

Beyond Sushi....

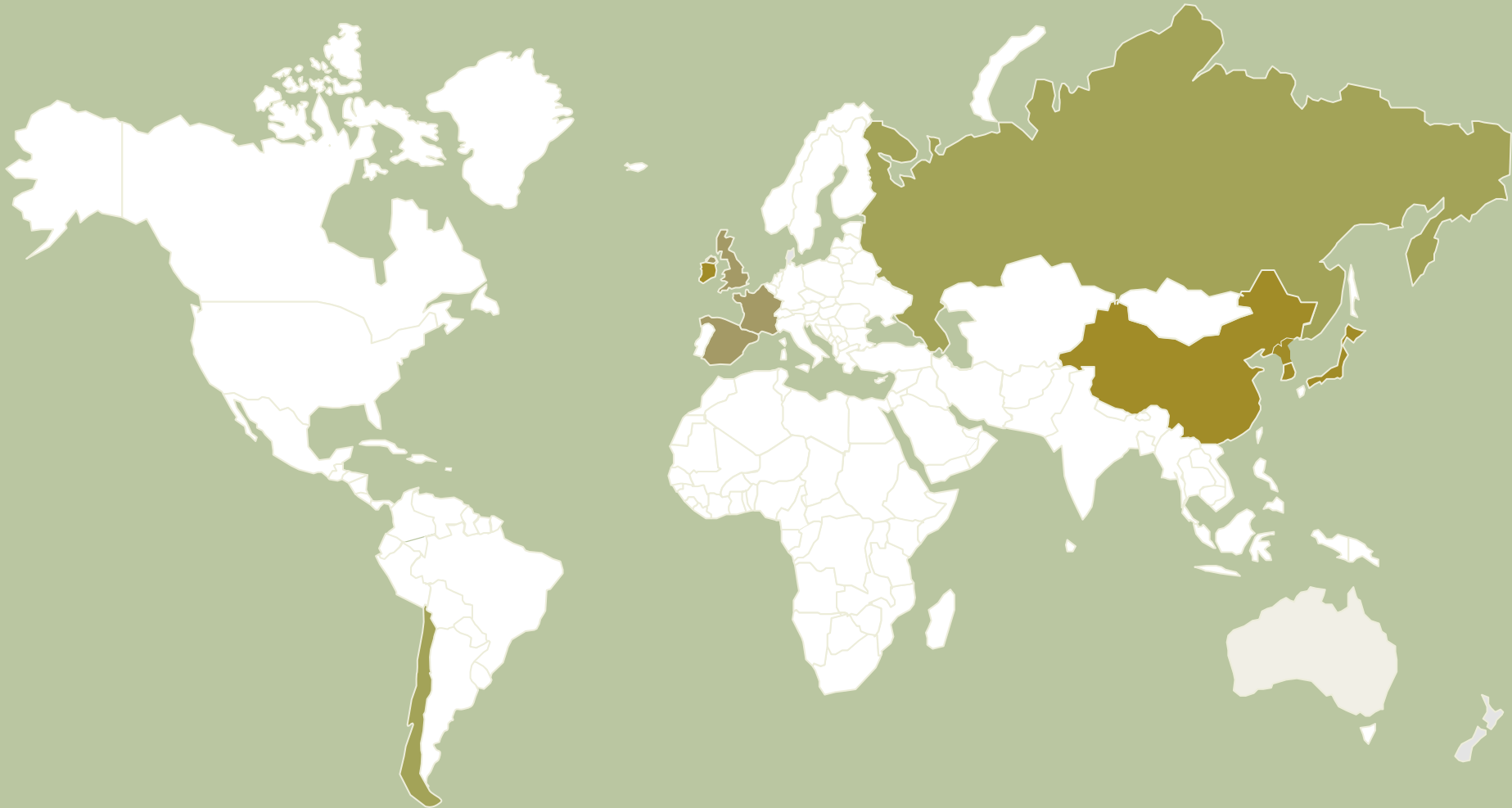


A review of current seaweed markets and products
Sarah Redmond, Maine Sea Grant/UMaine Cooperative Extension

Brown Seaweed Production

FAO, 2010

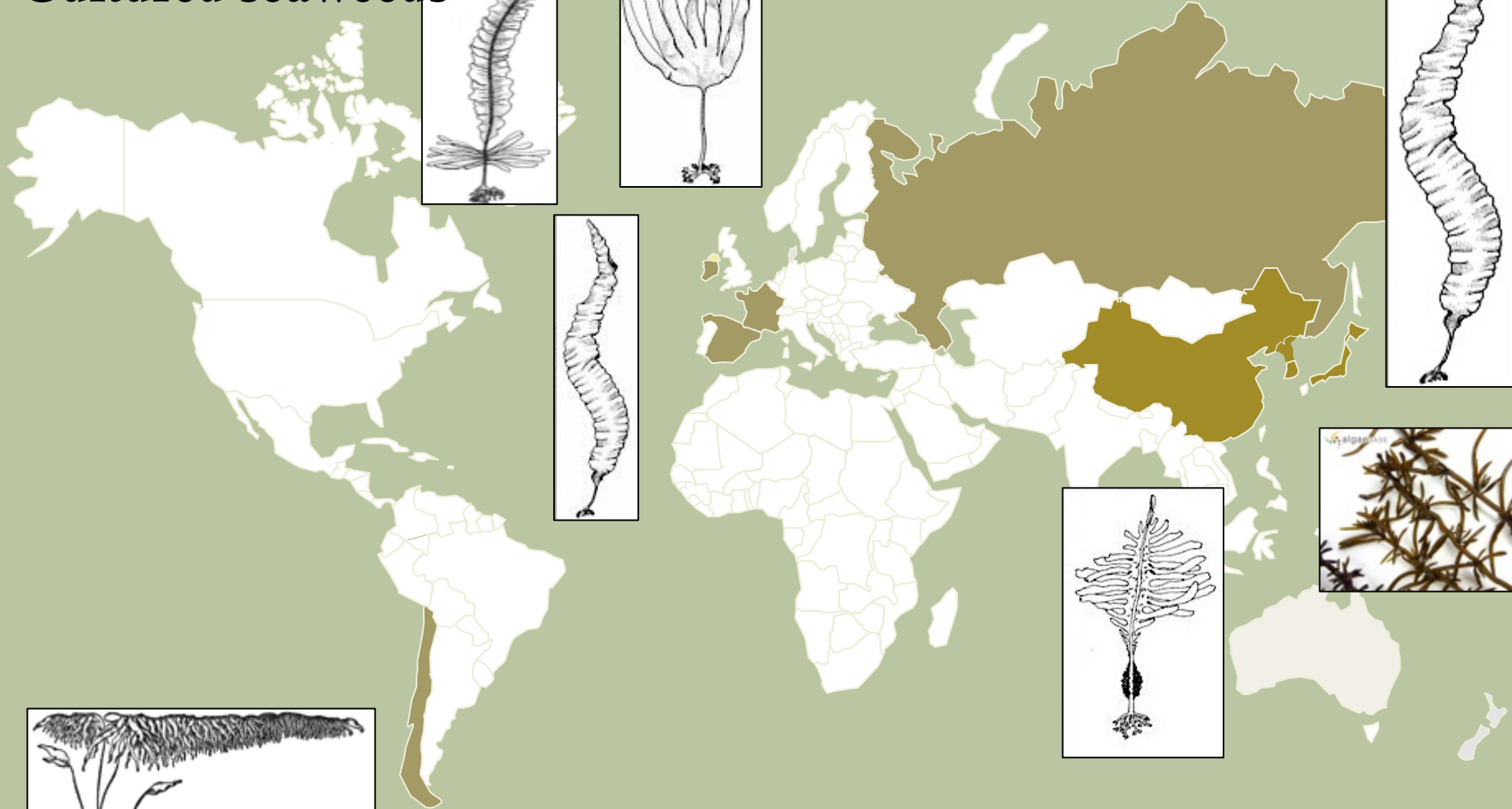
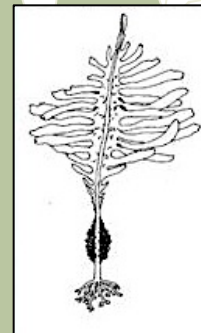
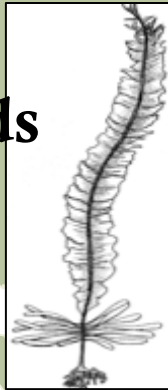
Cultured seaweeds



Brown Seaweed Production

FAO, 2010

Cultured seaweeds



Brown Seaweed Production

Sea Vegetables

- Laminaria japonica (kombu)
- Sargassum (Hijiki)
- Undaria (Wakame)

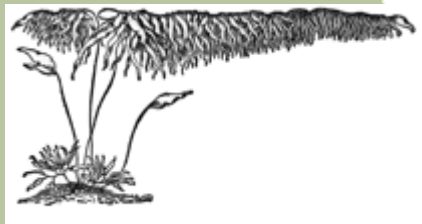


- Saccharina latissima (Atlantic Kombu)
- Laminaria digitata (Atlantic Kombu)
- Alaria esculenta (Atlantic Wakame)



Phycocolloids (alginate)

- Macrocystis
- Laminaria japonica



Red Seaweed Production

FAO, 2010



Red Seaweed Production

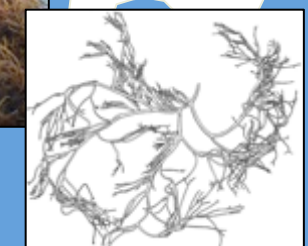
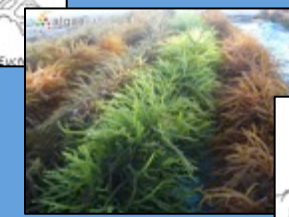
Sea Vegetables

- Porphyra (nori)
- Gelidium (salads)
- Gracilaria (salads)
- Palmaria (dulse)



Phycocolloids

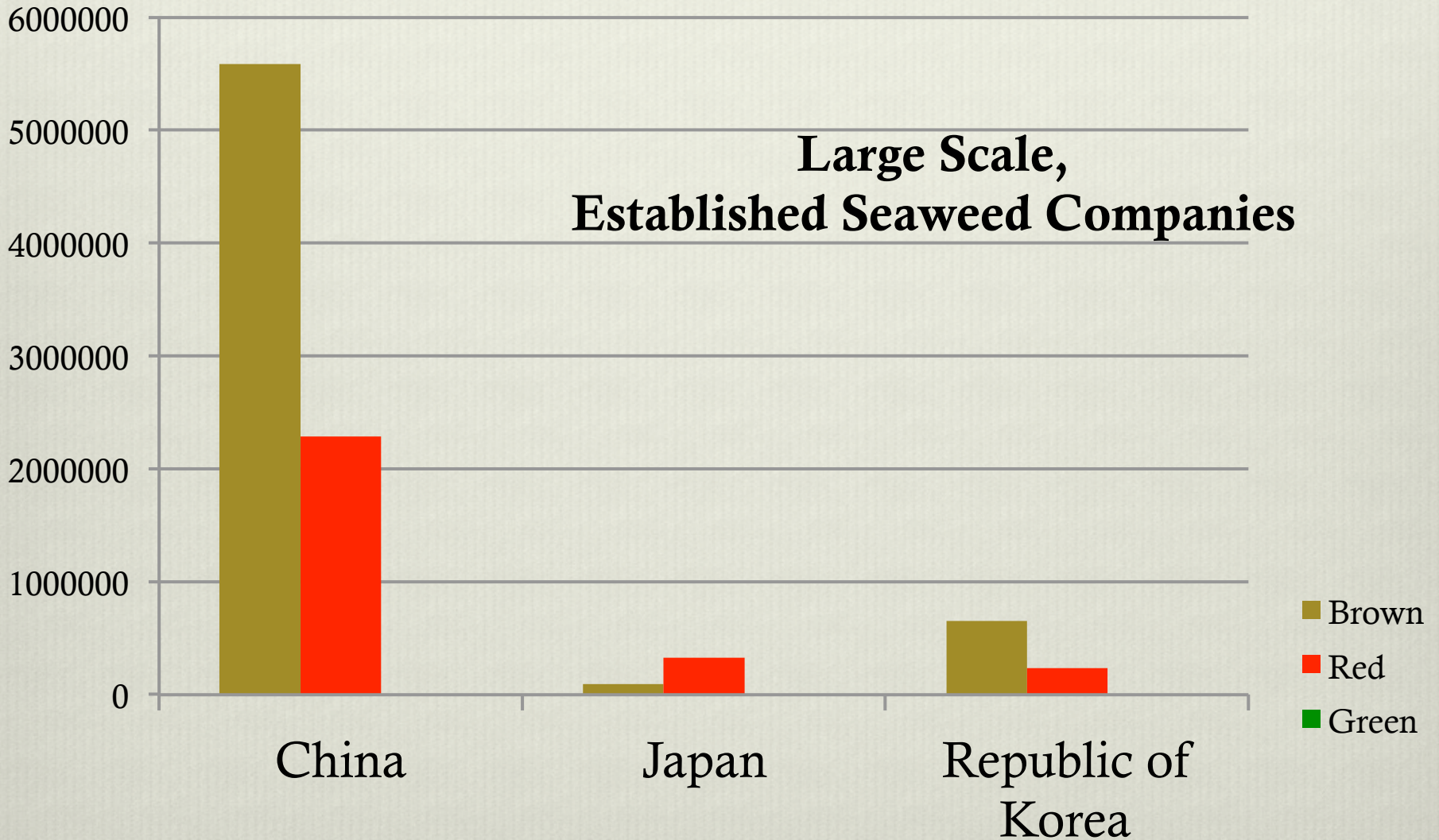
- Eucheuma & Kappaphycus (carrageenan)
- Gelidium & Gracilaria (agar)





Production (t) of the Top Three

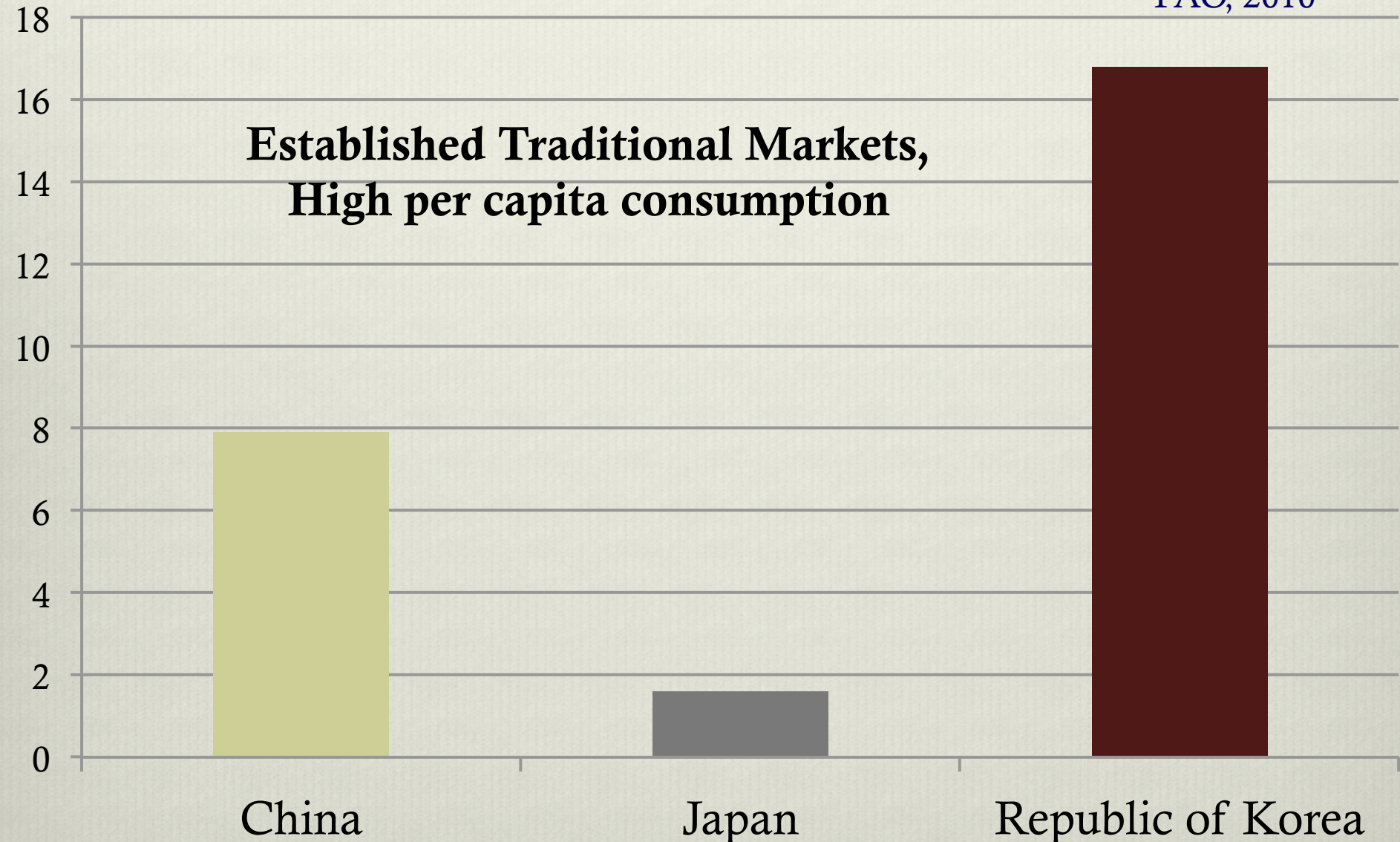
FAO, 2010



per capita seaweed consumption (kg yr⁻¹)

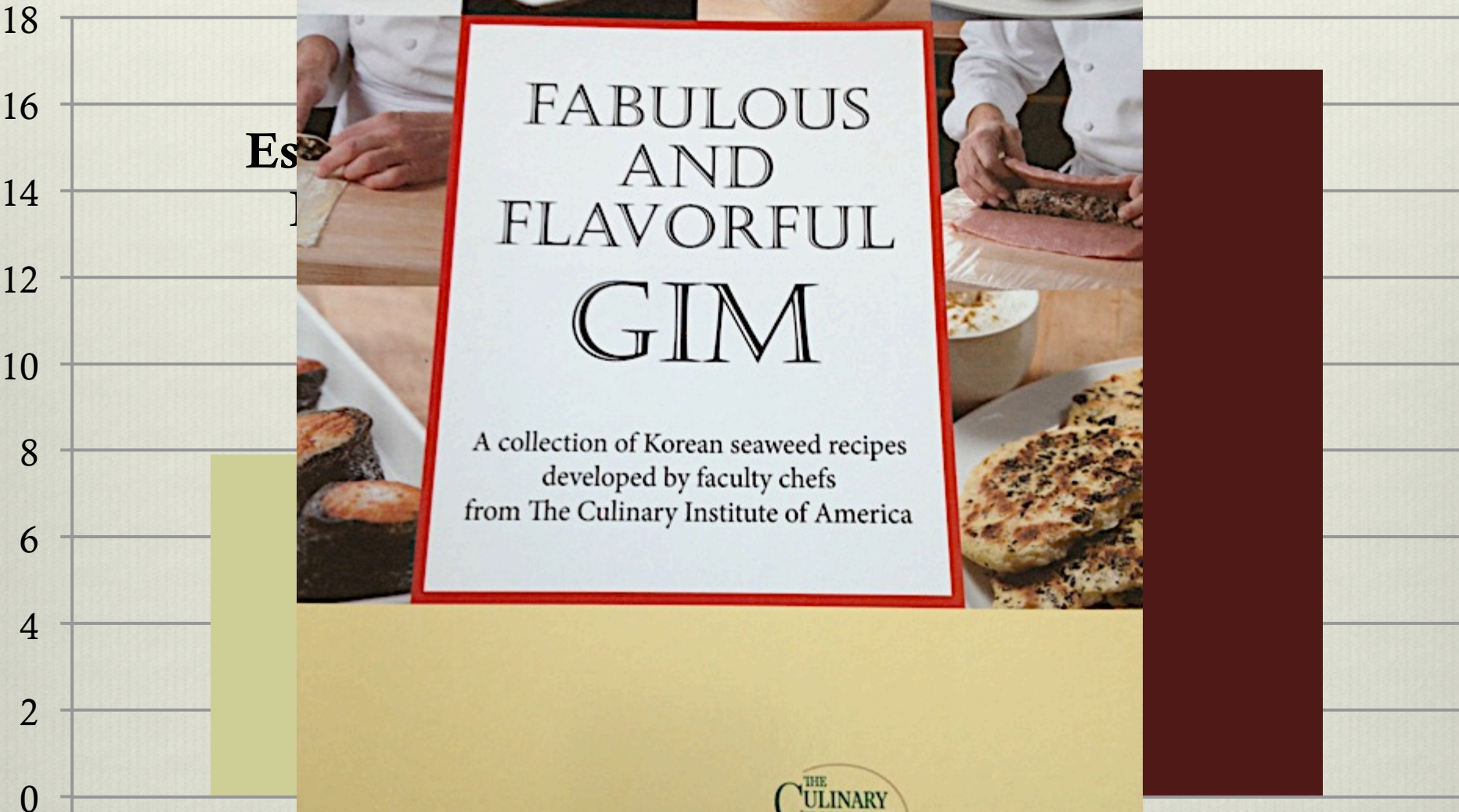
FAO, 2010

**Established Traditional Markets,
High per capita consumption**



per c

kg yr⁻¹)



Es

Ch

Republic of Korea

FABULOUS AND FLAVORFUL GIM

A collection of Korean seaweed recipes
developed by faculty chefs
from The Culinary Institute of America

aT Korea Agro-Fisheries & Food
Trade Corporation



THE WORLD'S PREMIER
CULINARY COLLEGE

Traditional Uses, Wild Harvest



Small Cottage Industries Worldwide
Many different traditional uses of seaweeds on coasts

Atlantic Ocean's Turn!



NEWS

SEAWEED COULD BOOST WEST OF IRELAND ECONOMY

August 23, 2012 - 12:18pm

SEAWEED COULD BOOST WEST OF IRELAND ECONOMY

Irish seaweed has been called the "gold dust" of the west coast by MEP Jim Higgins.

The North West MEP says Ireland's seaweed is an untapped natural resource.

He's urging the Ministers for the Environment and Enterprise to look at expanding the seaweed industry to meet international market demands and provide business and jobs growth across the country.

NUI Galway says there are 580 different types of seaweed in the country which can be used in various industries including food, health and beauty.

China, Japan and Korea are world leaders in the supply of seaweed internationally and MEP Higgins believes Ireland has the capacity to compete within this market.

Bookmark/Search this post with



Source: Galway Bay FM

Total World Aquacultured Seaweed Value, 2010 (FAO): **\$ 5,430,102,000**

Seaweed Markets by Type

Edibles

Sea Vegetables

- Fresh
- Salted
- Frozen
- Dried
- Snacks

Extracts

- Phycocolloids
- Fertilizer
- Constituents

Fresh Markets

Opportunities exist in local markets

-Consumer

-Restaurants

Trend towards healthy, fresh, local ingredients

Fresh Salad, sushi, ingredients for traditional dishes

Challenges:

- Processing
- Handling
- Food safety
- Regulatory concerns
- Short shelf life, Requires constant low temperature refrigeration

“Fresh” Prepared Foods

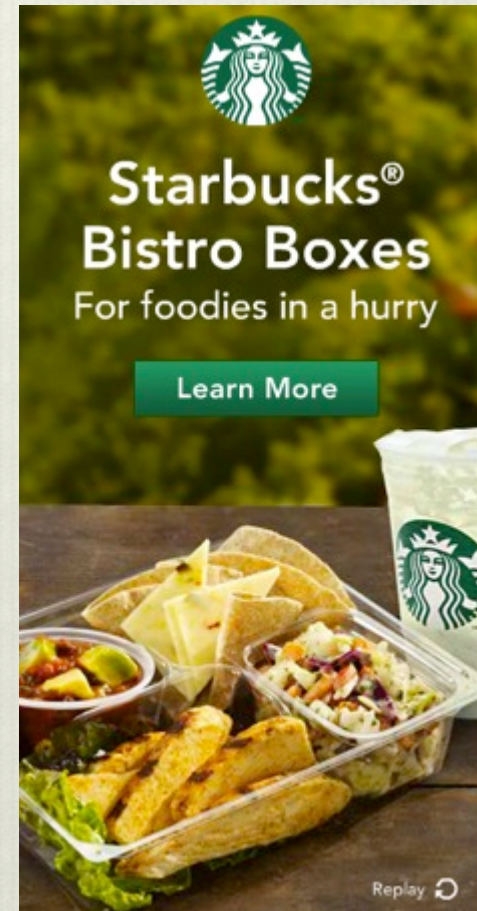
Cooked Fresh:
Prepared,
packaged, ‘ready
to eat’

Sushi bars in
grocery stores, deli
counters,
restaurants



Photo credit Jang Kim

Ready-to-eat Lunchboxes



Macro Vegetarian From New York

Maine Bento Box

Fresh Maine Smoked Mussels & Local Sea Vegetables



**FRESH MAINE SMOKED MUSSELS
OCEANVILLE SEAFOOD 1-6383
Stonington, ME USA 367-5871
Net Wt 8oz KEEP REFRIGERATED**

Jellies, Pastes

- As condiment
- For replacement in cooking, healthy additive



Simply Gourmet!

THE SEAWEED JELLY-DIET COOKBOOK GUIDE



Discover the Secrets to
Savory Flavors, Creamy Textures,
and Nutritional Weight Loss -
Naturally!

CLAYTEN TYLOR

www.seaweedjellydiet.com

Salted

- Fresh, Salted Seaweed draws water out of fronds
- Shelf Stable
- “Raw” food—Requires no heat
- Rinse & Ready to eat or cook

Challenges:

- Processing
- Marketing
- Development of Products
- Education of Consumers



Rolls
Knots
Blades
Stipes
Squares
Shredded
And more....





Shandong Lido Oceanic Technology Co., Ltd.



First-cl...



First-cl...



Bluish Y...



Green Sh...



Green Sh...



Green Sh...



Green Lo...



Yellow S...



Yellow S...



Yellow L...



Spore Hy...



First-cl...



Secondar...



Export B...



Export R...



Spore Ro...



Social M...



Social M...



Social S...



Social L...



Third-cl



Third-cl



Third-cl



Third-cl



Third-cl...



Third-cl...



Roll Blo...



Inner Cu...



Hemmed B...



Kelphead...



Kelphead...



Kelp Edg...



Salted mixed salad

Also.....
Fermented
Pickled

Frozen

- Fresh, Frozen Seaweed
- Mild flavor, less ‘salty’
- Long Shelf Life in Freezer
- Thaw & Ready to eat or cook
- “Easy Food”—Appeal to American consumers

Challenges:

- Processing
- Marketing
- Development of Products



PRODUCT OF THE USA
100%
KELP
The Virtuous Vegetable
Ocean
APPROVED
Kelp Noodle Cut



Kelp Noodle Cut
Ocean
KELP
The Virtuous Vegetable
APPROVED
100% Natural
PRODUCT OF THE USA • No. WL 1159 (A03)



Ocean
APPROVED
FARMING THE NORTH ATLANTIC



Kelp Salad, Noodles &
Slaw from Maine

Ocean
APPROVED
FARMING THE NORTH ATLANTIC

Value Added Frozen

Seaweed Salads



[http://img.diytrade.com/
cdimg/
90097/19372265/0/129975082
7/Frozen_Seaweed_salad.jpg](http://img.diytrade.com/cdimg/90097/19372265/0/1299750827/Frozen_Seaweed_salad.jpg)

Ingredient List:

Wakame, Disodium inosinate, citric acid, sorbitolum, vinegar, salt, sesame oil, sugar, a capsicum, sesame, Brilliant Blue, Lemon Yellow, Agar, Potassium sorbate

Seaweed Salad Retail Pack



Product Number
Product Name
Description
PKG Style
Shelf Life
Brand
Ingredients



Azuma Foods®
International Inc., U.S.A.

82451

Goma Wakame Retail Pack

Sesame Seaweed Salad Retail Pack

4box/12pkg/6oz (170g) /bd1

Frozen 1 year / Refrigerated 10 days

SEA SALAD BRAND

Seaweed, Agar-Agar, Kikurage Mushroom,
Sesame Seed, Sesame Oil, Sugar, Salt,
Vinegar, Red Pepper.

- Restaurant and Home Packs
- Coloring Issues with Value Added
- Undaria & Laminaria



Salad Types:

- Hijiki Salad (Black Seaweed Salad)
- Sesame seaweed salad
- 'natural' versions salads
- Wasabi Wakame
- Ginger Wakame
- Spicy Wakame

Kelp Rolls



[http://img.21food.com/thumb/userimages/enshiyoux/enshiyoux\\$917103829.jpg](http://img.21food.com/thumb/userimages/enshiyoux/enshiyoux$917103829.jpg)

Rolled kelp with fish



Frozen Prepared Salad



Frozen Salted Shredded

http://img.diytrade.com/cding/90097/22374290/0/1310435498Frozen_salted_kelp_shredded.jpg

- **Kelp Beef Roll**
- **Kelp Fish Roll**

Frozen prepared soups



Dried

- Fresh Dried Seaweed
- Traditional method of preservation
- Long Shelf Life
- Reconstitute & Ready to eat or cook
- “Raw” Food, requires no high heat processing
- Versatile– Whole leaf, flakes, powders, mixed, etc.

Challenges:

- Processing
- Marketing
- Development of Products, Education of American consumers



salted kelp roll/knot/strip

Place of Origin: Shandong China

salted kelp knot/roll/strip salted kelp knot/roll/strip Product

Type: ...

Shredded Dried



DRY.....RECONSTITUTED

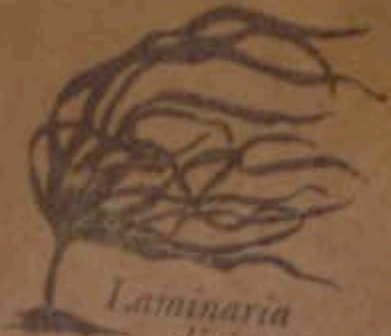
**Absorbs up to 10 times its weigh in water,
reconstitutes almost to original size**

Convenience Foods



Dried fronds, flakes, powders

ISLAND
handharvested
WILD ATLANTIC KOMBU



*Laminaria
digitata*
NET WEIGHT 2 OZ

SEAWEED

PO BOX 23 WINTER HARBOR MAINE 04790

IRONBOUND
ISLAND
handharvested
WILD ATLANTIC NORI



*Porphyra
umbilicalis*

NET WEIGHT 2 OZ

SEAWEED

PO BOX 23 WINTER HARBOR MAINE 04790

IRONBOUND ISLAND SEAWEED
KOMBU
2 OZ
OUR PRICE \$5.59

IRONBOUND ISLAND SEAWEED
NORI
2 OZ
OUR PRICE \$6.69



NET WT 4.0 OZ \$6.79



Organic Nori \$3.89



NET WT 4.0 OZ \$5.29

NET WT 4.0 OZ \$5.29





EMERALD COVE
ORGANIC PACIFIC NORI FLAKES
Net Wt 1.75 oz 50g

EMERALD COVE
MADE WITH ORGANIC NORI
SPICY NORI SNACK
Net Wt 1.75 oz 50g
12 packets of 1.5 oz each

EDEN
Spray Nori Strips
Toasted Sea Vegetable

EMERALD COVE
INSTANT PACIFIC SEA SALAD
Net Wt 1.75 oz 50g

BIODEGRADABLE COMPOSTABLE RECYCLABLE
Maine Coast Sea Vegetables
ALARIA
Wild Atlantic WAKAME
USDA ORGANIC

BIODEGRADABLE COMPOSTABLE RECYCLABLE
Maine Coast Sea Vegetables
KELP
Wild Atlantic KOMBU
USDA ORGANIC

BIODEGRADABLE COMPOSTABLE RECYCLABLE
Maine Coast Sea Vegetables
DULSE
Wild Atlantic Sea Vegetable
USDA ORGANIC

BIODEGRADABLE COMPOSTABLE RECYCLABLE
Maine Coast Sea Vegetables
DULSE FLAKES
Ready to Use Sea Vegetables
USDA ORGANIC

BIODEGRADABLE COMPOSTABLE RECYCLABLE
Maine Coast Sea Vegetables
LAVER
Wild Atlantic NORI
USDA ORGANIC

EDEN
Kombu
Sea Vegetable

EDEN
Wakame
Sea Vegetable
Japanese - Hand Harvested

EDEN
Bonito Flakes
Light and Bold

EDEN
Nori
Sea Vegetable

EDEN
Sushi Nori
Tosted Sea Vegetable

MAINE NORI COMPANY

EASTPORT, MAINE

*Organically Grown
Fresh, Flavorful Taste*



**Huge interest in a
Maine produced Nori
Sheet**



For use with sus

Bladderwrack Powder



Fucus vesiculosus Origin- Canada

[Contemporary Info](#) [Folklore Info](#) [Photo](#)

Qty: 4oz Bladderwrack Powder organic \$3.00 ↕



Bladderwrack



Fucus vesiculosus Origin- Canada

[Contemporary Info](#) [Folklore Info](#) [Photo](#)

Qty: 4oz Bladderwrack organic \$3.00 ↕



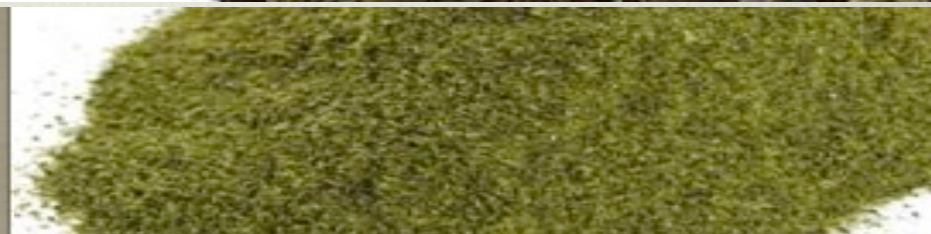
Kelp Powder



Ascophyllum nodosum Origin- Iceland

[Contemporary Info](#) [Photo](#)

Qty: 4oz Kelp powder organic \$2.00 ↕



Wakame Flakes



Alaria esculenta Origin- Canada

[Contemporary Info](#) [Photo](#)

Qty: 4oz Wakame Flakes organic \$0.00--OUT! ↕



Sea Lettuce



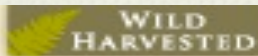
Ulva lactuca Origin- Canada

[Contemporary Info](#) [Photo](#)

Qty: 4oz Sea Lettuce Flakes organic \$6.75 ↕



Irish Moss



Chondrus crispus Origin- Canada

Contemporary Info Folklore Info Photo

Qty: 4oz Irish Moss \$3.50 ↕



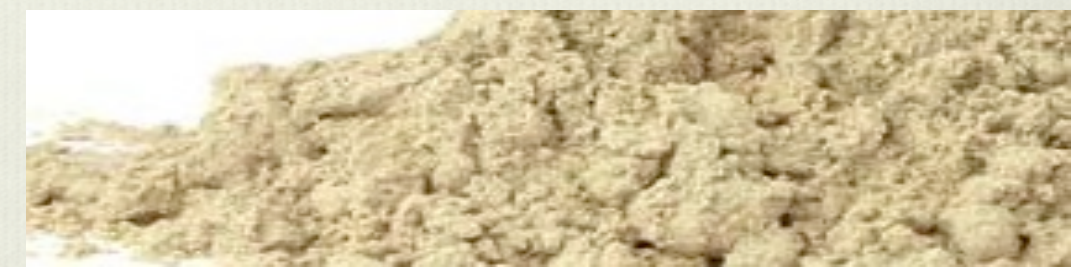
Irish Moss Powder



Chondrus crispus Origin- Canada

Contemporary Info Folklore Info Photo

Qty: 4oz Irish Moss powder \$4.00 ↕



Dulse Flakes



Palmaria palmata Origin- Canada

Contemporary Info Photo

Qty: 4oz Dulse Flakes organic \$4.75 ↕



Dulse Powder



Palmaria palmata Origin- Canada

Contemporary Info Photo

Qty: 4oz Dulse powder organic \$4.50 ↕



Nori, flakes



Porphyra umbilicalis Origin- Canada

Contemporary Info Photo

Qty: 4oz Nori flakes Organic \$0.00--OUT! ↕



Dried Seasoning Mixtures



Snacks

“Easy Food”
Healthy
Accessible
High Value



Added Healthy Ingredients



Nori Crisps

Vegan, Gluten Free, All Natural, Low in Fat/Fat Free,
Low-Calorie, Mineral-Rich, Convenient, Versatile



**Flavors: Classic Olive, Wasabi, Spicy Chipotle, Toasty Onion,
Brown Sugar & Sea Salt, Cracked Pepper & Herbs, Sesame**



<http://www.cangerous-business.com/> 2012/06/
amanda-vs-food-seaweed/

Other Products

For Animals

For Plants

For Skin

For Health

Pet/Livestock Feed Supplements



Live Market for Aquaria/ Fish Food



**Approximate Purchase Size:
4 cups for \$17.99**

- **Natural Food Source for Herbivorous Fish**
- **Live algae for aquariums**

Fertilizers

Liquid, Dried, Soil Amendments



Skin/Beauty

- **Sea Kelp Crème**
 - Biofermented
 - La Mer
 - moisturizing, anti-aging, protection from environmental toxins, “feeds” skin with minerals & vitamins, softer, firmer, creaseless skin

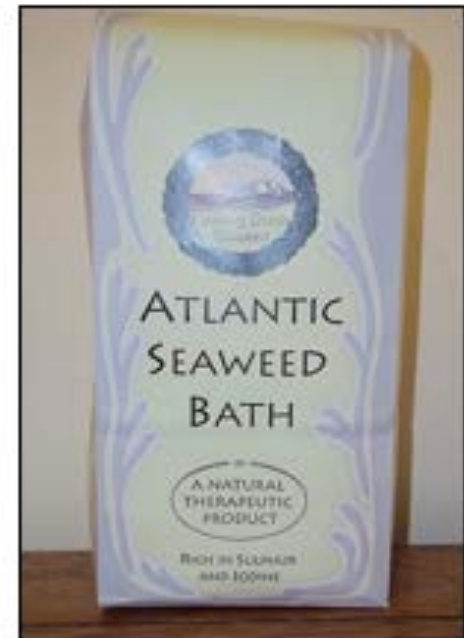
- Facials
- Lotions
- Baths

- **Red Algal natural Ingredients in Sunscreens**



\$150/oz

Thalassotherapy “Sea Therapy”



Irish Seaweed Bath Brick -

Health

Supplements for:

- Iodine
- Thyroid Support
- Radiation Protection
- Weight Loss
- Bioavailable marine trace minerals
- Calcium, magnesium, sodium, phosphorous, potassium, iron, iodine, zinc, manganese, vitamins A, B's, C, D, E, K, etc
- Fucoidan Extract
- Fucoxanthin Extract



Other Extracts

- Phycocolloids Alginate, Agar, Carrageenan
- Alginate—Non digestible, highly absorptive fiber Detoxifies the body by binding with toxins and radioactive elements and passing them out of the body
- Mannitol
- Phlorotannins (UV protection, heavy metal chelators, herbivory defense)
- Chlorophyll, phycobiliproteins, carotenoids, Fucoxanthin
- Essential fatty acids, essential amino acids
- Antioxidant, anti-viral, anti-parasitic, anti-inflammatory, antibacterial substances





Maine products from Maine

