

Future

Alaria: The next step



Who am I



Christoffer Joys Røang

Co-Founder and Chief Commercial Officer, dedicated to building strong commercial strategies and fostering team growth.



Transition from Vertical Integration to Specialisation



Transition from Vertical Integration to Specialisation

Hatchery



Growth



Processing



Seedbank



Deployment



Harvesting



Sales and distribution



Hype or Hoax?

What is Hype?

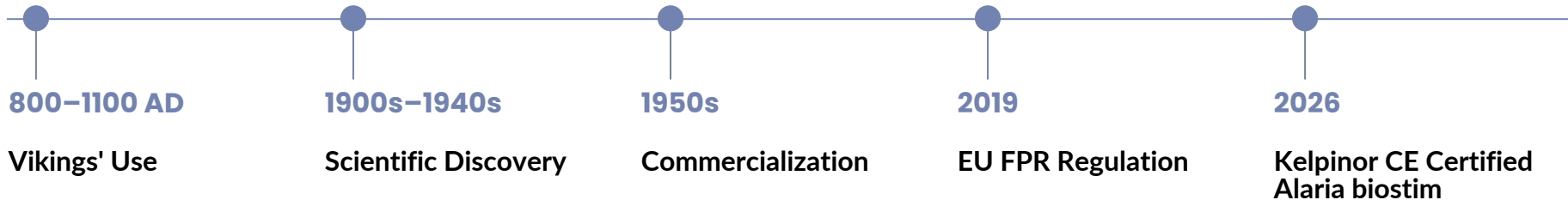
- Hype is promotion, especially with exaggerated claims.
- Often short lived
- May not always deliver on promises, leading to disappointment.

What is a Hoax?

- A hoax is a widely publicized falsehood created to deceive its audience.
- Intent may be malicious
- Relies on false and astonishing information to attract attention.



History of Seaweed in Agriculture



What is a Biostimulant



A “plant biostimulant” means a product stimulating plant nutrition processes independently of the product’s nutrient content with the sole aim of improving one or more of the following characteristics of the plant or the plant rhizosphere:

- (a) nutrient use efficiency
- (b) tolerance to abiotic stress
- (c) quality traits
- (d) availability of confined nutrients in soil or rhizosphere.

What is a Biostimulant



A plant **biostimulant** is a product that helps plants grow better and stay healthier — not by feeding them nutrients (like fertilizer does), but by boosting how well the plant works on its own.

- Fertilizer reduction
- Tolerance to bad weather
- higher quality
- Unlock nutrients stuck in the soil

What is a Biostimulant



Fertilizer = Food for plants

Biostimulant = Medicine for plants

Why biostimulants

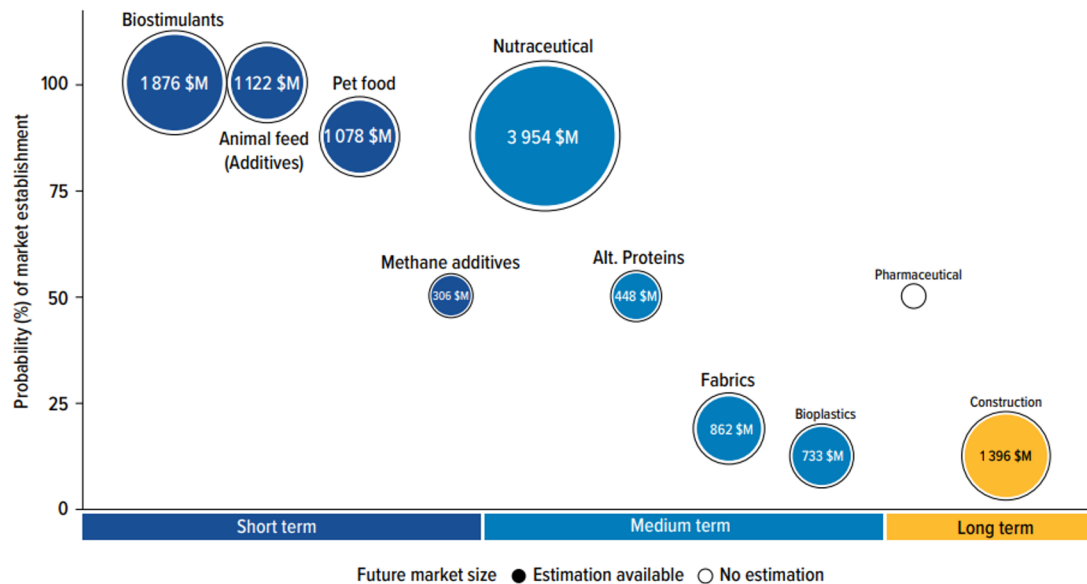
Prooven demand

Growing market

Large problem

Already using seaweed

FIGURE 32: Predicted seaweed market size by 2030 (\$M) with chance of market establishment indicated by color on a high-level market horizon timeline



Does it work?





Treatment

Treatment with **KelpAGRI-Asco** (0.6%) indicating better root growth and density than controls



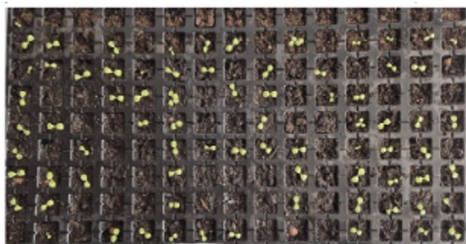
Negative control

Treated with distilled water



Positive control

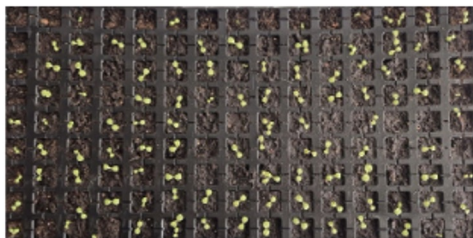
Treated with competitor *Ascophyllum nodosum* product using alkaline extraction.



Germination status in negative control after 5 days of seeding at 15 °C



Germination probability map of negative control indicating 55% germination probability at 15 °C



Germination status in test group given 20 minutes seed bath of 0.3% AscoSusp (0.025% dry weight of Ascophyllum) after 5 days of seeding at 15 °C



Germination probability map of test group (0.3% AscoSusp) indicating 89% germination probability at 15 °C



Negative control



Seedlings in the negative control group (20 minutes seed bath in distilled water) show excessive hypocotyl elongation under low light levels (5-10 $\mu\text{mol}/\text{m}^2/\text{s}$), causing weak stems that bend under the weight of the leaves. This suggests an imbalance in energy allocation, prioritizing stem growth over leaf development.

Treatment



Seedlings in the treatment group (20 minutes seed bath in 0.3% Kelpinor suspension *Ascophyllum*) exhibit reduced hypocotyl elongation under low light levels (5-10 $\mu\text{mol}/\text{m}^2/\text{s}$), standing upright with more energy allocated to leaf growth, enhancing photosynthetic capacity and overall plant vigor.

How Does It Work?



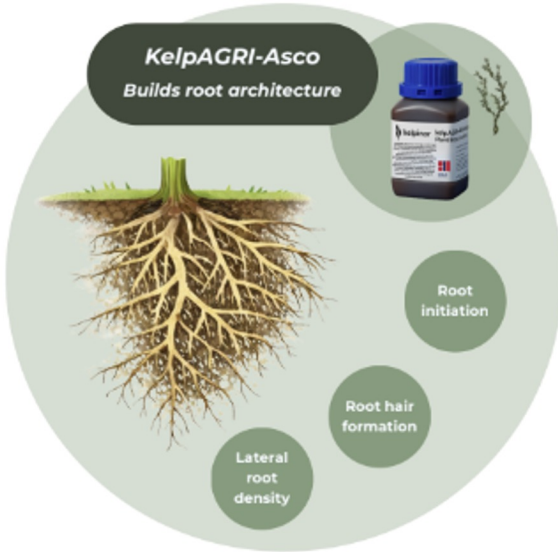
- **Amino Acids**
- **Polyalcohols**
- **Uronic acids**
- **Monosaccharides**
- **Polysaccharide**
- **Nutrients**
- **Phenolic content**
- **Phytohormones**
- **Pigments**

How Does It Work?

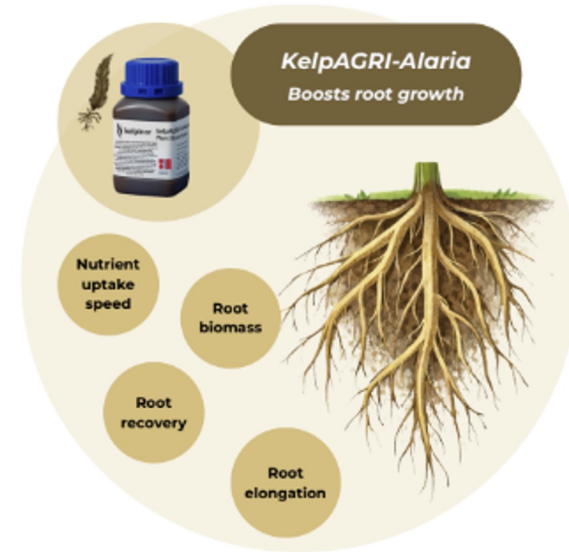


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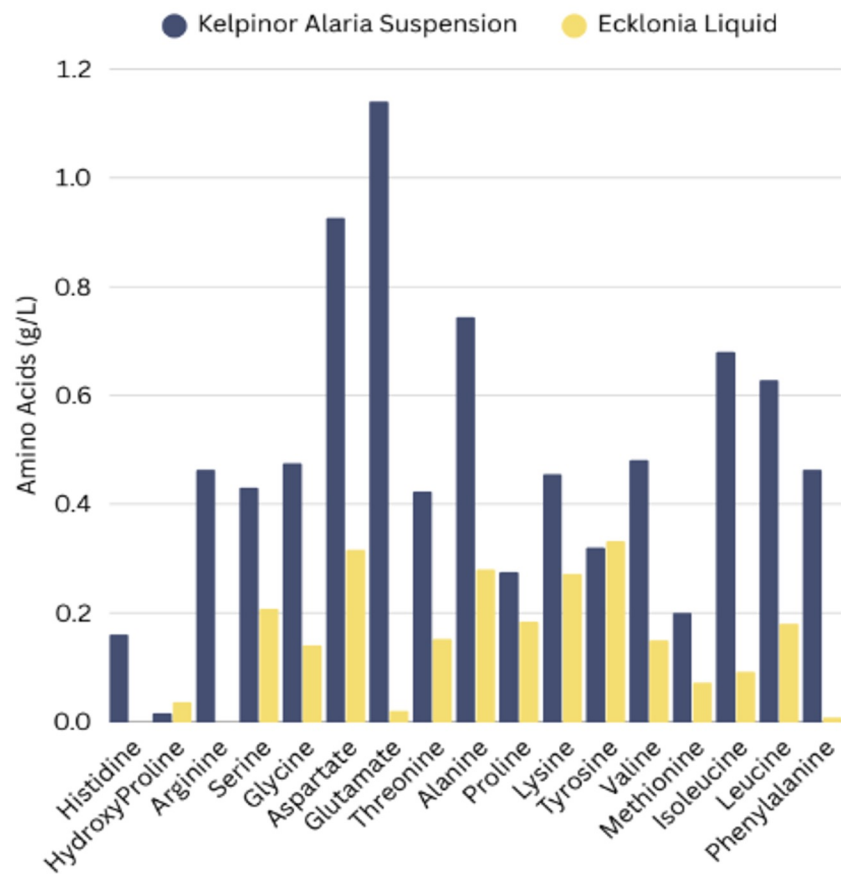
Alaria Vs. Wild harvest



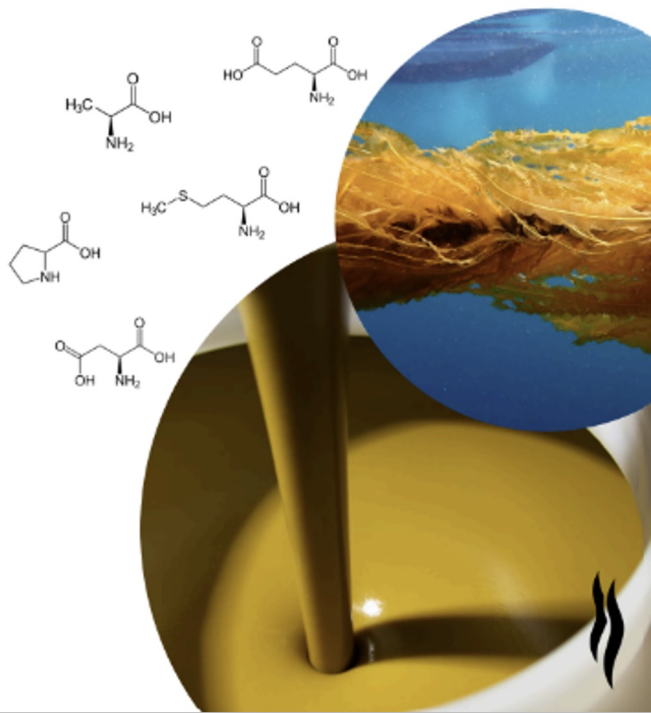
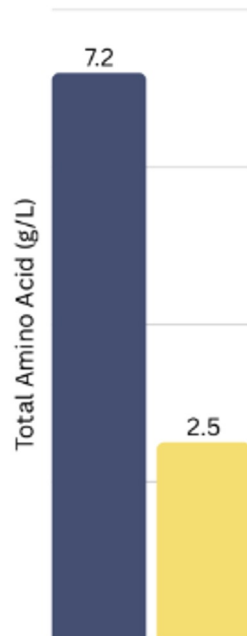
A. nodosum	Stress	A. esculenta
	Drought / salinity (prevention)	
	Drought / salinity (recovery)	
	Heat stress	
	Heavy metals	
	Pathogens	
	Poor soil structure	
	Yield push	



kelpinor® Amino Acids



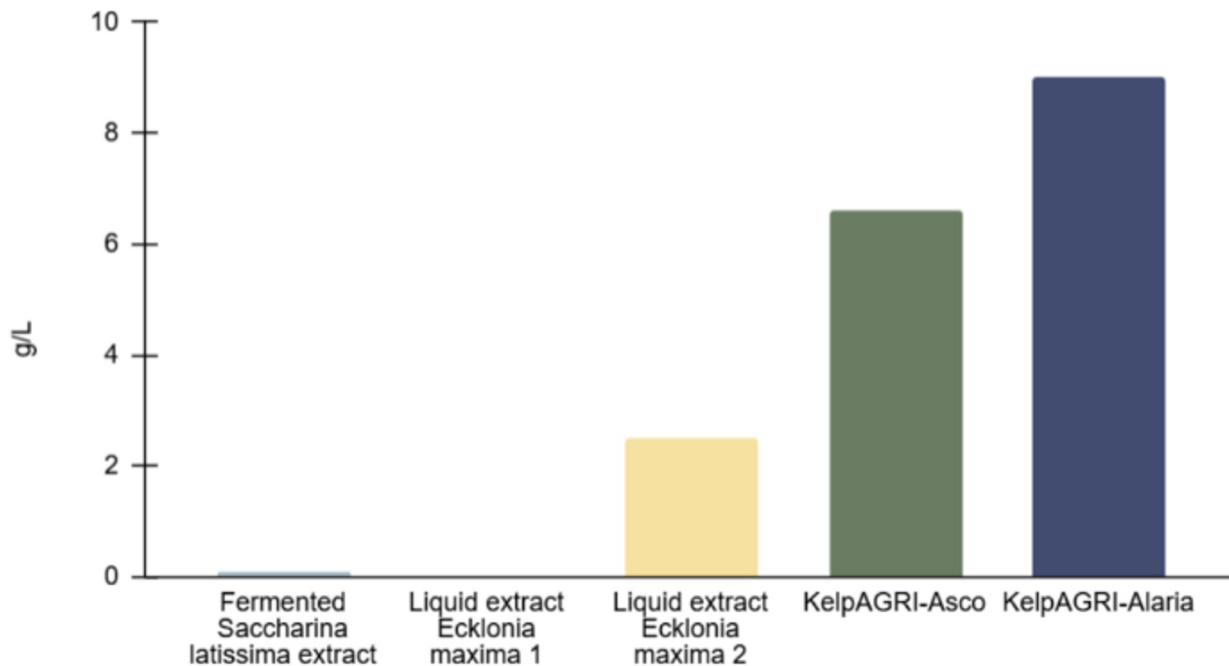
Seaweed extracts deliver amino acids in free form, allowing **direct plant uptake** without mineralisation. Beyond nitrogen supply, free amino acids chelate micronutrients, accumulate as osmoprotectants under stress, and feed biosynthesis of auxins, ethylene, and polyamines. A richer and more diverse amino acid profile therefore translates directly to **broader and more robust biostimulant activity**.



kelpinor® **Total protein**

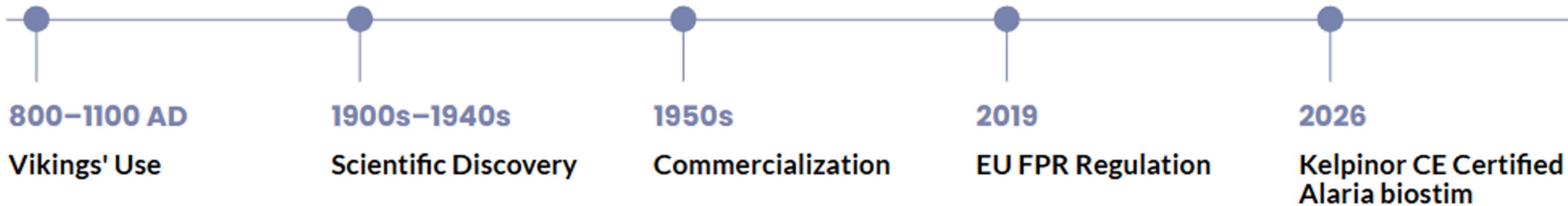
Total protein is the sum of all amino acids and protein in the sample. Beyond nitrogen supply, amino acids function as signaling molecules involved in **stress response**, **nitrogen metabolism**, and **growth regulation** in plants.

Protein content



CE Certification

CE Certification



CE Certification



CE Certification



CE Certification



CE Certification



EU-Type Examination CERTIFICATE

according to
(EU) 2019/1009 Regulation ANNEX IV, II. Part, Module B

This certificate is issued by
CerTrust Ltd. - Notified Body 2806
Number of certificate: FB 011706 001
Valid until: 23.09.2030.

Manufacturer: Kelpinor AS
Vågsøsen 10 8130 Sandhornøy Norway

Assessment report No.: 26014525 001 - A
26014395 001 - A

Test report No.: K25-50831

Product: KelpAGRI-Asco

Product function category (PFC): PFC 6(B)

Component material category (CMC): CMC1, CMC2

Regulations: (EU) 2019/1009 Regulation Module B

This certificate refers to the above-mentioned product. This is to certify that the referred product is in conformity with the requirements of (EU) 2019/1009 Regulation.

Product certification body accredited by NAH under No NAH-6-0066/2021/K

Annex A – List of proven biostimulant claims

Date of Issue: 23.09.2025.
Version: 01



Notified Body 2806

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Julia
Date:
2025-09-23
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Julia Ferenczi

Annex A

List of proven biostimulant claims

Number of certificate: FB 011706 001 V01

Crop (foliar application)	Claim
Salad (<i>Lactuca sativa</i> L.)	Improve quality traits: Increase fresh biomass (g), increase leaf greenness (measured with ExG chlorophyll-related vegetation index), increase LAI (leaf area index), increase root and leaf length (cm).
	Improve abiotic stress tolerance: Improve low-light tolerance.

- Higher yield
- greener plants
- Bigger leafs
- Longer roots
- Imporved growth while poor light condidtions

The Problems in the Industry

- Snake oil reputation
- How does it work?
- Regulatory challenges

How do we solve these problems?

- Focus on proving effects through data and measurable outcomes.
- Third party validation
- Stay on top of regulation to ensure compliance and avoid legal issues.
- Don't over promise—set realistic expectations for stakeholders.
- Customer education

What We Need from the Seaweed Producers

- Lower cost
- Increased reliable production to meet growing demand.
- Quality that meets our requirements (heavy metals, dry matter +++).
- Organic certification for all supplied seaweed.

The Next Step Kelpinor

- CE certification for Alaria.
- Expand our factory and sales.
- Biomass agreements with cultivators.
- Standardized seaweed delivery format

Is it a HYPE or a
HOAX?

Thank You



Contact Information

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