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# PROVIDING A SPARK TO THE CARBONATED BEVERAGE INDUSTRY

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Key considerations when formulating  
a flavored sparkling beverage.



**TATE & LYLE**

# FLAVORED SPARKLING WATER TREND REPORT

Something's bubbling up in the North American beverage market: Flavored sparkling waters.

While carbonated soft drinks still hold a strong share of the market, consumers are increasingly looking for additional options in the sparkling beverage category. This trend represents a tremendous opportunity for beverage manufacturers to innovate and capitalize on a growing market.

When considering the development of a flavored sparkling water, it is important for the product developer to understand not only the market but also the formulation challenges and product-positioning considerations that come into play.

## A market on the rise

While sales of traditional carbonated soft drinks have stagnated in recent years,<sup>1</sup> flavored sparkling waters are seeing steady growth in North America, with the total volume sold increasing by 38% and 40% in 2012 and 2013, respectively.<sup>2</sup>

The total sparkling water category (both flavored and unflavored) in North America was \$1.1 billion in 2013.<sup>3</sup> Flavored sparkling water, which made up 66% of total sparkling water sales, saw a 58% increase in sales from 2012 to 2013, reaching \$727 million.<sup>4</sup>

"A stable market for carbonated soft drinks may explain why we are seeing a boost of innovation in the sparkling water space," says Adrienne Pohrte, Team Leader, Beverage Applications at Tate & Lyle.

While Sparkling Ice, the leading US flavored sparkling water brand, currently owns 42% of the market share, private-label brands account for nearly 10 times the number of products on the shelves, indicating many players are taking advantage of this trend.<sup>5</sup>

## Finding the right formulation

In most cases, formulating a flavored sparkling water doesn't simply involve adding a little fizz. From sweetness and flavor profile to mouthfeel and product positioning, beverage manufacturers need to consider a variety of factors when developing such a product.

### Market watch: At-home carbonated beverages

According to the NPD Group, retail sales of at-home soda machines in the United States increased by 30% from 2012 to 2013. Sales of complementary products such as CO2 carbonators, bottles, mixes and syrups more than doubled from 2012 to 2013.<sup>6</sup>

In addition to increasing sales overall, investment in at-home and pod drink technologies from some of the leading beverage manufacturers in the past year has made this category a growing trend in the beverage market.

Sucralose works well with these concentrated-drink packages due to its functional benefits and long shelf life. Expect more alternative and natural sweeteners to get into the at-home beverage mix.

# FLAVORED SPARKLING WATER TREND REPORT

## Sweetener

Sweetener choice not only affects the intensity of sweetness and the taste profile of a flavored sparkling water, but it also can contribute to a product's positioning.

"There's no one answer to making the right flavored sparkling water," says Pohrte. "Often, picking the right sweetener comes down to picking the one that tastes best with your flavor and matches your vision for the end product. Some sweeteners just work better with particular flavors than others."

### Typical sweeteners used in flavored sparkling waters:

#### Sweetener: Sucralose

**Advantages: No calories; flexible and adaptable in many formulations**

Sucralose is the sweetener of choice in 73% of flavored sparkling waters in the United States, including the leading brand.<sup>7</sup> A no-calorie sweetener, sucralose is the ideal choice for manufacturers looking to produce a reduced- or no-calorie beverage.

"In addition to being non-caloric, sucralose is very formulator-friendly in its application," says Pohrte. "It is adaptable to almost any drink formulation and remains stable in high-acid systems, so it retains a long shelf life and won't lose sweetness over time. Plus, sucralose tastes great at both low and high levels of sweetness, so you can still have good taste and flavor no matter what sweetness level you're aiming for in your beverage."

#### Tate & Lyle Sweetener Solutions

##### **SPLENDA® Sucralose**

A leading non-nutritive sweetener for over 30 years, SPLENDA® Sucralose is trusted in the development of more than 5,000 products in over 80 countries because of its exceptional sugar-like taste profile, long-lasting shelf life and functional benefits across a wide range of manufacturing processes.

Only SPLENDA® Sucralose delivers more right from the start. With 30-plus years of formulation know-how and thousands of recipes, the application team at Tate & Lyle can help food and beverage manufacturers' reduced-calorie products get to market faster.

In addition, Tate & Lyle offers the SPLENDA® Sucralose PLUS PROGRAM, a customizable concept-to-lab-to-market service that provides its preferred partners with exclusive category knowledge, product ideation, formulation assistance and process expertise.

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## Sweetener: Stevia

### Advantages: No calories; plant-derived sweetener

Stevia sweeteners are producing a growing buzz among beverage manufacturers, who are looking to capitalize on the growing consumer interest of products with natural positioning. North America is the leading region for products containing stevia, accounting for 29.9% of the global product launches containing stevia sweeteners in 2013.<sup>8</sup>

Known for its intense sweetness (200 to 300 times more potent than sugar), stevia sweeteners are often associated with a bitter aftertaste. As a result, manufacturers often have to add masking agents to disguise off-notes in the final product. However, there are stevia sweeteners available, such as TASTEVA® Stevia Sweetener from Tate & Lyle, that have been formulated to deliver all of the sweetness and none of the bitterness, thus eliminating the need for a masking agent.

“If a manufacturer is looking to use stevia as the primary sweetener, they are typically looking to introduce a new product with natural positioning,” says Pohrte. “They’re either using stevia alone, with a texture-modifying ingredient, or have a caloric sweetener in place and are looking to reduce calories with a natural, high-potency sweetener.”

## Tate & Lyle Sweetener Solutions

### TASTEVA® Stevia Sweetener

Produced from the leaves of the stevia plant, TASTEVA® Stevia Sweetener minimizes the bitter aftertaste of stevia that 80% of the population can taste. With TASTEVA®, 50% or greater sugar-reduction levels are now possible in foods and beverages without the need for masking agents.

# FLAVORED SPARKLING WATER TREND REPORT

## Sweetener: Crystalline Fructose

**Advantages: Exceptional sweetness synergy; flavor enhancement**

Crystalline fructose doesn't currently hold a large share in the sparkling water market, but the functional advantages it offers, especially when used in combination with other sweeteners, could make it an attractive ingredient to use.

A nutritive sweetener, fructose has a relative sweetness of 117 compared to sucrose's 100. It offers a complementary sweetness profile when blended with sucrose, high-potency and natural-origin sweeteners, therefore requiring less overall usage of other sweeteners in order to reach the desired sweetness in formulation.<sup>9</sup>

"If you combine a natural, high-potency sweetener with crystalline fructose, you will get a better-tasting product than a high-potency sweetener alone," says Pohrte. "Crystalline fructose works well with sweeteners such as stevia by helping to round out the sweetness profile and enhance desired fruit flavors."

## Tate & Lyle Sweetener Solutions

### **KRYSTAR® Crystalline Fructose**

Fructose is the sweetest of all the naturally occurring carbohydrate sweeteners and offers complementary sweetness properties with most other sweeteners, offering formulators the ability to reach the desired sweetness level with fewer total sugars and calories. KRYSTAR® Crystalline Fructose can also help balance a beverage's sweetness profile and mask the aftertaste of some natural-origin and high-potency sweeteners. Additionally, KRYSTAR® Crystalline Fructose offers a fast sweetness onset and a clean finish. This unique benefit gives a boost to fruit, chocolate, caramel and cinnamon flavor notes.

# FLAVORED SPARKLING WATER TREND REPORT

## *Mouthfeel*

While reducing or removing sugar from a beverage can cause a decrease in mouthfeel, high-potency sweeteners can help to maintain the sweetness level and create the perception of mouthfeel, as most consumers perceive sweeter beverages to have more mouthfeel than less-sweet ones.

The addition of fibers or hydrocolloids can help compensate for the loss of sugar solids. For example, Tate & Lyle's PROMITOR® Soluble Corn Fiber can be considered as an option to help improve mouthfeel. It provides transparent fiber fortification as it is highly soluble and has very little color or taste. STA-LITE® Polydextrose is another fiber that can help improve mouthfeel in low- or reduced-calorie beverages.

## Tate & Lyle Solutions

### **PROMITOR® Soluble Corn Fiber**

PROMITOR® Soluble Corn Fiber is Tate & Lyle's proprietary soluble fiber made from corn. Due to its low calorie and sugar content, PROMITOR® helps formulators achieve sugar-reduction goals when used in combination with high-potency sweeteners. PROMITOR® is simple to use in formulations, combining easily with little agitation or shear, and adds bulk, viscosity and mouthfeel.

### **STA-LITE® Polydextrose**

STA-LITE® Polydextrose is an ideal soluble fiber for sugar replacement. Perfect for light, sugar-reduced beverages, it is ready to use alongside high-potency sweeteners in formulations.

# FLAVORED SPARKLING WATER TREND REPORT

## Flavor

With flavored sparkling waters contributing to the majority of sales in the sparkling water category, manufacturers have many opportunities to innovate with their product's flavor.

"Fruit flavors generally play well with one another in sparkling beverages," says Pohrte. "But if you're going the exotic route, you typically want to combine exotic fruits with a common fruit. For example, acai is a fruit gaining popularity in the US, but it is still considered somewhat exotic."

Pohrte adds that manufacturers need to be sure that the flavors they choose are well balanced with the other ingredients in the sparkling beverage. "You don't want to get all the acid flavor up front and then a sweetener flavor that comes late," she says.

## Position your beverage for success

Success in the flavored sparkling water category comes down to a clear vision of what you want your product to be and having the expertise available to help you execute a successful formulation. When developing a flavored sparkling water, here are some questions to consider:

- What level of sweetness do you need in your product?
- What are the desired maximum calories per serving or per bottle?
- Do you want to enhance your flavored sparkling water with vitamins, caffeine or nutrients?
- Are you looking to position your product as natural?

Your answers to these questions will help guide your choice of sweetener and flavor and formulation requirements. With a confident vision of your product, as well as a supplier that is able to provide you with the ingredient, formulation and sensory expertise you need, you may have the opportunity to make a "splash" in the flavored sparkling water space.

"At the end of the day, succeeding in the flavored sparkling water category is about making sure that all of your ingredients complement one another and deliver a pleasing taste to the consumer," says Pohrte.

## Blackberry-Peach Sparkling Juice Beverage

Beverage manufacturers are increasingly adding small quantities of juice to flavored sparkling waters. At low levels (up to 15%), juices are also able to work synergistically with a variety of sweeteners, creating opportunity for product developers to innovate. Products such as the blackberry-peach sparkling beverage, which was developed by Tate & Lyle and sampled at the Institute of Food Technologists' 2014 conference, are bringing new life to an old category of beverages.

"The sparkling juice category allows you to produce great-tasting beverages that consumers love," says Whitney Johnson, Food Scientist, Beverage Applications at Tate & Lyle. "It's also refreshing and exciting to offer a familiar taste with an unexpected carbonated feel."

This beverage combines the use of TASTEVA® Stevia Sweetener with the functional additions of PromOat® Beta Glucan and blackberry and peach purées to produce a sparkling juice that is naturally flavored and sweetened and offers a carbonated feel that appeals to consumers looking for healthier alternatives.

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## About Tate & Lyle

Tate & Lyle is a global provider of ingredients and solutions to the food, beverage and other industries, with operations in over 30 locations worldwide.

Tate & Lyle operates through two global divisions, Speciality Food Ingredients and Bulk Ingredients, supported by our Innovation and Commercial Development group. The Group's strategy is to become a leading global provider of Speciality Food Ingredients through a disciplined focus on growth, and by driving Bulk Ingredients for sustained cash generation to fuel this growth.

Speciality Food Ingredients consists of three platforms: Texturants, which includes speciality starches and stabilisers; Sweeteners, which comprises nutritive sweeteners and our range of no-calorie sweeteners including SPLENDA® Sucralose; and the Health and Wellness portfolio, which includes speciality fibres and a salt-reduction offering. Additionally, the Food Systems business unit provides a wide variety of blended ingredient solutions.

Tate & Lyle Bulk Ingredients includes bulk sweeteners, industrial starches and fermentation products (primarily acidulants). Corn co-products from both divisions are primarily sold as animal feed.

Tate & Lyle is listed on the London Stock Exchange under the symbol TATE.L. American Depositary Receipts trade under TATYY. In the year to 31 March 2014, Tate & Lyle sales totalled £3.1 billion.

For more information, visit [www.tateandlyle.com](http://www.tateandlyle.com). SPLENDA® is a trademark of McNeil Nutritionals, LLC.

## References

<sup>1</sup>Beverage Digest, "Special Issue: U.S. Beverage Results for 2013," March 2014

<sup>2</sup>IRI Sales Data

<sup>3</sup>Ibid

<sup>4</sup>Ibid

<sup>5</sup>Ibid

<sup>6</sup>The NPD Group, "The NPD Group Reports US Sales of Home Soda Machines Grew 30% in 2013," March 2014

<sup>7</sup>Ibid

<sup>8</sup>Innova Market Insights, "Stevia Surges Ahead," October 2013

<sup>9</sup>Conis, Elena, "Is Crystalline Fructose a Better Choice of Sweetener?," *Los Angeles Times*, February 2009

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