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REFORMULATION WITHOUT REGRET

BUILDING BETTER BAKED GOODS THROUGH SMARTER INGREDIENT DESIGN

By Heidi Clark, Director of Business Development & Innovation, MicroDried

The pressure to reformulate baked goods has never been higher. Consumers continue to scrutinize labels for sugar content, protein levels, artificial additives, allergens, ultra-processed ingredients, and nutritional value, while retailers and brands push for cleaner labels, functional benefits, and improved shelf stability. At the same time, bakery manufacturers are expected to maintain the indulgent eating experience consumer's demand. Texture, appearance, flavor, and processing performance are not negotiable.

That balancing act has created one of the bakery industry's biggest challenges: how to **reformulate products without compromising quality**, production efficiency, or consumer acceptance.

64% **of consumers actively try to choose foods and beverages made with clean ingredients.**
A reminder that reformulation today is about both label expectations and nutritional goals.
Source: IFIC Food & Health Survey.

THE REFORMULATION TRADEOFF

Many reformulation projects begin with good intentions but quickly run into **technical problems during scale-up.** Increased protein can harden texture. Fiber additions may create dryness or bitterness. Sugar reduction impacts structure, browning, and water activity. Alternative sweeteners can introduce off-notes. Functional inclusions often break down during mixing or disappear visually after baking. In many cases, manufacturers are forced into additional rounds of reformulation simply to recover the eating experience that was lost during the first attempt.

Successful reformulation requires ingredients that do more than contribute to a nutritional panel. They must also support the physical structure, visual appeal, process tolerance, and sensory experience of the finished product.

WHY SMARTER INGREDIENT DESIGN MATTERS

This is where **low-moisture fruit, vegetables, and dairy inclusions** are creating new opportunities for bakery developers. Unlike traditional inclusions that can contribute to excess moisture, stickiness, or instability, these low-water-activity ingredients help manufacturers maintain processing consistency while adding visible identity and nutritional value. Pieces and fragments can withstand high-shear mixing, extrusion, depositing, sheeting, and baking processes while maintaining recognizable shape and color in the finished product. Powders can contribute flavor, natural color, and fruit or vegetable positioning without introducing many of the handling challenges associated with higher-moisture ingredients.

In reformulation work, these characteristics become especially valuable because they allow R&D teams to improve nutritional positioning without sacrificing operational performance.

KEY TAKEAWAY

Successful reformulation depends on more than nutrition. Ingredients must also support texture, visual appeal, process tolerance, and the sensory experience of the finished product.



WHERE REFORMULATION OPPORTUNITIES ARE EMERGING: Reformulation is increasingly about replacing ingredients consumers want to avoid with ingredients they recognize and trust.

Application opportunities include:

- **SUGAR REDUCTION:** Fruit inclusions can help support sugar reduction by contributing perceived sweetness and flavor complexity. Ingredients such as blueberry, strawberry, apple, and banana can help create a more indulgent sensory profile as formulators work to reduce added sugars.
- **NATURAL COLOR AND FLAVOR REPLACEMENT:** As brands work to simplify labels and improve ingredient statements, fruit powders, fragments, and vegetable powders can help replace artificial systems while contributing label-friendly color, authentic flavor, and visual appeal.
- **PROTEIN-FOCUSED REFORMULATION:** Dairy-based inclusions such as yogurt puffs, yogurt clusters, cottage cheese crisps, cheesecake inclusions, and cheese crisps offer new ways to introduce protein and texture contrast while maintaining shelf stability and low moisture characteristics.
- **TEXTURE AND INCLUSION INTEGRITY:** Visible fruit pieces create bursts of flavor and texture within baked systems. Crisp dairy inclusions contribute crunch and contrast, while powders can enhance flavor distribution and visual appearance without overwhelming the base formula.

Texture may ultimately be the most overlooked component of successful reformulation. Consumers are often willing to try products with improved nutrition claims once, but they rarely repurchase products that feel dry, dense, chalky, tough, or visually unappealing. Reformulation efforts that fail typically do so because the eating experience no longer matches consumer expectations.

Operationally, ingredient durability also matters. Bakery manufacturers continue to face labor pressures, efficiency demands, and tighter cost controls. Ingredients that bridge, clump, smear, or introduce moisture variability can create downtime and inconsistency on commercial production lines. Low-moisture inclusions designed for process tolerance help support more efficient manufacturing while reducing reformulation-related production issues.

LOW WATER ACTIVITY INGREDIENTS SUPPORT

BETTER shelf stability	**IMPROVED** flowability	**REDUCED** clumping	**GREATER** process consistency	**STRONGER** inclusion integrity during mixing & baking

The next generation of bakery reformulation will be driven not by removal alone, but by smarter replacement strategies that improve nutritional positioning while preserving indulgence, texture, visual identity, and manufacturing performance. Consumers still expect baked goods to be enjoyable, comforting, and satisfying, even as nutritional expectations continue to change. That perspective continues to shape MicroDried's work with fruit, vegetable, and dairy ingredients for modern bakery reformulation.



ABOUT THE AUTHOR

Heidi Clark is Director of Business Development & Innovation at MicroDried, where she leads revenue growth, product strategy, and customer-driven innovation across fruit, vegetable, and dairy ingredient platforms. She works closely with customers to translate emerging trends into scalable, high-performing food systems.

ABOUT MICRODRIED

MicroDried delivers fruit, vegetable, and dairy ingredient systems designed for modern food formulation. Through proprietary drying technology, MicroDried ingredients maintain structure, color, and flavor while offering low water activity, flowability, and durability in processing. These attributes support seamless integration into low-moisture systems such as cereals, bars, snacks, and inclusions.

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