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FACTSHEET: Market potential of European, cultivated seaweeds for food applications

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NORTH SEA FARMERS

Introduction

North Sea Farmers work towards positive climate impact with seaweed. We aim to do so by growing a sustainable seaweed sector with improved biodiversity, reduced carbon emissions and circular value chains as a result.

Since 2014, almost 100 organisations have joined us during our journey. This community and network connects us to all different aspects of the seaweed value chain. It also makes us a driving force of knowledge and expertise: your go-to-spot to make business out of seaweed. Unfortunately, in Europe and the Netherlands, the availability of quantified and accurate seaweed market data is limited. Monitoring and reporting processes are not (yet) in place in this young sector. Reports from the Food and Agriculture Organization are not always sufficient for detailed market updates and do not cover the entire European Union. Most of the time, other studies build upon these data. This makes it difficult to assess the barriers, drivers and overall progress of the sector. We feel reliable market data is essential for the further development, growth and professionalisation of the seaweed sector in Europe and the Netherlands. This is why we had a market study and consumer research conducted by the independent research company Mountainview Research.

This market study illustrates the mind shift and ambitions of a large group of businesses when it comes to seaweed. North Sea Farmers also see this mind shift within the European Union. As a front runner and sector organisation, North Sea Farmers is therefore taking up the challenge to scale up volumes of local sustainably cultivated seaweed. A consortium made up of North Sea Farmers is currently working on a large scale seaweed farm of 1.6 km² to be installed within a wind park in 2023. Resulting in 1.000 tons local cultivated seaweed to be processed for a variety of applications. This could well be the beginning of one of the first circular sectors in Europe.

We believe time is now for the European seaweed sector to shift gear. Who is ready to step into the game?

Factsheet set-up

The information in this factsheet has been compiled based on extensive research, in which the following sources were consulted:

- Desk research: Sources on market information and trends in seaweed and food markets;
- Expert interviews: 42 interviews with professionals in the food sector;
- Community survey on market estimation: 60 respondents from the network of North Sea Farmers;
- Consumer survey about knowledge of and experience with seaweed as food: 1051 respondents. The sample represents the Dutch population in terms of age, gender, region and educational level.

With this factsheet North Sea Farmers:

- Provides an overview of the seaweed food production & market;
- Gives insights in the potential of European, cultivated seaweed for food applications;
- Explains the key success factors for transitioning to a sustainable seaweed supply in Europe;
- Gives insights in the consumer preferences towards seaweed as food.

Global seaweed production



32,4 million tonnes (wet weight, 2018)

- 53% red seaweeds
- 46% brown seaweeds
- 1% green seaweeds



Origin of seaweed

95% of seaweed comes from Asian countries: China is the main producing country, followed by Indonesia, Japan and Republic of Korea.

97% is obtained through cultivation

Global seaweed market



\$ 13.3 billion (€ 10.9 billion) total seaweed market (2019)

77% seaweed for human consumption = \$ 10.2 billion (€ 8.4 billion)

2 main applications of seaweed for human consumption are food products (88%) and hydrocolloids (11%)



Largest market share

- Asia 61%
- North-America 19%
- Europe 10%
- Other 10%



Growth

Expected yearly growth: between 7% and 12%

European seaweed production



300,000 tonnes (fresh weight, 2018)

→ less than 1% of the global volume of 32.4 million tonnes



Origin of seaweed

1,450 tonnes of seaweed were obtained through cultivation (0,5%)

294,744 tonnes were harvested from the wild (99,5%)

→ Unlike the global production, the European seaweed production is currently largely based on wild harvest

European seaweed market



\$ 1.02 billion (€ 0.84 billion) market seaweed for human consumption (2018)

→ 10% of the global seaweed market for human consumption

Seaweed types on the market for human consumption



- 74% red seaweeds
- 24% brown seaweeds
- 2% green seaweeds

Potential of European seaweed



Growth perspective

In 10 years the European seaweed market for human consumption can grow to a market of 2,8 billion euro. In this high ambition scenario European cultivated seaweed should be able to cover 24% of the local demand.



Applications

The highest potential for European seaweed can be found in the food product market, because there is still much room for innovation.

The hydrocolloid market is more mature and saturated. Therefore, it is more difficult to enter this market with new products.



Promising countries

Promising Western European countries to develop and grow a market for local, cultivated seaweeds are: Norway, Denmark, Germany, The United Kingdom, Ireland, The Netherlands, Belgium, France and Spain.

Trends and developments in relation to European cultivated seaweed



Key success factors for transitioning to European cultivated seaweed

Value chain collaboration

Work towards value chain collaboration and knowledge sharing to build a sustainable and reliable seaweed supply chain.

Consumer focus

Respond to consumer food trends and consumer needs by marketing seaweed as a healthy, plant-based, local and sustainable product.

Provide consistent supply

Scale up to provide high volumes and consistency in quality and supply. Current supply of cultivated seaweed can not meet the market demand.

Connect supply & demand

Connect suppliers and buyers to make local offer visible on the market.

More European seaweed on the plate



Convince consumers about the good taste of seaweed

Since seaweed is a fairly new ingredient for Dutch consumers, they need a little help preparing it to their taste through cooking instructions, recipes, video's and workshops, etc.



Apply seaweed in applications and dishes that have a logical connection with seaweed

Consumers have strong associations with seaweed as a healthy food, Asian food and as an addition to a fish dish. To inspire more consumers to eat seaweed, these are obvious entry points.



Inspire consumers via food influencers

The many food bloggers and cooking shows can be a successful channel to inspire consumers to eat seaweed.



Use restaurants as an entry point where consumers can get familiar with seaweed

Restaurants can play a large role in the first experience with the good taste of seaweed. If restaurants would use seaweed more often and mention this explicitly, this can be the first step for consumers to eating more seaweed.

More information?

This factsheet has been compiled with input from 3 different studies:

- **D4.2.1 Market potential report for cultivated seaweeds in existing seaweed food markets**, as part of the the Interreg 2 seas ValgOrize project, January 2021
- **D4.2.2 Key success factors for transitioning to a sustainable seaweed supply in the 2 seas region**, as part of the the Interreg 2 seas ValgOrize project, January 2021
- **Seaweed on the table? Research on the potential of seaweed as food among Dutch Consumers**, North Sea Farmers, February 2021

Contact information

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[Click here](#) if you want to become a North Sea Farmer and join our mission working towards climate impact with seaweed.

