

Global Astaxanthin Market - Sources, Technologies and Applications

Market Report | 2025-02-11 | 290 pages | Industry Experts

AVAILABLE LICENSES:

- Single user licence (PDF) \$4500.00
- Enterprise Electronic (PDF) \$7200.00

Report description:

Global Astaxanthin Market Trends and Outlook

Astaxanthin is a potent antioxidant, boasting 550 times the strength of vitamin E and 6,000 times that of vitamin C. Its exceptional antioxidant properties have been shown to benefit various health conditions, including inflammation, diabetes, cardiovascular issues, vision problems, and central nervous system disorders. Widely utilized across industries, astaxanthin is used in aquaculture to enhance the pigmentation of salmon, trout, and shrimp; in nutraceuticals for its health-boosting effects; in cosmetics for skin care and anti-aging benefits; and in food and beverage fortification for its nutritional value.

The global astaxanthin market has returned to steady growth in 2024, reaching US\$537 million, after a turbulent period between 2019 and 2023. The market experienced a notable decline in 2020 due to reduced consumer demand during COVID-19-related restrictions, followed by a dip in 2022 linked to decreased farmed salmon production impacting aquafeed demand. In 2023, inflationary pressures further curbed algae-based astaxanthin demand, as consumers prioritized spending on experiences and services over goods. However, the market is poised for robust expansion over the 2024-2030 forecast period, with a projected CAGR of 7.3% in value. Driven by growing demand for natural astaxanthin in nutraceuticals, food and beverage fortification, cosmetics, and stable aqua feed applications for salmon and shrimp production, the market is expected to reach over US\$820 million by 2030, up from an estimated market size of US\$537 million in 2024.

To meet the anticipated surge in global natural astaxanthin demand, several algae astaxanthin producers have significantly increased production capacities. Notable capacity expansions in the natural astaxanthin market in recent years include developments by BGG and Algalif. In 2023, BGG completed the expansion of its photobioreactor microalgae farm, doubling its capacity for the AstaZine natural astaxanthin line. This made BGG the world's largest producer of natural astaxanthin, with an annual production capacity of 7.5 metric tons of pure astaxanthin, derived from 310 metric tons of Haematococcus pluvialis powder. Meanwhile, Algalif's new 12,500 sq. m. production facility in Iceland became operational in late 2023, increasing the company's production capacity from 1.5 metric tons to 5 metric tons of pure natural astaxanthin annually. These expansions reflect the industry's proactive approach to meeting growing global demand across nutraceuticals, food & beverages, and other applications.

Major companies operating in the Global Astaxanthin market include Algalif Iceland ehf, Algatechnologies Ltd., BASF SE, Beijing

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Gingko Group (BGG), Cyanotech Corporation, Divis Laboratories Limited, DSM-Firmenich AG, E.I.D. Parry (India) Ltd., ENEOS Corporation, Fuji Chemical Industry Co., Ltd., Valensa International, Yunnan Alphy Biotech Co., Ltd., Zhejiang Medicine Co., Ltd., and Zhejiang NHU Co., Ltd. among others.

The report also provides a special focus on various astaxanthin production technologies employed by key market players, including Chemical Synthesis; Microalgae Cultivation, Harvesting, Drying and Astaxanthin Extraction; and Bacteria and Yeast Fermentation.

Global Astaxanthin Regional Market Analysis

Regions covered in this Global Astaxanthin Market report include North America, Europe, Asia-Pacific, South America, and Rest of World. Europe constitutes the largest volume consumer of Astaxanthin worldwide, with an estimated 2024 share of 31.8%, followed closely by Asia-Pacific and North America. Europe's volume consumption of Astaxanthin is likely to maintain a 2024-2030 CAGR of 5.6%. Volume consumption of Astaxanthin in Asia-Pacific is slated to post the fastest corresponding period CAGR of 9.4% and projected to reach over 200 metric tons by 2030.

Global Astaxanthin Market Analysis by Raw Material Source

The market for Global Astaxanthin by raw material source analyzed in this report include Synthetic Astaxanthin, Haematococcus Microalgae Astaxanthin, and Paracoccus Bacteria Astaxanthin. In terms of value, demand for Synthetic Astaxanthin is the highest globally, estimated at US\$312 million in 2024 that represents a share of 58% in that year. The worldwide demand for Synthetic Astaxanthin is further likely to sustain a 2024-2030 CAGR of 2.7% and reach a projected US\$366 million by 2030. In contrast, demand for H. pluvialis microalgae-derived Astaxanthin is poised to emerge as the fastest growing, reaching a projected US\$448 million by 2030 to reflect a compounded annual growth rate of 12.6% over the forecast period.

Global Astaxanthin Market Analysis by Application

The Global Astaxanthin market by applications analyzed in this report include Aqua Feed, Nutraceuticals, Cosmetics, and Food & Beverages. Aqua & Animal Feed constitutes the largest end-use application of Astaxanthin in terms of volume consumed globally, accounting for an estimated 62% share in 2024. Worldwide consumption of Astaxanthin in this end-use area is further expected to sustain the slowest 2024-2030 CAGR of 3.6% and reach a projected 355 metric tons by 2030. In contrast, fastest growth in volume consumption of Astaxanthin is anticipated from Food & Beverage applications, which is expected to post a CAGR of 14.9% between 2024 and 2030. Cosmetics and Nutraceuticals applications of Astaxanthin are also slated to post healthy CAGRs greater than 9% over the outlook period.

Astaxanthin Market Report Scope

This Global Astaxanthin report analyzes the market size based on manufacturers shipments. This market report analyzes astaxanthin volume market and value market by raw material source, application and geographic region. In addition to providing profiles of major companies operating in the global astaxanthin industry, the latest corporate, technological, product and industrial developments have been covered to offer a clear panorama of the global astaxanthin industry.

Key Metrics

Historical Period: 2021-2023

Base Year: 2024

Forecast Period: 2024-2030

Units: Volume shipments in Metric Tons and Value market in US\$

Companies Mentioned: 20+

Global Astaxanthin Market by Geographic Region

- [] North America (United States, Canada and Mexico)

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- South America (Chile, Peru and Rest of South America)
- Europe (Norway, The United Kingdom and Rest of Europe)
- Asia-Pacific (China, Japan, Australia and Rest of Asia-Pacific)
- Rest of World

Global Astaxanthin Market by Raw Material Source

- Synthetic Astaxanthin
- Haematococcus Microalgae? Astaxanthin
- Paracoccus Bacteria Astaxanthin

Global Astaxanthin Market by Application

- Aqua Feed
- Nutraceuticals
- Cosmetics
- Food & Beverages

Table of Contents:

PART A: GLOBAL MARKET PERSPECTIVE

1. INTRODUCTION

- Global Astaxanthin Market Trends and Outlook
- Global Haematococcus pluvialis Astaxanthin Market Trends and Outlook
- Product Outline
 - o□What is Astaxanthin?
 - Singlet Oxygen Quenching Ability
 - Antioxidant Properties of Astaxanthin
 - Antioxidant Power of Astaxanthin in Salmon
 - Bioavailability
 - Pharmacokinetics of Astaxanthin: Absorption, Distribution, Metabolism and Elimination (ADME)
 - Safety of Astaxanthin
 - o□The Chemistry of Astaxanthin
 - o□Health Benefits of Astaxanthin
 - Powerful Antioxidant
 - Effect on Diabetes Related Obesity
 - Improving and Protecting Cardiovascular Health
 - Delays Brain Aging
 - Stimulator of Eye Health
 - Prevention of Early Stage Cancer
 - Immune System Booster
 - Powerful Skin Protector
 - Benign Prostatic Hyperplasia
 - Infertility
 - Ulceration
 - o□Sources of Astaxanthin
 - Commercial Sources of Astaxanthin
 - Synthetic Astaxanthin
 - Natural Source Astaxanthin

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- []Yeast - *Xanthophyllomyces dendrorhous* (*Phaffia rhodozyma*)
- []Bacteria - *Paracoccus carotinifaciens*
- []Microalgae - *Haematococcus pluvialis*
- []Shrimp and Other Crustaceans
- o[]Commercial Applications of Astaxanthin
- o[]Astaxanthin Product Forms
- []Synthetic Astaxanthin
- []Natural Source Astaxanthin
- []*Haematococcus pluvialis* Microalgae
- []Dried Algae Meal or Biomass
- []Oil or Oleoresin
- []Microencapsulated Powder or Beadlets
- []Cold Water Dispersible (CWD) Powder
- []Emulsion or Liquid
- []Other Natural Sources

2. COMMERCIAL ASTAXANTHIN PRODUCTION TECHNOLOGIES

- []Synthetic Astaxanthin Production
- o[]DSM (Roche) Synthesis Process
- o[]BASF Synthesis Process
- o[]Zhejiang NHU Synthesis Process
- []Astaxanthin Production from Natural Sources
- o[]Yeast (*Xanthophyllomyces dendrorhous*/*Phaffia rhodozyma*)
- []Igene Biotechnology, Inc.
- []Archer Daniels Midland (ADM)
- o[]Bacteria (*Paracoccus carotinifaciens* and *Lactobacillus* sp.)
- []X Nippon Oil & Energy Corporation
- []Guangzhou UDA Biotech Development Co., Ltd
- o[]Shrimp Shells
- o[]Engineered *E. coli*
- []Lemnaceae Fermentation
- o[]Microalgae (*Haematococcus pluvialis*)
- []Strain Selection
- []Cultivation
- []Harvesting
- []Drying and Milling
- []Extraction and Purification
- []*Haematococcus Pluvialis* Cultivation Technologies
- []Closed PBRs Combined with Raceway Ponds
- []Cyanotech Corporation
- []Parry Nutraceuticals Ltd
- []Jingzhou Natural Astaxanthin Inc
- []Atacama Bio Natural Products S.A.
- []Heliae Development LLC
- []Closed Tubular Photo-bioreactors
- []Algatechnologies Ltd
- []Beijing Gingko Group Biological Technology Co. Ltd (BGG)
- []Yunnan Alphy Biotech Co., Ltd.

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- Closed Tank/Cylinder Photo-bioreactors
- Fuji Chemical Industry Co., Ltd (AstaReal Co., Ltd)
- Algae Health (SI?inte Alga Teoranta)
- Algae to Omega Holdings, Inc.
- Closed Plastic Bag Photo-bioreactors
- Supreme Health New Zealand Ltd
- Closed Flat Panel Photo-bioreactors
- Fraunhofer IGB & Subitec GmbH
- Fermentation of Haematococcus Pluvialis
- Kuehnle AgroSystems Inc.

3. KEY MARKET TRENDS

4. PATENT PORTFOLIO

- Important Patents for Chemical Synthesis of Astaxanthin
- Important Patents for Haematococcus pluvialis Cultivation
- Select Patents for Haematococcus pluvialis Downstream Processes
- Select Patents for Astaxanthin from Other Natural Sources
- Important Patents for Astaxanthin Applications

5. COMPANY PROFILES

- Algalif Iceland ehf
- Algatechnologies Ltd.
- Atacama Bio Natural Products SA
- BASF SE
- Beijing Gingko Group (BGG)
- Cyanotech Corporation
- Divis Laboratories Limited
- DSM-Firmenich AG
- E.I.D. Parry (India) Ltd.
- ENEOS Techno Materials Corporation
- Evergen Resources
- Fuji Chemical Industry Co., Ltd.
- Jingzhou Natural Astaxanthin Inc.
- Kuehnle AgroSystems Inc.
- Piveg, Inc.
- Valensa International
- Xi'an Healthful Biotechnology Co.,Ltd
- Yunnan Alphy Biotech Co., Ltd.
- Zhejiang Medicine Co., Ltd.
- Zhejiang NHU Co., Ltd.
- More??.

6. KEY BUSINESS TRENDS

7. GLOBAL MARKET OVERVIEW

- Global Astaxanthin Market Overview by End-use Application
 - o□Volume Analysis
 - o□Value Analysis
- Global Astaxanthin Market Overview by Raw Material Source
 - o□Volume Analysis
 - o□Value Analysis

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

o Synthetic Astaxanthin

- Synthetic Astaxanthin Market Overview by Global Region - North America, South America, Europe, Asia-Pacific and Rest of World

- Volume Analysis

- Value Analysis

o Natural Source Astaxanthin

- Microalgae (Haematococcus pluvialis) Astaxanthin

- Microalgae (Haematococcus pluvialis) Astaxanthin Market Overview by End-use Application

- Volume Analysis

- Value Analysis

- Microalgae (Haematococcus pluvialis) Astaxanthin Market Overview by Global Region - United States, Europe, Japan, Asia-Pacific and Rest of World

- Volume Analysis

- Value Analysis

- Microalgae (Haematococcus pluvialis) Astaxanthin End-use Application Market Overview by Geographic Region

- Nutraceuticals

- Volume Analysis

- Value Analysis

- Aqua & Animal Feed

- Volume Analysis

- Value Analysis

- Cosmetics

- Volume Analysis

- Value Analysis

- Food & Beverages

- Volume Analysis

- Value Analysis

- Bacteria (Paracoccus carotinifaciens) Astaxanthin

- Bacteria (Paracoccus carotinifaciens) Astaxanthin Market Overview by Global Region - Europe, Japan, North America and Chile

- Volume Analysis

- Value Analysis

PART B: REGIONAL MARKET PERSPECTIVE

- Global Astaxanthin Market Overview by Geographic Region

o Volume Analysis

o Value Analysis

REGIONAL MARKET OVERVIEW

8. NORTH AMERICA

- North American Astaxanthin Market Overview by Raw Material Source

o Volume Analysis

o Value Analysis

o Synthetic Astaxanthin

- Synthetic Astaxanthin Market Overview by North American Region - Canada, United States and Mexico

- Volume Analysis

- Value Analysis

o Natural Source Astaxanthin

- Microalgae (Haematococcus pluvialis) Astaxanthin

- Volume Analysis

- Value Analysis

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

-□Bacteria (Paracoccus carotinifaciens) Astaxanthin

9. EUROPE

-□European Astaxanthin Market Overview by Raw Material Source

o□Volume Analysis

o□Value Analysis

o□Synthetic Astaxanthin

-□Synthetic Astaxanthin Market Overview by European Region - Norway, United Kingdom and Rest of Europe

-□Volume Analysis

-□Value Analysis

o□Natural Source Astaxanthin

-□Microalgae (Haematococcus pluvialis) Astaxanthin

-□European Microalgae (Haematococcus pluvialis) Astaxanthin Market Overview by End-use Application

-□Volume Analysis

-□Value Analysis

-□Bacteria (Paracoccus carotinifaciens) Astaxanthin

10. JAPAN

-□Japanese Astaxanthin Market Overview by Raw Material Source

o□Volume Analysis

o□Value Analysis

o□Synthetic Astaxanthin

o□Natural Source Astaxanthin

-□Microalgae (Haematococcus pluvialis) Astaxanthin

-□Japanese Microalgae (Haematococcus pluvialis) Astaxanthin Market Overview by End-use Application

-□Volume Analysis

-□Value Analysis

-□Bacteria (Paracoccus carotinifaciens) Astaxanthin

11. ASIA-PACIFIC (EXCLUDING JAPAN)

-□Asia-Pacific Astaxanthin Market Overview by Raw Material Source

o□Volume Analysis

o□Value Analysis

o□Synthetic Astaxanthin

-□Synthetic Astaxanthin Market Overview by Asia-Pacific Region - China, Australia & New Zealand and Rest of Asia-Pacific

-□Volume Analysis

-□Value Analysis

o□Natural Source Astaxanthin

-□Microalgae (Haematococcus pluvialis) Astaxanthin

-□Asia-Pacific Microalgae (Haematococcus pluvialis) Astaxanthin Market Overview by End-use Application

-□Volume Analysis

-□Value Analysis

12. SOUTH AMERICA

-□South American Astaxanthin Market Overview by Raw Material Source

o□Volume Analysis

o□Value Analysis

o□Synthetic Astaxanthin

-□Synthetic Astaxanthin Market Overview by South American Region - Chile, Peru and Rest of South America

-□Volume Analysis

-□Value Analysis

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

o Natural Source Astaxanthin

- Microalgae (*Haematococcus pluvialis*) Astaxanthin

- Bacteria (*Paracoccus carotinifaciens*) Astaxanthin

13. REST OF WORLD

- Rest of World Astaxanthin Market Overview by Raw Material Source

o Volume Analysis

o Value Analysis

PART C: GUIDE TO THE INDUSTRY

PART D: ANNEXURE

- RESEARCH METHODOLOGY

- FEEDBACK

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Global Astaxanthin Market - Sources, Technologies and Applications

Market Report | 2025-02-11 | 290 pages | Industry Experts

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scott's-international.com

ORDER FORM:

Select license	License	Price
	Single user licence (PDF)	\$4500.00
	Enterprise Electronic (PDF)	\$7200.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scott's-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2026-02-22"/>
		Signature	<input type="text"/>

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scott's-international.com

www.scott's-international.com