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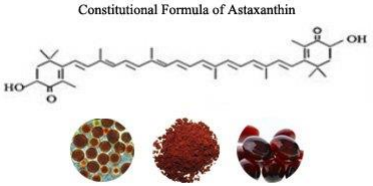
A farm that producing a consistent supply of pure Astaxanthin from Haematococcus Pluvialis microalgae.

Astaxanthin

Microalga Technologies

FOOD LOVES TECH

Product description



Astaxanthin - the substance is considered to be the strongest and most advanced antioxidant in nature, clinical work attributes the substance to 550 times more effective than vitamin E and 6,000 times the vitamin C and 800 michews! The material is extracted from algae called the Haematococcus pluvialis.

Astaxanthin is the strongest antioxidant known to man so far. It is anti-inflammatory, excellent for cholesterol, diabetes and obesity and even protects against Alzheimer's. It is soluble in water and in fat, which means it can reach almost all organs.

Astaxanthin is a red-color antioxidant produced from green algae known as Haematococcus pluvialis. At the final stage of the growth process, the acceleration is exposed to harsh conditions that actually "dry" it in the sun, without air and food, and "it" produces the astaxanthin to serve as a shield against the external environment. It is said that algae can live for years without water or food. In the human body, astaxanthin makes even more wonderful things.

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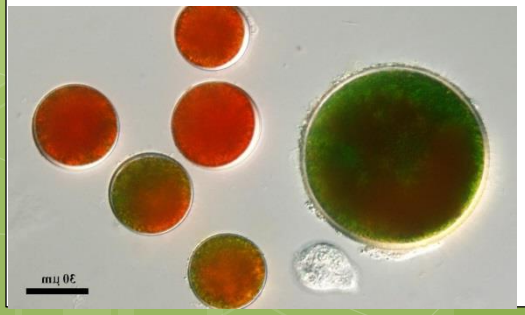
Our Vision

To be the leading company in Israel in the field of algae growing agriculture. The company will lead technological innovation, operational efficiency and business development in order to produce a super quality product from which it will be possible to manufacture leading health products manufactured from natural sources and to maximize value to the owners.

Strategic advantage: excellence in science and cultivation methods, unique culture of innovation, openness, entrepreneurship and dedication, environmental conservation and management team



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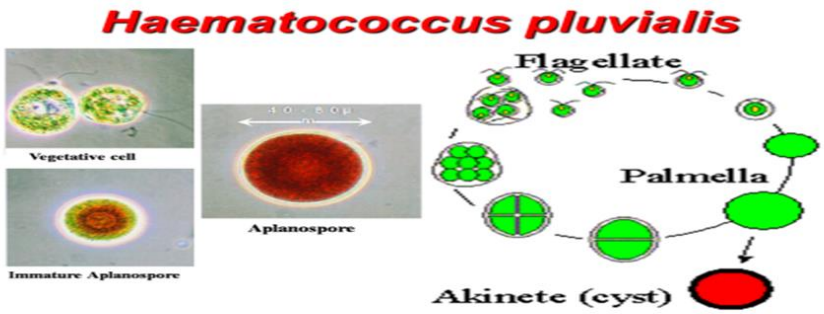
Haematococcus Pluvialis

- Haematococcus pluvialis is one of the most important species in microalgal HP_redbiotechnology due to the capability of accumulating high amount of the red pigment – Astaxanthin. Astaxanthin pigment is the most potent antioxidant known in nature.
- The life cycle of the microalga is depicted in the following:



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Under stress conditions the algae start to produce Astaxanthin,. Commercial cultivation of the algae for the production of Astaxanthin involves growing the algae under optimal conditions, in order to acquire biomass and then transferring the algae to stress conditions, in which they produce Astaxanthin.

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Natural Astaxanthin

- Astaxanthin is a deep red-colored phytonutrient synthesized by microalgae called Haematococcus pluvialis. Astaxanthin is the most powerful antioxidant known in the natural world, demonstrating 550 times the antioxidant power of Vitamin E.
- Natural Astaxanthin occurs in nature and can be obtained from several sources:

- As shown in the figure above the microalgae Haematococcus pluvialis is the best source of natural Astaxanthin. The product that is obtained from the algae is best suited for dietary supplements as it is in the natural enantiomer and bound to esters, which increase its stability

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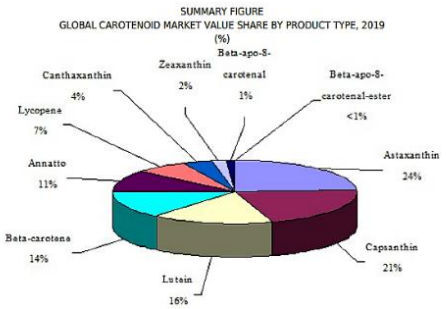
The market

- The market for carotenoids has changed dramatically for some product segments in the past four years. In particular, the global market for Astaxanthin should see big growth courtesy of a sizeable market and current product innovation, according to a new report by BCC Research.



- The global carotenoid market totaled $1.5 billion in 2014. This market is expected to reach nearly $1.8 billion in 2019, with a compound annual growth rate (CAGR) of 3.9%.
- Astaxanthin was valued at $369 million in 2014 and is expected to reach a market share of 24% with a value of $423 million in 2019, increasing at a CAGR of 2.3%. Value for Astaxanthin content in 5-10% Natural Astaxanthin Algae Oil is currently between $10,000 - $15,000/kg
- Carotenoids, which occur in nature, are either derived from botanical material or produced by fermentation or chemical synthesis. They are used as coloring components in foods and feeds, occasionally in cosmetic products, and as physiologically active ingredients in nutritional supplements.
- The global carotenoid market is profiting from astaxanthin's popularity as a natural nutritional supplement.

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Puremagics Advantages

- Low costs of installation & operation.
- Efficient and stable productivity in all environmental conditions and weather
- Cleanliness and contamination control
- Suitable for cultivation of all microalgae species without limitation
- Suitable and approved facility for GMO

- In addition to the PBR's, PureMagics has developed new ways to post-process the microalgae, after their harvesting. These processes include applying novel drying and milling technologies in the production processes.

Value to customer

- Reduces the appearance of wrinkles, dry skin, age spots, and freckles - a cosmetic effect
- Improves brain and nervous system function and protects against free radicals, protects the brain from stroke.
- Maintains and improves eye function.
- Reduces the signs of aging.
- It inhibits the development of chronic diseases and degenerative diseases in the body, such as diabetes.
- Protects against sun radiation
- Improves skin appearance
- Strengthens the immune system
- Protects your brain against dementia and Alzheimer's
- Helps improve attention deficit disorder
- Reduces risk of various types of cancers
- Improves fertility of men and women
- Contributes to the health of the skeleton and joints - a quick recovery from vigorous athletic activity and improves physical fitness.

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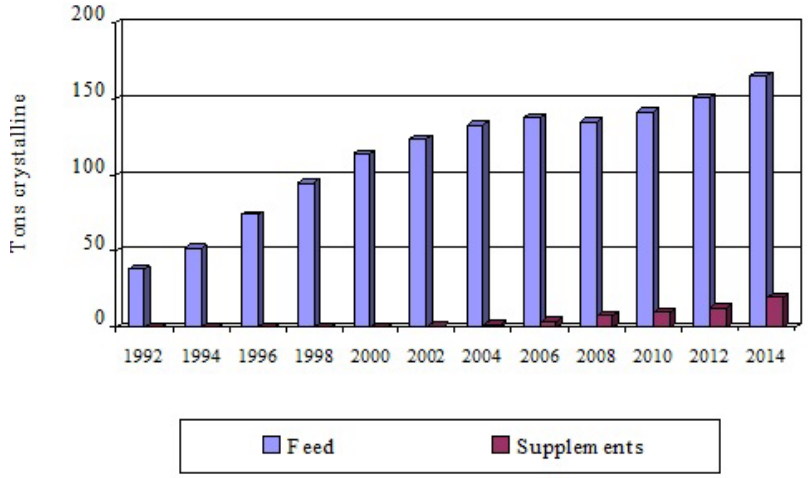
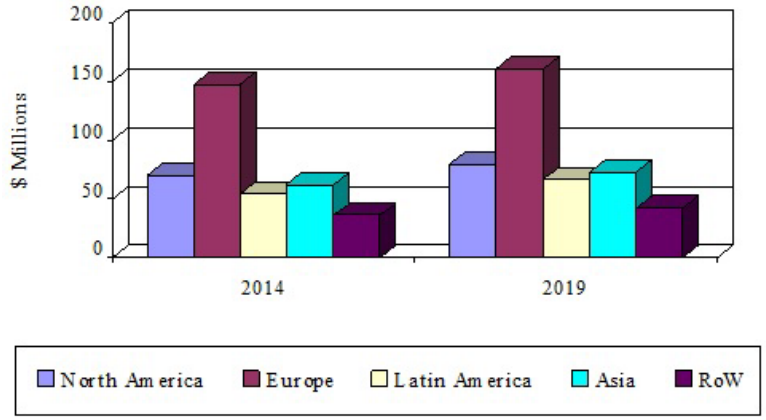
The customer market

- In the world there is a growing demand for the product. Attached is a demand graph for astaxanthin





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Market prices

Typical market prices for Astaxanthin products by type of production:

Price ($/kg Crystalline)

- Synthetic 1,000-1,500$
- *Phaffia* 2,000-2,500$
- ***Haemaotcoccus* 8000$-12,000$**

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The management team

- Benny Mizrachi - Entrepreneur and CEO of companies in the field of recycling, renewable energy, cleantech and bio-technology, headed by Benny Mizrahi, has over 25 years of experience in strategic management and business development.
- Avi Peled - brigadier general in reserve, CEO of several companies in the areas of defense, transportation and lifestyle - Avi has a global network of contacts that catalyzes the global activity of his businesses.
- Tomer Peled - Expert in management and business development deals with innovation. He has many years of experience in managing high-tech technological projects and solving problems in a creative way.
- Itay Kolski - the business technologist, a biology doctor and a renowned expert on growing seaweed, Itai works at the farm for a year and manages to bring quality results.

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END

For Further Details

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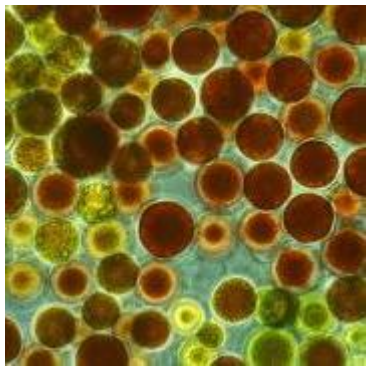

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PHYSICAL-CHEMICAL

Parameter	Value
Chemical name	3,3 Dihydroxy-4,4-dioxo-β-carotene
Formula	$C_{40}H_{52}O_4$
Molecular weight	596.8 g/mol
Appearance	Dark violet, crystalline powder
Color of solution in chloroform	Intensive red
Absorption	Max. at 490 nm
Solubility in ethanol	0,25%
Solubility in di-chlor-methane	0.14%
Adonirubin	0.89%
Astacene and semi-astacene	<0.1%
Unknown impurities	<1%
Cis-isomer	<1
Assay	>97%