China's Position and Core Advantages of Polydextrose in the Global Supply Chain

Overview

As a soluble dietary fiber featuring prebiotic function, low-calorie property and excellent processing performance, polydextrose has become a core raw material in the global food, beverage, health product and pharmaceutical excipient industries. It aligns with the dual trends of global healthy consumption upgrading and sugar reduction transformation in the food industry.

At present, China has firmly established itself as a core hub of the global polydextrose supply chain. Supported by its full industrial chain synergy, large-scale production capacity, cost-effective products and flexible market responsiveness, China has become the preferred supply base for global downstream customers. Its core position and competitive advantages concentrate on the following four dimensions, precisely meeting downstream customers' core demands of cost reduction and efficiency improvement, regulatory compliance, and stable supply.

I. Core Position in the Global Supply Chain: From Manufacturing Hub to Value Enabler

China has evolved from a major global producer of polydextrose to a "core of production capacity, trade hub and demand engine" in the global supply chain. It is deeply integrated into the global downstream industrial division of labor, serving as a key force influencing global market supply and pricing, and providing downstream customers with stable, efficient and reliable supply guarantees.

1. Core of Production Capacity and Supply

Leading the first echelon of global production capacity with superior supply stability.

By 2025, China's total annual polydextrose production capacity reached **39,500 tons**, accounting for 29.6% of the global total. For the first time, China surpassed Europe to rank second worldwide, with its production capacity firmly in the global first tier. Industrial clusters have formed centering on Shandong, Henan and coastal East China. Leading enterprises boast top-tier single-plant production capacity, with capacity utilization rates maintained above 80%, enabling year-round stable supply and effectively resolving industry pain points such as supply shortages and delivery delays for downstream customers during peak seasons.

Relying on a complete supporting system for the upstream corn deep-processing industry, China achieves 100% self-sufficiency in polydextrose raw materials, effectively avoiding supply risks caused by international raw material fluctuations and providing long-term stable supply guarantees for downstream customers.

2. Global Trade Hub

Strong export orientation with extensive market coverage.

Approximately 65% of China's polydextrose production capacity is dedicated to exports, with its export network

covering major global markets including Southeast Asia, Europe, North America, the Middle East and Latin America. Exports to RCEP member countries account for over 50%. Leveraging coastal ports such as Qingdao, Shanghai and Ningbo, an integrated logistics system of "raw material procurement – production and processing – global distribution" has been established, enabling fast delivery within 7–15 days to core markets and significantly reducing downstream customers' inventory costs and logistics cycles.

Meanwhile, as the world's largest polydextrose consumer market, China accounts for 38% of global consumption, forming a dual-driven pattern of "domestic sales + exports". This not only meets the immediate needs of domestic downstream customers but also fulfills customized orders from global clients, making China a "two-way hub" of the global supply chain.

3. Leader of the Industrial Landscape

Led by top enterprises with high industrial concentration.

The global polydextrose industry presents an oligopolistic structure, with the top five manufacturers holding over 92% of the global market share. Chinese enterprises including Baolingbao, Bailong Chuangyuan and Henan Tailijie rank among the global first tier, collectively accounting for more than 70% of domestic production capacity, forming a large-scale and intensive industrial layout.

Through technology introduction and independent innovation, China's leading enterprises have achieved technological parity with international giants (ADM, Tate & Lyle, BENEO), with product quality reaching international advanced levels. Meanwhile, with more flexible pricing strategies and customized services, they have become the core choice for global downstream customers to replace imported products and control procurement costs.

II. Core Competitive Advantages

China's polydextrose core advantages are built around downstream customers' four key demands: **cost reduction, regulatory compliance, quality improvement and efficiency enhancement**. Balancing professionalism and commercial value, they form unique competitiveness distinct from international peers and create sustainable procurement value for downstream clients.

(I) Cost Advantage: Full Industrial Chain Synergy, World-Leading Cost Performance

Cost control is a core factor in downstream customers' procurement decisions. Leveraging the supporting advantages of the full industrial chain, China's polydextrose has built an irreplicable cost barrier, offering cost-effective product options for downstream customers.

- **Upstream**: As the world's largest corn producer and deep-processor, China enjoys abundant supply of glucose, the core raw material for polydextrose. Leading enterprises achieve raw material self-sufficiency

through vertical integration and long-term price-lock agreements, effectively mitigating raw material cost fluctuations. Raw material costs are 15%–25% lower than those of international peers.

- **Production**: Top Chinese enterprises generally adopt continuous production processes coupled with automated control systems, greatly improving production efficiency and reducing unit energy consumption and labor costs. The overall production cost is 20%–30% lower than that of European and American enterprises.
- **Logistics**: Benefiting from industrial clusters and coastal port advantages, domestic distribution and international maritime shipping costs are significantly lower than those of international competitors, further amplifying the cost edge.

Ultimately, Chinese polydextrose is priced 10%–20% lower than imported products. While ensuring quality, it helps downstream customers substantially reduce raw material procurement costs and enhance product market competitiveness.

(II) Quality and Compliance Advantage: Aligned with International Standards, Adaptable to Global Markets

Downstream sectors such as food, health products and pharmaceutical excipients impose extremely high requirements on raw material quality and compliance. China’s polydextrose has achieved "qualified quality and full compliance coverage", seamlessly adapting to market access standards across different regions worldwide and eliminating downstream customers’ compliance concerns.

- **Quality**: Leading Chinese enterprises have introduced advanced production equipment and technologies from Germany’s GEA, Japan’s Hitachi and others, realizing full-process controllable production. Product purity is stably maintained above 95%–98%, with moisture content ≤1%, far exceeding national standard requirements. Indicators including oligomer content, ash content and heavy metals reach international advanced levels, with strong batch stability to meet the consistent quality demands of downstream large-scale production.

Customized products such as high-solubility, low-ash and narrow-distribution grades are developed for diverse application scenarios: high-solubility polydextrose (cold-water solubility ≥85%) for ready-to-drink beverages, and low-ash products for pharmaceutical excipients, precisely matching downstream customers’ differentiated needs.

- **Compliance**: Fifteen mainstream domestic enterprises have obtained international authoritative certifications including ISO 22000, FSSC 22000, HALAL and KOSHER. Products of most leading enterprises have passed FDA GRAS, EFSA authorization, KFDA registration and other accreditations, fully aligning with global food and pharmaceutical industry access standards. They can be directly used by downstream customers serving either the domestic market or global exports without additional compliance investment.

(III) Supply and Responsiveness Advantage: Flexible and Efficient, Ensuring Production Continuity

"Stable supply and fast response" are core demands for downstream large-scale production. China's polydextrose supply chain forms unique advantages through flexible capacity allocation and efficient customer response mechanisms.

- **Supply Stability**: Polydextrose production capacity in China is distributed in a decentralized yet concentrated manner, with industrial clusters in Shandong, Henan and coastal East China. Leading enterprises operate multiple production bases, enabling capacity complementation and effectively avoiding supply risks caused by production suspension or maintenance at a single site.

Abundant raw material supply supports year-round uninterrupted production with short order lead times: 3–7 days for domestic orders and 7–15 days for international orders, far shorter than the 15–30 day lead time of international peers, ensuring continuous production for downstream customers.

- **Response Flexibility**: Chinese enterprises can flexibly adjust product specifications and packaging (25kg bags, 1000kg jumbo bags, etc.) according to downstream customers' specific needs, providing small-batch trial orders and large-volume customized services. They also offer technical support targeting downstream application pain points, assisting customers in optimizing formulas to improve taste and functionality, truly realizing "customization on demand and full-process empowerment".

(IV) Technological and Innovation Advantage:

Iterative Upgrading, Empowering Downstream Product Value-Add

China's polydextrose industry has shifted from "introduction and digestion" to "independent innovation", with continuously evolving technological capabilities. This not only guarantees stable product quality but also provides value-added services for downstream customers, supporting their differentiated competition.

- **Process Innovation**: Top domestic enterprises have upgraded from batch acid catalysis to continuous enzymatic production, raising yield to over 92%, reducing by-products by 30% and cutting unit energy consumption by 18%. This lowers production costs while improving product purity and safety.

Green production technologies keep advancing: the application of closed-loop water treatment systems results in COD emissions superior to national standards, aligning with the global trend of green manufacturing and helping downstream customers transition to "clean production".

- **Product Innovation**: Focusing on downstream market demands, special grades such as high-purity, low-ash and high-solubility polydextrose have been developed, expanding into high-end applications including pet food, feed additives and foods for special medical purposes.

Leveraging R&D strengths, enterprises assist downstream customers in developing new low-calorie, high-fiber and clean-label products such as functional beverages, sugar-free baked goods and special medical foods, helping clients seize the healthy consumption market and enhance product added value.

III. Conclusion:

China's Polydextrose – The Preferred Supply Chain Partner for Downstream Customers

At present, China has solidified its core position in the global polydextrose supply chain. It is not only a major global production base and trade hub but also a core pillar for downstream customers to reduce costs, improve efficiency, ensure compliant operations and drive product innovation.

Compared with international peers, China's polydextrose precisely matches procurement needs in food, beverage, health product and pharmaceutical excipient sectors with its core strengths of **high cost performance, high-quality compliance, stable supply, flexible response and technological empowerment**, making it the preferred supply chain partner for global downstream customers.

In the future, as China continues to expand polydextrose production capacity, upgrade technologies and deepen global layout, it will further consolidate its core status in the global supply chain, continuously provide more valuable products and services for downstream customers, and help them gain a competitive edge in the global market.