

## **Europe Algae Protein - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)**

Market Report | 2025-07-01 | 110 pages | Mordor Intelligence

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### **Report description:**

Europe Algae Protein Market Analysis

The European algae protein market size is valued at USD 72.93 million in 2025 and is forecast to reach USD 114.36 million by 2030, expanding at a 9.41% CAGR. In February 2024, the European Commission approved more than 20 algae species for food use, reducing commercial timelines and industry costs. This regulatory nod is propelling the adoption of algae protein across diverse sectors. Meanwhile, innovations in photobioreactor designs and cell-wall disruption methods are further driving down production expenses. As consumers increasingly gravitate towards low-carbon diets, demand for algae protein is surging, especially in bakery items, dairy alternatives, and meat substitutes. This trend is prompting manufacturers to integrate algae protein into a wide array of products, from foods and beverages to supplements and dairy alternatives. Germany, with its robust ingredient manufacturing base, leads regional sales, while Spain, benefiting from Mediterranean cultivation, showcases the most rapid growth.

Europe Algae Protein Market Trends and Insights

High demand for plant-based food and supplements

Europe's surging appetite for plant-based foods and supplements is propelling the algae protein market, with applications spanning various industries. As consumers pivot towards sustainable, allergen-free, and nutrient-dense substitutes for animal protein, algae, especially spirulina and chlorella, are emerging as favorites. These algae boast a rich profile, packed with protein,

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essential amino acids, vitamins, and antioxidants. This rising preference dovetails with Europe's overarching sustainability and climate objectives, given that algae demand significantly less land, water, and energy than conventional crops or livestock. Furthermore, a surge in investments in alternative protein sources across Europe bolsters this market's expansion. Highlighting this trend, the Good Food Institute reported investments in alternative proteins in Germany amounted to EUR 134 million in 2024. Reflecting this burgeoning demand, the food and beverage sector is weaving algae protein into an array of products, from meat alternatives and protein bars to dairy-free yogurts, snacks, and beverages, tapping into the expanding vegan and flexitarian demographic.

#### Technological advancements in algae cultivation

The algae protein market is expanding through innovations in cultivation methods that focus on increasing yields, reducing production costs, and scaling operations. The implementation of closed-loop photobioreactor systems represents a significant technological advancement. These systems provide controlled environments that optimize light exposure, CO<sub>2</sub> levels, and nutrient distribution, resulting in higher biomass productivity compared to traditional open pond methods. The compact design of these systems enables efficient production for food, animal feed, and nutraceutical applications. In Germany, CellDEG GmbH's ultra-high-density thin-layer PBRs, with membrane-mediated CO<sub>2</sub> delivery, achieve impressive biomass concentrations over 30 g/L and daily productivity of around 10 g/L. Moreover, techniques in genetic engineering and strain selection have led to the cultivation of high-protein microalgae, such as *Chlorella* and *Spirulina*, boasting enhanced nutritional profiles and quicker growth. The rise of artificial intelligence (AI) and sensor-based monitoring further refines this process, enabling real-time adjustments for peak efficiency. Such advancements bolster the appeal of algae protein, making it a preferred choice over traditional proteins and paving the way for its broader acceptance in European food, aquafeed, and nutraceutical markets.

#### Sensory acceptance gap such as odor, flavor and texture

The sensory characteristics of algae protein present significant barriers to consumer acceptance, particularly its earthy, marine-like odor, bitter or grassy taste, and chalky or gritty texture. These attributes are particularly problematic in beverages, snacks, and dairy alternatives. European consumers generally prefer milder, neutral protein sources such as soy or pea, making the adoption of algae protein challenging in the functional food and sports nutrition markets, where taste and texture directly impact consumer repurchase decisions. European food technology companies are investing in solutions including deodorization technologies, microencapsulation, and blending techniques to address these sensory issues. However, these methods show variable results and increase production costs. Despite the technological advances, the persistent sensory issues continue to limit algae protein's integration into mainstream food products, affecting its growth in the European protein market.

Other drivers and restraints analyzed in the detailed report include:

Expansion in functional foods and nutraceuticals / Rising adoption of sustainable proteins / High production costs /

For complete list of drivers and restraints, kindly check the Table Of Contents.

#### Segment Analysis

Freshwater species dominated the European algae protein market with 77.25% share in 2024, primarily through spirulina and chlorella cultivation. Marine microalgae, including *Nannochloropsis*, are growing at a 10.24% CAGR, driven by European Union authorization of edible seaweeds and increased demand for bioactive polysaccharides. In controlled freshwater environments such as ponds and photobioreactors, species like *Spirulina* and *Chlorella* thrive under carefully managed conditions, including nutrient levels, temperature, and light exposure. This controlled cultivation has established freshwater algae as a primary source for commercial protein products, supported by established supply chains and regulatory frameworks in Europe.

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Marine algae, including seaweed and microalgae, are emerging as significant protein sources. Their nutritional composition features bioactive compounds like omega-3 fatty acids, antioxidants, and polysaccharides, making them valuable for functional foods and nutraceutical applications. Marine species cultivation in coastal or offshore locations offers scalability benefits and reduces freshwater usage, aligning with European environmental priorities. Advancements in farming and processing techniques are improving yields and product quality. These developments position marine algae to expand their market presence, complementing freshwater algae production and contributing to the growth of Europe's algae protein market.

The Europe Algae Protein Market Report is Segmented by Source (Freshwater Algae and Marine Algae), Type (Spirulina, Chlorella, and Others), Application (Food and Beverages, Sport/Performance Nutrition, Elderly Nutrition and Medical Nutrition, and Animal Feed), and Geography (United Kingdom, Germany, France, Italy, Netherlands, Spain, and Rest of Europe). The Market Forecasts are Provided in Terms of Value (USD).

List of Companies Covered in this Report:

Corbion N.V. / Duplaco BV / Phycor BV / Algama Foods / Aliga Microalgae A/S / Bretagne Spiruline SARL / AlgaeCytes Ltd. / Cyanotech Corporation / Triton Algae Innovations / Botanic Healthcare / AlgoSource S.A. / NutraPharm / Die Algenbauer / Algenuity Limited / Creative Enzymes / Roquette Klotze GmbH & Co. KG / Ecospirulina S.L. / Aliga Microalgae / PROTOGA BIOTECH LTD. / Mibelle Biochemistry /

Additional Benefits:

The market estimate (ME) sheet in Excel format /  
3 months of analyst support /

#### **Table of Contents:**

#### 1 INTRODUCTION

##### 1.1 Study Assumptions and Market Definition

##### 1.2 Scope of the Study

#### 2 RESEARCH METHODOLOGY

#### 3 EXECUTIVE SUMMARY

#### 4 MARKET LANDSCAPE

##### 4.1 Market Overview

##### 4.2 Market Drivers

###### 4.2.1 High demand for plant-based food and supplement

###### 4.2.2 Technological advancements in algae cultivation

###### 4.2.3 Expansion in functional foods and nutraceuticals

###### 4.2.4 Rising adoption of sustainable proteins

###### 4.2.5 Regulatory approvals for novel food ingredients

###### 4.2.6 Rise of vegan sports-nutrition powders

##### 4.3 Market Restraints

###### 4.3.1 Sensory acceptance gap such as odor, flavor, and texture

###### 4.3.2 High production costs

###### 4.3.3 Limited consumer awareness

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- 4.3.4 Competition from more established plant protein sources
- 4.4 Supply Chain Analysis
- 4.5 Regulatory Outlook
- 4.6 Technological Outlook
- 4.7 Porter's Five Forces
  - 4.7.1 Threat of New Entrants
  - 4.7.2 Bargaining Power of Buyers
  - 4.7.3 Bargaining Power of Suppliers
  - 4.7.4 Threat of Substitutes
  - 4.7.5 Intensity of Competitive Rivalry

## 5 MARKET SIZE AND GEOWTH FORECASTS (VALUE AND VOLUME)

- 5.1 By Source
  - 5.1.1 Freshwater Algae
  - 5.1.2 Marine Algae
- 5.2 By Type
  - 5.2.1 Spirulina
  - 5.2.2 Chlorella
  - 5.2.3 Others
- 5.3 By Application
  - 5.3.1 Food and Beverages
    - 5.3.1.1 Bakery
    - 5.3.1.2 Dairy and Dairy Alternative Products
    - 5.3.1.3 Meat/Poultry/Seafood and Meat Alternative Products
  - 5.3.2 Sport/Performance Nutrition
  - 5.3.3 Elderly Nutrition and Medical Nutrition
  - 5.3.4 Animal Feed
- 5.4 By Geography
  - 5.4.1 United Kingdom
  - 5.4.2 Germany
  - 5.4.3 France
  - 5.4.4 Italy
  - 5.4.5 Netherlands
  - 5.4.6 Spain
  - 5.4.7 Rest of Europe

## 6 Competitive Landscape

- 6.1 Market Concentration
- 6.2 Strategic Moves
- 6.3 Market Ranking Analysis
- 6.4 Company Profiles (includes Global-level Overview, Market-level Overview, Core Segments, Financials (if available), Strategic Information, Market Rank/Share, Products, Recent Developments)
  - 6.4.1 Corbion N.V.
  - 6.4.2 Duplaco BV
  - 6.4.3 Phycom BV
  - 6.4.4 Algama Foods
  - 6.4.5 Aliga Microalgae A/S

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- 6.4.6 Bretagne Spiruline SARL
- 6.4.7 AlgaeCytes Ltd.
- 6.4.8 Cyanotech Corporation
- 6.4.9 Triton Algae Innovations
- 6.4.10 Botanic Healthcare
- 6.4.11 AlgoSource S.A.
- 6.4.12 NutraPharm
- 6.4.13 Die Algenbauer
- 6.4.14 Algenuity Limited
- 6.4.15 Creative Enzymes
- 6.4.16 Roquette Klotze GmbH & Co. KG
- 6.4.17 Ecospirulina S.L.
- 6.4.18 Aliga Microalgae
- 6.4.19 PROTOGA BIOTECH LTD.
- 6.4.20 Mibelle Biochemistry

## 7 MARKET OPPORTUNITIES AND FUTURE OUTLOOK

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