

Botanical Sweet Protein Ingredients Market Forecasts to 2034 – Global Analysis By Protein Type (Brazzein, Thaumatin, Monellin, Mabinlin, Pentadin and Curculin), Source Plant, Form, Production Technology, Application, End User and By Geography

<https://marketpublishers.com/r/BC5E5456DE0AEN.html>

Date: August 2026

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: BC5E5456DE0AEN

Abstracts

According to Statistics MRC, the Global Botanical Sweet Protein Ingredients Market is accounted for \$0.8 billion in 2026 and is expected to reach \$2.5 billion by 2034 growing at a CAGR of 15.0% during the forecast period. Botanical sweet protein ingredients refer to natural, plant-derived proteins that provide sweet taste without sugar or calories, offering a healthy alternative to artificial sweeteners. These proteins, including brazzein, thaumatin, and monellin, are sourced from rare tropical plants and are hundreds to thousands of times sweeter than sugar. They are used in food, beverage, nutraceutical, and pharmaceutical applications, driven by growing consumer demand for natural, clean-label sugar substitutes.

Market Dynamics:

Driver:

Rising Demand for Natural Sugar Alternatives

Growing consumer awareness of the health risks associated with artificial sweeteners and high sugar consumption is driving demand for natural, low-calorie sweetening solutions. Botanical sweet proteins offer a clean-label, zero-calorie alternative that aligns with consumer preferences for natural ingredients. The increasing prevalence of diabetes, obesity, and metabolic disorders is accelerating the adoption of sugar substitutes, thereby fueling market growth for innovative protein-based sweeteners.

Restraint:

Limited Supply and High Production Costs

The limited availability of natural sources and the high costs associated with extraction and purification of botanical sweet proteins present significant supply-side challenges. The difficulty of large-scale cultivation of rare tropical plants and the complexity of biotechnological production methods add to production costs. Price volatility of raw materials and the need for significant investment in research and development further constrain market expansion.

Opportunity:

Biotechnological Production and Scalability

The advancement of precision fermentation and recombinant protein production technologies presents a significant opportunity to scale up the production of botanical sweet proteins sustainably and cost-effectively. These methods reduce reliance on rare plant sources and offer greater control over product quality and consistency. The growing investment in biotechnology startups and the development of novel expression systems are creating new avenues for market growth and cost reduction.

Threat:

Regulatory and Consumer Acceptance Challenges

The complex regulatory pathway for novel sweet proteins, which may be classified as food additives or novel foods, poses a significant hurdle for market entry. Consumer skepticism about proteins produced through biotechnology and concerns about potential allergens or unknown effects can hinder adoption. Competition from other natural sweeteners like stevia and monk fruit, which are already well-established, intensifies the challenge.

Covid-19 Impact:

The pandemic initially disrupted supply chains for botanical sources and delayed regulatory approvals for new sweet protein ingredients. During the mid-pandemic period, the increased focus on health and wellness, particularly immunity and metabolic

health, drove interest in clean-label sugar alternatives. Post-pandemic, the market is experiencing strong growth with increased investment in biotechnological production and new product development.

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

The brazzein segment is expected to account for the largest market share during the forecast period, due to its superior sweetness potency, excellent stability at high temperatures, and desirable flavor profile that closely mimics sugar, making it the most versatile sweet protein. This segment benefits from extensive research and development efforts aimed at commercializing brazzein through biotechnological production methods. The growing interest from major food and beverage companies in launching brazzein-sweetened products further reinforces its dominance in the sweet protein market.

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

Over the forecast period, the powder segment is predicted to witness the highest growth rate, driven by its ease of handling, long shelf life, and versatility in application across a wide range of food and beverage formulations. Powder formats offer precise dosing, easy blending, and convenient storage, making them the preferred choice for manufacturers. The expansion of dry-blending applications and the development of new powder-based sweet protein products are in turn accelerating the growth of this segment.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, due to the strong demand for clean-label ingredients, high consumer awareness of sugar alternatives, and a favorable regulatory environment for novel food ingredients in the United States. The presence of major ingredient suppliers like Ingredion and Cargill further reinforces the region's market leadership.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, due to the large population, rising disposable incomes, and increasing demand for natural, low-calorie sweeteners in countries like China, India, and Japan. The rapid expansion of the food and beverage industry and growing health consciousness are key

drivers of market growth across the region.

Key players in the market

Some of the key players in Botanical Sweet Protein Ingredients Market include Ingredion Incorporated, Cargill, Incorporated, Tate & Lyle PLC, ADM, Kerry Group plc, dsm-firmenich, Sweegen, Conagen, Ajinomoto Co., Inc., Givaudan SA, Symrise AG, IFF, Sensient Technologies, MycoTechnology, Manus Bio and Blue California.

Key Developments:

In July 2026, Sweegen launched a new brazzein-based sweet protein ingredient produced through precision fermentation, targeting beverage and dairy applications with natural sweetness, sugar reduction capabilities, clean-label appeal, and improved formulation flexibility for manufacturers.

In June 2026, Conagen announced a strategic partnership with a major food manufacturer to scale commercial production of thaumatin, expanding supply capacity, supporting natural sweetener innovation, and enabling broader adoption across diverse food and beverage applications.

In May 2026, Ingredion Incorporated introduced a new sweet protein portfolio featuring brazzein and monellin, providing food and beverage manufacturers with versatile natural sweetening solutions, improved taste profiles, sugar reduction opportunities, and clean-label product development.

Protein Types Covered:

Brazzein

Thaumatococcus

Monellin

Mabinlin

Pentadin

Curculin

Source Plants Covered:

Pentadiplandra brazzeana

Thaumatococcus daniellii

Dioscoreophyllum cumminsii

Capparis masakai

Richadella dulcifica

Forms Covered:

Powder

Liquid

Concentrates

Extracts

Encapsulated Ingredients

Production Technologies Covered:

Plant Extraction

Precision Fermentation

Recombinant Protein Production

Cell-Free Biosynthesis

Other Production Technologies

Applications Covered:

Beverages

Dairy Products

Bakery & Confectionery

Nutraceuticals

Pharmaceuticals

Tabletop Sweeteners

Other Applications

End Users Covered:

Food Manufacturers

Beverage Manufacturers

Nutraceutical Companies

Pharmaceutical Companies

Ingredient Suppliers

Research Organizations

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of 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 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

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

Botanical Sweet Protein Ingredients Market Forecasts to 2034 – Global Analysis By Protein Type (Brazzein, Thau...

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

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