The European Market for Sea Vegetables

Introduction

This report analyses the European market for edible sea vegetables. Prepared by Organic Monitor, the aim of the report is to give Bord Iascaigh Mhara (BIM) a better understanding of the European market with view to export openings for Irish producers.

The study investigates the market for the following seaweeds for human consumption:

Atlantic wakame (*Alaria esculenta*)

Kombu (*Saccharina latissima*)

Nori (*Porphyra*)

Dulse (*Palmaria palmata*)

Edible sea vegetables other then these four types are excluded in the project scope. Nori, Kombu and other sea vegetables that are imported into Europe in finished products, such as miso soup, are also excluded.

The following countries are covered in the scope of Western Europe:

Germany	Austria	Switzerland
France	Spain	Italy
UK	Benelux	Nordic: Sweden, Denmark, Finland, Norway

The report has been prepared by a combination of primary research and secondary research. The starting point was secondary research, involving a review of our internal databases and external media, trade journals and websites. Primary research involved surveying the leading suppliers, (processors and importers), distributors and retailers of sea vegetables in Europe. Primary research was also important to determine the market size for sea vegetables. However, market sizes should be considered as industry estimates as they could not be corroborated.

This report takes the base year as 2013 for all data analysis that includes revenue forecasts and market shares. All sea vegetables volumes are in dry weight (post-handled and processed). All revenues are in Euros (EUR) and are based on approximated wholesale sales of sea vegetables. The exchange rate is GB £1 = EUR 1.20 (Source: *XE Rates*).

Analysis of European Sea Vegetables Market

Market Overview

The European market for sea vegetables was estimated at about EUR 24 million at wholesale value in 2013. The market size breakdown by leading countries is given in figure 1. France has the largest consumer market, followed by the UK, Germany and Spain; these four countries comprise almost 80 percent of European revenues.

The market for sea vegetables is growing by about 7-10 percent per annum, and is projected to continue to grow at this rate in the coming years. Traditionally, most demand was from catering & foodservice companies that mainly used nori, wakame and kombu in Japanese and Asian cuisine. Although demand continues to rise from this sector, the retail market and food processors are also becoming important. Nori is becoming available in retailers across Europe, whilst a growing number of food processors are using sea vegetables.

About 472 tonnes of sea vegetables was sold in 2013. About a quarter of the market is supplied by European producers, mainly based in France and Spain. Many companies are vertically integrated, involved in collecting and drying seaweeds, processing, as well as making finished products. The largest companies in Europe are Aqua B, Les Ouessantines, Setalg, Sarl Biocean, Algamar, and Porto Muinos.

Nori is the dominant product, with 288 tonnes, comprising 61 percent of total sales volume. Almost all nori is imported into Europe; Japan, China and South Korea are the main country sources. It is estimated that just 3 tonnes of nori was produced in Europe in 2013. The UK has the largest market for nori, partly because of high demand from food processors and CFS operators that make ethic foods.

Dulse is the second largest product, with sales amounting to 70 tonnes in 2013. This segment is the most reliant on regional production, with imports comprising just 10 percent of total sales volume. The biggest producer and consumer country is France. The French market consumed about 63 tonnes of dulse, 90 percent of the European total in 2013. High volumes are used by food processors to make seaweed-based products.

Wakame is the next largest product segment, with about 64 tonnes sold in 2013. Spain is the leading producer of wakame in Europe, followed by the Netherlands and France. The biggest consumer markets are in Spain, the UK and France. Spain has the largest market because of large volumes going into food processing. About half the wakame market is supplied by imports.

It is estimated that kombu sales amounted to 50 tonnes in 2013. Around 58 per cent of the market is supplied by imports. France has the largest consumer market, accounting for almost 40 percent of the total. The UK and Spain also have important markets for kombu.

Figure 1

The European Sea Vegetables Market: The Largest Country Markets for Sea Vegetables, 2013

Country (tonnes)	**Nori**	**Dulse**	**Atlantic Wakame**	**Kombu**	**Total**
France	61	63	14	19	157
UK	85	3	11	8	107
Germany	48	0	5	3	56
Spain	22	2	16	5	45
Others	72	2	18	15	107
Total	288	70	64	50	472

Note: All figures are rounded *Source: Organic Monitor*

Figure 2 gives domestic production levels of each sea vegetable type. It is shown that mainly dulse is produced in Europe. Production of other sea vegetables totalled 52 tonnes in 2013. Although many countries produce sea vegetables, France and Spain are the largest producers.

Figure 2

The European Sea Vegetables Market: European Production of Sea Vegetables, 2013

	Major Producer Countries	**Tonnes**
Atlantic Wakame	Spain, France, Netherlands	28
Kombu	France, Spain	22
Nori	France	3
Dulse	France	63
Total	/	116

Note: All figures are rounded *Source: Organic Monitor*

Market Drivers

The major factors that are driving growth in the European sea vegetables market are:

- **The Catering & Foodservice (CFS)** sector continues to generate high demand for sea vegetables, especially nori. Over half of all sales volumes go to this sector, with most going to producers of Asian foods like sushi and miso soup. Some retailers, such as Auchan, have also started to buy nori to make fresh sushi in their stores.

- A growing number of **food processors** are using sea vegetables in their products. Apart from applications in Asian foods, sea vegetables are finding new applications in European cuisine. For example, French companies are making rillettes, pâtés and seaweed pasta. Seaweed mustard is also present in some countries. Manufacturers of European food products tend to prefer European sources of sea vegetables.

- Sea vegetables are making inroads in European retailers. **Retail penetration** is increasing in specialist retailers, whilst some mainstream retailers are also introducing these products. Most demand is from organic food shops and health food retailers, with some offering a range of sea vegetable products. Supermarkets and hypermarkets tend to have just nori in their stores.

- Consumption of sea vegetables is rising as consumers become more aware of their **health and nutritional benefits**. Sea vegetables are important source of protein and vitamins, such as vitamins A, C, E, B1, B2, B6, and B12. Sea vegetables are also rich in iron, magnesium, potassium, boron, silica, selenium and chromium. According to the University of Glasgow, since they are a rich source of iodine, sea vegetables could also provide a solution to iodine deficiency.

Market Restraints

The major factors that are restraining growth in the European sea vegetables market are:

- **Low consumer awareness** of sea vegetables is a major barrier to market growth. Apart from some coastal areas, there is not a tradition of eating sea vegetables in Europe. Most consumers therefore do not know how to include nori, wakame, dulse and kombu in food products.

- There is an **undersupply of European** sea vegetables. Many companies stated they would prefer to source greater volumes from within Europe, but were having to import from Asia, as well as North and South America. Greater European supply could increase retail product ranges, as well as processed food products. European sea vegetable product prices could also decline as processors benefit from the economies of scale.

- Although increasing, there is relatively **low demand** from food processors. Nori, the major sea vegetable product, is extensively used to produce sushi. However, few processors know how to use other sea vegetables. This is a reason why many sea vegetable processors also make finished food products.

- European edible sea vegetables have higher prices then those from Asia. For example, the Chinese brand Wel-Pac wakame (57g) is priced EUR 3.49, whilst the French Algoplus brand has wakame (30g) priced at EUR 4.49. **Higher product prices** discourage some companies to launch retail products, especially if they are competing with lower priced Asian imports. Higher prices also dampen demand from food processors and the CFS sector, particularly if they would like European ingredients.

Figure 3 shows European production and the level of imports by sea vegetable type. It is shown that three-quarters of the European market are supplied by imports. Almost all nori is imported, whilst just over half Atlantic wakame and kombu is imported. Dulse is the only sea vegetable that is mostly produced in Europe.

Figure 3

The European Market for Sea Vegetables: Market Size and Level of Imports, 2013

Products (tonnes)	**European Supply**	**Imports**	**Total Market**	**Imports of Total Market (%)**
Atlantic wakame	28	36	64	56%
Kombu	22	29	50	57%
Nori	3	285	288	99%
Dulse	63	7	70	10%
TOTAL	116	356	472	75%

Note: All figures are rounded *Source: Organic Monitor*

About 288 tonnes of **nori** was sold in 2013. Hardly any is produced in Europe, with just 3 tonnes coming from France in 2013. The main import sources are Japan, China and South Korea. The largest import countries are the UK, France, Germany, and Spain.

About 64 tonnes of **wakame** was sold in 2013. Just over half, 36 tonnes, was imported from Asian countries. Most imports go to France, Germany and the UK. The major European producers of wakame are Spain (13.6 tonnes), France (7.6 tonnes) and the Netherlands (6.5 tonnes).

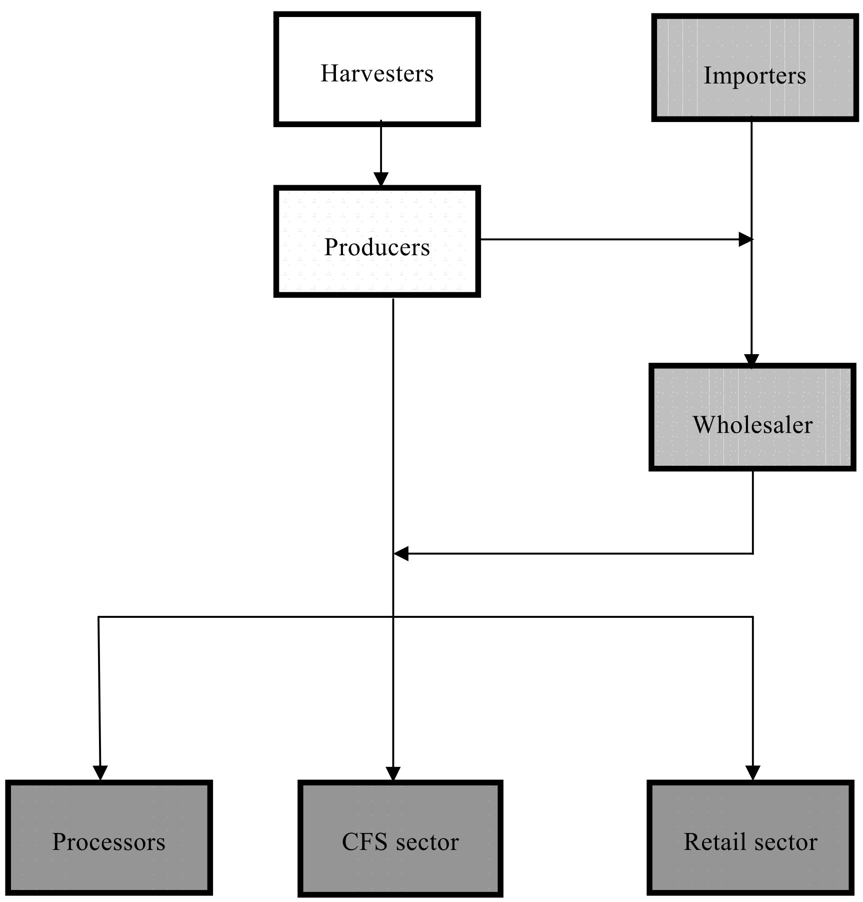
Kombu is the third largest imported sea vegetable in terms of volume. About 29 tonnes were imported, with total sales at 50 tonnes. Imports come in from Asian countries. Most imports go to the UK. France and Spain are the largest producers of kombu in Europe.

Only about 10 percent of the **dulse** market is supplied by imports. European supply comprises 90 percent of the 70 tonnes sales. France is the main producer, making about 62 tonnes of dulse in 2013. Ireland is the second largest producer. Dulse is mainly imported from North America and Iceland.

Distribution Analysis

Chart 1 gives a general illustration of the supply chain for sea vegetables in Europe. Sea vegetables are mainly produced in France, Spain and the Netherlands. There is also production in Ireland and the UK.

Chart 1 The European Sea Vegetables Market: Distribution Structure, 2014



Source: Organic Monitor

About 116 tonnes of edible sea vegetables were produced in 2013. Almost all sea vegetables in Europe are wild harvested. Only a few companies cultivate sea vegetables. The French company C`Weed is the main producer of cultivated sea vegetables, supplying roughly 4 tonnes of wakame in 2013. In Spain, cultivation of sea vegetables amounted to 1.7 tonnes in 2013.

Sea vegetables are harvested on shore and at the sea. Wild seaweed harvesting is conducted either by boat or foot gathering, depending on the species. In France, manual collection takes place along the coast of North Finistere to Paimpol in Côtes d'Armor, while harvesting by boat is conducted in the

Irish Sea. In the UK, foot gathering is the most common method of harvesting sea vegetables. The biggest Spanish sea vegetables harvester Algamar uses manual harvesting; its sea vegetables are collected by hand on the rocks and in the water.

The leading sea vegetable producers in Europe are Aqua B, Les Ouessantines, C`Weed, Algamar, Porto Muinos, and Spenn Kot. Lack of European supply makes many producers import sea vegetables. For example, the Spanish companies Algamar and Porto Muinos both import significant volumes of sea vegetables. Some producers are also processors, making finished food products containing sea vegetables. Aqua B, Les Ouessantines, Algamar and Porto Muinos are importance such companies.

Producers process sea vegetables for use by end-users. The bulk is processed into dried format, however some is also marketed in wet or semi-dried format. Producers supply some end-users direct, whilst wholesalers are used to supply others.

An estimated 356 tonnes of sea vegetables were imported in 2013. China and Japan are the main import sources, followed by South Korea. Imports come in as dried format, usually by companies that specialise in Asian and ethic foods. The main importers of sea vegetables are JFC Europe, Tazaki Foods and Foodex. Although these companies do market sea vegetables in retail packs, they mainly supply the Catering and Foodservice (CFS) sector.

The CFS sector is the biggest channel for sea vegetables, comprising 61 percent of sea vegetable sales. The CFS sector comprises restaurants, hotels, cafés, bars, pubs, public institutions, as well as catering companies that serve kitchens in schools, hospitals, government buildings, etc. It is estimated that over 90 percent of sea vegetables used by the CFS sector are imported from Asia. Nori is the main sea vegetable used by the CSF sector to make sushi and related products.

Food processors buy sea vegetables to use as an ingredient in finished products. A growing array of food products contains sea vegetables. In France, they are used in pâté, rillettes, pasta, bread, and mustard. In Spain, several companies produce canned seaweed; they include Conservas Artemar, Conservas Laurel and Costera Conservas Gonzales Barrio. Nori is mainly used by food processors to make sushi. Taiko Foods, Ichiban UK and Tampopo Japanese Food are important UK companies that produce sushi for retailers, catering firms, hotels and cafés.

Sea vegetables are marketed in retail packs across Europe. Important are specialist retailers, which refer to organic food shops and health food retailers. These retailers usually get sea vegetables from wholesalers of organic and natural products. Important wholesalers are Essential Trading and Tree of Life in the UK, and Distriborg in France. Organic sea vegetables are mostly present in specialist retailers, whereas mainstream retailers tend to have conventional sea vegetables. Mainstream retailers usually have just nori, in sheet format, whilst specialist retailers generally have a range of sea vegetables in different formats.

Pricing Analysis

Figure 4 gives sample wholesale prices of sea vegetables in specialist retailers, whilst figure 5 gives sample prices in mainstream retailers.

Figure 4

The European Sea Vegetables Market: Typical Product Prices in Specialist Retailers, September 2014

	EUR
Algoplus Nori Flakes (100g)	4.75
Clearspring Japanese Nori (25g)	5.40
Terrasana Organic Nori (25g)	4.49
Il Fior di Loto Dried Nori (50g)	5.85
La Finestra Sul Cielo Nori (20g)	3.48
Terrasana Sushi Nori Sheets (17g)	3.95
Lima Nori Sheets (30g)	6.99
Manna Dried Nori Sheets (25g)	8.95
Il Fior Di Loto Dried Dulse (50g)	7.26
Sane Bonta Organic Dulse (50g)	5.33
Clearspring Organic Dried Dulse (50g)	4.65
Porto Muinos Organic Dulse Powder (200g)	79.32
Porto Muinos Organic Dulse Powder (50g)	2.80
Algamar Organic Atlantic Dulse (500g)	38.47
Algamar Organic Atlantic Dulse (100g)	11.29
Le Goemonier Dried Wakame (50g)	4.90
Lima Wakame (50g)	7.05
Terrasana Japanese Wakame (50g)	8.29
Wel-Pac Dried Seaweed Wakame (57g)	3.49
Algoplus Dried Wakame (30g)	4.49
Wel-Pac Dashi Dried Kombu (100g)	6.97
Algamar Organic Kombu (100g)	4.95
Clearspring Japanese Dried Kombu (50g)	8.15
Marinoe Organic Dried Kombu (50g)	4.95

Source: Various retailers

Sea vegetable prices vary considerably according to product grades and formats, country of origin and organic certification. Sea vegetables produced in Europe have higher prices then those from Asia. For example, the Chinese brand Wel-Pac markets wakame (57g) at EUR 3.49, whereas the French brand Algoplus has wakame (30g) priced EUR 4.49. There is also variation between Asian countries. For instance, Blue Dragon nori sheets (22g) from China are priced EUR 1.98, whilst Clearspring Japanese nori (25g) is priced EUR 5.40.

Almost all European companies produce organic sea vegetables. Organic sea vegetables have higher prices then conventional products. For example, the French brand Marinoe has organic kombu (50g) priced at EUR 4.95. The Chinese brand Wel-Pac markets kombu (100g) at EUR 6.97.

Figure 5

The European Sea Vegetables Market: Typical Product Prices in Mainstream Retailers, September 2014

	EUR
Blue Dragon Roasted Sushi Nori (22g)	1.98
Saitaku Roasted Sushi Nori (14g)	2.99
Yukata Sushi Nori Sheets (11g)	1.77
Tanoshi Nori (18g)	2.40
Miyako Sushi Nori (50g)	7.69
Les Ouessantines Dried Wakame (50g)	6.95

Source: Various retailers

Product grades and format are most important for nori. Sheets have higher prices then powder as the sheets involve roasting. Nori for the catering and foodservice typically has various grades: gold (A grade), silver (B grade), yellow (C grade), green (D grade), red (E grade) and Blue (F grade). Gold nori (A grade) is the most expensive, whilst blue (F grade) is the cheapest. Figure 6 gives sample wholesale prices for nori in the CSF sector.

There is a considerable mark-up of sea vegetables across the supply chain. Many European producers sell dried sea vegetables at about EUR 25 per kg, whilst wholesalers sell their products at about double this price. At the retail level, sea vegetables are usually priced upwards from EUR 100 per kg. Thus, most mark-ups occur at the wholesale and retail level.

Figure 6

The European Sea Vegetables Market: Typical Wholesale Prices of Nori for CFS sector, September 2014

	EUR
Yamamotoyama Green Yakizushinori Sheets (125g)	8.76
Yamamotoyama Yellow Yakizushinori Sheets (125g)	9.69
Yamamotoyama Red Yakizushinori Sheets (125g)	10.62
Yamamotoyama Silver Yakizushinori Sheets (125g)	11.95
Yamamotoyama Gold Yakizushinori Sheets (125g)	14.60
Yaki Green Nori Sheets (100g)	7.95
Yaki Blue Nori Crispy Sheets (105g)	9.96
Kaitatuya Silver Nori Sheets (25g)	1.42
Kaitatuya Gold Nori Sheets (25g)	1.50
Kizami Nori Shredded Seaweed (50g)	4.37
Premium Grade Aonori Powdered Seaweed (500g)	18.69

Source: Various retailers

Competitive Analysis

Over 30 companies supply sea vegetables in Europe, however only about 15 deal in significant volumes. Figure 7 lists the leading processors and importers of sea vegetables. It is shown that most processors are based in France, which is the largest producer of sea vegetables in Europe.

Figure 7

The European Sea Vegetables Market: Leading Suppliers of Sea Vegetables, 2014

Company	**Country**	**Company Details**
Setalg	France	One of Europe's largest seaweed companies
Aqua B	France	Markets sea vegetables under Marinoe name
Les Ouessantines	France	Specialises in making sea vegetable products
Algae Service	France	Markets sea vegetables under Bord a Bord brand
C`Weed	France	A cultivater and processor of sea vegetables
Sarl Biocean	France	Supplies seaweeds to the food & cosmetic industries
Ocealg	France	Produces 7 different types of sea vegetables
Bretalg	France	Another sea vegetables harvester and producer
Algamar	Spain	The largest producer of sea vegetables in Spain
Porto Muinos	Spain	Another large Spanish producer and processor
Spenn Kot	The Netherlands	Mainly produces Atlantic wakame
Wild Irish Sea Vegetables Company	Ireland	A leading sea vegetables producer in Ireland
Algaran	Ireland	Another Irish sea vegetables producer and processor
JFC Europe	Various	The leading distributor of Japanese food products
Tazaki Foods	UK	A leading importer of Asian foods in Europe
JK Foods	UK	Specialises in importing ethnic foods
Clearspring	UK	Specialises in Japanese health food products
Blue Dragon	UK	Supplies nori to mainstream retailers
Foodex	Various	Specialising in importing Japanese foods
Saitaku	Switzerland	Markets nori under Saitaku brand across Europe

Source: Organic Monitor

Founded in 1985, **Setalg** is one of the leading suppliers of seaweeds and sea vegetables in Europe. Setalg is located in, and harvest its seaweeds, in the North coast of Brittany. The company produces seaweeds for human consumption, cosmetic and agricultural applications. Setalg produces around 10 tonnes of sea vegetables in 2013. Its sea vegetable range comprises wakame, nori, dulse and kombu. The company generated about EUR 6.5 million sales, with exports comprising half its sales.

Aqua B is one of the largest producers of sea vegetables in France. Established in 2002, the company specialises in cultivating, harvesting and processing of sea vegetables. Its product range includes fresh and dried wakame, kombu, nori and dulse. Aqua B also uses sea vegetables to make tartar sea vegetables, spices and pasta. Its products are marketed under the Marinoe brand. Aqua B sales revenues amounted to EUR 1.7 million in 2013.

Les Ouessantines was founded in the 1990s on the island of Ushant. The French company harvests six types of seaweeds in Britany. Its main crop is wakame; other sea vegetables are nori, dulse, kombu, ulva and sea spaghetti. Les Ouessantines uses sea vegetables to make a wide range of food products, such as rillettes, canned seaweed, seaweed mustard, and dressings. Its products are in Monoprix supermarkets and specialist retailers.

Based in Brittany, **Algae Service** markets sea vegetables under the Bord a Bord brand. The company processes sea vegetables harvested in France, as well as dulse from Ireland, kombu from Spain and wakame from Argentina. Algae Service processes around 10 tonnes of sea vegetables per year, with sea lettuce and sea spaghetti comprising the bulk. It supplies fresh and dried sea vegetables to specialist retailers and restaurants. In France, Bord a Bord sea vegetables are in specialist retailers, such as La Vie Claire, Biocoop and Naturalia. Algae Service also makes an extensive range of sea vegetable food products, such as seaweed pasta, marinated seaweed in cans, and seaweed mustard.

C-Weed Aquaculture et Algues Alimentaires (C'Weed) harvests and processes seaweeds for the food and cosmetic industries. It cultivates nori and Atlantic wakame, whilst nori and dulse are harvested from the sea. All sea vegetables are from Brittany. The company produced around 4 tonnes of Atlantic wakame and 0.6 tonnes of kombu, nori and dulse in 2013. Most of its sea vegetables are certified organic.

Sarl Biocean harvests and produces seaweed for the food and cosmetic industries. It makes around 18 different types of seaweeds. The company specialises in harvesting seaweeds by diving, as well as by boat. Sarl Biocean offers fresh, frozen and dried sea vegetables, which are supplied the CFS sector and retailers. The company supplies about 10 tonnes of dulse, kombu, nori and wakame per year.

Founded in 2011, **Ocealg** is a producer and harvester of sea vegetables. It makes 7 different types of sea vegetables that include dulse, wakame, kombu and nori. The French company produced around 3 tonnes of dulse, wakame and kombu in 2013. It produced very low volumes of nori.

Based in Roscoff, **Bretalg** is a harvester and producer of sea vegetables. Its product range includes wakame, nori, dulse and kombu. Bretalg produced about 4.5 tonnes of sea vegetables in 2013. The company mainly supplies sea vegetables to specialist retailers.

Algamar is the biggest sea vegetable producer in Spain. The company specialises in harvesting and processing sea vegetables for food applications. Most of its sea vegetables are harvested on the coast of southern Galicia. Algamar harvests wakame, kombu, and sea spaghetti; it also imports nori from

Asia, and dulse from France and Ireland. The company produced around 20 tonnes of sea vegetables in 2013. Algamar manufactures a range of food products using sea vegetables; they include rice cakes with algae, rice with algae, pasta with algae, and quinoa with algae. Algamar products are mainly in specialist retailers.

Porto Muinos is the second largest sea vegetable harvester and producer in Spain. The company was founded in 1998 in A Coruña. It processes 14 types of edible sea vegetables that include wakame, nori, dulse and kombu. It also imports nori from Asia, and dulse from France. Porto Muinos also manufactures a range of food products that contain sea vegetables. Around 30 percent of its products are exported to Europe, Asia, South and North America. In Europe, Porto Muinos products are in supermarkets, organic food shops and health food retailers.

Based in the Netherlands, **Spenn Kot** is a harvester and processor of sea vegetables. It produced around 5.5 tonnes of Atlantic wakame and 2 tonnes of kombu in 2013. It uses sea vegetables to make seaweed mustard. Spenn Kot also supplies sea vegetables to the CFS sector and specialist retailers.

The Wild Irish Sea Vegetables Company was founded in 2009. It has 15 types of seaweeds that include dulse, wakame, kombu, nori, and Irish moss. As well as supplying the Irish market, the company supplies sea vegetables to food processors and retailers in the UK. The Wild Irish Sea Vegetables Company sold about 4.5 tonnes of dulse, wakame, kombu and nori in 2013. Around 30 percent of its products are exported to Europe and the USA.

Algaran is another Irish sea vegetables harvester and processor. The company harvests dulse, nori, wakame and kombu. The company produces a wide range of seaweed products, such as spelt cakes with seaweed, tea with seaweeds extracts. Algaran produced about 2 tonnes of seaweeds for food and cosmetic applications in 2013. All its sea vegetables are certified organic.

Many **other companies** harvest and process sea vegetables in Europe. However, most deal in low volume, typically less than 2 tonnes of sea vegetables. Such companies include LRCB Cotes D`Amor, Algolesko, Aleor, Algues Armonique in France, Irish Seaweeds and Mara Seaweed in the UK, Zeewaar in Netherlands and Stylen Algenfarm in Germany.

Sea vegetables are mainly imported into Europe by companies that specialise in Asian and ethnic foods. The leading importers of sea vegetables are profiled in this section.

Tazaki Foods is the leading importer and wholesaler of traditional Japanese and East Asian food products in Europe. It has dried nori, wakame and kombu sea vegetables, as well as a range of finished products containing sea vegetables. The company supplies sea vegetables to Japanese restaurants, other foodservice establishments, and retailers throughout Europe. It markets nori sheets under the Yutaka brand, mainly in supermarkets and hypermarkets. In the UK, Yutaka products are in ASDA, Tesco, Morrisons and Sainsbury`s.

JFC International Europe Group is a member of Japan-based the Kikkoman Group. It is the leading distributor of Japanese foods in Europe, with operations in Germany, United Kingdom, France, Sweden and Norway. It supplies dried wakame, kombu and nori; it also has a wide range of finished products that contain sea vegetables. JFC mainly supplies sea vegetables to restaurants, catering companies, and other foodservice establishments. It also supplies nori sheets to the retail market. They are marketed under the Nagai brand in Tesco stores, and Miyako brand in the German Metro Cash & Carry chain.

A part of the Hyperama Group, **JK Foods** is one of the leading importers of Asian foods in the UK. It is the exclusive distributor of the Tiger Tiger brand of ethnic foods. The brand has nori sheets imported from China. About half its products go to the CFS sector and half to retailers.

Clearspring specialises in Japanese and organic foods for specialist retailers. The London-based company has about 180 products, with many marketed under the Clearspring brand. Its sea vegetable range comprises nori, dulse, wakame and kombu. It also markets noodles, seasonings, tofu, tea, miso soup, rice cakes, crackers and related products. Its sea vegetables are marketed in Waitrose, as well as organic food shops and health food retailers.

Blue Dragon is a British company that specialises in Asian food products. It imports nori sheets from China and markets them under the Blue Dragon brand. The products are mainly in mainstream retailers; they include Waitrose and Morrisons in the UK, Carrefour in Belgium, Dansk Supermarket in Denmark, Coop Butiker & Stormarknader and CityGross in Sweden, Kesko in Finland, and Rema 1000 in Norway.

Foodex is a major importer of Japanese products in Europe. It has operations in France, Switzerland and Italy. Foodex also owns Cominport Distribucion SL, an importer of Asian products in Spain. Foodex mainly supplies wakame and nori to the CFS sector. It also markets wakame under the Shinkan and Riken brands, and nori under the Takoyaka and Ohmoriya brands. Its sea vegetables are imported from Japan. Foodex supplies nori to Kelly Deli – a chain of about 250 sushi-making bars in 6 European countries.

Saitaku is a Swiss company that specialises in importing Japanese food products. Saitaku imports nori from China. Saitaku products are mainly in mainstream retailers; they include Intermarche, Monoprix, Carrefour Market, Super U, Leclerc in France, Waitrose in the UK, Esselunga in Italy, ICA Norway and Norges Gruppen in Norway, Bergendahls Food in Sweden, Coop and Migros in Switzerland, Albert Heijn, Jumbo and Deen in the Netherlands, and Delhaize in Belgium. The company sold about 10.5 tonnes of nori sheets in Europe.

End-User Analysis

Figure 8 gives the sales breakdown of all sea vegetables by end-users. It is shown that 61 percent of sales go to the Catering & Foodservice (CFS) sector. The high market share is because the bulk of nori goes to this channel. The CFS sector is less important for kombu and wakame, and relatively insignificant for dulse.

Figure 8

The European Sea Vegetables Market: Sales Breakdown of Sea Vegetables by End-Users, 2013

	2013 (%)
CFS Sector	61%
Food Processors	21%
Retail Sector	18%
TOTAL	100%

Note: All figures are rounded *Source: Organic Monitor*

Figure 9 shows that the CFS sector is the largest buyer of nori. The sea vegetable is extensively used by restaurants, hotels, catering companies and foodservice establishments because of the popularity of sushi.

Figure 9

The European Sea Vegetables Market: Sales Breakdown of Nori by End-Users, 2013

	2013 (%)
CFS Sector	76%
Retail Sector	11%
Food Processors	13%
TOTAL	100%

Note: All figures are rounded *Source: Organic Monitor*

Around 11 percent of nori volume goes to the retail sector. Nori is the most popular sea vegetable in retailers; present in mainstream retailers, health food shops and organic food retailers. A large number of brands are marketing nori sheets in European retailers.

About 13 percent of sales go to food processors. Nori is used by sushi manufacturers, such as Taiko Foods, Tanpopo Japanese Food, Ichiban UK, Natsu Foods, Yedo Sushi and Kisso Sushi.

Figure 10

The European Sea Vegetables Market: Sales Breakdown of Wakame by End-Users, 2013

	2013 (%)
CFS Sector	46%
Retail Sector	35%
Food Processors	19%
TOTAL	100%

Note: All figures are rounded *Source: Organic Monitor*

Figure 10 shows that about 46 percent of wakame goes to the CFS sector. Wakame is used widely in Asian cuisine, to make miso soup, tofu dishes, as well as seaweed salad Goma wakame. About 35 percent of sales are from retailers. Wakame is mainly in specialist retailers. Another 19 percent goes to food processors. Wakame is used in canned seaweed, pasta and rillettes, especially in Spain and France. The Dutch company Spenn Kot produces seaweed mustard from wakame.

Figure 11 shows that about half of all kombu goes to the CFS sector. Kombu is used to make dashi stock, an important ingredient in Japanese cuisine, as well as other dishes. The retail sector has 31 percent share, whilst food processors have 20 percent share.

Figure 11

The European Sea Vegetables Market: Sales Breakdown of Kombu by Channels, 2013

	2013 (%)
CFS Sector	49%
Retail Sector	31%
Food Processors	20%
TOTAL	100%

Note: All figures are rounded *Source: Organic Monitor*

Figure 12 shows that about 55 percent of Dulse sales are from food processors; it is mainly used in French cuisine. Food companies make products such as seaweed mustard, seaweed salt, pasta and related products. About 25 percent of sales are from the retail sector, whilst 24 percent of sales are from the CFS sector.

Figure 12

The European Sea Vegetables Market: Dulse Sales by Channels, 2013

	2013 (%)
Food Processors	55%
Retail Sector	25%
CFS Sector	20%
TOTAL	100%

Note: All figures are rounded *Source: Organic Monitor*

End-User Profiles

This section gives profiles of the leading food processors that use sea vegetables in Europe. Figure 13 lists the major companies using sea vegetables to make finished food products.

Figure 13

The European Sea Vegetables Market: Leading Food Processors that use Sea Vegetables, 2014

Company	**Country**	**Background**
Aqua B	France	A leading sea vegetables producer and processor
Algue Service	France	A major sea vegetables producer and processor
Les Ouessantines	France	Produces a range of sea vegetable products
Globe Export	France	Markets products under Algue de Bretagne brand
Tech Sea Lab	France	Produces bread using wakame
Jean Burel	France	Specialises in canned products
Bretagne Ocean	France	Produces a range of sea vegetable products
Yedo Sushi	France	The leading sushi producer in France
Taiko Foods	UK	A major producer of fresh sushi products
Ichiban UK	UK	A leading producer of sushi products
Natsu Foods	Germany	The leading producer of fresh sushi in Germany
Algamar	Spain	The leading Spanish sea vegetables producer
Porto Muinos	Spain	Has a wide range of sea vegetable products
Kisso Sushi	Italy	Sushi supplier to retailers and food service sector
Royal Greenland	various	Greenland-based international seafood company

Source: Organic Monitor

Some of the leading sea vegetable producers also make finished food products. The French company **Aqua B** makes tartar sea vegetables, spices, and pasta. Aqua B products are sold under the Marinoe brand in retailers. **Algue Sevice** has an extensive range of food products made from sea vegetables; they include pasta, marinated sea vegetables in cans, and mustard. The products are marketed under the Bord a Bord brand. **Les Ouessantines** also produces a wide range of products made of sea vegetables; they include rillettes, canned sea vegetables, mustard, and dressings.

Algamar and **Porto Muinos** are the leading sea vegetable companies in Spain. Algamar manufactures a wide range of food products using sea vegetables, such as rice cakes, rice, pasta and quinoa. The product portfolio of Porto Muinos comprises canned seaweed, spices, salted seaweed, pasta, rice, tea, pesto and many others.

Globe Export is a producer and processor of sea vegetables. It processes sea vegetables harvested in France, as well as imports nori from Asia. Its product range comprises chutneys, rillettes, tartars, salt and pâtés. Its products are marketed under the Algue de Bretagne brand.

Tech Sea Lab is another French processor of sea vegetables that also makes sea vegetables. It produces Algarim bread with wakame. The company also manufactures agricultural seaweed-based products and well-being products for health centres.

Jean Burel specialises in producing canned food products. The company markets a special sea vegetables line under the Algo D'Aure brand. The product range comprises rillettes, cans and pâtés.

Europe has a large number of sushi producers that use imported nori. These companies generally source nori from companies, such as JFC Europe and Foodex. Some of the large sushi producers are profiled in this section.

Yedo Sushi has a production site in Loir et Cher to make sushi products. The French company belongs to Marco Polo Foods. Yedo Sushi supplies fresh sushi to a large number of mainstream retailers that include Auchan, Carrefour, Cora, Casino, Leclerc, and Monoprix. The company also operates sushi bars in some Leclerc supermarkets.

Taiko Foods is a major producer of sushi products in the UK. It supplies fresh sushi to Waitrose supermarkets and Pret A Manger restaurants. Taiko Foods also supplies sushi to cafés, restaurants, hotels, and related catering establishments. It uses imported nori sheets from Asia.

Ichiban UK is another important sushi manufacturer. Ichiban makes sushi products for retailer private labels, including Tesco. The company also uses imported nori from Asia.

Natsu Foods is a leading producer of sushi in Germany. As well as sushi, the company makes salads, soups, sandwiches and sauces. Natsu Foods supplies food products to about 2,500 retailers that include Rewe, Handelshof, Real, and Edeka. The company also supplies some Dutch retailers, such as Lekkerland and Dirk V/D Broek.

The Italian company **Kisso Sushi** supplies sushi to supermarkets like Esselunga, as well as foodservice operators. Its product range includes frozen and fresh sushi. It sources nori sheets from Foodex Italy.

Royal Greenland is a global seafood producer and supplier. With headquarters in Greenland, it operates several production plants in Greenland, Germany, Denmark, Poland, Canada, as well as sales offices in Europe and Asia. Royal Greenland manufactures a wide range of seafood products, including fish fillets lobster soup, fish fingers and sushi. The company supplies its products to retailers, foodservice operators and food processors. Royal Greenland frozen sushi is in Esselunga supermarkets, as well as other retailers in Europe.

Retailer Analysis

The retail market is becoming an important channel for sea vegetables. Many specialist retailers are marketing sea vegetables in their stores. Figure 14 lists the leading organic food shops and health food retailers in Europe that are marketing sea vegetables. There are many other chains of specialist retailers, however ones not having sea vegetables are not listed here.

Figure 14

The European Sea Vegetables Market: List of Leading Specialist Retailers for Sea Vegetables, 2014

Company	**Country**	**Background**
Biocoop	France	The leading organic food retail chain in France
La Vie Claire	France	A pioneering health food retail chain
Whole Foods Market	UK	Owned by US-based natural food supermarket
Planet Organic	UK	London-based organic food retail chain
Alnatura SuperNaturMarkt	Germany	Organic food supermarket chain
Denn's Bio Markt	Germany	Leading chain of organic food shops in Germany
Terra Verda	Spain	Major chain of organic food shops in Spain
Ecoveritas	Spain	Operates organic food supermarkets
NaturaSi	Italy	Largest organic supermarket chain in Italy
Natuurwinkel	Netherlands	Umbrella of over 100 organic food shops
Bioshop	Belgium	Main organic food retail chain in Belgium
Helios	Norway	Operates 4 organic food shops

Source: Organic Monitor

With 340 stores, **Biocoop** is the leading chain of organic food shops in France. It has a wide range of organic food products, nutritional supplements and cosmetic products. Its stores have many sea vegetables; brands include Bord a Bord, Celnat and Aqua B Marinoe.

Founded in 1948, **La Vie Claire** operates 210 stores across France. The retailer offers organic and natural foods, cosmetics and household cleaning products under the La Vie Claire brand. It mainly has Bord a Bord sea vegetables in its stores.

Whole Foods Market is the largest organic food retailer in the United Kingdom. The American retail giant entered the UK market when it acquired the Fresh & Wild chain in 2004. It operates 9 stores in the UK. The retailer offers a wide range of organic and natural products in its stores. It offers sea vegetables under the Cornish Seaweed brand.

Planet Organic is a leading organic food retailer in the UK, with 6 London stores. It has a wide range of organic foods, natural cosmetics, nutritional supplements, and natural cosmetics. Its stores have Clearspring wakame, nori and kombu.

Alnatura SuperNaturMarkt is a chain of 23 organic food stores in Germany. It has a wide range of organic foods, nutritional supplements and natural cosmetics. It markets Arche Naturkueche nori in its stores.

Denn's Bio Markt is a chain of 140 organic food supermarkets. It also has a wide range of organic foods, nutritional supplements and natural cosmetics. It has Arche Naturkueche nori in its stores.

Terra Verda is a Spanish chain of 15 organic food shops, mainly in the Valencia area. It markets sea vegetables under its Terra Verda brand; it also has Mitoku and Algamar sea vegetables.

Ecoveritas has 28 organic food shops. The Spanish retailer has a range of sea vegetables; brands include Porto Muinos, Biocop, Luz de Vida, and Bord a Bord.

NaturaSí is a chain of about 100 organic food supermarkets, located mostly in the north and center of Italy. The retailer also operates a franchised chain of butchers and restaurants; it has also expanded to Spain where it has 2 shops. NaturaSi has La Finestra Sul Cielo and Mitoku sea vegetables.

Il Canestro is a chain of 4 organic shops located in the Rome area. Its stores have various brands of sea vegetables: La Finestra Sul Cielo, Algamar, II Fior di Loto and Sane Bonta.

Natuurwinkel is an umbrella organisation of 103 health food stores in the Netherlands. It has a wide range of organic foods, ecological home cleaning products and related items. Naturwinkel stores have nori, wakame, and kombu; brands include Terrasana, Manna, Lima and Algoplus.

Bioshop is an association of 31 organic food stores across Belgium. It has nori, wakame, kombu and dulse sea vegetables; brands include Terrasana, Clearspring, Lima and Manna.

Scandinavian specialist retailers have imported sea vegetables from Asia and / or other European countries. The Norvegian retailer Helios has 4 organic food shops. It has Clearspring and Fremtidens Mat sea vegetables. Another Norwegian retailer Rotter has Clearspring products.

The Swedish organic food retailer Nature Hornstull markets Algamar, Clearspring and Terrasana sea vegetables. The Gryningen store has Terassana brand. The Helsam health food shop in Denmark has Cleaspring and Manna sea vegetables.

Ruohonjuuri operates 7 organic food stores in **Finland**. It has Clearspring and Algamar sea vegetables. Ekolo markets Clearspring sea vegetables, and dulse marketed under the Czech Life Food brand (imported from the USA).

Figure 15

The European Sea Vegetables Market: List of Major Supermarkets Marketing Sea Vegetables, 2014

Supermarket	Country	Seaweed brands
Carrefour	France	Saitaku
E.Leclerc	France	Tanoshi, Saitaku
Monoprix	France	Tanoshi
Intermarche	France	Saitaku
Super U	France	Saitaku
Tesco	UK	Yutaka
Sainsbury's	UK	Yutaka
Waitrose	UK	Clearspring, Blue Dragon
Morrisons	UK	Yutaka, Blue Dragon
ASDA	UK	Yutaka
Edeka	Germany	Theodor Kattus, Lien Ying
Metro	Germany	Miyako
Carrefour	Spain	Porto Muinos
Esselunga	Italy	Saitaku
Albert Heijn	The Netherlands	Saitaku
Delhaize	Belgium	Saitaku
Carrefour	Belgium	Blue Dragon
Coop Schweiz	Switzerland	Saitaku
Migros	Switzerland	Saitaku
Coop Butiker & Stormarknader	Sweden	Blue Dragon
CityGross	Sweden	Blue Dragon
Dansk Supermarked	Denmark	Blue Dragon
Kesko	Finland	Blue Dragon
Prisma	Finland	Yutaka, Muiata
ICA Norway	Norway	Saitaku, Blue Dragon
Rema 1000	Norway	Blue Dragon

Source: Organic Monitor

Mainstream retailers are increasingly offering sea vegetables in their stores. Figure 15 lists the supermarkets and hypermarkets in Europe that are offering sea vegetables. Apart from nori, no other sea vegetables are marketed by mainstream retailers.

Many supermarkets in **France** have nori. Saitaku nori sheets are in Carrefour, Intermarche and Super U stores. The Tanoshi brand is in Monoprix retailers, whislt Leclerc has both Tanoshi and Saitaku nori.

The leading supermarkets in **the UK** are marketing nori sheets. Tesco, Sainsbury`s and ASDA have Yutaka brand of nori sheets. Waitrose has Clearspring, Blue Dragon and Saitaku brands. Morrisons sells Blue Dragon and Yutaka nori.

In **Germany**, Metro has Miyako brand of nori. Edeka sells nori sheets under Theodor Kattus and Lien Ying brand.

In **Spain**, Carrefour supermarkets have Porto Muinos products. In Switzerland, Migros and Coop Schweiz have Saitaku brand. In **Italy**, Essenlunga supermarkets also have Saitaku nori.

Some mainstream retailers in **Benelux** also market nori. Albert Heijn and Delhaize supermarkets have Sitaku nori sheets. Carrefour markets nori sheets under the Blue Dragon brand.

Nori is also present in many **Nordic** retailers. In Sweden, Blue Dragon nori sheets are in Coop Butiker & Stormarknader and CityGross stores. In Finland, Kesko markets nori under the Blue Dragon brand, whilst Prisma supermarkets offer nori under the Yutaka brand. ICA Norway has Saitaku and Blue Dragon brands. Rema 1000 is another Norwegian retailer that offers Blue Dragon nori sheets.

Atlantic wakame is harvested in Spain, France and Netherlands. Total European production of wakame was around 28 tonnes in 2013. Wakame is mainly produced for human consumption, however it is also used in cosmetics applications and for alginate production. After harvesting, wakame leaves are dried and sent to a rotary dehumidifier or drying chambers, where the material is dried at a low temperature. Atlantic wakame has a sweet taste; it is rich in B vitamins and essential minerals like calcium, iron, magnesium and potassium.

Kombu grows in cold waters around northern Europe and British Isles, France and Galicia. France and Spain are the biggest European producers of kombu. About 22 tonnes of kombu was produced in 2013. Kombu is harvested in the late spring and summer either from boats or by hand at low spring tides. The blades are dried at the low temperature and sold as sheets, flakes or powder. Kombu is particularly rich in iodine, as well as vitamin K and B12. *Saccharina latissima* is sometimes referred to as "kombu royale" because of its superior sweetness and flavour.

Nori grows in the waters of North Atlantic, along the coast of Iceland, British Isles, France, Norway, Spain and Portugal. In Europe, most nori production is from wild harvest. It is estimated that just 3 tonnes was produced in 2013. Welsh laver bread is one of several traditional uses of nori in Celtic cooking. Nori sheets are widely used in Asian cuisine to make sushi products, rice balls, and as a topping or condiment for various noodle and other dishes. It is also used in pet nutrition supplements and in cosmetic applications. Nori is rich in vitamins A, C, E, and B, protein and omega-3 polyunsaturated fatty acids. Nori is mainly sold as thin, dried sheets.

Dulse is mainly produced in France. European production amounted to 63 tonnes in 2013. It is usually collected manually on foot. The material is dried in drying chambers or by dehumidifiers. The drying process takes approximately 6-8 hours, depending on the quantity and technology used. Once drying is finished the material can be processed further by chopping, mixing and packing. Dulse is eaten dried in meals, such as soups, fish dishes, or it can be used as a seasoning.

Certification Schemes

Organic is the main sustainability scheme for sea vegetables. The EU introduced a regulation for organic sea vegetable production in 2007. The EU regulations 834/2007 Reg 710/2009 (part of Reg 889/2008) states resource management criteria enabling seaweed production to be certified as organic. The seaweed needs to be sourced on clean shores and processed within a few hours. The packet should be safe and healthy. The processing and packaging company has to be registered with the health board. For wild harvest, the waters must be of quality signified under EC Directive 2006/113/EC. There should be no contamination throughout the whole process. This EU regulation is applicable to all EU member states that produce nori, dulse, wakame and kombu for edible purposes.

Apart from the organic production logo of the EU, there are various other organic labels such as Ecocert, Organic Trust, Biodynamic Association, Agriculture Biologique and Naturland. Organic sea vegetables thus can have one or more organic logos on product packs. Ecocert is the leading organic sea vegetable certification in Europe, partly because it certifies many products in France, Spain and Germany.

Organic products comprise about 21 percent of the sea vegetables market, about 100 tonnes. Over 85 percent of all sea vegetables grown in Europe are certified organic. On the contrary, almost all imported sea vegetables are conventional; dulse is the one product that is imported as organic.

The nori market almost entirely comprises conventional products. Just 2 tonnes of organic nori was produced in Europe, whereas total sales volume was 288 tonnes. Around 28 tonnes (43 percent) of the wakame market is organic, whereas roughly 17 tonnes (35 percent) of kombu is organic.

Dulse has the highest share of organic products. About 73 percent (51 tonnes) of dulse sales are from organic products. It is estimated that 45 tonnes of organic dulse was produced in Europe and 6 tonnes was imported.

Most European sea vegetable producers, as well as organic food companies like Clearspring, favour organic sea vegetables. However, the main importers for the CFS sector, including Tazaki Foods and JFC International, only deal in conventional sea vegetables. Most demand for organic sea vegetables is from specialist retailers and food processors.

The Marine Stewardship Council (MSC) is in the process of developing a sustainability certification scheme for sea vegetables for human consumption.

Marketing Recommendations

Overall Opportunities

The European market for sea vegetables is considered to have high prospects for Irish producers for two reasons. First, Ireland is already established as an important seaweed producer; it is therefore well equipped to raise production levels of sea vegetables. Second, the European market is suffering from undersupply with production falling short of demand. Imports comprised about 75 percent of total sales volumes in 2013.

There are openings for Irish producers in all product segments. Although nori is the largest in terms of volumes, most prospects are considered with dulse. Dulse is the second largest product segment, with sales volume at 70 tonnes in 2013. Ireland is already the second largest producer of dulse, exporting about 5 tonnes per annum. The segment is also the least dependent of imports, which comprise 10 percent of sales.

Wakame and kombu are also prospective, however their markets are relatively smaller (64 tonnes and 50 tonnes respectively); imports comprise 60 percent and 50 percent of total sales volumes respectively. Ireland is also not a major producer of these sea vegetables.

The nori market is the largest, with 288 tonnes sold in 2013. However, just 3 tonnes were produced in Europe. Irish producers could start cultivating nori, however it could be many years before they make a dent in this market because of high competition. Nori is marketed by over 20 brands in Europe. Furthermore, Irish producers would have to compete with low prices of imported nori.

When targeting the European market, Irish producers should look at other seaweed processors as partners rather then competitors. This is because undersupply leads major processors to import from other European countries and / or outside Europe. Many processors would welcome a new source of sea vegetables, as it would enable them to increase supply and raise sales.

Country Markets

Most prospects for Irish producers are in Western Europe, especially in France and Spain. These two country markets are most important as they have large markets for dulse, wakame and kombu. Most food processors of these sea vegetables are based in these countries. Germany and the UK are considered the next most prospective.

If Irish producers are exporting nori, then they should consider the UK, France, Germany and Italy. Apart from having sizeable markets for nori, they have the largest markets for organic products. Organic nori would be most sought after in these countries.

Austria and Nordic countries are adjudged the least prospective. They only have important markets for nori, which is almost entirely imported from Asia.

End-User Industries

Irish producers are advised to target retailers and food processors in Europe. These two end-user sectors comprise almost 40 percent of sea vegetable sales. The sales share is higher for dulse, kombu and wakame.

Specialist retailers are the most important for organic sea vegetables. A growing number of European organic food shops and health food retailers are looking for organic sea vegetables. On the contrary, mainstream retailers mainly have conventional sea vegetables.

Food processors should also be targeted, especially for dulse, wakame and kombu. Many sea vegetable suppliers are also food processors; they are looking for new sources to augment their supply. Some food processors stated they would prefer sourcing from Europe, especially since many produce organic finished products.

Although the CFS sector generates most demand for sea vegetables, it is not considered highly prospective. Catering firms and foodservice operators mainly favour imported sea vegetables. Many do not consider quality as important as price. Furthermore, very few operators buy organic sea vegetables.

Market Access

When accessing the European market, Irish producers should consider working with the leading sea vegetable processors. Many of these companies are also involved in food processing and need additional supply. Second, these companies are successful in marketing sea vegetables under their brand names in Europe. Irish producers could work with them as partners to export to Europe. Some of the most prospective partners are listed in figure 16.

If Irish producers are looking to export nori to Europe, then they should partner with the leading organic food companies with sea vegetable brands. These companies include Clearspring, Terrasana, Lima Foods, and Archa Naturkueche. In 2014, Clearsping was actively searching for European supply because of problems in sourcing sea vegetables from Japan; they commented, "We are actually looking for organic seaweed which is more sourced from Europe, mainly France."

Figure 16

The European Sea Vegetables Market: Prospective Partners for Irish Producers, 2014

Company	Country	Comments
Algamar	Spain	Imports nori and dulse
Porto Muinos	Spain	Imports nori and dulse
Algue Service	France	Imports sea vegetables from Europe and South America
Aqua B	France	Sea vegetables producer and processor
C`Weed	France	Producer and processor, cultivates wakame

Source: Organic Monitor

If Irish producers are looking at targeting the retail market with such companies, then they should have organic sea vegetables. Organic food companies would be keen on a European supplier with organic products.

Irish producers could also consider exporting branded sea vegetables and / or finished products with sea vegetables. This would be difficult for mainstream retailers, as they only have nori. Specialist retailers would be interested in organic sea vegetables and related finished products, however most prefer to sell local brands. Indeed, no brands have made significant inroads in specialist retailers across Europe.

Most end-users buy sea vegetables in dried format. The drying process is standard in Europe; sea vegetables are dried in a drying chamber with dehumidifiers or fans. Irish producers already use these processes.

Barriers to Market Entry

Although there are good prospects for Irish sea vegetables in Europe, producers should be aware of some of the obstacles to market entry:

- Prices. Most sea vegetable volumes go to the CFS sector, which is price sensitive. In particular, Irish producers could not compete with prices of imported nori from Asia. Prices are not as important as quality for the retail sector.

- Distribution. The biggest challenge in exporting sea vegetables is distribution. The easiest way to enter Europe is for Irish producers to work with leading sea vegetables processors (as stated in market access section).

  If Irish producers are looking at taking the branded route, then they would have to set up distribution agreements with leading wholesalers in target countries. Many of these wholesalers already carry established brands of sea vegetables in their countries. Furthermore, most companies prefer to work with brands with wide product ranges, as Clearspring, Lima Foods and Terrasana have.

- Organic certification. Considering over 85 percent of sea vegetables grown in Europe are certified organic, buyers would expect a European supplier to have organic products.

- Quality. It is important Irish producers meet high quality standards required by buyers, especially for the retail market.

Marketing Recommendations

This section gives marketing recommendations to Irish producers, especially those considering selling branded products. When marketing sea vegetables, Irish producers could take heed of the following:

- Organic certification. As stated earlier, buyers would expect a European producer of sea vegetables to have certified organic products. Although Ecocert is the most popular certification scheme for seaweeds, there is one EU standard for organic sea vegetables i.e. Irish certification would suffice for the European market.

- Nutritional values and health benefits. Many brands are marketing their sea vegetables on their nutrient content and associated health benefits. For instance, Algamar highlights the high levels of vitamin C, potassium and protein content in its organic dulse.

  Some companies go further by highlighting the health benefits of their sea vegetables, and make comparisons with agricultural vegetables. Here is a description of Algoplus nori from their website:

  "This seaweed has a high content of dietary fiber and improves digestion and bowel movements. Nori is rich in minerals. Thus, it contains 15 times more calcium than lettuce and about 7 times more iron than spinach. The alga is also interesting because of its magnesium content. Nori commanded numerous vitamins in good quantities such as vitamin B2, B3, B6, B9, B12, etc. and little fat, but of a good quality (omega 3 polyunsaturated essential fatty acids).It provides few calories and lots of antioxidants such as provitamin A."

It is also common for companies to highlight 'free-from' aspects, such as fat-free and sugar-free, of their sea vegetables. Clearspring and Porto Muinos are two companies that highlight such aspects on product packaging.

- Applications. Since sea vegetables are a novelty to many consumers, some companies highlight the use of their products on product packaging and company websites. It is common to state preparation, as well as instructions for use. An example from Porto Muinos website about its kombu:

  Uses in the kitchen

  Toasted: Baking and crushing in a mortar as condiment.

  Boiling: As garnish or layer in fish or meat dishes. As ingredient in preparation of stews, rice, vegetable soups and soups. It has thickening capacity, quality very useful for elaboration of sauces. The cooking water is excellent in soups, clear soups or rice.

  Preparation

  Hydrated: Submerge in water with a little salt during 8 -10 minutes. When it is hydrated, it increases 4 times its weight in dried.

  Cooking: Cook during 35 - 40 minutes.

- Product packaging. Brands typically market their sea vegetables in plastic packets, as shown in the appendix. Leading brands in specialist retailers are modernising their packaging by making them more environmentally-friendly. For instance, Il Fior di Lotto and Porto Muinos are two brands using cardboard outer casing. Apart from being better for the environment, cardboard enables brands to give more information to consumers.

  Clearspring uses re-sealable pouch plastic bags for its sea vegetables. This helps consumers re-use the products.

  The most common packaging for sea vegetables is 50g plastic packets. Some nori sheets are in 11g packaging, whilst dulse can be marketed in packaging as large as 500g. Details of packaging sizes of popular brands are given in the pricing analysis.

BIM could assist Irish producers in accessing the European market by the following activities:

I. Export preparation– BIM could work with Irish producers to raise production levels and ensure product quality meets market requirements.

BIM could also help potential exporters by formulating export plans and setting export targets. This report should also be used to target prospective customers / partners in Europe.

II. Trade shows and exhibitions. BIM could bring Irish producers to leading trade shows and exhibitions for food products. This would enable them to meet potential buyers, as well as get useful feedback on their products and making networks.

Some of the recommended trade shows and exhibitions are:

BioFach (Nuernberg, February each year)

International Food Exhibition (London, March alternate years)

Natural & Organic Products Europe (London, April each year)

Seafood Expo Global (Brussels, April each year)

Seafood Expo Southern Europe (Barcelona, September each year)

SIAL (Paris, October alternate years)

Anuga (Cologne, October alternate years)

III. Trade delegations & buyer meetings. BIM could arrange for Irish producers to come to Europe as a trade delegation and meet potential buyers. Trips could be made to France and Spain to meet leading sea vegetable processors; many would be receptive as they are on the look-out for additional supply. Another option would be to arrange individual meetings with potential buyers.

Key to these recommendations is to get Irish producers 'export ready'. BIM should ensure that Irish companies are capable of exporting to Europe and have sufficient volumes, otherwise the investments may not be worthwhile.

Conclusions

This report on the European sea vegetables market shows that there are many prospects for Irish producers. The European market is growing at a healthy rate, with many producers experiencing undersupply. Ireland is well-placed to capitalise on this emerging market.

Most openings are considered in the dulse segment, partly because Ireland is already an established supplier. The nori market is the largest, however it is also the most competitive. There are openings if Irish producers can start nori cultivation.

The food processors and retail market hold most opportunities for Irish producers. Although most volumes go to the CFS sector, this sector is highly competitive. Irish producers are advised to produce organic sea vegetables and target leading food processors and the retail market.

An export strategy based on partnerships with existing European producers is likely to give most returns, especially since these companies are also leading producers of finished food products (containing sea vegetables). If Irish companies are looking at developing brands, they should consider developing extensive product ranges i.e. have finished products with sea vegetables, as well as seaweeds. This strategy has proved a success for French companies, such as Aqua B, Algue Service and Les Ouessantines, as well as Spanish producers. A major advantage of this approach is that producers can get higher margins.

Appendix

Sample sea vegetable products in European retail market.

Algoplus Nori

Arche Naturkueche Nori

Porto Muinos Kombu

Terrasana Kombu

Morinoe Kombu

Il Fior do Loto Kombu

Algamar Dulse