



“Harvesting vs Cultivation of red seaweeds for carrageenan production”

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-Hybrid workshop on algae Harvesting and Cultivation in Europe-



TEXTURE IS OUR SPECIALITY



GLUTEN
FREE



GMO
FREE



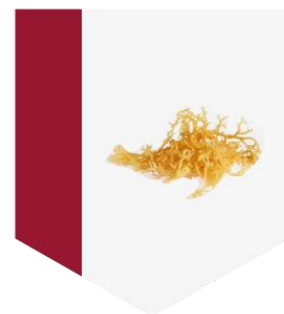
HALAL



VEGAN



KOSHER



CARRAGEENAN



SEAWEED FLOUR



ALGINATE



PECTIN



CITRUS FIBRE



REFINED LOCUST BEAN GUM

Carrageenan – Nature-based hydrocolloid coming from red seaweeds

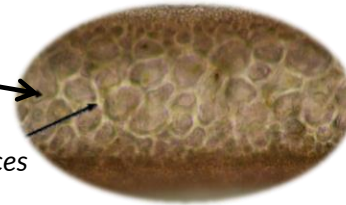


Carrageenan
Polysaccharide of esters of galactose and 3,6-anhydro-galactose copolymers.
Naturally present in seaweeds.

Where in the seaweed



Cellulose fibres
In the interstitial spaces



RAW MATERIAL

Seaweeds from the *Rhodophyceae* family

Warm water, cultivated seaweeds



Eucheema cottonii



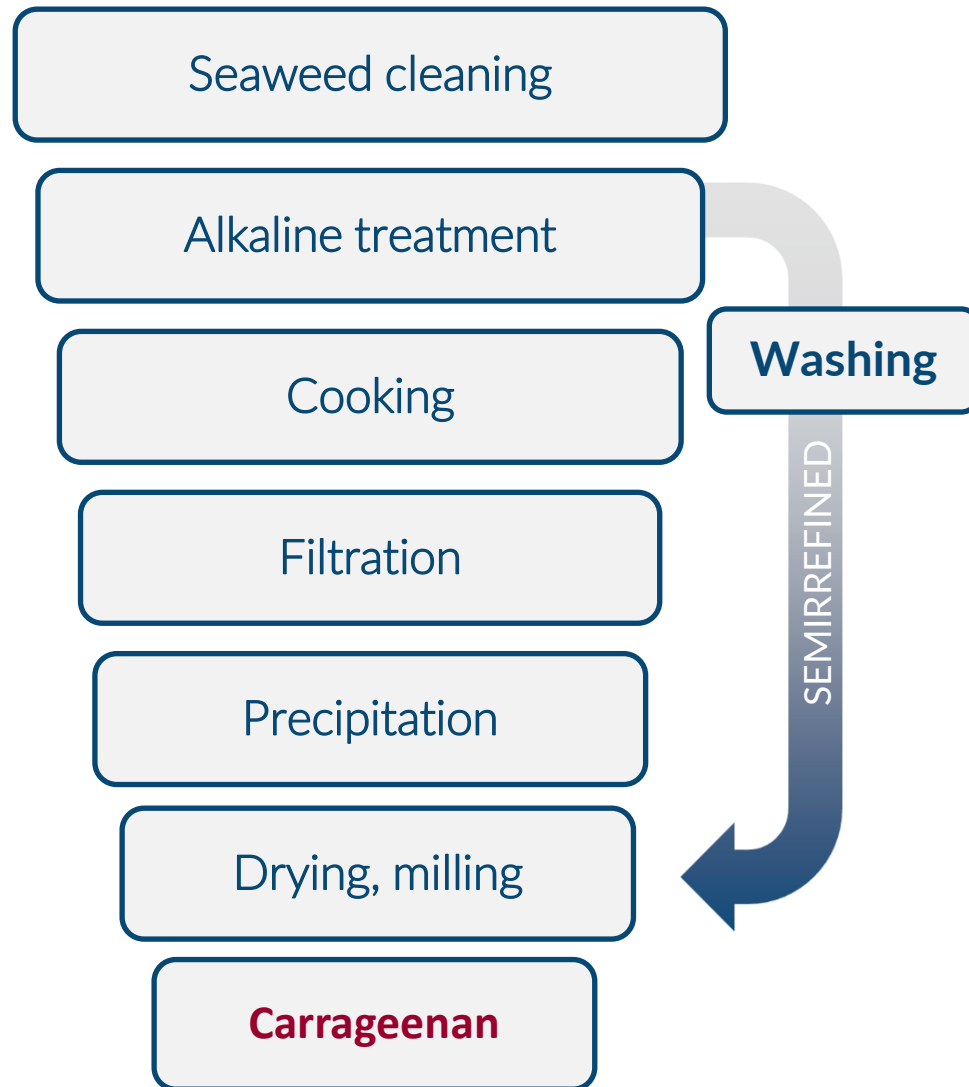
Eucheema spinosum

Cold water, wild seaweeds

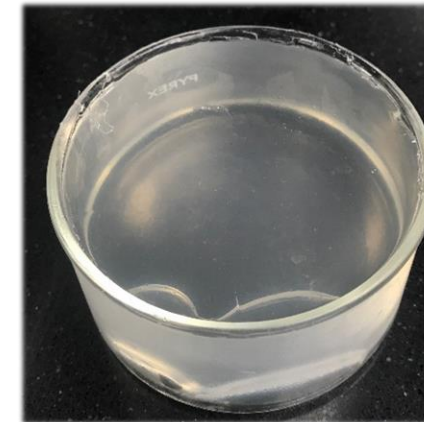


Chondrus crispus , *Gigartina* spp.

Carrageenan – Manufacturing process

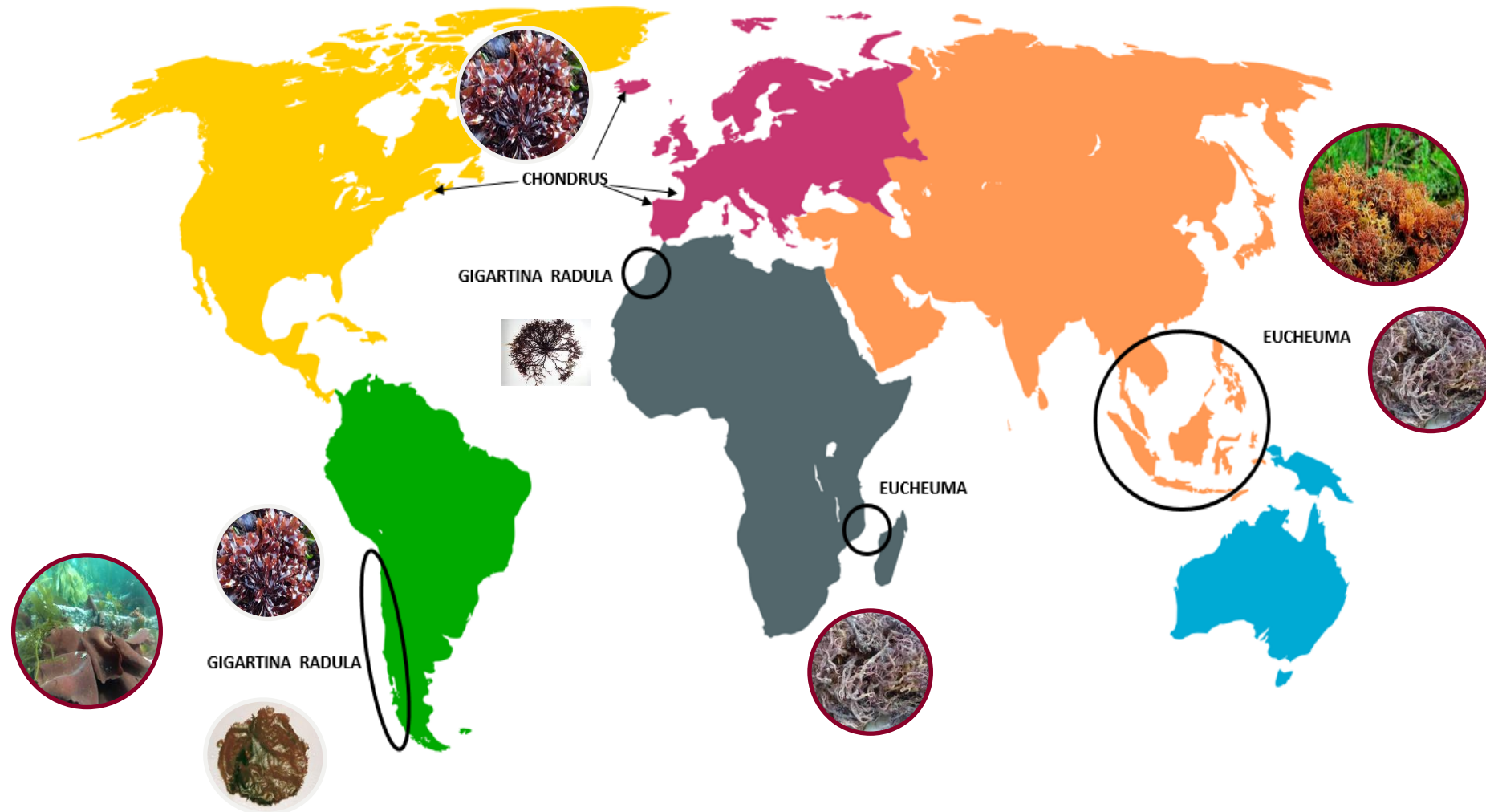


Semirefined



Refined

Carrageenan – Seaweeds origin



Carrageenan - Extracts



Non Cultivated Cold Water Seaweed

Lambda



Gigartina

Kappa 2



Chondrus Crispus



Gigartina

Cultivated Warm Water Seaweed

Kappa



Euchema Cottonii

Iota



Euchema Spinosum

Carrageenan – Wild seaweeds



Where



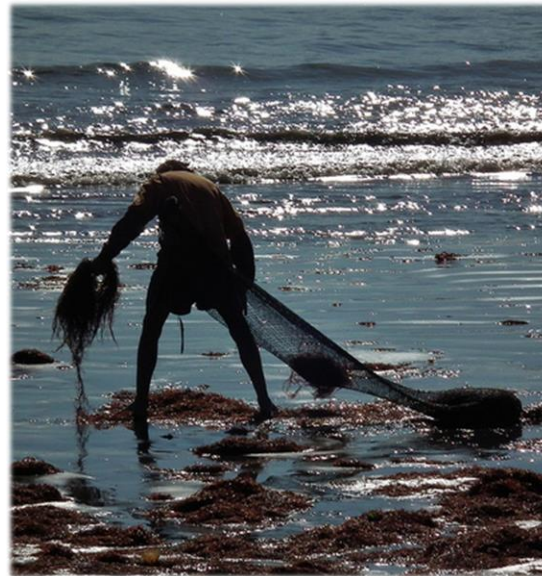
Cold waters: Spain, Morocco, Chile, Peru...

How



Wild seaweeds grow in strong water currents and cannot be cultivated. They are manually harvested once a year. And very affected by climate change and other climatic events

Seaweed harvesting



Seaweed harvest in Chile



Manual harvest in Galicia, Spain



Carrageenan – Cultivated seaweeds



Where



In warm waters, mostly from South-East Asia: Philippines, Indonesia...

How



Small plants are tied to a rope and let grow approximately for two months.
Seaweeds need light and weak current waters.

Euchemia seaweed farming



Deep zones: FLOATING RAFT METHOD



Shallow waters: FIXED-OFF /BOTTOM - LINE METHOD



Carrageenan seaweeds – Quality control methods



Seaweeds are dried below 30% humidity on site, before being sent



Seaweeds control methods:

- % Humidity
- % salts and impurities
- Heavy metal and microbial analysis
- Carrageenan standard extraction process



SUSTAINABILITY & ENVIRONMENT RESPONSIBILITY



Reducing Environmental Impact → Valorise sub-product/waste →
Create a Product of value



SUSTAINABILITY
ENVIRONMENT



RAW MATERIALS

Responsible consumption
Biodiversity
Sustainable extraction
Training

**TEXTURE
MAKES THE
DIFFERENCE.**

