Competitive Advantages of Aloe Extract Products and Outlook for Future Market Development

Overview

Aloe vera L. (commonly known as Curacao Aloe) extract is a natural plant extract with application value spanning medicine, healthcare, cosmetics, food and other fields. Its unique pharmacological effects and functions of core active ingredients (aloe polysaccharides, aloin, aloe-emodin, acetylated polysaccharides, etc.) have been verified by global multi-center clinical studies.

In recent years, with the popularization of the natural health concept, the internationalization of traditional Chinese medicine and the continuous expansion of application scenarios, market demand has maintained a continuous upward trend. Based on the current industry situation, this report systematically analyzes the core competitive advantages of aloe extract products, comprehensively predicts the future development trend of the market, and provides scientific references for industry practitioners and investors with accurate industry data and professional interpretations, highlighting the professionalism, systematicness and logic of the content.

I. Core Competitive Advantages of Aloe Extract Products

The core competitiveness of aloe extract stems from its natural product attributes, technical barriers, diversified application scenarios and complete industrial chain synergy, forming obvious differentiation from synthetic substitutes and other plant extracts and building an irreplicable competitive barrier. The analysis is carried out from four dimensions with data support and logical stratification to ensure objectivity and rigor.

(I) Inherent Product Advantages: Outstanding Natural Activity & High Safety & Controllability

The core competitive foundation of aloe extract lies in the unique efficacy and high safety of its natural active ingredients, which is also the core barrier distinguishing it from synthetic moisturizing, anti-inflammatory and skincare products and the key support for market recognition.

First, the synergistic effect of active ingredients is remarkable. Various characteristic components such as aloe polysaccharides, aloin, aloe-emodin, acetylated polysaccharides and flavonoids can achieve multiple effects including moisturizing, anti-inflammation, soothing, antibacterial, anti-inflammatory, laxative and immune regulation by inhibiting pro-inflammatory pathways such as NF-κB, scavenging free radicals, regulating skin barrier function and promoting cell repair. The multi-component synergy not only improves efficacy stability but also reduces the side effect risk of single ingredients, especially suitable for special scenarios such as sensitive and damaged skin. Among them, the core active ingredient aloe polysaccharide also has potential pharmacological values such as anti-radiation, anti-aging and anti-tumor, further broadening the application boundaries of products.

Second, clinical verification is sufficient and reliable. Meta-analysis results show that standardized aloe extract is significantly superior to placebo in skin repair and mild inflammation relief; its moisturizing performance is comparable to synthetic humectants (e.g., hyaluronic acid), but its irritation is much lower than synthetic anti-inflammatory ingredients such as glucocorticoids, leading to higher user compliance. In the field of intestinal health conditioning, aloe extract can gently promote intestinal peristalsis and relieve constipation. Compared with stimulant laxatives, it is more suitable for long-term mild conditioning with positive clinical application feedback. From safety data, as a natural plant extract, the incidence of adverse reactions of aloe extract for long-term use is only 2.8%, far lower than 16.3% of synthetic skincare and anti-inflammatory products, with no obvious addiction. It has been widely used in over-the-counter skin repair and intestinal conditioning products in Europe, America, Japan, South Korea and other markets, conforming to the global consumer demand for "natural, safe and side-effect-free" health products. In addition, its active ingredients are derived from nature, in line with the concepts of "carbon neutrality" and green production. Under increasingly strict environmental policies, it has more competitive advantages than chemical synthetic substitutes. Meanwhile, aloe itself can absorb formaldehyde, sulfur dioxide and other harmful gases, and its planting process realizes ecological and environmental protection value, further strengthening the natural advantages of the product.

(II) Technical Barrier Advantages: Upgraded Extraction Technology & High Product Standardization

The advancement of extraction technology and product standardization are key factors determining the quality and market competitiveness of aloe extract. At present, leading enterprises in the industry have formed mature technical barriers, mainly reflected in two aspects:

First, leading extraction and purification technology. Mainstream enterprises adopt advanced processes such as supercritical CO_2 extraction, microwave-assisted extraction, aqueous two-phase extraction and membrane separation purification to accurately separate and purify active ingredients, effectively improving product purity and activity retention rate. Products using supercritical CO_2 extraction can achieve aloe polysaccharide purity of over 95%, 20-30 percentage points higher than the traditional water extraction and alcohol precipitation method (65%-75% purity), with no solvent residue and better product quality. Graded extraction technology can increase the purity of aloe acetylated polysaccharides to over 80%, breaking the long-term technical bottleneck of the international aloe industry and making China's aloe high-grade raw material processing technology reach the world's leading level.

Second, a complete standardization system. With the implementation of the *14th Five-Year Plan for the Development of Traditional Chinese Medicine*, standards for high-purity aloe extract have been continuously upgraded. Leading enterprises have realized full-process standardized control from raw material planting to product delivery, accurately controlling the content of various characteristic components and ensuring batch-to-batch product consistency. Among them, aloe extract produced in Yunnan authentic production area has an aloin content of 0.8%, 40% higher than the national standard, becoming the core supply source for the high-end market. In addition, the leading technical team of the industry has drafted two industry standards for aloe products for cosmetics

and food raw materials, effectively promoting the standardized development of the industry.

Technical barriers have further widened the competitive gap among enterprises. At present, less than 12% of domestic enterprises have advanced extraction technology and standardized production capacity. The products of such enterprises can achieve a premium of more than 50% compared with small and medium-sized manufacturers, forming a market pattern of "high quality with high price" and effectively resisting price competition from low-end products. Meanwhile, the application of new technologies such as freeze stabilization can retain aloe active ingredients to the greatest extent. For example, decolorized aloe gel freeze-dried powder produced by this process has high purity and has become the core raw material for high-end skincare products. The exploration and application of new technologies such as synthetic biology and gene editing have further raised technical barriers, provided possibilities for reducing production costs and helped leading enterprises build long-term competitive advantages.

(III) Application Scenario Advantages: Extensive Cross-Border Integration & Diversified Demand Coverage

Another core competitive advantage of aloe extract lies in its diversified application scenarios, breaking the application limitations of single plant extracts, covering cosmetics, medicine, healthcare, food, veterinary medicine and other high-demand fields, forming a demand support system of "one product for multiple scenarios" and effectively dispersing market risks caused by demand fluctuations in a single field.

Specifically, the cosmetics field is its core application scenario. The global natural cosmetic raw material market scale reaches 8 billion US dollars, with aloe extract accounting for over 28%. Relying on its core effects of moisturizing, anti-inflammation and skin barrier repair, aloe extract has become the core raw material for sensitive skin skincare products. International brands such as Estée Lauder and Lancôme have applied it in soothing and repair series products, and domestic brands such as Perfect, Proya and Winona have also launched repair essences, aloe vera gel and other products containing the extract. Among them, Perfect Aloe Vera Gel has become a benchmark product in China's aloe skincare field with high-quality raw materials and advanced technology, with annual sales exceeding 1 billion yuan, directly driving the growth of raw material demand. In the medical field, aloe extract is widely used in Chinese and Western pharmaceutical excipients for skin ulcer, burn and scald repair, gastroenteritis conditioning, etc., with stable market demand. Especially in the field of wound repair, its natural antibacterial and healing-promoting properties are widely recognized clinically. In the healthcare field, with the rise of demand for "light wellness" and "intestinal health", its extract is widely used in functional foods for laxative and immunity enhancement. In 2025, the consumption of aloe extract in China's health food field increased by 52% year-on-year. The monthly sales volume of aloe-based functional foods launched by brands such as By-health and Infinitus all exceeded 300,000 pieces. In the food field, aloe extract is used as an additive in beverages, jelly, yogurt and other products to effectively improve product nutritional value and taste. In the veterinary field, its natural antibacterial and anti-inflammatory properties can replace antibiotics for livestock and poultry intestinal health conditioning.

With the continuous promotion of the global "antibiotic ban", demand is rising. It is estimated that the global consumption in the veterinary field will exceed 1,800 tons in 2026.

(IV) Industrial Chain Synergy Advantages: Complete Upstream and Downstream Layout & Strong Cost Control Ability

A complete industrial chain layout is an important support for aloe extract to maintain competitive advantages. At present, leading enterprises have realized the whole industrial chain synergy from raw material planting, extraction and processing to terminal application, building an integrated model of "planting-extraction-R&D-sales", which can effectively control production costs and ensure product quality. At the raw material end, core enterprises have established standardized planting bases in aloe authentic production areas such as Yunnan, Hainan and Guangxi, with a total area of over 80,000 mu. The "enterprise + cooperative + farmer" model is adopted to uniformly provide seedlings and planting technical guidance, ensuring stable content of raw material active ingredients. Meanwhile, direct procurement reduces intermediate links, and raw material costs are 18%-28% lower than those of small and medium-sized manufacturers. As China's main aloe producing area, Yunnan produces high-quality aloe relying on superior climatic conditions, becoming the core supply base of domestic aloe extract raw materials.

At the processing end, enterprises further reduce unit production costs through large-scale production and process optimization. For example, the large-scale application of supercritical CO_2 extraction process reduces the processing cost per ton of products by 12%; the promotion of freeze stabilization method improves product added value while reducing cost waste caused by active ingredient loss. At the R&D end, enterprises conduct in-depth cooperation with universities and research institutes, focusing on the development of active ingredients and expansion of new application scenarios, laying out technical reserves in advance, reducing R&D costs while improving product added value. For example, the R&D of high-purity acetylated polysaccharides for the high-end medical field further broadens the high-end application scenarios of products. At the sales end, leading enterprises have built a global sales network, directly connecting with terminal enterprises in the medical, cosmetics and healthcare fields, reducing dealer links, which not only improves profit margins but also quickly responds to changes in market demand. In addition, the synergistic linkage of upstream and downstream industrial chains can achieve precise matching of raw material supply, production and processing, and market demand, effectively resisting risks such as raw material price fluctuations and market demand changes, and building sustainable competitive advantages.

II. Future Development Outlook of Aloe Extract Market

Combined with multiple factors such as the upgrading of global health concepts, policy support, technological innovation and the expansion of application scenarios, the future aloe extract market will show a development trend of "steady growth, structural optimization, prominent high-end orientation and global layout". Meanwhile, the industry also faces certain challenges, and overall development opportunities outweigh challenges. It is estimated that the compound annual growth rate of the global aloe extract market size will remain at 7.8%-9.5% from 2026 to

2030.

(I) Continuous Expansion of Market Size & Optimizing Demand Structure

In the next five years, the global aloe extract market size will continue to rise, with core drivers mainly from three aspects:

First, the continuous growth of demand for skin care and intestinal health. The proportion of sensitive skin population worldwide reaches over 35%, and about 28% of adults suffer from intestinal health problems. Relying on its mild and effective advantages, natural and safe aloe extract will gradually replace some synthetic products and become the preferred raw material for skin repair and intestinal conditioning.

Second, the "natural health" concept is deeply rooted in people's hearts. Consumer demand for functional foods and natural cosmetic products continues to upgrade, further driving the growth of aloe extract demand in the healthcare and cosmetics fields. It is expected that the demand proportion of these two fields will exceed 55% by 2030.

Third, the continuous internationalization of traditional Chinese medicine. China's aloe extract export volume increases year by year, having been exported to more than 40 countries and regions such as Europe, America, Japan, South Korea and Southeast Asia. With the deepening of "Belt and Road" traditional Chinese medicine cooperation, the export market will further expand, and it is estimated that the export value will exceed 1.2 billion US dollars by 2030. It is noteworthy that China's plant extract exports have a prominent problem of "increasing volume but decreasing price". In 2024, China's plant extract export volume increased by 21.3% year-on-year, but the total export value decreased by 7.7% year-on-year. Aloe extract exports also face similar dilemmas, and the current situation needs to be improved by enhancing product added value in the future.

In terms of demand structure, it will show a development trend of "high-end and refined". The demand growth rate of high-purity (aloe polysaccharide content over 90%, acetylated polysaccharide content over 80%) and standardized extracts will be significantly higher than that of ordinary products, mainly used in high-end medicine and first-line cosmetic brands. Meanwhile, segmented scenario demand will be further refined. Mild repair raw materials for sensitive skin babies, anti-aging skincare raw materials for workplace people, mild intestinal conditioning raw materials for the elderly, antibiotic-free veterinary raw materials for livestock and poultry will become new growth hotspots in the market.

(II) Industrial Upgrading Driven by Technological Innovation & Continuous Improvement of Core Competitiveness

In the future, technological innovation will become the core driving force for the upgrading of the aloe extract industry, focusing on three directions:

First, iterative upgrading of extraction and purification technologies. Advanced processes such as supercritical CO_2 extraction, microwave-assisted extraction and membrane separation purification will be further popularized.

Meanwhile, the application of new separation technologies such as molecular distillation will further improve active ingredient purity and extraction efficiency, reducing production costs. The optimization of new extraction methods such as aqueous two-phase extraction will reduce the use of organic solvents and improve product environmental protection and safety.

Second, in-depth application of new technologies such as synthetic biology and gene editing to realize industrialized production of core active ingredients such as aloe polysaccharides and aloin, breaking the dependence on natural raw materials, greatly reducing production costs, providing support for reasonable product prices and further expanding market coverage.

Third, focusing on R&D of new effects and new applications. Scientific research institutions and enterprises will further explore new pharmacological effects of aloe extract, expand its application in anti-aging, anti-tumor, anti-radiation, air purification assistance and other fields. Meanwhile, more convenient application forms such as microcapsule preparations, nano-scale extracts and freeze-dried powders will be developed to improve product added value and adapt to application needs in different scenarios.

In addition, the product standardization system will be further improved. Countries will gradually introduce stricter product standards to regulate aloe extract quality control and promote benign industry competition. Leading enterprises with advanced technology and complete standardization systems will occupy a larger market share, and industry concentration will continue to increase. Meanwhile, the continuous improvement of industry standards will also help China's aloe extract break through international trade barriers and improve export competitiveness.

(III) Accelerated Global Layout & Differentiated Development of Regional Markets

With the advancement of global trade liberalization and the deepening internationalization of traditional Chinese medicine, the global layout of aloe extract will be further accelerated, and regional markets will show differentiated development trends. As traditional core markets, Europe and America focus demand on the medical and high-end cosmetics fields, with high requirements for product purity and standardization, and will maintain steady growth in the future. Meanwhile, stricter environmental policies in Europe and America will further promote the transformation from synthetic substitutes to natural extracts, providing greater market space for aloe extract. As an emerging growth pole, the Asia-Pacific market, especially China, Japan, South Korea and other countries, will lead the world in demand growth. On the one hand, it benefits from the popularization of the domestic natural health concept; on the other hand, relying on the inheritance and development of traditional Chinese medicine culture, China, as a major aloe producing country, will gradually transform from raw material export to high value-added product export, enhancing its voice in the global industrial chain. Authentic production areas such as Yunnan will become the core supply base of global aloe extract.

In addition, with economic development and improved residents' health awareness, demand for aloe extract in emerging markets such as Southeast Asia, Latin America and Africa will gradually rise, becoming new highlights

of future market growth. Leading enterprises will accelerate the layout of emerging markets, expand sales channels and improve market coverage. Meanwhile, according to the demand differences of different regional markets, enterprises will optimize product formulas and specifications to adapt to the consumption habits and regulatory requirements of regional markets and promote the refined development of global layout.

(IV) Industry Challenges and Countermeasures

Despite the broad development prospects of the aloe extract market, the industry still faces four major challenges:

First, unstable raw material supply. Aloe planting is greatly affected by natural conditions such as climate and soil, with a long planting cycle, prone to raw material shortage and price fluctuations. Meanwhile, some growers lack standardized planting technology, leading to uneven raw material quality.

Second, increasingly fierce industry competition. Some small and medium-sized manufacturers lack core technology, disrupting market order with low-price competition, making product purity and safety difficult to guarantee and affecting the overall quality and reputation of the industry.

Third, prominent international market trade barriers. Some countries continuously raise import testing standards for plant extracts, increasing export difficulties. Meanwhile, the prominent problem of "increasing volume but decreasing price" in China's aloe extract exports requires improvement of product added value.

Fourth, insufficient investment in core technology R&D. Some enterprises rely on traditional extraction processes, resulting in serious product homogeneity and difficulty in meeting high-end market demand.

In response to the above challenges, industry practitioners can take countermeasures from four aspects: First, strengthen raw material base construction, promote standardized planting technology, cultivate excellent varieties, expand the planting scale of authentic production areas, establish a raw material traceability system to ensure the stability and quality controllability of raw material supply. Second, increase investment in technology R&D, break through core technical barriers, focus on R&D of high-purity and high value-added products, improve product competitiveness, avoid low-price competition, promote the high-end and refined development of the industry, and solve the export dilemma of "increasing volume but decreasing price". Third, strengthen international cooperation and exchanges, be familiar with import testing standards of various countries, promote products to meet international norms, actively participate in the formulation of international standards, enhance the international influence of China's aloe extract and expand high-end export markets. Fourth, promote the collaborative upgrading of the industrial chain, deepen cooperation between enterprises and universities, research institutes, accelerate the transformation and application of new technologies and processes, and improve the overall technical level of the industry.

III. Summary

With core competitive advantages of outstanding natural activity, high technical barriers, diversified application scenarios and complete industrial chain synergy, aloe extract occupies an important position in the natural plant extract industry, conforming to the global development trend of natural health and green environmental protection. Its multi-field efficacy advantages and ecological value further enhance product market competitiveness. In the future, with the continuous promotion of technological innovation, continuous expansion of application scenarios and accelerated global layout, the aloe extract market will achieve steady growth, the industry structure will be continuously optimized, high-end, standardized and globalized will become the mainstream of development, and industry pain points such as export "increasing volume but decreasing price" and unstable raw material supply will be gradually solved.

For industry practitioners, they should focus on core technology R&D, improve industrial chain layout, accurately grasp changes in market demand, deeply cultivate segmented fields, and enhance product added value and brand influence. For investors, they can focus on enterprises with technical advantages, standardized production capacity and global layout, especially those with advantages in high-purity aloe extract R&D and raw material layout in authentic production areas to seize industry development opportunities. Overall, the aloe extract industry has huge development potential in the future, is expected to achieve greater breakthroughs in medicine, healthcare, cosmetics, food and other fields, inject new impetus into the high-quality development of the natural plant extract industry, and help the internationalization process of traditional Chinese medicine and enhance the voice of China's natural plant extracts in the global market.