

Confectionery

Inspiring innovation in a quality-driven market



-  Increased flavor intensity
-  Reduction of sugar inversion
-  Maintain texture stability
-  Sourness and superior stability in acid sanding

Flavor differentiation and product stability are crucial factors in developing successful, new confectionery products. Different key consumer groups (children, adults, geographical spread) demand new and increasingly extreme flavor profiles of these products. Consumer loyalty is declining and the market is open to new, innovative, high-quality confectionery products. The choice of acid, buffers and functional ingredients is critical in this process.



As today's consumers want limitless access to snacks and confectionery, product stability throughout the supply chain is crucial. Choosing the right ingredients helps in preventing stickiness and loss of flavor over time, thereby, guaranteeing the quality of the product during its shelf life. Candy with functional and health benefits remains popular, and is particularly focused towards younger consumer markets, especially children. It provides a suitable delivery system for minerals, which can be used to differentiate as an added-value product.

Flavor intensity and sourness

Without acidulants, fruit-flavored confectionery products would be incomplete and taste unpleasantly sweet. To achieve an optimal fruit flavor, it is essential to balance sugar and acids, tailored to the specific fruit flavor.

Acid intensity

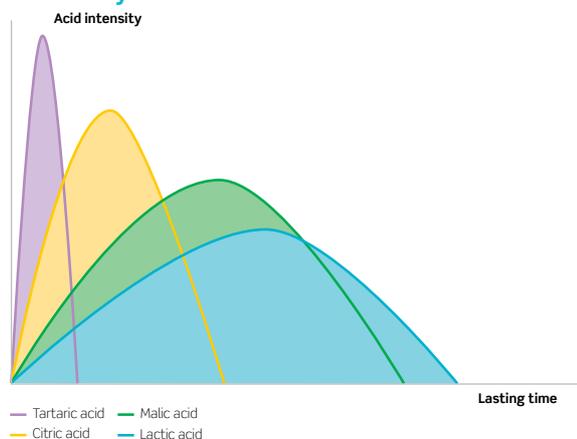


Figure 1

Sugar inversion and shelf life

Sugar inversion can occur during production, resulting in sticky, undesirable candy. Consumers perceive this as poor quality, or even an expired product. Sugar inversion is related to pH, as well as to the type of acid used (see Figure 2: sugar inversion; influence of acid). Choosing the right (combination of) PURAC acids and buffers has a positive impact on the quality and shelf life of the candy. Through buffering, the desired sourness is achieved, but pH is not affected, hence less sugar inversion occurs and the candy has a longer shelf life.

Gelatin protection

The effects of acids in gelatin-based confectionery are clearly demonstrated in gelatin hydrolysis and a decrease in firmness of the candy. This effect is stronger at lower pH levels, independent of the acid type. PURAC products, especially buffer systems, such as PURAC BF, PURAC CL and PURAC CLM, give firmer gels at the same acid concentrations.

Acid sanding

When developing an acid-sanded product, clean taste and product stability are of high importance. PURAC® Powders provide an immediate and long-lasting sour taste and are highly stable. These powders are not coated with fat, so they provide a clean mouthfeel. Due to the low hygroscopicity (especially with PURAC® Powder MA), the sanded candy remains dry and retains its appetizing appearance. The PURAC Powder product range includes lactic acid powders (PURAC® Powder 55 and PURAC® Powder 60) and a malic acid powder (PURAC Powder MA).

Sugar inversion, influence of acid type

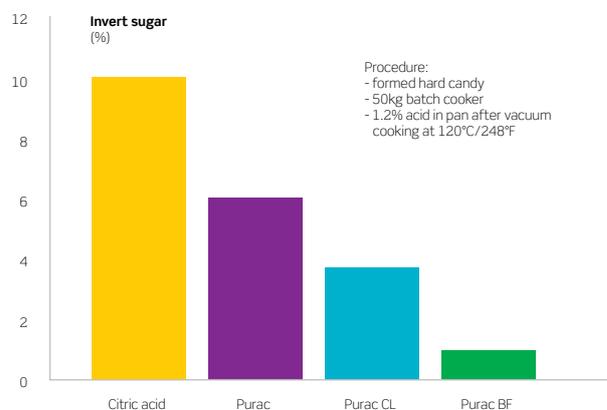


Figure 2

This offers options to combine the specific taste profiles of these different acids with the flavoring used in the end-product.

Functional confectionery

Fortification of candy enables confectionery manufacturers to differentiate their products based on nutritional profile. Due to the low water content in confectionery, solubility of the functional ingredients is critical. Corbion offers highly soluble, neutral-tasting and highly bioavailable minerals (based on lactate and gluconate) to fortify candy and gums.

Corbion offers the following products for the confectionery industry:

Product	Description
PURAC®	Lactic acid
PURAC® BF	Buffered lactic acid
PURAC® CL	Buffered lactic and citric acid
PURAC® CLM	Buffered lactic acid, citric acid and malic acid
PURASAL®S	Sodium lactate
PURAC® Powder	Lactic acid powder
PURAC® Powder MA	Malic acid powder
PURACAL®	Calcium lactate and calcium gluconate
PURAMEX®	Mineral lactates
GLUCONAL®	Mineral gluconates

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Corbion creates innovative ingredient solutions for leading food manufacturers around the world. Our expertise inspires customers to craft foods that start flavorful, stay fresh and remain safe, from date of production to date of consumption. Using sustainable solutions that deliver real, consumer-focused value, we work side-by-side with customers, helping them grow and create delicious food that capture peoples' palates and earn their trust. At Corbion our priorities as consumers shape the solutions we create, and as a result, feel confidence and pride in serving our own families and friends the products we help make possible.

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