TECHNICAL BRIEFING



BREAK DOWN THE BAKE: **A FUNCTIONAL REFORMULATION GUIDE FOR NPD TEAMS**

ULRICK+SHORT

OVERVIEW

NPD AND INNOVATION TEAMS ARE CHALLENGED WITH VOLATILE INGREDIENT COSTS, NUTRITIONAL REFORMULATION AND CLEAN LABEL DEMANDS, WHILST NEEDING TO DELIVER ON PRODUCT QUALITY.

In bakery recipes, every ingredient plays an important role. Fat influences aeration, tenderness and moisture retetion, whilst sugar contributes far more than just sweetness, including bulk, structure and browning. Protein also plays a functional role such as foaming, emulsifying, viscosity building, gelling and water binding.

Change one of these ingredients and the whole system shifts.

This guide explores three reformulation challenges to support bakery teams in product development, meeting demands and improving nutritionals whilst protecting labels and product quality. Ulrick + Short's clean label ingredients provide practicable, scalable solutions to these challenges.

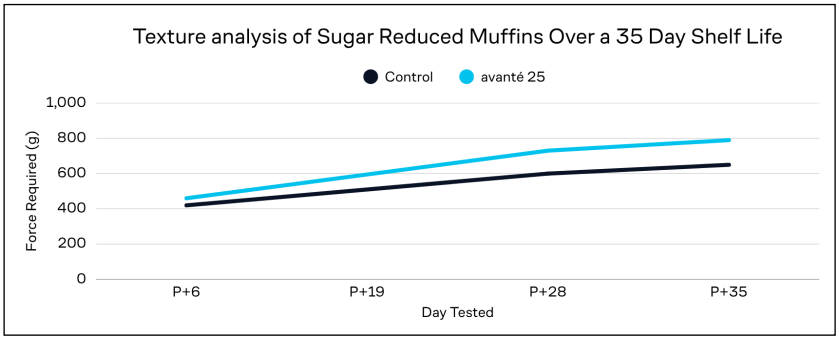


1. REDUCING **SUGAR**

THE CHALLENGE:

Sugar reduction has become a key focus for bakery manufacturers, driven by a combination of regulatory pressure and evolving consumer expectations. In the UK, ongoing HFSS restrictions are requiring NPD teams to actively improve nutritional profiles, particularly in bakery, which is a category traditionally high in sugar. At the same time, consumers are increasingly seeking lower sugar options, with 64% reporting that “no added sugar” claims influence their purchasing decisions[1].

This creates a dual challenge of reducing sugar to meet both regulatory and consumer demands.



Sugar plays a multifunctional role in bakery systems beyond sweetness. It contributes to bulk and structure, helping to form the framework of the final product, whilst influencing batter viscosity and flow during processing. Furthermore, sugar is critical for colour development through caramelisation and Maillard reactions to provide the golden appearance of baked goods. As a hygroscopic ingredient, it also binds water, supporting moisture retention, extends shelf life and delays staling, contributing to tenderness and crumb softness.

When sugar is reduced, these functionalities are disrupted. This can lead to loss of structure and volume, a paler appearance, and a drier texture with accelerated staling.

[1] FMCG Gurus, Proof Over Promise Trend Report 2026

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THE SOLUTION

AVANTÉ™ 25

A multi-functional sugar replacer designed to replicate the structural role of sugar in cakes and muffins, enabling significant reduction while maintaining texture, volume and overall product quality.

KEY BENEFITS

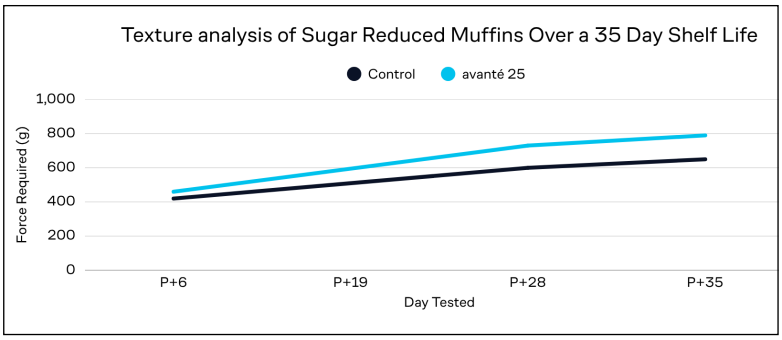
01 Clean label, consumer-friendly declaration of maize fibre, wheat starch, wheat protein

02 Replicates sugar functionality to maintain structure, texture, volume and colour

03 Replaces sugar with fibre to reduce calories and improve nutritional profiles

04 Low glycaemic response for no impact on digestion

05 Supports moisture retention to maintain softness over life



THE RESULT

+ Reduce sugar by up to 30% without impacting product quality
+ Make front-of-pack claims – reduced sugar and source of or high in fibre
+ Improve HFSS scores with dual sugar reduction and fibre increase
+ No process change required - incorporate into existing recipes



2. REDUCING **FAT**

THE CHALLENGE:

Fat reduction presents a clear opportunity for bakery manufacturers, with 1 in 2 consumers actively checking fat content in cakes and muffins[2], increasing pressure to deliver lower-fat options without compromising quality.

Reducing fat in cakes presents significant technical challenges as fat plays a critical role in both structure and sensory quality. Fat contributes to mouthfeel, delivering indulgence and richness. Fat also plays an important role in aeration and batter stability through the incorporation of air during mixing, which supports volume and crumb structure.

When fat is reduced, these functionalities are compromised, leading to firmer, drier products with a noticeable loss of richness and eating quality.

[2] FMCG Gurus, Fresh Bakery Consumption Habits, Feb 2026



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THE SOLUTION

DELYTE™ 5

A clean label fat mimetic, designed for cakes and muffins to deliver the same mouthfeel, softness and indulgence of both liquid and hard fats.

KEY BENEFITS

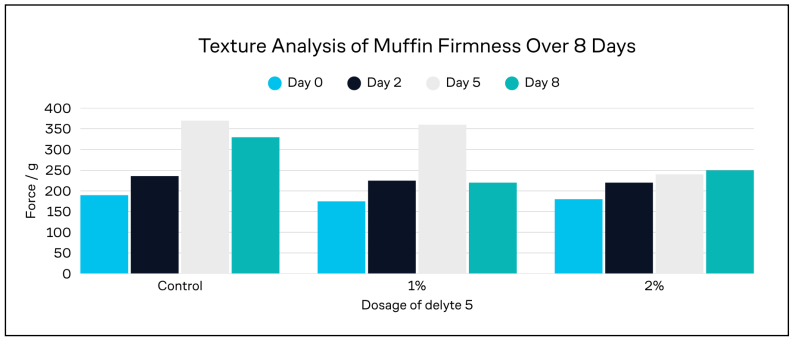
01 Clean label, consumer-friendly declaration of tapioca starch

02 Mimics fat functionality to deliver decadence and indulgence

03 Replaces both liquid and hard fats

04 Supports simultaneous fat and calorie reduction

05 Supplied as an ambient dry powder for long shelf life and easy storage



THE RESULT

+ Reduce up to 30% fat whilst maintaining indulgence
+ Improved nutritional labels and HFSS scores – reduce fat and calories
+ Maintained product quality – no impact on mouthfeel, crumb softness or visual characteristics
+ No process change required - incorporate into existing recipes and processes



3. ADDING **PROTEIN**

THE CHALLENGE:

Protein fortification has moved firmly into the mainstream, driven by growing consumer demand for high protein everyday foods and its association with satiety, weight management and overall health.

However, increasing protein in bakery systems isn't as simple as it sounds. Protein is a highly functional ingredient, meaning it can add complexity when trying to fortify.

It competes for water within the system, impacting batter consistency and hydration, and can tighten crumb structure, reducing volume and softness. Depending on the source, it may also introduce off-notes that affect flavour.

When protein levels are pushed too far, these effects become more pronounced, often resulting in dense, dry products with reduced aeration, a tougher bite and compromised eating quality.

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THE SOLUTION

COMPLEX™ 18

A functional wheat protein designed for protein fortification in bakery applications, enabling higher protein content while maintaining structure, softness and overall eating quality.

KEY BENEFITS

01 Specifically tailored for bakery systems

02 High protein content for fortification

03 Specially processed to minimise effects on texture and flavour

04 Plant based protein source

05 Clean, neutral flavour profile



THE RESULT

- Meet consumer demand for high protein products
- Make nutritional claims – high in and source of protein
- Protect product quality - no impact on flavour, texture or structure
- Avoid dryness and dense textures
- No process change required – incorporate into existing recipes and processes

IN SUMMARY...

A PARTNER FOR FUNCTIONAL REFORMULATION

Reformulating bakery products is not simply about removing or replacing ingredients. It requires a clear understanding of functionality and how each component contributes to the final product. Sugar, fat and protein each play multiple roles within a system, and any change creates a knock-on effect across structure, moisture and aeration.

At Ulrick + Short, we work with you to navigate these challenges, combining our ingredient expertise with practical application support so you can develop better recipes.

Watch our **Break Down the Bake masterclass** to see these reformulation pathways in action.



TALK TO U+S ABOUT SOLVING YOUR NEXT BAKERY FORMULATION CHALLENGE

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