from this study.**

Notoriety and images of seaweed

The image of a word characterises the imaginary representation and the environment that are created, automatically and spontaneously, by the mind upon hearing it. Focus groups participants mentioned the images that "seaweed" and "edible seaweed" embodied for them.

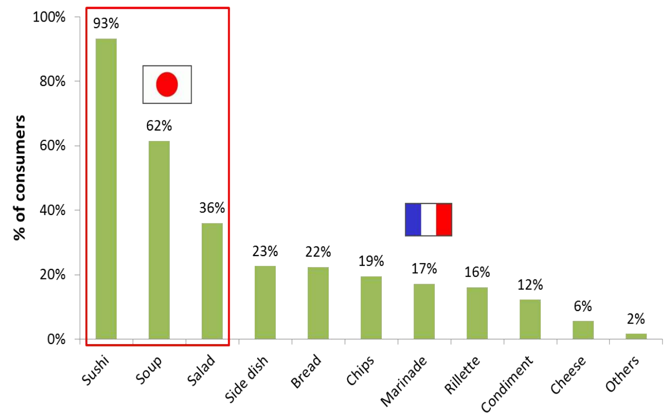
Main images mentioned upon hearing the terms "seaweed" and "edible seaweed" (populations of consumers and non consumers; focus groups)

The overall image of seaweed is rather positive. The first theme addressed upon mentioning "seaweed" is the sea (the beach, summer holidays…), correlating with the environment they are found in. Food is then addressed trough traditional Japanese cuisine (sushi), followed by health, linked to food additives and seafood products. Green tides and pollution are the only topics with a negative connotation that tarnish the positive image perceived by respondents.

The notoriety of edible seaweed is very poor. Only 20% of respondents are able to quote more than two species of algae (40% are not aware of any), with varying answers depending on consumers profiles. However, a tendency is noted for respondents to know species of algae that bear names making a reference to French name for terrestrial vegetables.

Consumption behaviour

Where the consumption of edible seaweed is concerned, the survey results reveal that **58% of respondents consume seaweed at least once a year**. However, these results must be qualified according to the type of products that are consumed and the frequency of consumption. There are two types of seaweed products: Asian-inspired products (sushi, miso soups and wakame salads), featured in Japanese restaurants and tasted by 43% of consumers; and French-inspired products adapted to western culinary culture and tasted by nearly 20% of consumers. In terms of frequency, 20% of respondents eat seaweed-based products at least once a month.



Consumption of seaweed-based products (population of consumers; face-to-face interviews)

Consumers were split into four profiles according to the products they consume and the frequency of their consumption. On the one hand, the "**beginners**" and the "**amateurs**" mainly consume Asian-inspired products, occasionally for the first ones and more regularly for the latter. They represent three-quarters of all consumers.

Profiles	Diversity of consumed products	Consumption frequency	Percentage of consumers
Beginners	Low	Low	70%
Amateurs	Low	High	5%
Tasters	High	Low	13%
Experts	High	High	9%

Descriptive statistics obtained from face-to-face interviews

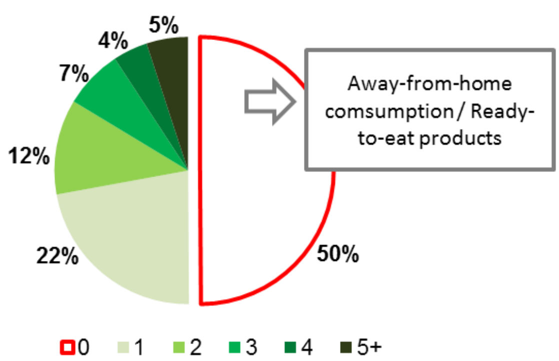
On the other hand, the "**tasters**" are rather curious in terms of gastronomy and know more species of algae. The "**experts**" are often seafood products lovers and have, on average, a better knowledge of algal species. They are almost all buyers of seaweed-based products to cook at home(**89%**). These last two profiles mostly concern consumers of French-inspired seaweed products, aged from 25 to 55 years old, mostly women and executives with high incomes, who live in the areas of Rennes, Paris and Bordeaux.

More than 50% of interviewed consumers eat French-inspired products as well as sushi, miso soups and wakame salads. Japanese cuisine appeals to numerous consumers, it plays an **initiating role** for seaweed-based products.

In relation to purchases, half of the consumers does not buy seaweed products to cook at home, which is characterised by a high away-from-home consumption as well as the purchase of ready-to-eat products. Asian-inspired products are the first products bought, followed by condiments and dried seaweed.

Restaurants and **Asian supermarkets** are the main places of purchase of seaweed products, followed by **medium and large supermarkets** and **organic food shops**.

This rank is linked with the types of products purchased by consumers, mainly oriented towards Asian dishes. Moreover, French-inspired products are mostly purchased in organic food shops.



Number of different raw products purchased by consumers of seaweed products (population of consumers; face-to-face interviews)

Current incentives for consumers

Attributes looked for by seaweed consumers were assessed during focus groups and sorted in five categories.

Health — For respondents, eating seaweed equals to healthy eating. Indeed, algae are famous for their nutritional qualities. They are rich in magnesium, vitamins, proteins and trace elements, and they are poor in lipids and carbohydrates.

Originality — This food, rather new in our western consumption, raises the curiosity of consumers. Seaweed change from daily dishes. They also impress friends by making them taste an unfamiliar product.

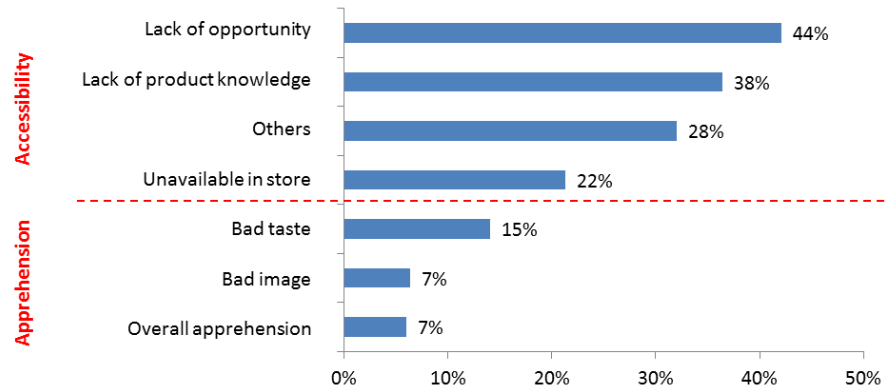
Organoleptic qualities — Seaweed are considered “irreplaceable” by some consumers, due to their texture and unique taste. In general, their marine sensation and salted taste go very well with seafood products.

Convenience — Part of the consumers considers dried seaweed to be very convenient because they are quick to prepare, easy to cook and multipurpose. Besides, dried seaweed can be stored for a long time.

Ecology — Could the consumption of seaweed reduce the consumption of meat? This is, at least, the view of a part of the consumers. Thanks to their nutritional value, seaweed would be a good way to reduce meat consumption, due to ecological concerns, livestock farming being considered as too polluting by some.

Limitations to consumption

Limitations to consumption, identified during interviews and focus groups, were split in two parts: accessibility to seaweed-based products (practical limit) and consumer apprehension of these products (psychological limit).



Main limitations to the consumption of seaweed products mentioned by respondents (population of consumers and non consumers; focus groups and face-to-face interviews)

A large part of the interviewed consumers limits its consumption to Asian-inspired products due to a lack of accessibility. Indeed, although the **apprehension of non consumers is double that of the consumers**, accessibility is more often mentioned.

Almost all non consumers interviewed (**89%**) feel ready to taste at least one seaweed-based product. However, these **potential seaweed consumers** do not seem attracted by Asian-inspired products. Moreover, they **would like to be guided,** by friends or chefs of restaurants, for their first tasting in order to obtain information about the products tasted and advice on how to cook them at home.

What consumers for French-inspired seaweed products?

Study results made it possible to define three typical profiles of seaweed consumers: the Asian-inspired products consumer, the French-inspired products consumer and the non consumer.

Characteristics of categories	French-inspired products consumers	Asian-inspired products consumers	Non consumer of seaweed products Ø
Typical profile	• Age: 30 - 60 years • Gender: women • Incomes: medium to high	• Age: 18 - 60 years • Gender: men/women • Incomes: various	• Age: various • Gender: men/women • Incomes: various
Percentage of surveyed	13%	44%	42%
Consumption behaviour	• Consumption of Asian-inspired products • Consumption of French-inspired products • Regular consumption of organic food	• Consumption of sushi, miso soup and wakame salad • High consumption of ready-to-eat products	• 89% ready to taste seaweed products • Not attracted by Japanese products
Place of purchase (except restaurant)	• Organic food shops • Asian supermarkets	• Asian supermarkets • Medium and large supermarkets	• Medium and large supermarkets • Fishmongers • Low interest for Asian supermarkets
Place of consumption (in order of preference)	• Restaurants (91%) • Home • At friends house		• Restaurants • At friends house • Home

Descriptive statistics obtained from face-to-face interviews

Numerous current seaweed consumers limit their purchases to Asian-inspired products mainly due to a **lack of accessibility to French-inspired products** (rare in medium and large supermarkets). Moreover, non consumers seem intrigued by French-inspired seaweed products and would be ready to taste them, provided they are guided during their tasting. Thus, the French edible seaweed sector features **strong potential for development**, if the offer is made adequate to current and potential consumers expectations.

For more information

LE BRAS Quentin, RITTER Léa, FASQUEL Dimitri, LESUEUR Marie, LUCAS Sterenn, GOUIN Stéphane. 2014. Etude de la consommation des algues alimentaires en France. Programme IDEALG Phase 1. Etude nationale. Les publications du Pôle halieutique AGROCAMPUS OUEST n°35, 72 p.

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La totalité des résultats est disponible sur le site internet du Pôle halieutique :
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