



BAKE BETTER, BROWN BETTER

Let Allulose deliver the color and texture your customers crave



GOLDEN BROWN WITHOUT THE SUGAR CRASH

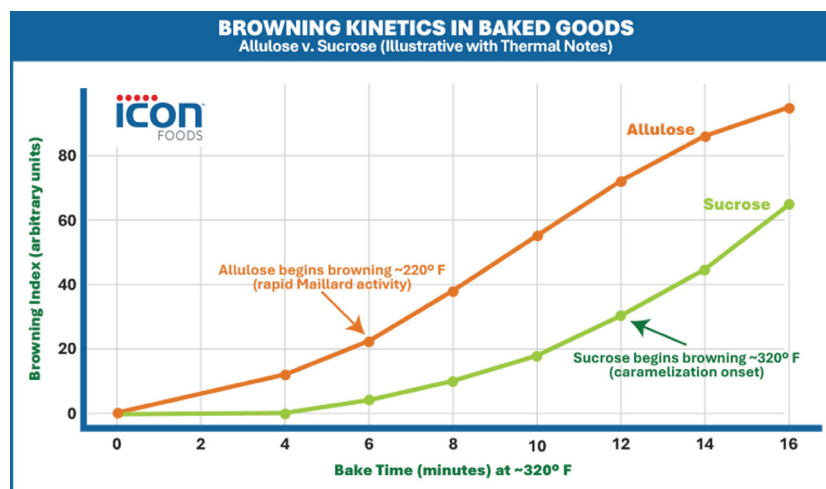
Allulose is quickly becoming a hero ingredient for bakers who want full sugar performance without the sugar. It looks like sugar, measures like sugar, and behaves like sugar – but with almost zero calories and none of the blood-sugar spikes. In other words, it's a rare sugar that delivers real-world functionality, not just claims.

In baked goods, allulose brings something especially valuable: reliable, predictable browning. Traditional reduced-sugar formulas often struggle with pale color, weak caramelization, or uneven bake. Allulose fixes that. It browns beautifully at lower temperatures, giving breads, cookies, cakes, pastries, and breakfast items that rich, golden tone consumers expect. It also enhances spread, tenderness, and moisture retention – all crucial for a satisfying bite.

But allulose does more than improve texture and color. It partners perfectly with today's modern sweetener systems. When combined with monk fruit, stevia, or erythritol, allulose helps balance sweetness curves, mask off-notes, and create a smoother, cleaner finish. It's especially powerful when blended with Glycera™, which adds syrup-like viscosity and supports everything from chewiness to shine.

From a formulation standpoint, allulose integrates easily. It's highly soluble, performs well in doughs and batters, holds up through baking, and works across multiple categories. Whether you're optimizing for keto, low-calorie, reduced-sugar, clean label, or simply better flavor, allulose gives you the flexibility to elevate your product without rewriting your entire process.

In short: allulose delivers the browning, sweetness, and texture consumers want – without the compromises. It's a turnkey solution for R&D teams looking to modernize their sugar-reduction strategy while still producing baked goods that look incredible, taste amazing, and keep customers coming back for more.



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FAST FACTS

- Allulose browns 30–40% faster than sucrose, delivering rich, golden color even in reduced-sugar formulas.
- Zero sugar spikes, nearly zero calories – Allulose is a rare sugar that behaves like sucrose without the metabolic impact.
- Highly soluble and easy to integrate. Dissolves quickly, mixes cleanly, and performs across doughs, batters, and fillings.
- Improves texture and moisture retention, supporting a softer crumb, better spread, and longer-lasting freshness.
- Perfect partner for blended sweetener systems, enhancing monk fruit, stevia, erythritol, and pairs exceptionally well with Glycera™.
- Smooth, rounded sweetness that elevates flavor without aftertaste.
- Ideal for keto, low-cal, and reduced-sugar applications, supporting modern claims without sacrificing sensory appeal.
- Works across multiple categories such as Breads, cookies, bars, cakes, muffins, pastries, and breakfast items.



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FAQ

1. How does allulose influence Maillard reactions relative to sucrose?

Answer: Allulose participates in Maillard browning more readily than sucrose due to its reducing-sugar structure and lower activation energy for carbonyl-amine interactions. Its propensity to generate reactive intermediates accelerates color development at lower temperatures, producing desirable golden hues without excessive thermal load. This makes allulose particularly advantageous in reduced-sugar systems that otherwise demonstrate pale or uneven browning.

2. What functional role does allulose play in water activity and moisture migration during baking?

Answer: Allulose exhibits strong humectancy and modifies water mobility in complex matrices. Its higher solubility and interaction with free water decrease water activity more effectively than sucrose, supporting improved crumb softness and delayed staling. These properties also contribute to enhanced moisture retention in high-solids systems such as cookies, bars, and sweet goods.

3. How does allulose affect structural development in doughs and batters?

Answer: Allulose impacts protein denaturation, starch gelatinization, and air cell stabilization by altering thermal transitions. DSC analysis shows a slight depression in gelatinization onset temperatures, facilitating earlier viscosity development. Its hygroscopicity also modulates gluten hydration kinetics, influencing dough rheology and improving tenderness in finished products.

4. How does allulose perform in combination with high-intensity sweeteners and polyols?

Answer: Allulose acts synergistically with monk fruit, stevia, and erythritol by

smoothing sweetness curves and mitigating bitterness or metallic aftertastes. It also plasticizes erythritol systems, reducing crystallization and cooling effects. When paired with Glycera™, allulose contributes to improved viscosity, chewiness, and a more uniform sensory profile across a variety of baked matrices.

5. What is the thermal stability of allulose in commercial baking conditions?

Answer: Although allulose has known thermal degradation pathways above ~120°C, these reactions primarily enhance browning and flavor development rather than impair functionality. Decomposition products such as furfurals form in controlled amounts, contributing to desirable caramelized notes. Formulators can modulate thermal load to balance color, flavor, and texture outcomes without compromising structural integrity.

6. How does the metabolic fate of allulose influence its labeling and regulatory positioning in baked goods?

Answer: Allulose is absorbed but not metabolized to energy; instead, it is largely excreted unchanged. Its negligible caloric contribution and minimal impact on blood glucose qualify it for FDA's "exempt from total and added sugars" designation in 21 CFR labeling. This allows manufacturers to deliver sugar-like sensory performance while maintaining compelling nutritional claims in low-sugar and ketogenic formulations. Formulators can modulate thermal load to balance color, flavor, and texture outcomes without compromising structural integrity.



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