Competitive Advantages of Polydextrose and Future Market Development Outlook

Part One: Competitive Advantages of Polydextrose

Overview

As a multifunctional high-end functional ingredient, polydextrose has built an irreplaceable competitive barrier across food, health care products, and special medical food sectors relying on core technologies, all-round properties, and high adaptability. Its market scale grows at an annual rate of 13.45%. It not only meets professional industry standards but also aligns with market commercialization demands, helping partners reduce costs, improve efficiency, build differentiated advantages, and maximize commercial value.

I. Integrated All-Round Functions, Adaptable to Diverse Needs, Unlocking Product Innovation

As an all-round functional base material integrating soluble dietary fiber, low-calorie filling, texture modification, and preservation, polydextrose perfectly fits the mainstream consumption trend of sugar reduction, fat reduction, and fiber enhancement (the domestic sugar-reduced food market grows by 25% annually). It solves the core pain point of "hard to balance health and taste" in food formulations in a one-stop manner.

With a neutral taste and friendly texture, it effectively improves the blandness and coarseness of sugar-free/low-fat products, delays starch retrogradation, locks in product moisture, extends shelf life by 15%–30%, and significantly boosts consumer acceptance. Meanwhile, its calorie content is only 1/4 that of sucrose (approximately 1 kcal/g), with a GI value as low as 5–7. It can directly replace 20%–50% of sugar or fat without major adjustments to existing production lines, reducing formulation costs by 8%–12% and greatly lowering trial-and-error risks. It is a core raw material for creating clean-label and best-selling functional products.

II. Strong Core Technical Barriers, Stable and Controllable Quality, Away from Low-End Price Wars

Backed by a decade of sophisticated process accumulation, production is controlled via a fully automated DCS system with precise temperature control at ±0.5℃, strictly limiting by-product generation. The product features ash content ≤0.2%, glucose residue ≤1.0%, color difference $\Delta E<0.5$, and batch stability error ≤3%, leading the industry and meeting stringent standards for high-end applications such as infant formula and special medical food.

With core patented technologies including enzymatic modification and high-purity purification (≥12 core patents) coupled with 10,000-ton large-scale production advantages, fixed costs are effectively diluted by 10%–15%. While maintaining high-end product quality, it forms strong cost competitiveness and an unreplicable technical moat, helping

partners break away from low-end price competition and stay in high-margin segments (gross profit margin reaching 35%–45%).

III. Authoritative Endorsements of Health Efficacy, Empowering Product Premiums, Seizing Market High Ground

Polydextrose is a soluble dietary fiber certified by global authoritative bodies including the FDA, EFSA, and China's National Health Commission. It offers multiple confirmed benefits: intestinal health, blood glucose management, weight control, and bone care. It can increase intestinal Bifidobacteria by 2–3 times, delay glucose absorption to reduce postprandial blood glucose peaks by 18%–25%, cut fat intake by about 10%, and improve calcium absorption by 40%. Its efficacy is supported by over 50 clinical studies, enabling quantifiable and compliant promotion.

Without additional R&D investment, it empowers products with core selling points such as "high fiber, low GI, sugar control, and fat reduction", raising product premiums by 10%–20% and significantly enhancing market competitiveness. It helps partners build differentiated advantages and capitalize on the health consumption trend.

IV. Extensive Full-Scenario Adaptability, Cross-Border Synergy, Expanding Commercial Boundaries

The product boasts strong compatibility, spanning five trillion-level sectors: food, beverages, health care products, special medical food, and pet food. It is suitable for more than 200 product categories including dairy products, baked goods, confectionery, beverages, meat products, and dietary fiber supplements. It adapts to a pH range of 3–7, withstands 121℃ UHT sterilization for 30 minutes, and is compatible with various formulation systems.

It synergizes excellently with natural sweeteners (steviol glycosides, erythritol) and probiotics, forming a golden compound scheme of "natural sweetness + soluble fiber" to achieve 1+1>2 effects. This helps partners rapidly iterate their product matrices (shortening R&D cycles by 30%), expand diverse application scenarios, reduce procurement and R&D costs, and realize multi-sector layout and diversified profitability.

V. Complete Global Compliance Qualifications, Stable and Controllable Supply Chain, Consolidating the Foundation of Cooperative Trust

The product has fully passed quality system certifications including FSSC 22000 and ISO 9001, and holds compliance qualifications in more than 10 countries and regions such as FDA GRAS and EFSA, serving as a "passport" for products entering international markets including Europe, the US, and Southeast Asia, effectively avoiding trade and regulatory risks (100% compliance pass rate).

Using high-quality upstream corn starch as raw material (raw material supply stability ≥98%), and relying on more than 3 independently controllable large-scale production bases and a mature supply chain, it ensures stable year-round supply immune to raw material price fluctuations and supply disruptions. A full-process quality traceability system enables full control from raw materials to finished products, with an inspection pass rate ≥99.8%, giving partners peace of mind in use and sales, and consolidating

brand trust and long-term cooperation.

VI. Cost-Effective Cost Reduction and Efficiency Improvement, Optimal Input-Output Ratio, Achieving Mutual Benefit and Win-Win Results

Compared with competing products such as inulin and resistant dextrin, polydextrose has a 15%–20% lower unit functional cost, highlighting its cost-performance advantage. The triple benefits of sugar/fat replacement, extended shelf life (reducing loss by 5%–8%), and reduced R&D investment help partners effectively control total costs and increase product gross profit margins by 5%–10%.

Current market demand for polydextrose continues to rise with a CAGR of 13.45%, and the market size is projected to exceed 8 billion yuan by 2028. It features high return on investment and a short payback period (about 1–2 years). As a strategic raw material for the large health industry, it helps partners reduce operational risks, share industry growth dividends, and achieve long-term mutual benefit.

In summary, with all-round advantages of "excellent technology, comprehensive functions, wide adaptability, compliant safety, and controllable costs", combined with its 13.45% annual growth rate, high cost performance, and high adaptability, polydextrose has become an all-round player in the functional ingredient sector. It serves as a core strategic support for partners to respond to health consumption upgrades and achieve product innovation and commercial growth.

Part Two: Future Market Development Outlook for Polydextrose

I. Executive Summary

As a low-calorie, high-stability water-soluble dietary fiber, polydextrose is a core ingredient for product upgrading in downstream sectors such as food, beverages, and special medical food amid the global "sugar reduction, high fiber" trend. Based on 2021–2025 industry data, this report forecasts market trends for 2026–2030, providing precise references for downstream customers in product selection.

Core Forecasts

- Global market: Approximately $487 million in 2025, rising to $905 million by 2030, with a CAGR of 13.45%.
- Chinese market: Approximately 2.8 billion yuan in 2025, exceeding 4.5 billion yuan by 2030, with a CAGR of 9%–11%, acting as the core engine of global growth.
- Growth drivers: Special medical food, infant formula, high-end dairy products, pet food, and pharmaceutical-grade/high-purity products lead growth.
- Competitive landscape: Global CR5 reaches 92%, China’s CR4 reaches 58%, with leading enterprises dominating the market and ensuring stable downstream supply.

II. Macro Environment and Policy Drivers

(1) Global Health Policy Leadership

Over 110 countries worldwide have implemented sugar tax policies. China's *Healthy China 2030* clearly sets sugar reduction targets, creating a significant demand gap for dietary fiber. As a core ingredient, polydextrose sees a continuous rise in rigid application demand.

(2) Release of China's Policy Dividends

The state supports the industrialization of functional dietary fiber. Polydextrose has obtained mainstream global compliance certifications. Environmental policies accelerate the elimination of low-end production capacity, driving the industry toward high-end transformation.

(3) Supply Chain Security

- Leading enterprises stabilize raw material costs (accounting for 40%–50%) through upstream integration and long-term contract procurement, ensuring cost-effective supply for downstream customers.
- Trade agreements such as RCEP improve circulation efficiency, and international compliance certifications become core export competitiveness for enterprises.

III. Supply-Demand Pattern and Capacity Analysis

(1) Global Capacity Distribution (2025)

Region	Capacity (10,000 tons)	Proportion	Representative Enterprises
North America	3.2	26%	Tate & Lyle, ADM
Europe	3.1	25%	BENEO, Danisco
China	4.7	38%	Tailijie, Bailong Chuangyuan, Baolingbao
Others	1.3	11%	Japanese and Korean enterprises
Global Total	12.3	100%	—

Data sources: China Food Additives and Ingredients Association, QYResearch 2025

(2) China's Supply-Demand Status and Forecast

- 2021–2025: Capacity increased from 85,000 tons to 123,000 tons (CAGR 7.6%), with high-end capacity accounting for 30%; consumption rose from 72,000 tons to 108,000 tons (CAGR 10.2%), maintaining a tight supply-demand balance.

- 2026–2030: Global capacity will reach 168,000 tons, with China's high-end capacity proportion rising to 50%; global demand will reach 152,000 tons, China's demand 115,000 tons, with high-end products remaining in short supply.

IV. Expansion of Application Scenarios

(1) Core Application Scenarios (2025 Proportion)

Application Field	Proportion	Demand Growth Rate	Core Value
Dairy Products	45%	12%	Sugar reduction, high fiber, prebiotic benefits, supporting product upgrading for yogurt, infant formula, etc.
Baked Goods/Confectionery	18%	10%	Sucrose replacement, texture improvement, shelf life extension, aligning with healthy baking trends
Beverages	12%	15%	Adaptable to sugar-free beverages, enabling low-sugar/high-fiber claims, improving taste and system stability
Special Medical Food	8%	25%	Regulates intestinal health, assists blood glucose control, suitable for diabetic and elderly nutrition scenarios
Infant Formula	7%	20%	Low allergenicity, dietary fiber supplementation, meeting infant nutrition needs and upgrading high-end formulas
Pet Food/Feed	6%	18%	Regulates pet intestinal health and weight control, matching pet health consumption upgrades
Others	4%	12%	Pharmaceutical excipients, cosmetic bases, biodegradable materials, expanding diversified applications

Data source: China Food Additives and Ingredients Association 2025

(2) Development Trends of Application Scenarios (2026–2030)

(2.1). Deepening Upgrading of Traditional Scenarios

In dairy products, polydextrose addition will rise from 63% to 85%, with "high fiber + prebiotics" becoming standard in high-end yogurt and infant formula. Downstream enterprises will increase application to develop differentiated products. In baking and beverages, low sugar and high fiber will be core selling points, with polydextrose widely used in sugar-free baked goods, functional beverages, and meal replacement shakes to meet consumption upgrades and consolidate core demand in traditional sectors.

(2.2). Accelerated Explosion of High-Growth Scenarios

Special medical food, the fastest-growing segment, maintains a 25% annual growth rate. Amid population aging and standardized development of the special medical industry, polydextrose will become the top choice for downstream enterprises as a core ingredient for blood glucose control and intestinal conditioning. In pet food, rising pet health awareness drives demand for "high fiber, weight control"; polydextrose addition will increase from 3% to 8%, rapidly expanding demand and becoming a new industry growth driver.

(2.3). Cross-Border Expansion of Emerging Scenarios

In pharmaceuticals, pharmaceutical-grade polydextrose as a drug sustained-release carrier and intestinal mucosa protectant grows at 30% annually with a 20%–25% premium, and demand for high-purity, compliant products from pharmaceutical enterprises continues to rise. In bio-based materials, applications in biodegradable packaging, medical dressings, and cosmetic moisturizing bases are gradually commercialized, expected to contribute 5% of market share by 2030 and support downstream customers in exploring new applications.

5. Technological Innovation and Process Iteration

(1) Core Technology Development Directions

(1.1). Production Process Upgrading

- Popularization of enzymatic processes: Enzymatic conversion gradually replaces traditional melt polycondensation, reducing reaction temperature from 130–150℃ to 80–100℃, cutting energy consumption by 20%, by-products by 30%, and production costs by 12%–15%, enhancing corporate profitability and providing cost-effective products for downstream customers.
- Automation and green production: Wide application of DCS automated control systems achieves ±0.5℃ temperature accuracy, continuous production, 40% improved product stability, and 15% higher capacity utilization. Promotion of green refining technologies such as membrane separation and chromatographic separation raises product purity from 90% to 98%, meeting high-end scenario demands.

(1.2). Product Differentiation Innovation

- High-end products: Focus on R&D of pharmaceutical-grade, low-allergenic, high-purity polydextrose for special medical and pharmaceutical sectors, enhancing added value and meeting customized needs of high-end downstream customers.
- Functional and diversified forms: Develop synergistic products compounded with probiotics and minerals, and launch powder, liquid, and granular products to adapt to different downstream applications and improve user convenience.

(2) Technical Barriers and R&D Investment

Leading enterprises (Tate & Lyle, Bailong Chuangyuan, Baolingbao, Tailijie) have built a full-industry-chain patent network covering processes, equipment, and applications. Technical barriers evolve from single processes to system integration, ensuring core competitiveness while providing patent-risk-free products for downstream customers. The industry's overall R&D intensity reaches 6.8%, with leading enterprises investing 10%–12% of revenue in R&D and an R&D input-output ratio of 1:8.5. Sustained technological innovation continuously adapts to downstream scenario-based demands.

6. Regional Market Differentiation and Growth Potential

(1) Global Regional Market Landscape (2025–2030)

Region	2025 Market Size (USD 100 million)	2030 Market Size (USD 100 million)	CAGR	Growth Drivers
Europe	1.98	3.52	12.5%	Mature health consumption, clustered special medical/high-end food enterprises, clean-label policies
North America	1.85	3.28	12.8%	Strict sugar reduction policies, high obesity rates, high penetration of functional foods and meal replacements
China	1.25	2.75	17.2%	Healthy China policy, population aging, expanding infant market, strong downstream demand
Asia-Pacific (excl. China)	0.52	1.15	17.5%	Demographic dividend, rising health awareness, growth of food and pet food enterprises
Others	0.27	0.55	15.8%	Emerging market consumption upgrades, gradual development of downstream industries, released demand
Global Total	4.87	9.05	13.45%	—

Data sources: Mordor Intelligence, QYResearch 2025

(2) China's Regional Market Layout

- East China/North China: Mature markets accounting for 60% of the national market, gathering core downstream customers such as Mengniu, Yili, and Nestlé. Driven by traditional sectors including dairy, baking, and beverages, they are core layout areas for enterprises.
- South China: Fast-growing market accounting for 25% of the national market, clustered with functional beverage, meal replacement, and pet food enterprises, leading in demand growth and a key area for incremental demand.
- Central and Western China: Potential markets accounting for 15% of the national market. With population growth and health consumption upgrades, downstream food and pharmaceutical enterprises are rising, releasing sustained demand potential for long-term layout.

(3) Export Markets and Compliance Requirements

China's core polydextrose export regions are the EU, North America, South Korea, Russia, and Southeast Asia. Export volume reached 28,000 tons in 2025 and is expected to exceed 50,000 tons by 2030, with a CAGR of 13.8%. International compliance certifications (South Korea KFDA, Russia certification, EU EFSA) are core export barriers. A sound compliance layout helps enterprises adapt to downstream customers' global procurement needs and enhance cooperation stickiness.

7. Competitive Landscape and Corporate Action Plans

(1) Global and Chinese Competitive Landscape (2025)

- Global market: Extremely high concentration with CR5 at 92%, dominated by Tate & Lyle (28%), BENEO (22%), ADM (18%), Bailong Chuangyuan (12%), and Baolingbao (12%). Leading enterprises ensure stable global supply via technological, capacity, and compliance advantages.
- Chinese market: Led by domestic enterprises with CR4 at 58%, including Bailong Chuangyuan (22%), Baolingbao (18%), Tailijie (10%), and Longli Biology (8%). Domestic enterprises rapidly capture the domestic market via cost advantages and proximity to downstream customers while expanding globally.

(2) Competitiveness Comparison of Leading Enterprises (For Downstream Customer Selection)

Enterprise	Technological Advantages	Capacity Advantages	Compliance Advantages	Market Position (Target Customers)
Tate & Lyle	Global leading full-industry-chain technology, customizable solutions	Global layout, high high-end capacity proportion, strong supply capacity	Complete global compliance certifications, adaptable to multi-regional needs	High-end market, serving global large food and pharmaceutical enterprises
BENEO	Leading enzymatic and high-purity technologies, focus on special medical sector	Leading European capacity, high capacity utilization	Sound EU and North American compliance systems	Special medical and high-end food sectors, serving global special medical enterprises
Tailijie	Led national standard formulation, breakthroughs in high-purity/pharmaceutical-grade tech, 40+ IPs	Current capacity 30,000 tons, planned 130,000-ton new line, raw material integration	Full-system certification, 3-year South Korean inspection exemption, outstanding compliance	Mid-to-high end market, exports to 60+ countries, serving renowned downstream customers
Bailong Chuangyuan	Mature enzymatic and green refining technologies, significant cost advantages	Largest capacity in China, continuous expansion of high-end capacity	Complete core regional certifications, adaptable to domestic and overseas customers	Mid-to-high end market, serving domestic and overseas food and special medical enterprises
Baolingbao	Mature composite processes, strong application R&D capabilities	Full-industry-chain layout, stable supply	Complete mainstream certifications, rich compliance experience	Mid-to-high end market, serving core domestic downstream customers

(3) Competitive Trends (2026–2030)

- Rising concentration: Continuous elimination of low-end capacity, global CR5 rising to 95%, China's CR4 to 65%, with competition focusing on high-end products and customer service.
- High-end competition: Pharmaceutical-grade and high-purity products become core focuses, with premium capacity determining profitability and customer stickiness.
- Global layout: Leading enterprises set up capacity in Europe, the US, and Southeast Asia to approach downstream customers and avoid trade barriers.
- Scenario-based R&D: Customized products for special medical, pet, and pharmaceutical sectors become core differentiated competition.

(4) Implementable Corporate Action Plans (Aligned with Market and Downstream Demand)

(4.1). Capacity Layout Action Plan

- Focus on high-end capacity: Achieve ≥50% pharmaceutical-grade/high-purity capacity by 2030, eliminate low-end capacity to meet high-end downstream demands.
- Optimize regional layout: Focus on East China and South China domestically; set up production bases in Europe and Southeast Asia globally to improve supply efficiency and proximity to customers.
- Strengthen capacity management: Adopt automated control systems to enhance capacity utilization and product stability; establish emergency support mechanisms to ensure regular customer procurement.

(4.2). Technological Innovation Action Plan

- Increase R&D investment: Allocate over 10% of annual revenue to R&D, tackling core technologies such as enzymatic optimization and functional compounding for cost reduction and efficiency improvement.
- Build patent and cooperation systems: Layout full-industry-chain patents, jointly R&D with universities and downstream customers to develop scenario-based customized products.
- Promote product upgrading: Enrich high-end, functional, and multi-form products to meet downstream differentiated demands.

(4.3). Market and Customer Service Action Plan

- Deepen domestic market: Strengthen cooperation with traditional downstream customers, explore potential central and western markets, and cultivate new growth.
- Expand global market: Improve compliance certifications in core export regions, establish local service teams, and expand export share.
- Optimize customer service: Implement a hierarchical service mechanism, provide one-to-one exclusive service and technical support, and respond quickly to customer needs.

(4.4). Compliance and Cost Control Action Plan

- Build a global compliance system: Track policy updates worldwide, arrange international certifications in advance, and reduce customer procurement risks.
- Strengthen cost control: Promote upstream integration and long-term contract procurement, adopt green automated production to reduce comprehensive costs.
- Establish risk prevention mechanisms: Monitor risks such as raw material prices and market demand, formulate response plans to ensure stable operation and supply.

8. Risk and Opportunity Analysis

(1) Core Risks

- Market risks: Phased overcapacity may occur after low-end capacity elimination, triggering price wars; intensified competition from substitutes such as inulin and resistant dextrin diverts demand.
- Compliance risks: Updates to global food additive standards and rising export certification costs affect corporate exports and downstream product market access.
- Cost risks: Fluctuations in upstream raw material and energy prices, plus rising environmental costs, cause product price volatility and impact corporate profitability and customer procurement budgets.
- Technical risks: Slow iteration of new technologies and patent infringements fail to meet downstream high-end and scenario-based demands.

(2) Core Opportunities

- Policy opportunities: Sustained implementation of Healthy China and global sugar reduction policies releases market demand and supports enterprise and downstream customer upgrading.
- Consumption opportunities: Rising penetration of special medical food and pet food, plus growing high-end consumption demand, create new increments.
- Technical opportunities: Breakthroughs in enzymatic and green manufacturing technologies help enterprises reduce costs and provide high-value products for customers.
- Globalization opportunities: Trade agreements such as RCEP boost circulation, supporting enterprises in expanding global markets and connecting with international customers.
- Emerging scenario opportunities: Expansion into pharmaceuticals and bio-based materials opens diversified development space for win-win results between enterprises and customers.

9. Development Outlook and Conclusions

(1) Core Development Outlook

From 2026 to 2030, the polydextrose market will maintain rapid growth with a global CAGR of 13.45%, led by China's growth rate. High-end development, globalization, and scenario diversification will be core themes. Product structure will continue upgrading, with pharmaceutical-grade/high-purity products accounting for 50% and becoming growth engines. The competitive landscape will solidify, with leading enterprises dominating the market and SMEs breaking through in niche segments. Application boundaries will expand from food and beverages to special medical food, pharmaceuticals, and bio-based materials, with emerging scenarios contributing 20% of market share by 2030.

(2) Conclusions

Driven by the global "sugar reduction, high fiber" health trend and policy dividends, polydextrose, as a core functional ingredient, boasts broad market prospects. For enterprises, strict implementation of action plans, focus on high-end development and customer demand orientation are required to build core competitiveness. For downstream customers, leveraging the technological, capacity, and compliance advantages of leading enterprises to select products suitable for their scenarios enables product upgrading and differentiated competition. In the future, joint efforts between enterprises and downstream customers to avoid risks and seize opportunities will promote high-quality development of the polydextrose industry and achieve mutual benefit and win-win results.