

# Algae-Protein Food Market Forecasts to 2032 – Global Analysis By Source (Spirulina, Chlorella, Dunaliella and Nannochloropsis), Form, Method, Application, End User and By Geography

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## Abstracts

According to Statistics MRC, the Global Algae-Protein Food Market is accounted for \$1.8 billion in 2025 and is expected to reach \$3.6 billion by 2032 growing at a CAGR of 10.2% during the forecast period. Algae-protein food refers to edible products derived from microalgae and macroalgae, which are rich in protein, essential amino acids, vitamins, and minerals. These foods harness algae's natural nutritional density to provide a sustainable source of nourishment. They can be consumed in various forms, such as powders, beverages, snacks, or incorporated into everyday meals. Algae-based foods support dietary diversity, offering plant-derived protein alternatives that are easily digestible while contributing to balanced nutrition and overall health through natural, nutrient-rich formulations.

According to the Good Food Institute, algae is a sustainable, nutrient-dense protein source being used in plant-based seafood, snacks, and protein powders.

Market Dynamics:

Driver:

Rising demand for plant proteins

The market is propelled by increasing consumer preference for plant-based protein sources due to health, sustainability, and ethical considerations. Fueled by growing awareness of the environmental impact of animal agriculture, spirulina, chlorella, and

other algae proteins are gaining traction. Rising adoption among vegans, vegetarians, and flexitarians further supports market growth. Additionally, the integration of algae proteins into smoothies, snacks, and meal replacements enhances convenience and appeal. This trend continues to drive investment and product innovation in the sector.

#### Restraint:

##### High production and processing costs

High production and processing costs of algae proteins pose a significant challenge to market expansion. Cultivation, harvesting, and drying processes are energy-intensive and require specialized infrastructure, raising product prices. Purification and quality control add further operational expenses. These elevated costs can deter price-sensitive consumers, particularly in emerging markets. Consequently, despite rising demand, cost barriers limit mass-market penetration. Manufacturers are compelled to invest in efficient production techniques to achieve scalable profitability while maintaining product quality.

#### Opportunity:

##### Expansion into functional food applications

The market presents substantial opportunity in functional food applications, including protein bars, beverages, dairy alternatives, and nutritional supplements. Algae proteins offer bioactive compounds, antioxidants, and essential amino acids, enabling manufacturers to target immunity, gut health, and energy-boosting benefits. Rising consumer interest in health-focused and clean-label foods encourages integration into fortified foods. Partnerships with food and beverage companies are facilitating product diversification. This expansion into functional foods strengthens market penetration and reinforces algae proteins as a mainstream nutritional ingredient.

#### Threat:

##### Regulatory challenges and approval delays

The market faces threats from complex regulatory frameworks and lengthy approval processes for algae-based food ingredients. Safety assessments, novel food authorizations, and varying regional compliance requirements can delay product

launches and increase costs. Misalignment between countries' regulations complicates international expansion. Non-compliance risks product recalls and damages brand reputation. These regulatory hurdles constrain innovation speed and market accessibility. Consequently, companies must invest in rigorous testing, certification, and legal expertise to navigate approval processes successfully.

#### Covid-19 Impact:

The COVID-19 pandemic initially disrupted supply chains and cultivation facilities but also amplified consumer interest in immunity-boosting, nutrient-rich foods. Online sales channels helped maintain product availability, while heightened focus on health and wellness increased demand for algae-based proteins. Manufacturers accelerated e-commerce distribution and diversified product portfolios to meet changing consumer behavior. Post-pandemic, sustained awareness of preventive health has permanently reinforced demand. Overall, COVID-19 acted as both a short-term challenge and long-term growth catalyst for the algae-protein food market.

The spirulina segment is expected to be the largest during the forecast period

The spirulina segment is expected to account for the largest market share during the forecast period, owing to its rich protein content, essential amino acids, and antioxidant properties. Spirulina is widely incorporated into powders, capsules, and functional foods. High consumer recognition, combined with its versatility in beverages and health supplements, reinforces market dominance. Additionally, strong research backing its nutritional benefits enhances credibility. Spirulina remains the preferred algae source for both manufacturers and health-conscious consumers, driving sustained adoption globally.

The powders segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the powders segment is predicted to witness the highest growth rate, reinforced by convenience, versatility, and ease of incorporation into food and beverages. Powdered algae proteins allow precise dosing in smoothies, shakes, bars, and baked goods. They are preferred by both consumers and food manufacturers for their stability and shelf life. Innovation in flavored and blended powders further enhances consumer appeal. This versatility positions the powders segment as the fastest-growing format in the algae-protein food market.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, ascribed to abundant natural resources for algae cultivation and rising awareness of plant-based nutrition. Countries like China, India, and Japan are witnessing growing adoption of spirulina and chlorella in food, beverages, and supplements. Government initiatives promoting functional foods and health-oriented diets further support market expansion. Urbanization, rising disposable incomes, and strong e-commerce penetration consolidate Asia Pacific's leadership in the global algae-protein food market.

#### Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR associated with strong consumer inclination toward plant-based diets and functional foods. The U.S. and Canada are experiencing robust demand for algae-based powders, bars, and beverages. Rapid adoption is fueled by health-conscious millennials and Gen Z consumers seeking sustainable protein alternatives. Investment in product innovation, clean-label formulations, and digital retail channels further accelerates growth. These factors establish North America as the fastest-growing regional market.

#### Key players in the market

Some of the key players in Algae-Protein Food Market include Corbion, Cyanotech Corporation, ALGAMA FOODS, Earthrise Nutritionals LLC, dsm-, Far East Bio-Tec Co. Ltd., AllMicroalgae, E.I.D-Parry Limited, FUQING KING DNARMSA SPIRULINA CO., LTD., Aliga Microalgae, Vimergy LLC, Energybits Inc., Rainbow Light, NOW Foods, Prairie Naturals, and Unilever PLC.

#### Key Developments:

In July 2025, Unilever PLC launched its new 'Glow & Greens' plant-based protein smoothie range, featuring a proprietary blend of spirulina and chlorella, directly targeting the health-conscious consumer segment in European markets.

In June 2025, Corbion announced a strategic partnership with a major European aquaculture feed producer to co-develop a new line of sustainable, algae-based protein ingredients for aquafeed, reducing reliance on traditional fishmeal.

In May 2025, DSM-firmenich inaugurated its new state-of-the-art algae cultivation and processing facility in Brazil, significantly scaling up production of its high-purity algal omega-3 and protein products for the global food and nutrition market.

#### Sources Covered:

Spirulina

Chlorella

Dunaliella

Nannochloropsis

#### Forms Covered:

Powders

Tablets & Capsules

Beverages

Ready-To-Eat Snacks

Meat Analogues

#### Methods Covered:

Spray Drying

Freeze Drying

Wet Extraction

Enzymatic Processing

### Applications Covered:

Functional Foods

Dietary Supplements

Sports Nutrition

Infant Nutrition

Animal Feed

### End Users Covered:

Food & Beverage

Nutraceuticals

Cosmetics & Personal Care

### Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

#### Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

#### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

#### Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances



## Contents

### **1 EXECUTIVE SUMMARY**

### **2 PREFACE**

- 2.1 Abstract
- 2.2 Stake Holders
- 2.3 Research Scope
- 2.4 Research Methodology
  - 2.4.1 Data Mining
  - 2.4.2 Data Analysis
  - 2.4.3 Data Validation
  - 2.4.4 Research Approach
- 2.5 Research Sources
  - 2.5.1 Primary Research Sources
  - 2.5.2 Secondary Research Sources
  - 2.5.3 Assumptions

### **3 MARKET TREND ANALYSIS**

- 3.1 Introduction
- 3.2 Drivers
- 3.3 Restraints
- 3.4 Opportunities
- 3.5 Threats
- 3.6 Application Analysis
- 3.7 End User Analysis
- 3.8 Emerging Markets
- 3.9 Impact of Covid-19

### **4 PORTERS FIVE FORCE ANALYSIS**

- 4.1 Bargaining power of suppliers
- 4.2 Bargaining power of buyers
- 4.3 Threat of substitutes
- 4.4 Threat of new entrants
- 4.5 Competitive rivalry

## **5 GLOBAL ALGAE-PROTEIN FOOD MARKET, BY SOURCE**

- 5.1 Introduction
- 5.2 Spirulina
- 5.3 Chlorella
- 5.4 Dunaliella
- 5.5 Nannochloropsis

## **6 GLOBAL ALGAE-PROTEIN FOOD MARKET, BY FORM**

- 6.1 Introduction
- 6.2 Powders
- 6.3 Tablets & Capsules
- 6.4 Beverages
- 6.5 Ready-To-Eat Snacks
- 6.6 Meat Analogues

## **7 GLOBAL ALGAE-PROTEIN FOOD MARKET, BY METHOD**

- 7.1 Introduction
- 7.2 Spray Drying
- 7.3 Freeze Drying
- 7.4 Wet Extraction
- 7.5 Enzymatic Processing

## **8 GLOBAL ALGAE-PROTEIN FOOD MARKET, BY APPLICATION**

- 8.1 Introduction
- 8.2 Functional Foods
- 8.3 Dietary Supplements
- 8.4 Sports Nutrition
- 8.5 Infant Nutrition
- 8.6 Animal Feed

## **9 GLOBAL ALGAE-PROTEIN FOOD MARKET, BY END USER**

- 9.1 Introduction
- 9.2 Food & Beverage
- 9.3 Nutraceuticals

## 9.4 Cosmetics & Personal Care

# 10 GLOBAL ALGAE-PROTEIN FOOD MARKET, BY GEOGRAPHY

## 10.1 Introduction

## 10.2 North America

### 10.2.1 US

### 10.2.2 Canada

### 10.2.3 Mexico

## 10.3 Europe

### 10.3.1 Germany

### 10.3.2 UK

### 10.3.3 Italy

### 10.3.4 France

### 10.3.5 Spain

### 10.3.6 Rest of Europe

## 10.4 Asia Pacific

### 10.4.1 Japan

### 10.4.2 China

### 10.4.3 India

### 10.4.4 Australia

### 10.4.5 New Zealand

### 10.4.6 South Korea

### 10.4.7 Rest of Asia Pacific

## 10.5 South America

### 10.5.1 Argentina

### 10.5.2 Brazil

### 10.5.3 Chile

### 10.5.4 Rest of South America

## 10.6 Middle East & Africa

### 10.6.1 Saudi Arabia

### 10.6.2 UAE

### 10.6.3 Qatar

### 10.6.4 South Africa

### 10.6.5 Rest of Middle East & Africa

# 11 KEY DEVELOPMENTS

## 11.1 Agreements, Partnerships, Collaborations and Joint Ventures

- 11.2 Acquisitions & Mergers
- 11.3 New Product Launch
- 11.4 Expansions
- 11.5 Other Key Strategies

## **12 COMPANY PROFILING**

- 12.1 Corbion
- 12.2 Cyanotech Corporation
- 12.3 ALGAMA FOODS
- 12.4 Earthrise Nutritionals LLC
- 12.5 dsm-
- 12.6 Far East Bio-Tec Co. Ltd.
- 12.7 AllMicroalgae
- 12.8 E.I.D-Parry Limited
- 12.9 FUQING KING DNARMSA SPIRULINA CO., LTD.
- 12.10 Aliga Microalgae
- 12.11 Vimergy LLC
- 12.12 Energybits Inc.
- 12.13 Rainbow Light
- 12.14 NOW Foods
- 12.15 Prairie Naturals
- 12.16 Unilever PLC

## List Of Tables

### LIST OF TABLES

- Table 1 Global Algae-Protein Food Market Outlook, By Region (2024-2032) (\$MN)
- Table 2 Global Algae-Protein Food Market Outlook, By Source (2024-2032) (\$MN)
- Table 3 Global Algae-Protein Food Market Outlook, By Spirulina (2024-2032) (\$MN)
- Table 4 Global Algae-Protein Food Market Outlook, By Chlorella (2024-2032) (\$MN)
- Table 5 Global Algae-Protein Food Market Outlook, By Dunaliella (2024-2032) (\$MN)
- Table 6 Global Algae-Protein Food Market Outlook, By Nannochloropsis (2024-2032) (\$MN)
- Table 7 Global Algae-Protein Food Market Outlook, By Form (2024-2032) (\$MN)
- Table 8 Global Algae-Protein Food Market Outlook, By Powders (2024-2032) (\$MN)
- Table 9 Global Algae-Protein Food Market Outlook, By Tablets & Capsules (2024-2032) (\$MN)
- Table 10 Global Algae-Protein Food Market Outlook, By Beverages (2024-2032) (\$MN)
- Table 11 Global Algae-Protein Food Market Outlook, By Ready-To-Eat Snacks (2024-2032) (\$MN)
- Table 12 Global Algae-Protein Food Market Outlook, By Meat Analogues (2024-2032) (\$MN)
- Table 13 Global Algae-Protein Food Market Outlook, By Method (2024-2032) (\$MN)
- Table 14 Global Algae-Protein Food Market Outlook, By Spray Drying (2024-2032) (\$MN)
- Table 15 Global Algae-Protein Food Market Outlook, By Freeze Drying (2024-2032) (\$MN)
- Table 16 Global Algae-Protein Food Market Outlook, By Wet Extraction (2024-2032) (\$MN)
- Table 17 Global Algae-Protein Food Market Outlook, By Enzymatic Processing (2024-2032) (\$MN)
- Table 18 Global Algae-Protein Food Market Outlook, By Application (2024-2032) (\$MN)
- Table 19 Global Algae-Protein Food Market Outlook, By Functional Foods (2024-2032) (\$MN)
- Table 20 Global Algae-Protein Food Market Outlook, By Dietary Supplements (2024-2032) (\$MN)
- Table 21 Global Algae-Protein Food Market Outlook, By Sports Nutrition (2024-2032) (\$MN)
- Table 22 Global Algae-Protein Food Market Outlook, By Infant Nutrition (2024-2032) (\$MN)
- Table 23 Global Algae-Protein Food Market Outlook, By Animal Feed (2024-2032)

(\$MN)

Table 24 Global Algae-Protein Food Market Outlook, By End User (2024-2032) (\$MN)

Table 25 Global Algae-Protein Food Market Outlook, By Food & Beverage (2024-2032) (\$MN)

Table 26 Global Algae-Protein Food Market Outlook, By Nutraceuticals (2024-2032) (\$MN)

Table 27 Global Algae-Protein Food Market Outlook, By Cosmetics & Personal Care (2024-2032) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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