



Sustainable Natural Astaxanthin



2023

Photograph: Simone Tramonte



ENVIRONMENTAL
PHOTOGRAPHER
OF THE YEAR 2021



Quality Reliability Sustainability

Algalif is an internationally awarded industry leader in production of high quality sustainable natural astaxanthin from microalgae. We are an Icelandic company and highly committed to sustainability.

At our state of the art production facility in Iceland we only use green renewable geothermal energy and pure pristine natural water. We take pride in being renowned around the world for sustainability, reliability, and superb quality.



*“Our success
is based on our
excellent team
and our sincere
commitment to
sustainability
and quality.”*

Orri Bjornsson
CEO of Algalif Iceland



Icelandic Purity Is Unmatched

Algalif is a Certified Carbon Neutral Company.

Iceland provides the perfect starting point for our algae cultivation – an astoundingly pristine environment, free of contaminants and pollutants; access to abundant, pure natural water; and a continuous supply of green renewable energy.

Algalif follows a comprehensive all-around environmental policy including Zero Fossil Fuel and Zero Waste policies.

A Pristine Environment

Iceland has one of the most pristine environments on Earth and is committed to preserving it. The country is regarded as one of the most sustainable nations in the world.

Pure Water in Abundance

Iceland has clean, natural freshwater in abundance. It is naturally filtered through layers of volcanic rock and is extremely clean, low in minerals and unchlorinated.

Leader In Renewable Energy

Abundant geothermal and hydro resources have made Iceland a global leader in renewable energy. The country generates 100% of its electricity from clean energy. Algalif is a leader in Iceland’s fast growing biotechnology and green industry.



Algalif supports the Sustainable Development Goals





Brand New, State of the art Cultivation Facility

Algalif's brand-new 12.500 m² cultivation facility in Iceland is designed to deliver high yields of premium quality natural astaxanthin, with full contamination control, and no supply disruptions.

Latest Technology

- A designated scale-up clean room.
- Indoor enclosed photobioreactor cultivation system.
- Proprietary LED lighting system using green energy.

Superior Cultivation Protocols

- High level of astaxanthin content in the dried algal biomass (up to 7%).
- High ratio of pure astaxanthin to other carotenoids ($\geq 90\%$).
- One of the lowest heavy metal profiles in the Industry.

Outstanding Processes

- cGMP compliant.
- Automated 24/7 monitoring systems.
- Full analytical characterization of our products.

Pure & Sustainable Inputs

- Pure Icelandic natural water.
- 100% renewable geothermal energy.
- Algae cultivated using high-quality nutrients ($>98\%$ purity).



How we produce astaxanthin

Algalif has developed a proprietary 3-phase cultivation process based on the life cycle of *Haematococcus pluvialis*.



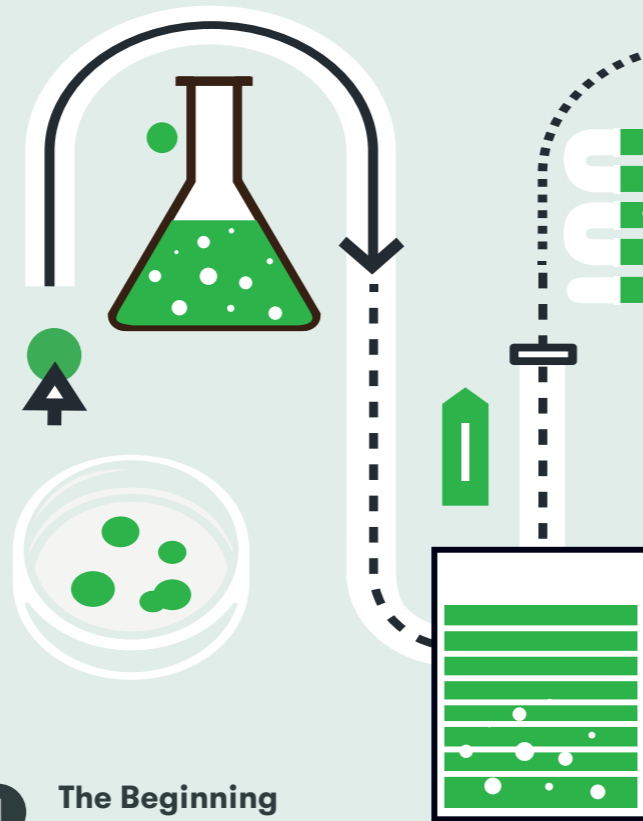
Pure Icelandic Natural Water



Renewable Geothermal Energy

Green Phase

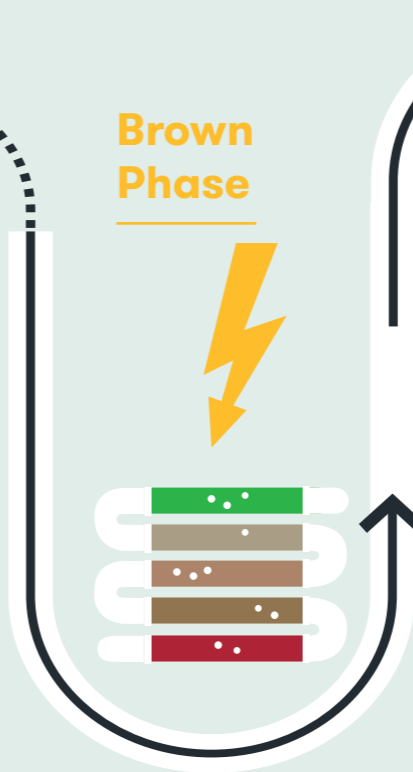
- 2 Scale Up**
The cultures are transferred to sterile Erlenmeyer flasks and then onto larger cultivation units. Our inoculation photobioreactors ensure a steady flow of clean inoculum to our production units.



- 1 The Beginning**
The process starts in our clean room where pure algae colonies are cultivated under controlled conditions by a team of dedicated cultivation experts.

- 4 Astaxanthin Synthesis**
The algae culture is gradually exposed to stress conditions to induce rapid astaxanthin synthesis. When a high amount of astaxanthin is accumulated, the culture is harvested.

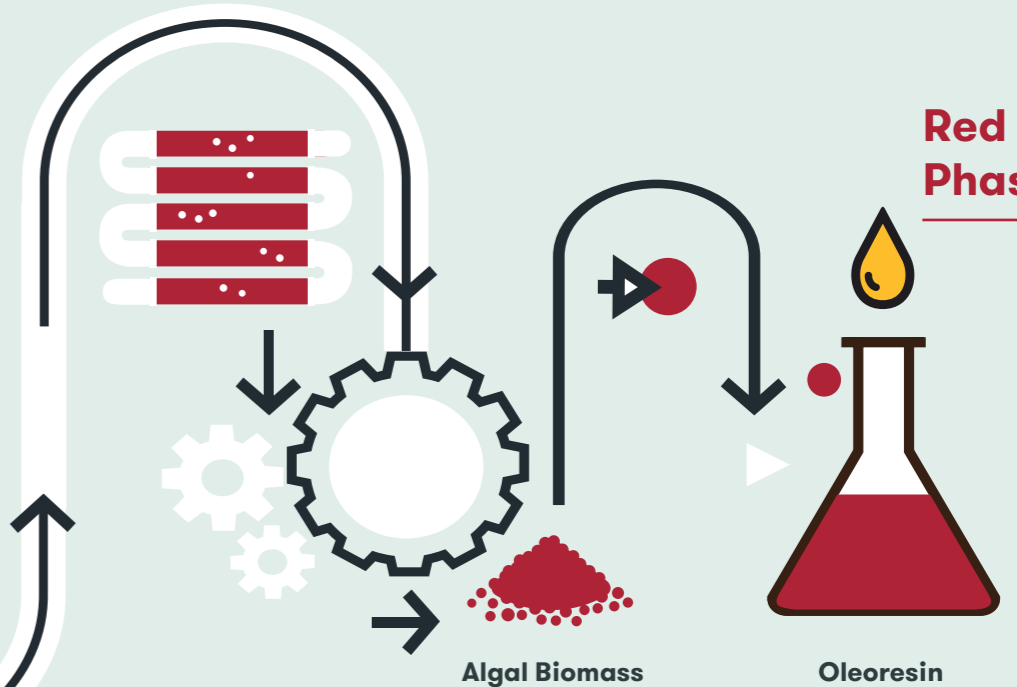
Brown Phase



- 3 Industrial Cultivation**
Indoor enclosed photobioreactors are used to accumulate a large amount of biomass. All conditions are optimized for rapid growth. When high-cell density is reached, 80-90% of the culture is transferred to the next phase and the remaining culture is recycled.

- 6 Astaxanthin Recovery**
Astaxanthin is recovered using solvent-free, in-house supercritical CO₂ extraction and standardized with high-oleic sunflower oil to produce a premium astaxanthin oleoresin.

Red Phase



- 5 Harvesting & Biomass Processing**
The algal biomass is separated from the medium and dehydrated. The algal cells are cracked to produce a high-quality astaxanthin biomass.



Purely Icelandic Astaxanthin

Astalif™ Astaxanthin is a powerful natural antioxidant with multiple health benefits and a solid scientific foundation. Produced to rigorous quality and sustainability standards, Astalif has applications in brain health, eye health, healthy aging, cardiovascular health, muscle endurance/recovery and skin health.

Quality, Safety & Sustainability

- 100% natural.
- Non-GMO.
- cGMP compliant.
- GRAS status in the United States.
- Novel Food in Europe.
- Gluten-free.
- One of the lowest heavy metal profiles in the industry.
- Allergen-free.
- Organic solvent-free.
- Cultivated with pure Icelandic natural water
- Facility 100% powered by renewable geothermal energy.
- Carbon Neutral Certified.



VAXTARSPROTINN



Whole-Body Protection

The numerous health benefits of natural astaxanthin are documented by extensive research, including over 72 human clinical trials and more than 611 peer-reviewed papers*.

Brain Health, Eye Health & Healthy Aging

Improves cognitive function in healthy seniors. Delays aging through reduced oxidative damage of blood lipids and delays age-related vision degeneration.

Cardiovascular Health

Helps balancing oxidative stress. Improves lipid profiles and promotes better blood flow in capillaries.

Muscle Endurance & Recovery

Improves muscle endurance and strength. Prevents exercise-induced free radical production. Inhibits the formation of lactic acid and prevents muscle fatigue.

Skin Health

Reduces hyperpigmentation, wrinkle formation and collagen breakdown. Improves skin elasticity and moisture content. Prevents UV-induced skin thickening.

*For more details please visit algalif.com



The Antioxidant Powerhouse

Natural astaxanthin is a carotenoid (organic colour pigment) produced by the microalgae *Haematococcus pluvialis* as a defense mechanism against harsh environmental conditions. For humans, natural astaxanthin is one of the most powerful antioxidants known, with numerous health benefits supported by extensive scientific research, including clinical trials.

Natural Astaxanthin Promotes Healthy Oxidative Balance

The human body naturally produces free radicals, harmful molecules that can damage our cells, resulting in a condition called 'oxidative stress.' Many factors in everyday life such as pollutants, unhealthy diet, excessive sun bathing, heavy exercise and smoking can further increase the number of free radicals in the body, causing premature aging and several disorders. Antioxidants like natural astaxanthin help to counteract the damaging effects of these free radicals, promoting a healthy oxidative balance.

A Superior Antioxidant

Natural astaxanthin is stronger than other antioxidants. Due to its unique chemical structure, natural astaxanthin can neutralize many different types of radicals both at the surface and interior of the cell membrane, giving better overall protection. Unlike other antioxidants, natural astaxanthin does not become a pro-oxidant, which can bring harm to the body.

AstaBead™

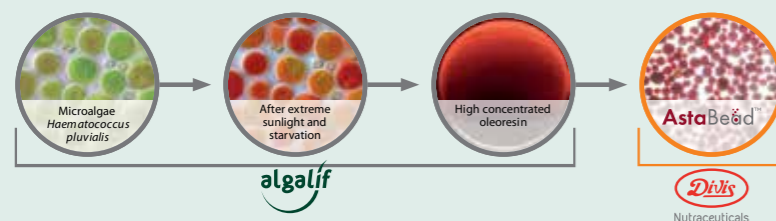
Natural Antioxidant Power

AstaBead™ is a type of microencapsulated oleoresin that contains natural astaxanthin. It outperforms other options in various applications due to its exceptional features such as:

- **Ease of handling.**
- **Uniformity in premixes.**
- **No oil extrusion.**
- **No discoloration.**
- **Directly compressible form.**
- **Cold water dispersible form.**
- **2.5% and 5% potency.**

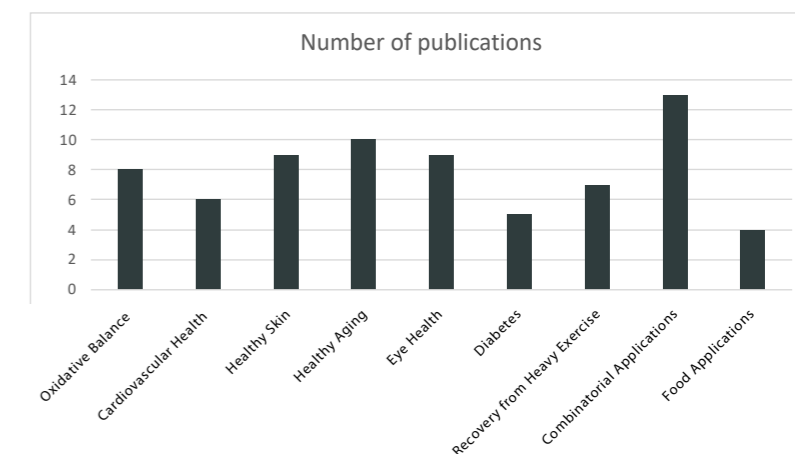
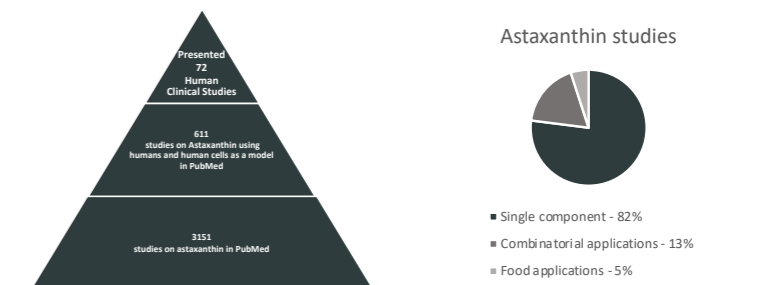
Astaxanthin has various applications in the nutraceutical and the food market, acting as a natural colorant and antioxidant supplement with multiple health benefits. Distinct applications include:

- **Tablets.**
- **Capsules.**
- **Gummies.**
- **Nutritional bars.**
- **Instant drink mixes, sport drinks.**
- **Vitamin premixes.**
- **Food, functional food.**



Natural Astaxanthin Human Clinical Studies Overview

In clinical studies, astaxanthin has been mainly used as a single component (82%), although studies with astaxanthin in combination with other nutrients are also available (18%). A thorough examination of astaxanthin sources used in these studies revealed that natural astaxanthin was largely obtained from Haematococcus pluvialis. This provides evidence that astaxanthin from algal sources is the best documented when it comes to health benefits.





NUTRACEUTICALS

Hardgel Capsules, Stick Packs and Combination Formulations

PERSONAL CARE

Lotions, Creams, Gels, Serum, After-sun Lotions, Lip Balms and Lipsticks

SNACKS & CONFECTIONARY

Nutritional Bars (Breakfast, Granola, Protein), Soy Protein Bars, Chocolate Confections

DAIRY & BEVERAGES

Milk, Soy Milk, Meal Replacement Beverages, Probiotic Beverages, Yogurt, Yogurt Beverages, Fruit Beverages (Drinks, Juices, Smoothies)

BAKED GOODS & CEREAL PRODUCTS

Bread and Cake Mixes, Cookies, Cereal and Cereal Products

CONVENIENCE FOODS

Soup and Soup Mixes



Shelf life is 5 years. Purity +80%.

Nutramunity™ Beta-Glucan (NBG®) is a versatile immune health ingredient suitable for food, beverages and dietary supplements.

Nutramunity™ may also be used as a cosmetic ingredient in personal care products.

Nutramunity™ is a beta-1,3/1,6-glucan, a potent and safe immune-enhancing component isolated from baker's yeast (*Saccharomyces cerevisiae*) that helps support healthy immune function.

Studies have shown that beta-1,3/1,6-glucan:

- Improves immune function (oral intake).
- Promotes healthy inflammatory response (oral intake).
- Supports mucosal immunity and promotes respiratory health (oral intake).
- Stimulates the skin's ability to repair, renew and protect itself (topical application).
- Reduces the appearance of wrinkle and fine lines (topical application).

algalif Algalif product list

Product	Description	MOQ	Packaging size	Packaging type	Packaging measure	Gross weight	Certification	Notified		
Astalif oleoresin	Astalif 5	5% astaxanthin oleoresin	50 kg	5 kg	Plastic drum	21x21x33	6 kg	Non Gmo	Carbon Neutral certified	Vegetarian
				10 kg	Plastic drum	29x29x39	11,8 kg	Halal	US FDA GRAS-recognized	Non-allergenic
				20 kg	Plastic drum	33x33x45	22,3 kg	Kosher	EU Novel Food-authorized	cGMP-produced
Astalif oleoresin	Astalif 10	10% astaxanthin oleoresin	25 kg	5 kg	Plastic drum	21x21x33	6 kg	Non Gmo	Carbon Neutral certified	Vegetarian
				10 kg	Plastic drum	29x29x39	11,8 kg	Halal	US FDA GRAS-recognized	Non-allergenic
				20 kg	Plastic drum	33x33x45	22,3 kg	Kosher	EU Novel Food-authorized	cGMP-produced
Astalif oleoresin	Astalif Crude	Crude astaxanthin oleoresin 13% - 20%	20 kg					Non Gmo	Carbon Neutral certified	Vegetarian
				10 kg	Plastic drum	29x29x39	11,8 kg	Kosher	EU Novel Food-authorized	cGMP-produced
Astalif biomass	Astalif, Astaxanthin-rich biomass flakes	4-5% Astaxanthin biomass flakes	100 kg	10 kg	Vacuum bag	*58x22x38	11 kg	Non Gmo	Carbon Neutral certified	Vegetarian
				50 kg	Vacuum bag	*58x22x38	51 kg	Halal	US FDA GRAS-recognized	Non-allergenic
								Kosher	EU Novel Food-authorized	cGMP-produced

Product	Description	MOQ	Packaging size	Packaging type	Packaging measure	Gross weight	Certification	Notified			
Softgel capsules	Iceland Harvest 4 mg bulk	4 mg vegetarian softgel capsules	120.000 capsules	Box of 15.000	PE bag in carton box	37x24x16	5.5 kg	Carbon Neutral certified	Vegetarian		
								US FDA GRAS-recognized	Non-allergenic		
Iceland Harvest	Iceland Harvest 8 mg bulk	8 mg vegetarian softgel capsules	60.000 capsules	Box of 10.000	PE bag in carton box	38x23x22	8.5 kg	Carbon Neutral certified	EU Novel Food-authorized	cGMP-produced	
In plastic jars	Iceland Harvest 4 mg	Jar of 60 x 4 mg vegetarian softgel capsules	3.440 jars		Plastic jar	5.5x5.5x9.7	50 g	Carbon Neutral certified	Vegetarian		
				172 jars in a box	Carton box	24x32x12	1.2 kg	Carbon Neutral certified	EU Novel Food-authorized	Non-allergenic	
Iceland Harvest	Iceland Harvest 8 mg	Jar of 30 x 8 mg vegetarian softgel capsules	20 boxes on a pallet		Pallet	80x120x110	100 kg	Carbon Neutral certified	US FDA GRAS-recognized	cGMP-produced	
Beta Glucan	Nutramunity Beta-Glucan	Extra Washed 1,3/1,6-Beta-Glucan from yeast	20 kg	Box of 10 kg	PE bag in carton box	30x40x29	10.8 kg	Informed-sports®	EU Novel Food-authorized	Vegetarian	
				Box of 25 kg	PE bag in carton box	30x40x60	26.7 kg	Informed-choice®	US FDA GRAS-recognized	Non-allergenic	
								Non Gmo	Halal	Kosher	GMP-produced
Beadlets	AstaBead™	Directly Compressible Astaxanthin Beadlets AstaBead™ DC 5%	25 kg	Box of 25 kg	Aluminium bag in a cardboard box	Box of 25 kg		Non Gmo			
								Halal		Non-allergenic	
Beadlets	AstaBead™	Cold Water Dispersible Astaxanthin Beadlets AstaBead™ CWD 5%	25 kg	Box of 25 kg	Aluminium bag in a cardboard box	Box of 25 kg		Non Gmo	EU Novel Food authorized	Vegetarian	
								Halal	US FDA GRASrecognized	Non-allergenic	
								Kosher			



Get your quote at sales@algalif.com



Algalif's new state of the art astaxanthin production facility in Iceland will be fully operational in 2023.

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VAXTARSPROTINN



Algalif's Knowledge Center

Astaxanthin



Beta Glucan



Printed on environmentally certified paper from UPM Communications Papers

