

#EMD2023

EMD 

EUROPEAN MARITIME DAY

Brest

24-25 May 2023





CIRCALGAE

CIRCular valorisation of industrial ALGAE waste streams into high-value products to foster future sustainable blue biorefineries in Europe

Budget: 10.332.894 €





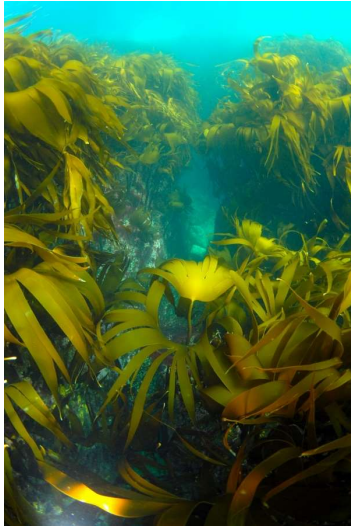
CONSORTIUM

- 15 companies { 7 large companies
8 SMEs
- 3 research centres
- 1 university
- 2 non-profit organizations

CIRCular valorisation of industrial ALGAE waste streams into high-value products to foster future sustainable blue biorefineries in Europe
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TOWARDS THE BLUE BIOECONOMY



Marine biomass...

Is underexploited, underrated and mostly unknown

Its cultivation/harvesting..

Does not compete with arable land

Does not consume sweet water resources

Less dependant on climate factors

TOWARDS THE BLUE BIOECONOMY

Algae processing usually...

Involves traditional (aggressive) processes

Sustainability is neglected in the process chain

Directed towards very specific market niches

65-97% of biomass is handled as a residue!



Laminaria hyperborea



Gelidium sesquipedale



Saccharina latissima



Gels

Vegan protein

Stabilizers



Texturizing

Soluble fibre

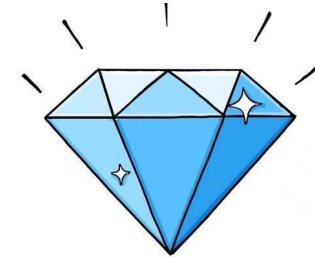
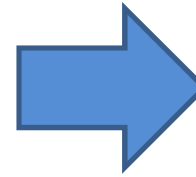
Immunomodulating

Anti-inflammatory

THE CONCEPT



Residues: Dicards, solid cakes, effluents



Upcycled high added-value ingredients



OBJECTIVES

Waste reduction

Sustainable exploitation

Circular Economy

Ingredients



+natural



+sustainable



+affordable

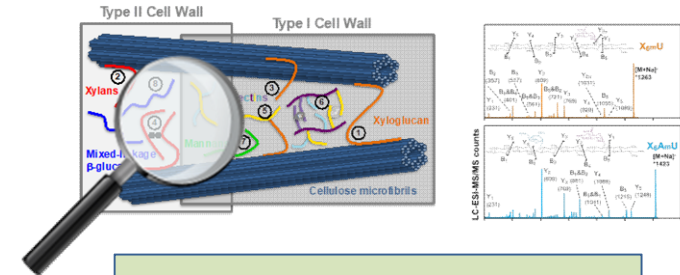


THE CONCEPT

¿Substrate?

¿Processing?

Characterization



Structure - Functionality

Ingredients



OBJECTIVES

Waste reduction

Sustainable exploitation

Circular Economy



+natural



+sustainable



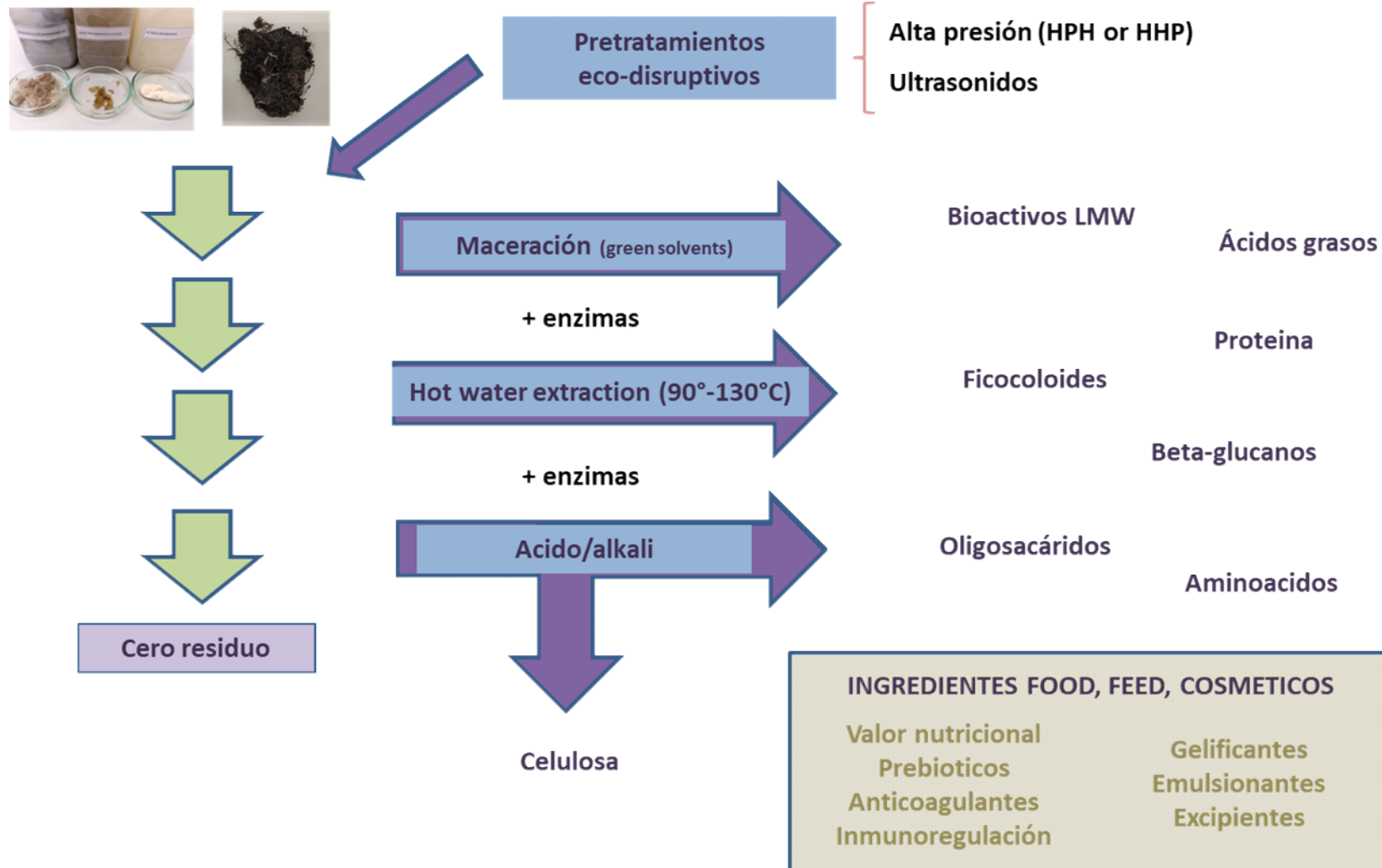
+affordable



CLEAN LABEL



THE CONCEPT



EXPECTED OUTCOMES

Animal Feed



2 formulations with >10% CIRCALGAE ingredients (>200 kg demonstrator)



Digestible, vegan protein/fiber with high nutritional value

Microbiome and innate immune system modulation

Food Ingredients



5 formulations with >5% CIRCALGAE ingredients (>20 kg)



Vegan Protein

Texturizers

Saturated fat substitutes

...used for vegan meat, healthy snacks

EXPECTED OUTCOMES

Cosmetic ingredients



CIRCALGAE based texturizing excipients

CIRCALGAE bioactives

- Antiinflammatory
- immunostimulating
- anti-coagulating

body milk/ shower gel with algae excipients (> 50 kg)

facial solution for oily skin (> 10 L)

Toothpaste (>300 tubes)

powder shampoo (>300 bottles)

hydrating serum for sensitive skin (>300 bottles)



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