



PIONEERING CLEAN LABEL FOOD INNOVATIONS WITH BROWN SEAWEED

Dr. Aurelien Forget / Bridge2Food – 03/06/2025

**Functional ingredient
extracted from
seaweed**

Carrageenan
Alginate



**Growing trend of
consumer interest
seaweed**

Seaweed consumers are
seeking in nutritious food.

RED SEAWEEDS CLEAN LABEL

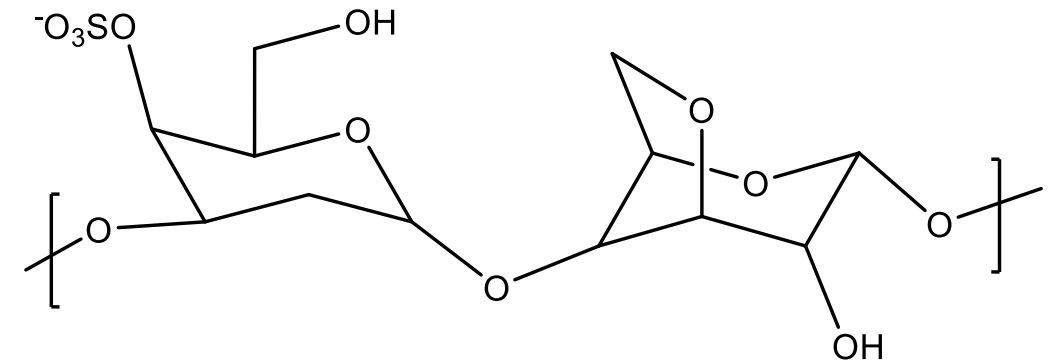
A plant-based source of food ingredient



Red seaweed

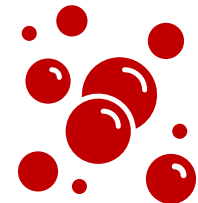
- Kappaphycus alvarezii
- Eucheuma denticulatum

Red seaweed-based
Seaflour™



κ / ι – carrageenan

- Red-seaweed extract
- Thermo-gelling
- Protein interactions
- E407



BROWN SEAWEED FOOD INGREDIENTS

A need for clean label

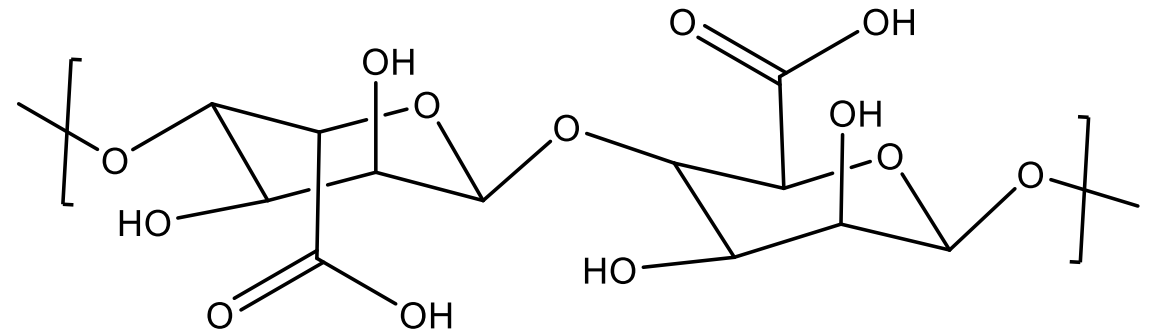


Brown seaweed

- *Saccharina latissima*
- *Laminaria hyperborea*

Brown seaweed-based

Clean label needed



Alginate

- Brown-seaweed extract
- Cationic gelation
- Protein interactions
- E401



CREATING A FUNCTIONAL SEAWEED INGREDIENT



SELECTING THE RIGHT SEAWEED

Based on their availability and composition



Laminaria Digitata

Higher gum content

Potential high level of Arsenic

Wild harvesting

Cultivation

High fiber content



Saccharina Latissima

Low gel potential

Low level of Arsenic

Wild harvesting

Cultivation

High gum content



Alaria Esculenta

Low gel strength

Low level of Arsenic

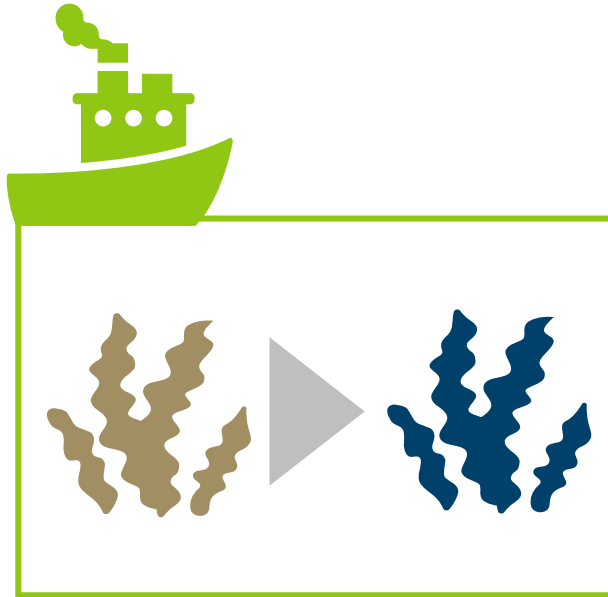
Wild Harvesting

Cultivation

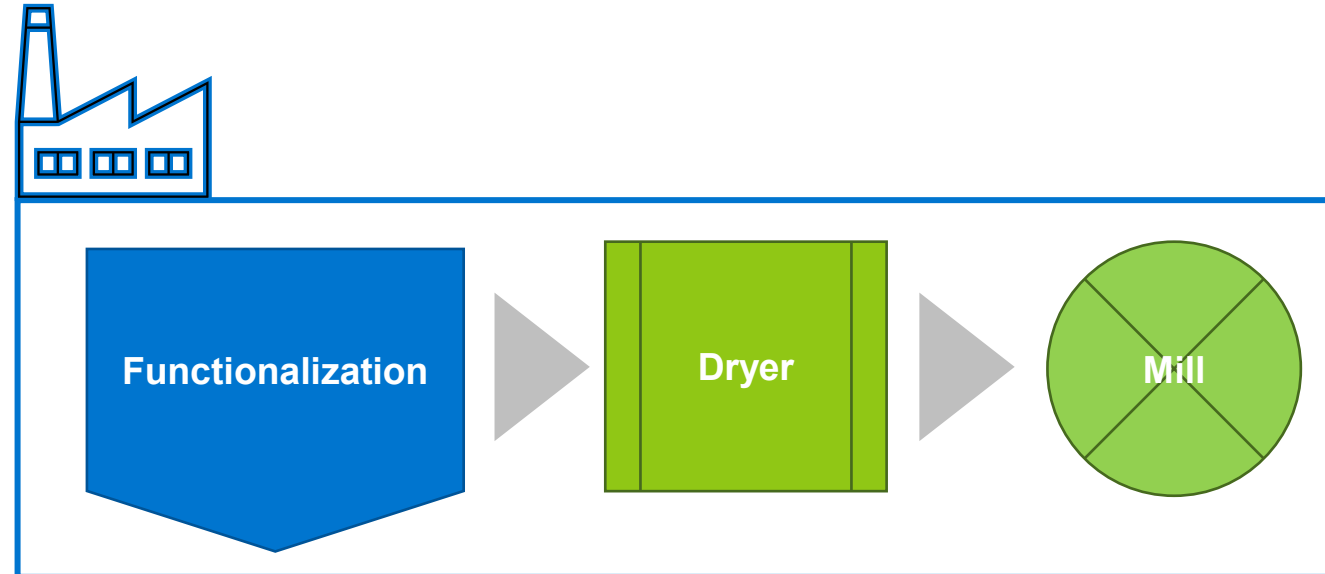
High protein

SEAWEED SUPPLY CHAIN AND PROCESSING

Controlling the supply chain and processing to assure continuous operation



Harvesting and preservation



Seaweed processing

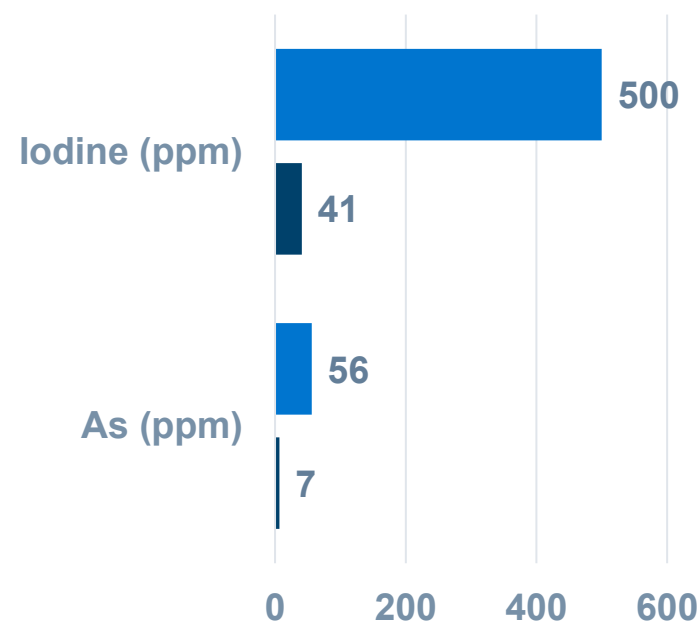


*Brown
Seaweed
Functional
Ingredient*

COMPOSITION - PROPERTIES RELATIONSHIP

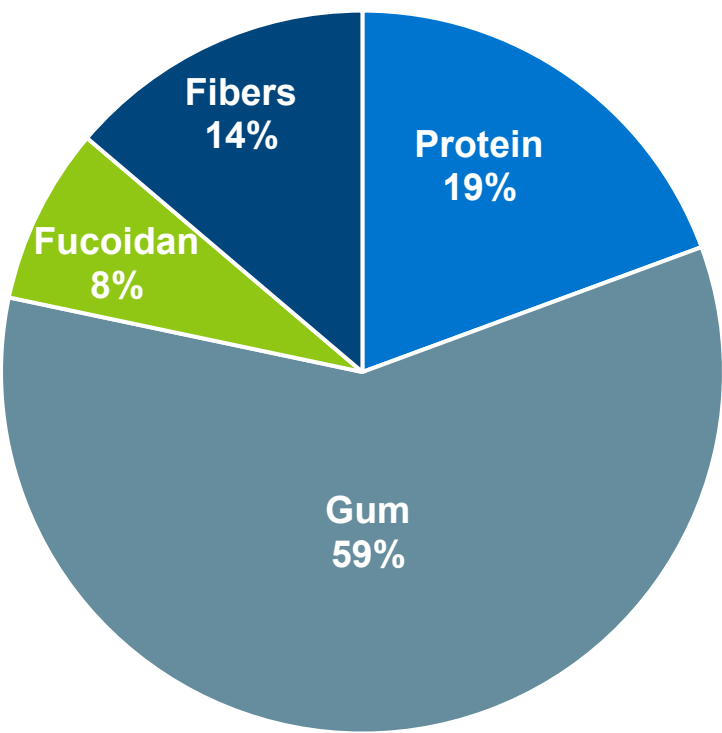
A high fiber content texturing ingredient

SAFETY

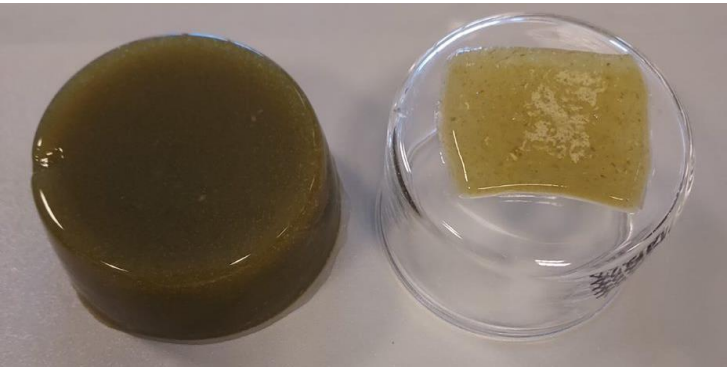


- Dry seaweed
- Brown seaweed functional ingredient

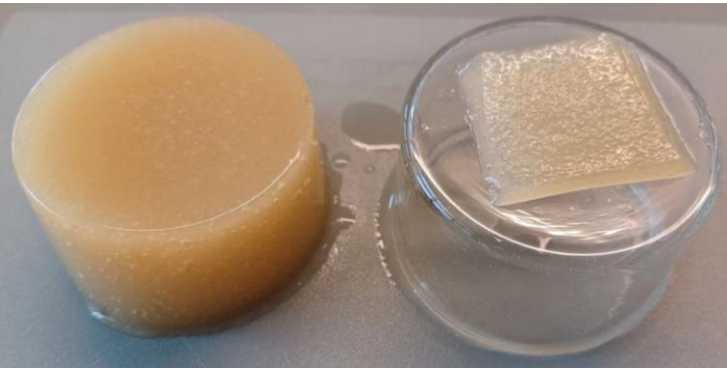
NUTRIENT



FUNCTION



Gel strength 40 – 250 g



BROWN SEAWEED FUNCTIONAL INGREDIENT

Clean label

	Alginate	Brown seaweed Functional Ingredient
Category	Additive	Ingredient
E number	E401	none
Viscosity	Low to high	Low to medium
Gel strength	Low to high	Low to medium
Color	No – to moderate	Green
Fibers	No	Yes
Protein	Residual	Yes
Flavor	No	Mild
Scent	No – to minimal	Sea



FALAFEL

A shape-holding capability ready for frozen applications with a premium feel

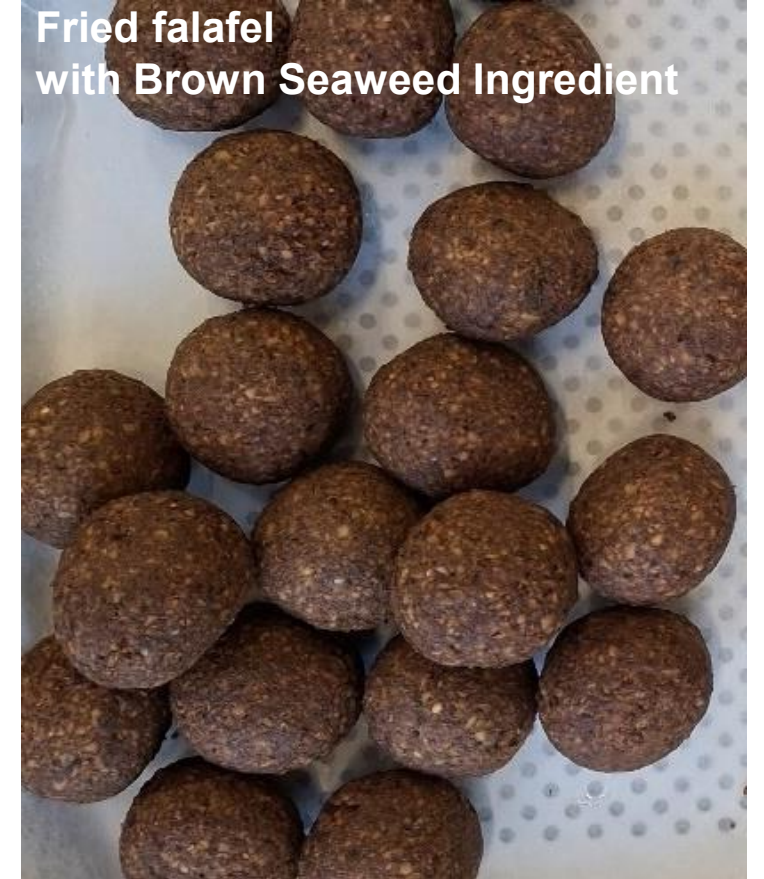
Falafel dough
with Brown Seaweed Ingredient



Freeze-taw falafel
with Brown Seaweed Ingredient

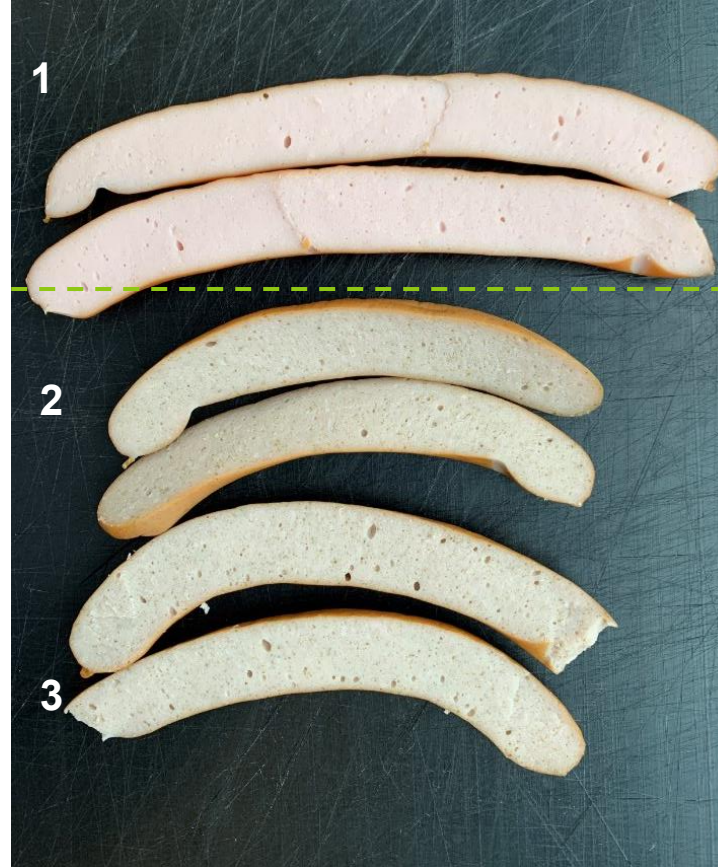
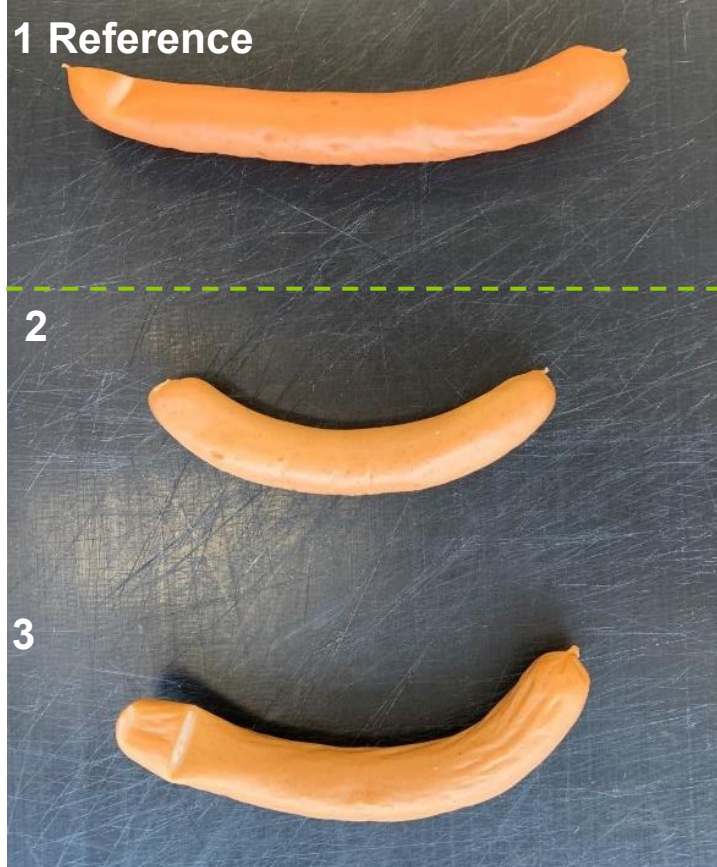


Fried falafel
with Brown Seaweed Ingredient



HAND-MADE SAUSAGES

A premium look for with umami taste

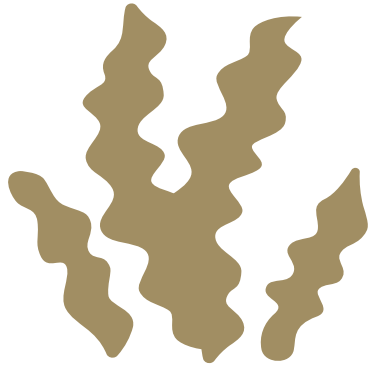


1. Reference meat sausage

2 and 3. Meat sausage
supplemented with Brown
seaweed functional ingredient

CONCLUSION

From the sea to the plates



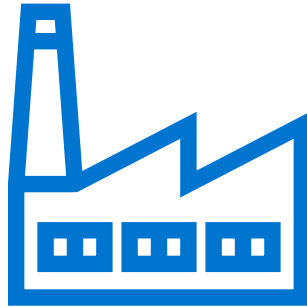
Seaweed

Brown seaweed with good availability and known composition



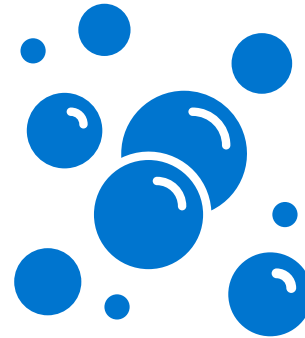
Harvest

Preservation of the biomass quality between harvesting and processing



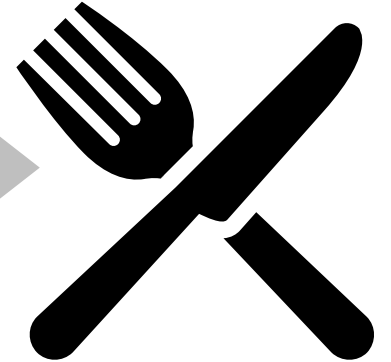
Processing

Functionalization of the ingredient compatible with clean label requirement



Ingredient

A brown seaweed ingredient with texturing functions and nutrient values



Application

Demonstration in two applications:
(1) Falafel
(2) Sausages

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