

PURE ALGAE

DANISH BIOTECH AND TECHNOLOGY SUPPLIER OF
SEAWEED-BASED WATER TREATMENT SYSTEMS



ABOUT PURE ALGAE

Pure Algae is a Danish biotech and technology supplier of seaweed-based water treatment systems

Founded in 2018 by Esben Rimi Christiansen.

Pure Algae's mission is to **TRANSFORM EMISSIONS INTO PROFIT, THROUGH OUR AWARD-WINNING SEAWEED CULTIVATION TECHNOLOGY.**

With a commitment to deliver forward-thinking technologies, our development takes place in close collaboration with significant scientific partners in the field, such as Aarhus University and University of Copenhagen.

Pure Algae's technology for circular seaweed cultivation practices was recognized with a first prize by the Blue Invest Award in 2022 for an innovative and sustainable approach to the blue economy sector.

We take pride in providing the world with sustainable, scalable, and high-quality solutions for land-based seaweed cultivation.



Broad spectrum of applications

Seaweed produced in Pure Algae's cultivation systems has distinctive characteristics suitable for use within multiple industries:

- Pharmaceuticals
- Cosmetics
- Food
- Feed

Moreover, the nutrient capture technology is a method for RAS farms to increase their fish production while handling the emission output.

The technology applies for various green and red seaweed types. Pure Algae is specialized in *Ulva* Spp. among others, and we are constantly exploring more species along the way.

Discover how to optimize growth conditions for enhancing seaweed biomass according to the wanted characteristics for end usage.

HIGH IN:

- Fibers
- Protein
- Minerals
- Omega-3-fatty-acids

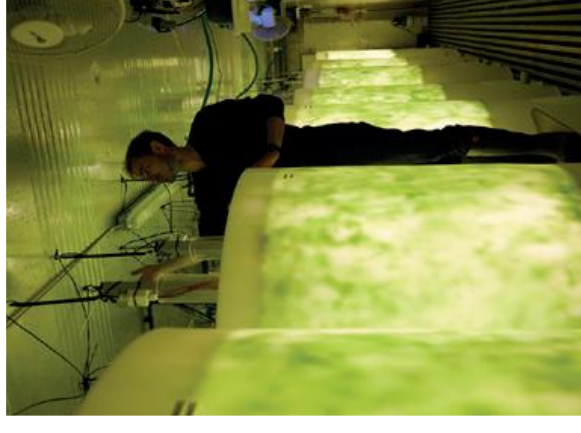
LOW IN:

- Iodine

FREE FROM:

- Allergens
- Pathogens
- Elevated levels of heavy metals

Ulvans are a family of complex sugars with antimicrobial and antioxidative properties, comprising 10-40 % of dry weight of the seaweed.



Generate valuable seaweed and meet the regulations

Until now, no one has managed to develop a scalable and profitable seaweed-based water treatment system that can easily be incorporated into existing Recirculation Aquaculture Systems (RAS).

Existing methods treating RAS farm effluents are based on mechanical and biological procedures removing 70-90% of nitrogen.

The remaining amount is discharged via process water into marine ecosystems, posing a negative impact on the marine environment.

Pure Algae's cultivation systems provides a circular solution through adoption of Integrated Multi-Trophic Recirculating Aquaculture Systems (IMRAS); the units are engineered to turn process water into high-quality seaweed, while capturing nitrogen, phosphorus, and CO₂ in the process.

As a result, RAS industries benefits from cultivating valuable seaweed while achieving sustainable practices for their outlet and preserving the marine ecosystems.



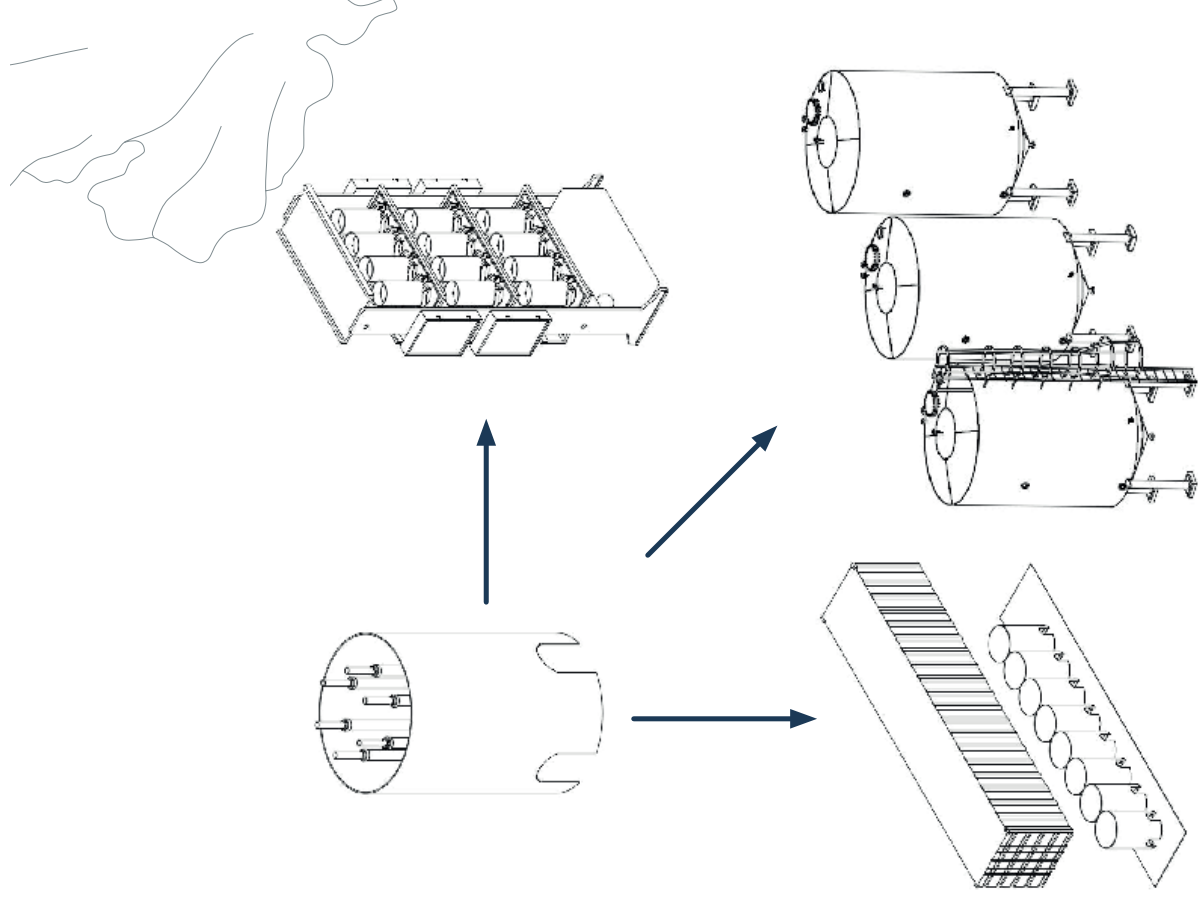
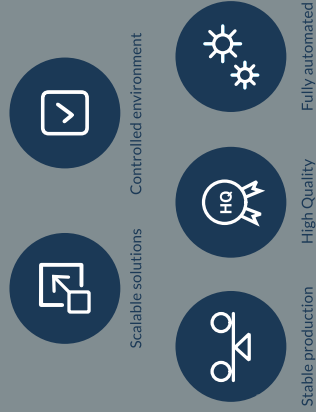
Simplified seaweed cultivation

The land-based technology features scalable bioreactor units and advanced water filtration systems with precise airflow control features.

The optimal growth environment, of stable temperature and lighting levels, results in a consistent and efficient seaweed cultivation, while a controlled environment and improved cleaning features minimizes the risk of contamination.

Our patented internal lighting system guarantees a consistently high growth rate, completely unaffected by seasonal changes.

With Pure Algae's seaweed cultivation technology, there is no need for daily manual maintenance, due to automated features for processes and monitoring. The systems are easy to handle and maintain.





Tailored solutions and expert consultancy services

Individually fitted system designs provide the flexibility and production efficiency needed to meet a wide range of objectives.

Pure Algae's solutions are modular, scalable, and adaptable to different locations, allowing seaweed production in a broad range from compact containers to large, industrial settings.

Solutions and Services

Pure Algae provides a wide range of services.

Our consultancy services include:

- Pre-engineering
- De-risking
- Experimental trials and design setups
- Biological consultancy services
- Business model calculations

Products include:

LABORATORY EQUIPMENT

Laboratory equipment for professional experimentation. Suitable for universities, or customers, who would like to test parameters themselves.

CULTIVATION CONTAINERS

A container solution for a medium-sized production. Our containers exist in both manual or automated versions.

CULTIVATION IN INDUSTRIAL SCALE

For seaweed cultivation in industrial scale. The Seaweed Towers provides you a streamlined, full-scale production with digitalized monitoring and automated harvesting and cleaning procedures.

Cultivate your vision through innovation

Modular design concept providing a scalable, consistent, and efficient seaweed cultivation solution for various industries.

Specializing in seaweed-based water treatment systems, including a wide array of customized applications for a controlled production.

Contact us today for professional consultation and installation of Pure Algae's IMRAS solution.

CONTACT US

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