



Stevia First Corp. – Modernizing the Stevia Supply Chain

We are a global stevia supplier and technology provider, enabling multinational companies to successfully make the transformation from nutritive sweeteners to increased usage of reduced and zero-calorie products. Our focus is on providing quality stevia products and modern stevia processing technologies within the stevia and sugar industries, in order to help meet the surging global demand for stevia and reduced-calorie natural sweetener blends.



Based in Yuba City, California, USA,

with over twenty mission-oriented researchers that are focused on the commercial development and production of stevia and other technologies for the global food and nutrition industries. Having developed considerable bioprocessing technologies in this sector, and through partnerships with leading producers today, we are becoming a premier global stevia supplier and enabling increased usage of stevia through implementation of modern agricultural techniques and novel stevia processing and enzyme bioprocessing technologies.

We are commercializing stevia products today from our expansive overseas supply chain, and developing novel methods of stevia processing that could enable low-cost, reliable production of stevia at industrial scale and according to the quality specifications of the beverage industry especially. Our proprietary enzyme processing system could also obtain 2 to 3 times as much high purity Reb A from stevia leaf compared to traditional purification

methods. As part of our "Beyond Reb A" program, we aim to create technologies to enable a reliable supply of next-generation stevia sweeteners such as Reb D and Reb M. These rare natural products have even more desirable sweetener properties than Reb A and therefore may help stevia to further displace sugar and artificial sweeteners.



Our research and development focuses on high-value targets critical to modern stevia production, including intellectual property related to stevia production and bioprocessing methods. We also are involved with selection and breeding of advanced varieties of the stevia plant, local organic stevia leaf cultivation to catalyze growth of the North American stevia industry, and novel combined processing methods for stevia leaf extraction and purification in combination with sucrose.

Our goal is to make stevia a globally accessible, affordable and sustainable alternative to sugar, HFCS, and artificial sweeteners – and to do so in an environmentally and socially responsible way.

Stevia First Corp. is an agricultural biotechnology company dedicated to the discovery and development of dramatically healthier food and nutrition products, and modernizing the global stevia supply chain.

You Can't Outrun a Bad Diet

The importance of sugar reduction in diet has reached new heights, as a prominent group of international health experts declared in the British Journal of Sports Medicine (Malhotra et al., 2015) that exercise is not the key to fighting obesity, saying *“You can't outrun a bad diet.”* They go on to present data on sugar overconsumption as a definitive cause of type 2 diabetes, with an 11-fold increase in its prevalence from just 150 calories from sugar. They also call for an end to the association of sport with sugary drinks.



Sugar: Consumption at a Crossroads

The overriding conclusion of the majority of the research and expertise is the need for an immediate reduction in the intake of sugar. As a late 2013 report from Credit Suisse titled “Sugar: Consumption at Crossroads” concludes, a significant reduction in excess sugar consumption may well be achieved through efforts within the beverage industry and a dedicated shift towards high-potency natural sweeteners, where stevia is the clear leader.

Poised as the best-tasting, most reliable sweetener in this category, there are murmurs within industry that stevia could eventually supplant more than half of

the burgeoning multi-billion dollar high-potency sweetener market.

In the age of instant information, where nothing remains a mystery for long, and where the World Health Organization recommends less than a single sugar-loaded soda per day, one has to wonder how we continue to consume such massive quantities of sugar sweetened snacks and beverages. It's a problem that becomes more difficult when we see how it's intertwined with socioeconomic, racial, and educational issues. Studies reveal sugar-related health issues disproportionately affect minorities in America, and are a likely contributor to the health disparities that exist today.

One staggering indicator of these health disparities is that the life expectancy of African Americans is persistently 5 to 7 years less than that of U.S. citizens of European descent. Also, both adult African and Latin Americans are almost twice as likely to develop diabetes as non-Hispanic whites.

There are many elements at play, not just diet and nutrition, but it is clear that the consumption of sugar-loaded beverages cuts across these exact cultural and socioeconomic lines.

Because of this, a sugar-alternative transformation may occur much sooner than what has transpired with tobacco globally. Replacement products using stevia with a taste and consistency similar to major industry flagship brands are starting to hit the market.

Mexico's Relationship with Sugar

In 2014, 55% of Mexico's health care budget was spent treating diabetes. (That's approximately \$4.8B US).

The average per capita consumption of sugar loaded soft drinks was reported as 176.2 liters. That's 694% above the world average.

The next phase involves a shift by major food and beverage companies so beverage consumers can enjoy healthier beverages at public events, like concerts and sporting events. One shining example, the Oakland-Alameda County Coliseum opened the 2014 MLB season with the first-ever stevia-sweetened beverage option at a major sports venue. The shift may also be catalyzed by a health-conscious fast-food company like sandwich juggernaut Subway, the top national fast-food chain based on number of locations.

As dramatic sugar reduction occurs, however it happens, the role of Stevia First and our industry partners is to be ready.

We are ready with everything required by the industry, from raw material standardized, “know-how”, processing technologies adapted to requirements and specifications of quality and hygiene protocols, engineering projects, equipment, etc., to enable a large increase in global stevia production according to the quality specifications of key stevia buyers.



When a significant dietary shift towards sugar reduction occurs, the demand for stevia could rapidly increase by 300% or more. Fortunately, major food and beverage companies aren't resisting this change, they're embracing it.

In fact, two of the industry's largest, Coca-Cola and Cargill, paved the way for stevia's approval in the

U.S. This opened the floodgates for stevia products in 2008, and led to worldwide regulatory approvals.

Passionate people at these organizations are supporting stevia and talk openly about ways to enable calorie reduction on a massive scale.

Despite their vast resources, one problem they haven't been able to solve is how to deliver a reliable supply of stevia each year. This is a problem we have been focused on from the beginning and at Stevia First Corp. we are catering to the growing demands of these companies.

Over the last three years, Stevia First developed bioprocessing methods to increase stevia yield by 2 or 3 times with efficient removal of stevia off-tastes. We have a large existing supply chain with inventory and agricultural capabilities, including proven and modern stevia leaf processing facilities currently operational. We recently developed a novel patent-pending combined process for purification of stevia leaf extract and raw sugar into liquid syrup suitable for beverage applications.

We are unique in the market, and simply have the right products and technologies to enable continued business growth and successful product formulations!

To learn more about our stevia sweetener ingredient technologies in Mexico and Latin America, contact:

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Stevia Processing Technologies & Equipment

Modern Stevia Processing Equipment & Facility Designs

- Technologies used for >15 years in Chinese stevia extraction and purification facilities
- State-of-art stevia processing technologies for efficient operations with significantly reduced energy and water usage compared to current technologies in use across China

Stevia Bioprocessing, Fermentation & Enzyme Technologies

- Removal of stevia off-tastes and bypass need for expensive purification methods and organic solvents
- Process that can enable high-yield production of Reb A as well as future offering of next-gen sweeteners
- Access to bioprocessing and fermentation technologies that enable production of stevia without stevia leaf, starting from extremely low-cost agricultural byproducts such as rice straw or sugarcane bagasse

Combined Process for Stevia & Sugar Processing (Stevia-LSS Model 10T-100T™)

- Efficient combined processing of sugar and stevia into liquid syrup for beverage bottlers and sugar mills
- Technologies from unit operations of sugar mills and Coca-Cola bottlers in Mexico for >20 years
- Dual purpose use so equipment can also be used independently/solely for modern sugar purification
- Capacity up to 12,000 l/h of product, for liquid stevia-sugar syrup of optimal Brix, with reduced calories ranging from 0% to 80%, with environmentally-friendly operations

Current Steviol Glycoside Products

Product Code	Description	Total Steviol	Reb A	Stevioside	Reb C	Sweetness
		Glycosides				
SG98RA97	97% Reb A	98.2%~98.40%	97%~97.20%	0.8%~1%	0	>400 times
SG97RA95	95% Reb A	97%~98%	95%~96%	2%~3%	0.1~0.3%	>400 times
SG95RA90	90% Reb A	95%~96%	90%~91%	5%	1%	>380 times
SG95RA80	80% Reb A	95%~96%	80%~82%	10%	5%	>360 times
SG90RA60	60% Reb A	90%	57%~60%	25%	5%~6%	>320 times
SG95LDAC	SG without bitter aftertaste	95%~96%	15%~16%	80%~83%	0.20%	>270 times

***Stevia rebaudiana* leaf is currently sourced from local grower networks built across China and North America. Technical assistance including stevia seed and germplasm is available for regional growers or grower networks that facilitate increased global supply or supply to Stevia First industry partners.**