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Starch-Based Plastics Market Forecasts to 2032 – Global Analysis By Type (Thermoplastic Starch (TPS), Starch Blended with Biodegradable Polymers, Starch Blended with Synthetic Polymers, Starch-Based Foams and Other Types), Source, Application and By Geography

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Abstracts

According to Stratistics MRC, the Global Starch-Based Plastics Market is accounted for $2495.99 million in 2025 and is expected to reach $5324.24 million by 2032 growing at a CAGR of 11.43% during the forecast period. Biodegradable materials predominantly generated from natural starch sources such as corn, potatoes, or wheat are known as starch-based plastics. Because of their less detrimental effects on the environment, these environmentally friendly polymers are utilised as substitutes for traditional plastics made from petroleum. Starch can be combined with other biodegradable polymers to create a variety of goods, including agricultural films, packaging, and disposable cutlery. Under composting conditions, starch-based polymers break down more readily, lowering the pollution caused by plastics. They are a potential option for sustainable material innovation in a variety of industries due to their biodegradability and renewable source.

Market Dynamics:

Driver:

Biodegradability & compostability

Starch-based plastics provide an environmentally favourable substitute for conventional

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plastics as industry and consumers look for more sustainable options. Because these polymers decompose organically in the environment, less garbage ends up in landfills. Plastics made from compostable starch can break down in composting conditions, making them more environmentally friendly. By means of rules and incentives, governments and organisations are also encouraging the use of biodegradable materials. The use of starch-based polymers in packaging, agriculture, and other sectors is being accelerated by the public's increased knowledge of and desire for environmentally friendly substitutes.

Restraint:

Competition from other bioplastics

Competition from other bioplastics, such polylactic acid (PLA) and polyhydroxyalkanoates (PHA), frequently perform better in terms of strength, flexibility, and simplicity of processing, making them more desirable for a range of applications. Despite being biodegradable and renewable, starch-based polymers may have performance issues that prevent their widespread use. Furthermore, starch-based plastics may be more expensive to produce than petroleum-based plastics or other bioplastics, which reduces their competitiveness in markets where prices are crucial. The commercial pressure on starch-based substitutes is further increased by rival bioplastics' developing technological innovations. Manufacturers might therefore turn their attention to other bioplastics, which would reduce the market share of plastics based on starch.

Opportunity:

Innovation in blending & material enhancement

Manufacturers can improve their mechanical qualities, including strength, flexibility, and durability, by altering starch-based polymers and adding other natural ingredients. The biodegradability of starch-based plastics is also improved by material improvements, which makes them a more environmentally friendly substitute for conventional plastics. Blending with plasticisers or other biopolymers lowers expenses without sacrificing desired properties. Furthermore, improvements in processing methods provide the material's qualities more control, which boosts its marketability. Overall, these innovations drive the adoption of starch-based plastics across various industries, especially in packaging and agriculture.

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Threat:

Consumer misunderstanding or misinformation

There is less demand for these polymers since many people erroneously think they are less dependable than alternatives made of petroleum. Customers who are unaware of the sustainability of traditional plastics may choose them due to misinformation about the environmental advantages of starch-based plastics. Furthermore, misleading statements regarding the biodegradability of polymers derived from starch may cause misunderstandings and discourage consumers from utilising them. Concerns regarding their effects on the environment may also arise from a lack of knowledge about appropriate disposal techniques. In the end, these false beliefs may hinder market expansion and restrict the availability of environmentally suitable plastic substitutes.

Covid-19 Impact

The COVID-19 pandemic significantly impacted the starch-based plastics market, causing disruptions in production and supply chains due to factory closures, labor shortages, and logistical challenges. Increased demand for single-use plastic products during the health crisis also shifted focus away from sustainable alternatives. However, growing environmental concerns and post-pandemic recovery have reignited interest in biodegradable plastics, driving the market towards long-term growth. Despite challenges, the pandemic underscored the need for eco-friendly solutions, accelerating innovation in starch-based plastic technologies.

The starch-based films segment is expected to be the largest during the forecast period

The starch-based films segment is expected to account for the largest market share during the forecast period, due to its eco-friendly and biodegradable nature. These films offer an ideal alternative to conventional plastic packaging, especially in food and agricultural applications. Growing consumer awareness and government regulations against single-use plastics further drive demand. Their cost-effectiveness and compatibility with other biopolymers enhance their market potential. As industries shift toward sustainable solutions, starch-based films continue to gain traction, boosting overall market growth.

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

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Over the forecast period, the foam packaging segment is predicted to witness the highest growth rate, due to appealing to sustainability-focused industries. It serves as an ideal alternative to conventional plastic foams, especially in protective packaging for electronics, food, and fragile items. Rising environmental regulations and consumer demand for green packaging solutions have increased its adoption. Additionally, starch-based foam packaging is lightweight and cost-effective, making it suitable for large-scale use. These factors collectively enhance market growth and expand application areas for starch-based plastics.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share due to the increasing demand for sustainable alternatives. Countries like China, India, and Japan are at the forefront of this trend, driven by government initiatives promoting biodegradable materials and a rising awareness of environmental concerns. These plastics, derived from renewable resources like corn, potatoes, and tapioca, are being adopted across various industries, including packaging, agriculture, and consumer goods. With growing industrialization and a push for green solutions, the market is expected to expand rapidly in the coming years.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, owing to high demand for eco-friendly and biodegradable alternatives to traditional petroleum-based plastics. The region’s heightened focus on sustainability, combined with stringent environmental regulations, has spurred innovation in starch-based plastic production. Key sectors such as packaging, agriculture, and food service are actively adopting these bio-based plastics due to their reduced carbon footprint and ability to decompose. With advancements in technology and improved production processes, North America is poised to continue expanding its use of starch-based plastics.

Key players in the market

Some of the key players profiled in the Starch-Based Plastics Market include NatureWorks, Total Corbion PLA, Braskem, Plantic Technologies, Archer Daniels Midland (ADM), Galactic, Toyota Tsusho, Rodenburg Biopolymers, Futerro, Tereos, BASF, Biotec, Roquette Freres, Novamont, Ingredion, Celanese Corporation, Borealis AG and Shellworks.

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Key Developments:

In April 2025, NatureWorks announced a turnkey compostable coffee pod solution in collaboration with IMA, compatible with North American coffee machines. This solution utilizes Ingeo™ biopolymer to offer a sustainable alternative to traditional coffee pods.

In June 2024, BASF expanded its biopolymers portfolio by introducing a biomass-balanced version of ecoflex®, a polybutylene adipate terephthalate (PBAT). This new grade, ecoflex® F Blend C1200 BMB, offers a 60% lower product carbon footprint compared to the standard ecoflex® grade.

In April 2023, NatureWorks In collaboration with Jabil Inc., introduced a new Ingeo™ PLA-based powder formulation for powder-bed fusion technologies, including selective laser sintering (SLS) platforms. The Jabil PLA 3110P offers a cost-effective option with a lower sintering temperature and an 89% smaller carbon footprint compared to the incumbent PA-12.

Types Covered:

- Thermoplastic Starch (TPS)
- Starch Blended with Biodegradable Polymers
- Starch Blended with Synthetic Polymers
- Starch-Based Foams
- Starch-Based Films
- Other Types

Sources Covered:

- Corn
- Potato

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- Wheat
- Tapioca
- Rice
- Other Sources

Applications Covered:

- Shopping Bags
- Mulch Films
- Foam Packaging
- Flexible Films
- Blister Packaging
- Cosmetic Packaging
- Caps & Closures
- Pharmaceutical Packaging
- Agricultural Mulching Sheets
- Stationery Products
- Biodegradable Cutlery
- Other Applications

Regions Covered:

- North America

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- 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

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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

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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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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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