

Spray-Dried vegetable Powder Market Forecasts to 2030 – Global Analysis By Product Type (Carrot Powder, Spinach Powder, Tomato Powder, Onion Powder, Potato Powder, Broccoli Powder, Green Bean Powder, Pea Powder, Beetroot Powder, Pumpkin Powder, and Other Product Types), Form, Function, Nature, Distribution Channel, Processing Technology, Application and By Geography

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Abstracts

According to Statistics MRC, the Global Spray-Dried Vegetable Powder Market is accounted for \$17.65 billion in 2024 and is expected to reach \$27.40 billion by 2030 growing at a CAGR of 7.6% during the forecast period. Spray-dried vegetable powder is a fine, dehydrated form of vegetables produced by spray drying, a process that removes moisture while retaining nutrients, colour, and flavor. Fresh vegetables are first washed, pureed, and then atomized into a fine mist, which is rapidly dried using hot air, transforming the liquid into powder. This method preserves the natural properties of vegetables, resulting in a lightweight, shelf-stable product widely used in soups, sauces, snacks, baby foods, and nutraceuticals for its convenience and extended shelf life.

According to the United States Department of Agriculture (USDA) Foreign Agriculture Service (FAS), the production volume of skimmed milk power increased to 740 thousand metric tons in 2023 from 635 thousand metric tons in 2019.

Market Dynamics:

Driver:

Rising demand for convenient food products

As consumers lead increasingly busy lifestyles, there is a growing preference for ready-to-use, easy-to-prepare food options that require minimal preparation time. Spray-dried vegetable powders offer a practical solution, providing the nutritional benefits of vegetables in a shelf-stable, easy-to-store form. These powders can be effortlessly incorporated into a variety of food products, such as soups, sauces, snacks, and beverages, allowing consumers to enjoy the health benefits of vegetables without the hassle of cooking or storage concerns. This demand for convenience fuels the expansion of the spray-dried vegetable powder market globally.

Restraint:

Nutrient loss during processing

While spray drying preserves the convenience and shelf life of vegetable powders, the high temperatures involved can lead to the degradation of sensitive nutrients, particularly vitamin C, folate, and certain antioxidants. This nutrient loss can impact the perceived health benefits of these products, as consumers increasingly seek nutrient-dense, minimally processed food options. To address this challenge, manufacturers are exploring innovations in drying technology and methods to minimize nutrient degradation, such as optimizing drying conditions or supplementing products with added nutrients. Ensuring nutrient retention is vital for maintaining the market appeal of spray-dried vegetable powders.

Opportunity:

Rising vegan and plant-based diet trends

The demand for plant-based ingredients has increased as more people adopt plant-based diets. Spray-dried vegetable powders provide a convenient and versatile solution for incorporating vegetables into plant-based meals and snacks, offering essential nutrients like vitamins, minerals, and fiber without the need for refrigeration or preparation. These powders can be easily added to soups, sauces, smoothies, and protein alternatives, aligning with the growing demand for vegan products. As plant-based diets continue to gain momentum, the spray-dried vegetable powder market is poised to benefit from this shift in consumer preferences.

Threat:

Dependence on specific vegetable varieties

The availability and quality of raw vegetables like carrots, spinach, and tomatoes directly impact the production of vegetable powders. Any disruptions, such as unfavorable weather conditions, crop diseases, or fluctuations in agricultural production, can lead to shortages or price volatility for key vegetable raw materials. This dependency can also limit product diversification, as manufacturers may struggle to find suitable substitutes when certain vegetables are unavailable. Ensuring a consistent supply of these vegetable varieties is critical for maintaining market stability and meeting the growing demand for vegetable powders.

Covid-19 Impact

The COVID-19 pandemic had a mixed impact on the spray-dried vegetable powder market. On one hand, the surge in demand for shelf-stable, long-lasting food products during lockdowns boosted the market. However, supply chain disruptions, labor shortages, and challenges in raw material procurement slowed production and increased costs. Additionally, changes in consumer behavior, with a shift toward home cooking and health-conscious eating, created both opportunities and challenges for market players in meeting evolving demands.

The granular form segment is expected to be the largest during the forecast period

The granular form segment is expected to account for the largest market share during the forecast period, due to their ease of handling, storage, and incorporation into various food products. Granular powders offer improved flowability, making them ideal for automated production processes and large-scale manufacturing. Additionally, the granular form enhances the rehydration process, providing better texture and consistency when used in soups, sauces, and ready-to-eat meals. This form also appeals to consumers seeking convenience and efficient use in cooking, further driving its adoption in the market.

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

Over the forecast period, the pharmaceuticals segment is predicted to witness the highest growth rate, due to increasing demand for plant-based ingredients in health

supplements and functional foods. Spray-dried vegetable powders are rich in essential vitamins, minerals, and antioxidants, making them ideal for fortifying medicines, nutraceuticals, and dietary supplements. Their stability, long shelf life, and ease of formulation into capsules, tablets, or powders further enhance their appeal in the pharmaceutical industry, which is focused on natural, plant-based solutions to support health and wellness.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, due to rising urbanization, rising disposable incomes, and changing consumer preferences for convenient, shelf-stable food options. Growing health awareness and the shift toward plant-based diets further propel demand for nutritious, easy-to-use vegetable powders. Additionally, the expanding food processing industry in countries like India and China, coupled with a rising trend in e-commerce, enhances the accessibility and adoption of spray-dried vegetable powders, making them a popular choice across the region.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, owing to growing consumer demand for convenient, nutritious, and clean-label food products. With increasing health consciousness and a shift toward plant-based and natural ingredients, vegetable powders are sought after for their versatility and long shelf life. Additionally, the expanding use of these powders in functional foods, snacks, and beverages, along with innovations in food technology, supports market growth. Strong retail networks and the rise of e-commerce further contribute to the market's expansion in North America.

Key players in the market

Some of the key players profiled in the Spray-Dried Vegetable Powder Market include Kanegrade Ltd., Innova, BSR Foods, Pascunt International, Aarkay Food Products Ltd., Apollo Ingredients, Mevive International Food Ingredients, DHM Ingredients, NutraDried, PL Tomas & Co. Inc., Phoenix International, Drytech Processes Pvt Ltd., Foods & Inns Ltd., Venkatesh Natural Extract Pvt. Ltd., Green Labs, Saipro Biotech Pvt. Ltd., Aayush Food Products, Vee Kay International, Shalimar Spices, and Nexira.

Key Developments:

In January 2023, Innova launched a series of clean-label spray-dried vegetable powders, targeting food and beverage manufacturers looking to offer natural, preservative-free ingredients while meeting rising consumer demand for plant-based and health-oriented products.

In March 2022, NutraDried expanded its product portfolio with the launch of a range of spray-dried vegetable powders. These products are aimed at the food processing, nutraceutical, and beverage industries, offering a variety of vegetable options with long shelf life.

In September 2021, The Green Labs introduced a new line of spray-dried vegetable powders, including varieties like beetroot, pumpkin, and zucchini, for use in nutritional supplements, smoothies, and processed foods.

Product Types Covered:

Carrot Powder

Spinach Powder

Tomato Powder

Onion Powder

Potato Powder

Broccoli Powder

Green Bean Powder

Pea Powder

Beetroot Powder

Pumpkin Powder

Other Product Types

Forms Covered:

Granular Form

Powdered Form

Flakes

Functions Covered:

Thickener

Flavor Enhancer

Meat Tenderizer

Nutritional Enrichment

Other Functions

Natures Covered:

Organic

Conventional

Distribution Channels Covered:

Direct Sales

Retail Stores

Business-to-Business (B2B)

Processing Technologies Covered:

Conventional Spray Drying

Freeze Drying

Vacuum Drying

Applications Covered:

Food and Beverages

Cosmetics and Personal Care

Animal Feed

Pharmaceuticals

Household Use

Other Applications

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 2022, 2023, 2024, 2026, and 2030
- 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

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