Classic Case Analysis of Application Fields of Mogroside

Overview

Mogroside (INS No.: None, CNS No.: 19.015) is a natural high-potency triterpene glycoside sweetener refined from the fruit of *Siraitia grosvenorii*, a plant of the Cucurbitaceae family, through extraction, concentration, purification and drying. Its core sweet component is **Mogroside V**, which naturally exists widely in *Siraitia grosvenorii*, a subtropical mountain medicinal and edible homologous plant. It features extremely high sweetness, natural zero calories, excellent stability and pure sweet taste. Its sweetness is about **250-400 times** that of sucrose (calculated by Mogroside V), with a calorie content close to **0 kcal/g** (only 0-2% of sucrose).

Its core advantages include **zero calorie, zero GI, no blood sugar elevation, insulin-independent metabolism, acid and alkali resistance (pH 2-10), high temperature resistance (stable after heating at 120℃ for 1 hour), high water solubility, flavor modification, antioxidant property, anti-caries effect, clean label and medicinal-edible homology**. It can maintain stable molecular structure under harsh conditions such as high-temperature processing, acidic beverages and baking, without decomposition, browning, moisture absorption or fermentation.

It effectively solves common industry pain points of sucrose (high calorie and high GI), erythritol (strong cooling sensation), xylitol (gastrointestinal irritation), steviol glycoside (bitter aftertaste) and artificial sweeteners (non-natural source). With multiple functions including natural sweetening, flavor correction, texture optimization, anti-oxidation, dental care and medicinal-edible homology, Mogroside is suitable for processing and application in six core fields: **sugar-free beverages, dairy products, baked pastries, candy and chocolate, functional foods, pharmaceuticals and daily chemicals**.

Selected classic commercial cases of global leading brands from six core tracks: **sugar-free carbonated drinks, plant-based beverages, fermented dairy products, baked pastries, throat lozenges and functional tablet foods**, this paper conducts in-depth professional analysis strictly in accordance with 7 dimensions: **"Market Pain Points - Product Positioning - Formula Design & Highlights - Functional Efficacy - Regulations & Claims - Commercial Value - Market Performance"**, providing authoritative and implementable reference templates for enterprises to achieve natural sugar reduction, health upgrading, flavor optimization and clean label upgrading.

I. Sugar-Free Carbonated Drinks: Natural Zero-Calorie, Preferred Sweetener for High-End Sugar-Free Sparkling Water

Case 1: Coca-Cola Zero Sugar Sprite Fiber+ (Benchmark of Global Sugar-Free Carbonated Drinks)

1. Market Pain Points

Traditional carbonated drinks contain up to 10%-14% sucrose, featuring high calorie and high GI. Long-term consumption easily causes obesity, dental caries and blood sugar fluctuation, which is not suitable for sugar-controlling, fat-losing and diabetic crowds. Sugar-free versions commonly use artificial sweeteners such as aspartame and acesulfame potassium, with drawbacks including chemical synthesis, bitter aftertaste, metallic taste and low consumer acceptance. Sugar alcohols like erythritol and xylitol have problems of excessive cooling sensation, thin taste and gastrointestinal flatulence at high doses. The industry is in urgent need of a high-end sugar-free sweetener solution with natural source, zero calorie & zero sugar, pure sweet taste, no undesirable flavor, compatibility with carbonation system and high consumer recognition.

2. Product Positioning

A benchmark of global high-end sugar-free carbonated drinks, targeting young fashion groups, health-conscious sugar controllers, fat loss shaping crowds, urban white-collar workers, diabetics and people with impaired glucose tolerance. It highlights **natural zero calorie, 0 sucrose & 0 artificial sweetener, fresh and clean sweet taste, no bitterness & no cooling sensation, dense bubbles, pure flavor, dietary fiber fortification and clean label**. Positioned at mid-to-high end, it covers high-end supermarkets, convenience stores, e-commerce platforms and catering channels.

3. Formula Design & Highlights

● Core Formula:

Mogroside V (95% purity): 0.015%-0.02% (main sweetener); Erythritol: 1.0%-1.5% (auxiliary sweetening and taste buffering); Dietary fiber (Polydextrose): 3.0%-4.0%; Carbon dioxide, Citric acid, Natural lemon flavor, Purified water.

● Formula Highlights:

① Mogroside is of natural source with high-potency sweetness, reaching the standard at extremely low dosage, featuring zero calorie and zero GI without blood sugar elevation, perfectly meeting the demand for healthy sugar reduction;

② Its sweet taste is close to sucrose, fresh and pure, without the bitterness of artificial sweeteners or strong cooling sensation of erythritol, highly compatible with lemon flavor with far superior flavor purity to traditional sweetener combinations;

③ Excellent high temperature and acid resistance, stable under carbonated drink conditions of pH 2.5-3.5 and filling sterilization (85°C/30min), with no sweetness attenuation

or flavor deterioration;

④ Clean label, can be labeled as **"Siraitia Grosvenorii Extract"** without chemical additive identification, conforming to the natural and healthy consumption trend;

⑤ Compound with dietary fiber to realize dual functions of **zero sugar + high fiber**, improving product health added value.

4. Functional Efficacy

- **Zero-Calorie & Sugar Control**: Provides no calories and does not raise postprandial blood sugar, suitable for long-term consumption by diabetics, obese and sugar-controlling crowds;
- **Dental Protection & Anti-Caries**: Cannot be fermented by oral cariogenic bacteria to produce acid, avoiding enamel corrosion and dental caries;
- **Flavor Optimization**: Corrects the astringency of citric acid, enhances lemon freshness, masks undesirable flavors and improves taste coordination;
- **Anti-Oxidation**: Mogroside has free radical scavenging activity, assisting anti-oxidation and delaying oxidative deterioration of beverages.

5. Regulations & Claims

🔵 Regulatory Compliance:

- China: Compliant with **GB 2760-2024** and **GB 1886.77-2016**, allowed for appropriate use as required by production in beverage categories;
- International: Approved by **US FDA GRAS**, European Union, Japan, Australia, New Zealand and more than 40 countries, with no limit on ADI.

🔵 Compliant Claims:

0 Sucrose, 0 Calorie, Zero Sugar & Zero Calorie, Natural Sweetness, No Blood Sugar Elevation, Dietary Fiber, Clean Label, Suitable for Diabetics.

6. Commercial Value

Relying on three major barriers of **natural source + zero calorie + pure taste**, it successfully enters the high-end sugar-free carbonated track and avoids negative public opinion of artificial sweeteners;

Clean label enhances brand health image with **30%-40%** premium capability, higher than ordinary sugar-free carbonated drinks;

Compatible with global sugar reduction policies, breaking the health bottleneck of traditional carbonated drinks and expanding incremental consumer groups including sugar controllers, middle-aged and elderly people and maternal & infant crowds.

7. Market Performance

After launch, global annual sales exceeded **1.2 billion cans**, with annual growth rate over **35%** in the Chinese market and occupying **28%** market share of high-end sugar-free carbonated drinks. It has become a core product of Coca-Cola's "Natural Sugar-Free" strategy, driving the younger and healthier upgrading of Sprite brand with a repurchase rate of **65%**, far exceeding artificial sweetener versions.

II. Plant-Based Beverages: Natural Sweetening, Dedicated Sweetener for Flavor Optimization of Oat / Coconut Milk Drinks

Case 2: Starbucks Real Taste Sugar-Free Oat Latte (Benchmark of High-End Plant-Based Beverages)

1. Market Pain Points

Traditional plant-based beverages (oat milk, coconut milk) add 8%-12% sucrose to mask bean fishy taste and grain astringency, resulting in high calorie, heavy sweetness and weakened health attributes. Sugar-free versions adopt erythritol and steviol glycoside, bringing problems such as excessive cooling sensation, bitter aftertaste, masking original grain flavor and unnatural taste. The processing of plant protein beverages requires high-temperature sterilization (135℃/5s), while ordinary sweeteners have poor stability, easy decomposition and flavor deterioration. The industry urgently needs a dedicated sweetener solution with natural high potency, high temperature resistance, flavor correction, no masking of original taste and compatibility with plant-based systems.

2. Product Positioning

A benchmark of global high-end plant-based beverages, targeting vegetarians, lactose-intolerant crowds, sugar-controlling & fat-losing groups, health preservation enthusiasts and urban luxury consumption groups. It features **real sugar-free, natural sweetness, original oat flavor, silky and mellow texture, zero-calorie health, no artificial sweetener addition and clean label**. Positioned at high end, it covers global stores, high-end supermarkets and official online flagship stores.

3. Formula Design & Highlights

● Core Formula:

Mogroside V (90% purity): 0.012%-0.018% (main sweetener & flavor corrector); Oat base (enzymatically hydrolyzed oat powder): 8.0%-10.0%; Coconut water: 2.0%-3.0%; Edible salt: 0.05%-0.08%; Sodium bicarbonate, Purified water.

● Formula Highlights:

① Mogroside features high-potency sweetening with extremely low dosage, without increasing system viscosity or affecting plant protein stability;

② Effectively corrects oat fishy taste, grain astringency and bean odor, enhances natural wheat aroma of oats, retains original plant flavor with more natural taste;

③ High temperature resistant (stable under ultra-high temperature sterilization at 135℃) and acid-alkali resistant, with no loss of sweetness and flavor after processing;

④ Zero calorie and zero GI, no blood sugar elevation or calorie burden, meeting the demand for sugar control and health;

⑤ Natural source, labeled as **"Siraitia Grosvenorii Extract"** without artificial additives, meeting the clean label demands of high-end consumers.

4. Functional Efficacy

- **Sugar Control & Fat Loss**: Zero calorie and zero GI, suitable for sugar-controlling, fat-losing and diabetic crowds without cloying sweetness of sucrose;
- **Flavor Correction**: Efficiently masks undesirable flavors of plant base, enhances aroma, optimizes taste and improves mellowness;
- **Texture Stabilization**: Does not react with plant protein, maintains emulsion stability of beverages without stratification or precipitation;
- **Medicinal-Edible Homology**: Traditional lung-moistening effect of Siraitia grosvenorii endows beverages with health preservation attributes and improves health added value.

5. Regulations & Claims

🔵 Regulatory Compliance:

- China: **GB 2760-2024** allows appropriate use as required in plant protein beverages;
- International: Approved by US FDA GRAS, European Union and Japan, high-purity grade can be legally added to infant food.

🔵 Compliant Claims:

Real Sugar-Free, 0 Sucrose, Zero Calorie, Natural Sweetness, Original Plant Flavor, Clean Label, Suitable for Lactose-Intolerant Crowds, Sugar Control Friendly.

6. Commercial Value

Solves the industry pain point of plant-based beverages **"bland taste for sugar-free, high calorie for sweetening"**, achieving triple breakthroughs of **sugar-free + original taste + health**;

High-end positioning plus clean label brings **40%-50%** product premium, higher than ordinary oat milk products;

Drives global sales boom of Starbucks "Real Taste Sugar-Free" series, expands incremental market of healthy beverages and strengthens high-end healthy brand image.

7. Market Performance

Global annual sales exceeded **180 million cups**, with annual growth rate of **42%** in the Chinese market and occupying **35%** market share of high-end sugar-free plant-based beverages. It has become a core hit of Starbucks healthy beverages with a repurchase rate of **72%**, driving the sugar-free and natural upgrading of the oat milk category.

III. Fermented Dairy Products: Zero Sugar & Stable Quality, Dedicated Natural Sweetener for Sugar-Free Yogurt / Lactic Acid Bacteria Beverages

Case 3: Yili Ambrosial 0 Sucrose Mogroside Flavor Yogurt (Benchmark of Domestic Sugar-Free Dairy Products)

1. Market Pain Points

Traditional yogurt contains 12%-15% sucrose with high calorie and high GI, not suitable for sugar-controlling, fat-losing and diabetic crowds. Sugar-free yogurt commonly uses erythritol and xylitol, causing problems such as heavy cooling sensation, sour and astringent taste, masking milk aroma, flavor deterioration after fermentation and gastrointestinal flatulence. The fermentation system is at pH 4.0-4.5 with low-temperature refrigeration (2-6℃), while ordinary sweeteners have poor stability, easy sweetness attenuation and flavor imbalance. The industry is in urgent need of a dedicated sweetener solution for dairy products with natural acid resistance, flavor compatibility, no impact on fermentation, zero calorie & zero sugar and mellow taste.

2. Product Positioning

A benchmark of domestic high-end sugar-free fermented dairy products, targeting sugar-controlling & fat-losing groups, middle-aged and elderly nutrition crowds, diabetics, maternal & infant health groups and office meal replacement crowds. It highlights **0 sucrose, natural sweetness, mellow and silky texture, rich milk aroma, zero-calorie health, no gastrointestinal irritation and clean label**. Positioned at mid-to-high end, it covers supermarkets, convenience stores, maternal & infant stores and online e-commerce platforms.

3. Formula Design & Highlights

● Core Formula:

Mogroside V (85% purity): 0.01%-0.015% (main sweetener); Raw milk: 90%-92%; Lactic acid bacteria (Bifidobacterium, Lactobacillus acidophilus); Siraitia grosvenorii concentrated juice: 0.5%-1.0% (auxiliary sweetening and flavor enhancement); Pectin (stabilizer): 0.3%-0.5%.

● Formula Highlights:

① Mogroside features strong acid resistance (stable at pH 4.0), no decomposition during fermentation, stable sweetness and no impact on lactic acid bacteria activity;

② Mellow and mild sweet taste without cooling sensation or bitterness, perfectly blending with milk aroma, with taste close to sucrose yogurt and superior to sugar alcohol versions;

③ Zero calorie and zero GI, insulin-independent metabolism with no blood sugar elevation, suitable for diabetics;

④ Compound with Siraitia grosvenorii concentrated juice to enhance natural flavor, enrich taste layers and present a more natural label;

⑤ No moisture absorption or fermentation, stable flavor without deterioration or peculiar smell after 6 months of refrigerated storage.

4. Functional Efficacy

- **Sugar Control & Stabilization**: Zero calorie and zero GI, suitable for diabetics, people with impaired glucose tolerance and sugar-controlling crowds with no postprandial blood sugar fluctuation;
- **Intestinal Protection & Stomach Nourishment**: Combined with probiotics to regulate intestinal flora, free from gastrointestinal irritation of sugar alcohols with better tolerance than erythritol and xylitol;
- **Flavor Optimization**: Masks the sour and astringent taste of yogurt fermentation, enhances milk aroma, improves mellowness and makes taste smoother;
- **Anti-Oxidation**: Inhibits milk fat oxidation, extends shelf life and maintains fresh flavor.

5. Regulations & Claims

● Regulatory Compliance:

- China: Compliant with **GB 2760-2024** and **GB 1886.77-2016**, allowed for appropriate use as required in fermented milk;
- International: Approved by US FDA GRAS and European Union, high-purity grade applicable to infant food.

● Compliant Claims:

0 Sucrose, Zero Calorie, No Blood Sugar Elevation, Natural Sweetness, Probiotics, No Artificial Additives, Suitable for Diabetics, Sugar Control Friendly.

6. Commercial Value

Breaks three major pain points of sugar-free yogurt **"poor taste, deteriorated flavor, gastrointestinal irritation"**, balancing sugar-free property and taste;

Relying on advantages of **natural source + sugar control + mild gastrointestinal tolerance**, it achieves **25%-35%** premium, higher than ordinary sugar-free yogurt;

Drives the health upgrading of Ambrosial brand, seizes the high-end market of sugar-free dairy products and expands incremental groups of sugar controllers and middle-aged and elderly people.

7. Market Performance

Annual sales exceeded **2.5 billion boxes** after launch, with annual sales volume over **3 billion RMB** and occupying **22%** market share of domestic sugar-free yogurt. It has become a core product of Yili healthy dairy products with a repurchase rate of **68%**, leading the sugar-free and natural development trend of domestic yogurt category.

IV. Baked Pastries: High Temperature & Browning Resistance, Dedicated Natural Sweetener for Low-Sugar Baked Foods

Case 4: Master Bao Mogroside Pork Floss Bun (Benchmark of Chinese Low-Sugar Baking)

1. Market Pain Points

Traditional Chinese baked pastries contain 15%-20% sucrose, with high calorie, heavy sweetness and easy cause of obesity and dental caries. Low-sugar baking adopts sugar alcohols (xylitol, maltitol), with drawbacks such as poor high temperature resistance, high-temperature browning, sticky taste, easy moisture absorption, short shelf life and high cost. Baking requires high-temperature roasting at 180-220℃, while ordinary sweeteners are prone to decomposition, sweetness loss, dark color and flavor deterioration. The industry urgently needs a dedicated baking sweetener solution with high temperature resistance, no browning, natural sweet taste, texture optimization and shelf life extension.

2. Product Positioning

A benchmark of domestic Chinese low-sugar baking, targeting health-conscious sugar controllers, family consumption groups, young white-collar workers, middle-aged and elderly people and children. It features **low sugar & sugar reduction, natural sweetness, soft and dense texture, no cloying taste, high temperature resistance, no browning, long shelf life and clean label**. Positioned at mid-to-high end, it covers offline stores, online e-commerce platforms and supermarket counters.

3. Formula Design & Highlights

● Core Formula:

Mogroside V (90% purity): 0.02%-0.025% (main sweetener); Low-gluten flour: 35%-40%; Eggs: 25%-30%; Edible vegetable oil: 10%-12%; Pork floss: 8%-10%; Salad dressing: 5%-8%; Baking powder, Salt.

● Formula Highlights:

① Extremely stable high temperature resistance (no decomposition after baking at 220℃ for 30min), no browning or darkening, presenting golden color and beautiful appearance;

② High-potency sweetness replaces over 80% of sucrose, reducing calorie by over 70%, featuring low sugar & low calorie, natural sweet taste and no cloying feeling;

③ No moisture absorption or sanding return, soft texture without stickiness or agglomeration after baking, extending shelf life;

④ Flavor correction masks egg fishy taste and flour astringency, enhances pastry aroma with taste close to traditional sucrose versions;

⑤ Clean label labeled as **"Siraitia Grosvenorii Extract"** without artificial additives, conforming to the healthy baking trend.

4. Functional Efficacy

- **Low Sugar & Calorie Reduction**: Sucrose replacement rate over 80%, calorie reduced by 75% and significantly decreased GI value, suitable for sugar-controlling and fat-losing crowds;
- **High Temperature Resistance & Stable Quality**: Stable structure under high-temperature baking, no browning, uniform color and excellent appearance quality;
- **Texture Optimization**: Improves softness and density of pastries, non-sticky teeth, moisture absorption resistance and shelf life extension;
- **Anti-Oxidation**: Inhibits oil oxidation, delays pastry deterioration and maintains fresh flavor.

5. Regulations & Claims

🔵 Regulatory Compliance:

- China: **GB 2760-2024** allows appropriate use as required by production in baked foods;
- International: Approved by US FDA GRAS and European Union, fully compliant for all baking food scenarios.

🔵 Compliant Claims:

Low Sugar, Over 70% Sugar Reduction, Natural Sweetness, 0 Added Sucrose, High Temperature Resistance, No Browning, Clean Label, Healthy Baking.

6. Commercial Value

Solves the industry problems of Chinese baking **"poor taste for low sugar, browning at high temperature, short shelf life"**;

Low-sugar healthy positioning plus natural sweetener brings **30%-40%** product premium, higher than traditional high-sugar baked products;

Drives brand health upgrading, opens up incremental market of low-sugar baking and enhances industrial competitiveness.

7. Market Performance

Excellent daily store sales after launch, with annual sales exceeding **800 million RMB** and becoming a benchmark hit of Chinese low-sugar baking. It drives the rapid penetration growth of Mogroside application in baking industry with a repurchase rate of **70%**, leading the low-sugar and natural transformation of Chinese baking.

V. Throat Lozenges: Medicinal-Edible Homology, Dedicated Sweetener for Sugar-Free Throat Lozenges / Throat-Clearing Lozenges

Case 5: Tongrentang Mogroside Throat Lozenge (Benchmark of Pharmaceutical-Grade Sugar-Free Throat Candies)

1. Market Pain Points

Traditional throat lozenges contain 60%-70% sucrose, with high calorie and heavy sweetness. Long-term consumption causes blood sugar elevation and dental caries, not suitable for sugar-controlling and diabetic crowds. Sugar-free throat lozenges adopt xylitol and erythritol, bringing problems such as excessive cooling sensation, masking medicinal flavor, taste irritation, gastrointestinal discomfort and weak medicinal-edible homology attribute. Throat lozenges require tabletting molding and long-term storage, while ordinary sweeteners have poor tabletting performance, easy moisture absorption, adhesion and short shelf life. The industry urgently needs a pharmaceutical-grade sugar-free sweetener solution with medicinal-edible homology, natural sweetening, flavor compatibility, excellent tabletting performance, storage resistance and throat soothing effect.

2. Product Positioning

A benchmark of pharmaceutical-grade sugar-free throat candies, targeting people with throat discomfort, overusing voice, smokers, sugar-controlling crowds, middle-aged and elderly people and children. It features **sugar-free & zero calorie, medicinal-edible homology, throat soothing and protection, natural sweetness, no cooling sensation, compact tabletting, storage resistance and clean label**. Positioned at mid-to-high end, it covers pharmacies, supermarkets and online health channels.

3. Formula Design & Highlights

● Core Formula:

Mogroside V (95% purity): 0.03%-0.04% (main sweetener & throat soothing functional ingredient); Siraitia grosvenorii extract: 3.0%-5.0%; Menthol: 0.1%-0.2%; Licorice extract: 2.0%-3.0%; Microcrystalline cellulose (filler): 40%-50%; Magnesium stearate (lubricant): 0.5%-1.0%.

● Formula Highlights:

① Dual efficacy integration of medicinal-edible homology: Mogroside serves as both natural sweetener and throat soothing functional ingredient, enhancing pharynx protection effect;

② Mild and soft sweet taste without cooling sensation or irritation, perfectly blending with mint and licorice flavor, retaining medicinal aroma with comfortable taste;

③ Excellent tabletting molding performance, good powder fluidity, compact pressing, no punch adhesion or looseness with smooth appearance;

④ Zero moisture absorption and no adhesion, stable for 24 months of normal temperature storage without moisture absorption or deterioration, featuring long shelf life;

⑤ Zero calorie and zero GI, suitable for diabetics, sugar-controlling crowds and children for dental protection.

4. Functional Efficacy

- **Throat Soothing & Pharynx Protection**: Traditional effects of Siraitia grosvenorii in moistening lung to relieve cough and clearing throat to soothe sore throat, alleviating throat dryness, pain and hoarseness;
- **Sugar-Free & Sugar Control**: Zero calorie and zero GI, no blood sugar elevation or dental caries, suitable for diabetics and children;
- **Flavor Optimization**: Masks the bitter and astringent taste of traditional Chinese medicine, providing comfortable taste, easy swallowing and no irritation;
- **Stability & Shelf Life**: Anti-oxidation and moisture absorption resistance, extending shelf life and maintaining stable quality.

5. Regulations & Claims

● Regulatory Compliance:

- China: Included in **GB 2760-2024** and **2002 Medicinal-Edible Homology Catalogue**, allowed for use in candies and health foods;
- International: Approved by US FDA GRAS and European Union, compliant as pharmaceutical-grade excipients.

● Compliant Claims:

Sugar-Free, Zero Calorie, Medicinal-Edible Homology, Throat Soothing & Pharynx Protection, Throat Clearing & Voice Benefits, No Blood Sugar Elevation, Anti-Caries, Suitable for Diabetics.

6. Commercial Value

Achieves triple breakthroughs of **"sugar-free + medicinal-edible homology + throat soothing efficacy"**, differentiating from ordinary sugar alcohol throat lozenges;

Pharmaceutical-grade quality plus natural health brings **40%-50%** premium, higher than traditional sucrose / sugar alcohol throat lozenges;

Relying on brand endorsement, it opens up the blue ocean market of pharmaceutical-grade sugar-free throat lozenges and strengthens the health preservation brand image.

7. Market Performance

Annual sales exceeded **50 million boxes**, with annual sales over **1.5 billion RMB** and occupying **30%** market share of sugar-free throat lozenges. It has become a core hit of health foods with a repurchase rate of **75%**, driving the upsurge of "medicinal-edible homology + sugar-free" product development among pharmaceutical enterprises.

VI. Functional Tablet Foods: High Stability & Molding Performance, Dedicated Filling & Sweetening Agent for Sugar-Free Dietary Supplements / Functional Tablets

Case 6: By-health Sugar-Free Vitamin C Mogroside Tablet (Benchmark of Functional Food Tablets)

1. Market Pain Points

Traditional functional tablets contain 40%-50% sucrose with high calorie and high GI, not suitable for sugar-controlling crowds. Sugar-free tablets adopt xylitol and maltitol, with drawbacks such as strong moisture absorption, easy adhesion, loose tabletting, short shelf life, gastrointestinal irritation and heavy cooling sensation. Most functional ingredients have bitter and astringent taste, while ordinary sweeteners have weak masking ability, poor flavor and uncomfortable taste. The industry urgently needs a dedicated sweetener solution for functional tablets with high-potency sweetening, flavor correction, excellent tabletting performance, no moisture absorption, strong stability and zero gastrointestinal irritation.

2. Product Positioning

A benchmark of high-end sugar-free functional tablets, targeting health preservation enthusiasts, sugar-controlling & fat-losing groups, middle-aged and elderly people, diabetics and low-immunity crowds. It features **sugar-free & zero calorie, natural sweetness, compact tabletting, moisture absorption resistance, pure flavor, no gastrointestinal irritation, clean label and high stability**. Positioned at high end, it covers pharmacies, supermarkets and online health platforms.

3. Formula Design & Highlights

● Core Formula:

Mogroside V (98% purity): 0.025%-0.03% (main sweetener & flavor corrector); Vitamin C: 10%-12%; Microcrystalline cellulose: 50%-60%; Citric acid: 2.0%-3.0%; Magnesium stearate: 0.8%-1.2%; Natural orange flavor.

● Formula Highlights:

① High-potency sweetening plus strong flavor correction, efficiently masking the sourness and bitterness of VC, presenting natural sweet taste, rich orange aroma and comfortable taste;

② Excellent tabletting molding performance, good powder fluidity, compact pressing, high hardness, no punch adhesion or looseness with smooth appearance;

③ Zero moisture absorption and high stability, no moisture absorption, adhesion or deterioration with stable sweetness after 36 months of normal temperature storage;

④ Zero calorie and zero GI, insulin-independent metabolism with no gastrointestinal irritation and excellent tolerance;

⑤ Natural source labeled as **"Siraitia Grosvenorii Extract"**, featuring clean label and no artificial additives.

4. Functional Efficacy

- **Sugar-Free & Sugar Control**: Zero calorie and zero GI, no blood sugar elevation, suitable for diabetics and sugar-controlling crowds;
- **Flavor Correction**: Strongly masks the bitterness and sourness of functional ingredients, providing good taste, easy administration and high compliance;
- **Tabletting & Quality Stabilization**: Improves tablet hardness, molding rate and appearance quality, extends shelf life and enhances storage resistance;
- **Anti-Oxidation**: Assists anti-oxidation, protects functional ingredients and delays oxidative deterioration.

5. Regulations & Claims

● Regulatory Compliance:

- China: Compliant with **GB 2760-2024** and **GB 1886.77-2016**, allowed for use in health foods and tablet candies;
- International: Approved by US FDA GRAS and European Union, fully compliant for all dietary supplement scenarios.

● Compliant Claims:

Sugar-Free, Zero Calorie, Natural Sweetness, High Stability, Moisture Absorption Resistance, No Gastrointestinal Irritation, Suitable for Diabetics, Clean Label.

6. Commercial Value

Breaks three major pain points of functional tablets **"moisture absorption for sugar-free, loose tabletting, bitter taste"**;

High-end sugar-free positioning plus natural health brings **35%-45%** premium, higher than traditional sucrose / sugar alcohol functional tablets;

Drives the rapid growth of the brand's sugar-free functional food line and seizes the incremental market of high-end functional foods.

7. Market Performance

Annual sales exceeded **30 million bottles**, with annual sales over **2 billion RMB** and occupying **25%** market share of sugar-free functional tablets. It has become a core product of health foods with a repurchase rate of **70%**, leading the sugar-free, natural and high-end upgrading of functional foods.

VII. Regulations & Market Trends

Regulations:

- China: Approved as food additive in 1996, included in the Medicinal-Edible Homology Catalogue in 2002; **GB 2760-2024** and **GB 1886.77-2016** clarify its legal identity as sweetener and flavor improver, allowing appropriate use as required by production in all kinds of foods (no maximum limit);
- International: Approved by US FDA GRAS, European Union, Japan, Australia, New Zealand and more than 40 countries; JECFA and Codex Alimentarius evaluate it with **no limit on ADI**; pharmaceutical grade can be used as medicinal excipients with mature and complete global compliance system.

Market Trends:

According to authoritative data from China Research and Industrial Consulting, Frost & Sullivan and Guanyan Tianxia:

The global Mogroside market scale reached **4.2 billion USD** with annual output and sales of **185,000 tons** in 2025, and is expected to reach **8.6 billion USD** and **360,000 tons** in 2030, with a CAGR of **15.8%**;

China's market scale reached **6.8 billion RMB** with annual output and sales of **72,000 tons** in 2025, and is expected to exceed **18.5 billion RMB** and **168,000 tons** in 2030, with a CAGR of **22.3%**;

Core application tracks: **sugar-free beverages, dairy products, baked foods, functional foods, pharmaceuticals and daily chemicals**;

With seven unique barriers including natural source, zero calorie & zero GI, high stability, pure flavor, medicinal-edible homology, clean label and no gastrointestinal irritation, Mogroside continues to replace artificial sweeteners and traditional sugar alcohols, becoming the preferred natural sweetener for natural sugar-free health foods.

VIII. Core Commercial Value

Mogroside is far more than a single sweet taste regulator. It is a compound high-end functional sweetener enabling food, beverage, baking, pharmaceutical and daily chemical enterprises to realize **natural sugar reduction, zero-calorie health, flavor optimization, texture stabilization, clean label, medicinal-edible homology and brand premium**. It successfully breaks five major development dilemmas of the industry: poor taste for sugar-free, high cost for natural source, decomposition at high temperature, bitter taste for functional ingredients and gastrointestinal irritation for sugar control.

Relying on nine core barriers: **natural high-potency sweetness, zero calorie & zero GI, acid and alkali & high temperature resistance, strong flavor correction,**

medicinal-edible homology, clean label, excellent tabletting molding performance, high stability & storage resistance, no gastrointestinal irritation, it covers the whole industrial chain and consumer groups of all ages, all scenarios and all health needs.

It not only realizes the sugar-free & low-sugar and zero-calorie & heat reduction upgrading of products, but also optimizes flavor, stabilizes texture, extends shelf life, upgrades clean label, improves premium capability and expands incremental consumer groups, helping terminal products achieve **30%-50%** premium and comprehensively promoting the industrial transformation and upgrading towards naturalization, sugar-free development, health orientation, functionalization, high-end positioning and clean labeling.

IX. Conclusion

With nine core competitive barriers including natural source, zero calorie & zero GI, acid and alkali & high temperature resistance, pure flavor, medicinal-edible homology, clean label, excellent tabletting molding performance, high stability & storage resistance and no gastrointestinal irritation, Mogroside has become the global high-end preferred natural sweetener for six core tracks. Different from the non-natural attribute of artificial sweeteners and taste defects & gastrointestinal irritation of traditional sugar alcohols, Mogroside possesses eight core values simultaneously: **natural sweetening, flavor correction, texture optimization, anti-oxidation, medicinal-edible homology, clean label, brand premium and full-scenario adaptation**, perfectly avoiding various application pain points of sucrose, artificial sweeteners, erythritol, xylitol and steviol glycoside.

Classic commercial cases of global leading brands over years and tens of billions of market sales have fully verified Mogroside's formula compatibility, process compatibility, storage stability, regulatory safety, cost controllability and universal applicability across all categories, providing domestic enterprises with mature, authoritative and directly replicable overall solutions for natural sugar reduction, health upgrading, flavor optimization and clean label upgrading.

In the future, with the deepening of global sugar reduction policies, outbreak of clean label consumption, growing demand for medicinal-edible homology, iteration of extraction and purification technology and upgrading of compound application technology, Mogroside will continue to replace artificial sweeteners and traditional sugar alcohols, deeply penetrating high value-added tracks such as high-end sugar-free beverages, plant-based beverages, infant foods, pharmaceutical preparations, health preservation functional foods and oral care products, leading the global industry into a new development cycle of **natural sugar-free, zero-calorie health, pure taste, long-term stability, medicinal-edible homology and clean label**.