

Reimagining Food and Beverage Formulation, For GLP-1 and Beyond

TATE & LYLE



Welcome to the GLP-1-driven shift in eating

Why are grocery carts shrinking—and what's filling the gap? The advent of GLP-1 (glucagon-like peptide-1 receptor agonist) medications such as Wegovy®, Ozempic®, and other related anti-obesity medications is revolutionizing how millions of Americans eat and think about food. As these medications reshape appetites and behaviors, they're also transforming grocery carts and category demand.

An estimated 15 million Americans report ever using these popular medications for weight loss and glucose control, and use is expected to double over the next decade, with 1 in 9 US adults expected to use GLP-1 medications by 2035.

Anti-obesity medications suppress appetite, reduce cravings, and quiet persistent food thoughts. Aside from side effects users may experience, as their popularity and use increase, packaged food manufacturers are also encountering an unsavory side effect.

Sales in certain categories are declining or at risk as GLP-1 users shift toward smaller portions, functional ingredients, and guilt-free satisfaction.

For consumers, GLP-1 medication has been a game-changer in their weight management journey, offering a chance to build the habits and lifestyle that lead to real, lasting change. For manufacturers, GLP-1 has created exciting opportunities, driven by a greater interest in healthier formulations and choices that support users.

How can you bring this together to offer support and solutions to this fast-growing consumer segment?

Tate & Lyle's in-depth nutrition and consumer research on current and former GLP-1 users provides an inside look at this fast-growing consumer segment, helping identify their unmet needs and learn what motivates their buying decisions.



Shifts in consumer grocery spending six months into GLP-1 adoption

- ↓ **11%:** Chips and savory snacks
- ↓ **9%:** Sweet bakery
- ↓ **7%:** Cookies
- ↓ **6.5%:** Soft drinks
- ↓ **5.25%:** Ice cream
- ↓ **4%:** Packaged meals
- ↓ **2.75%:** Desserts and frozen desserts

Source: KFF Poll 2024; Kantar-SC Johnson GLP-1 Study published January 2025

One of the most eye-opening insights is that GLP-1 consumers aren't one isolated group. Instead, this new segment is broad, comprising stages of current and former GLP-1 users, as well as non-users seeking to manage their weight without the medications, or those who are considering taking the GLP-1 leap, but not quite there yet. Each group is hungry for products that can help them create lasting, sustainable change while satisfying their need for food joy.

In this playbook, you'll glean insights from Tate & Lyle's proprietary nutrition and consumer research, and learn from our experts about the changes, challenges, and opportunities CPG manufacturers face when formulating in the GLP-1 era. You'll discover what's driving consumer purchasing trends, and how innovators can leverage the power of nutrition to meet the demand for food that is both craveable and functional for consumers throughout their health journey.

At Tate & Lyle, we've carried out decades of nutrition and consumer research - including for GLP-1 users. What we discovered was incredible. We now know we aren't talking to a single group. GLP-1 consumers are on a lifelong journey - with support needed both on and off the medication. Once you consider those who will never try GLP-1 and those yet to make the leap, we see three different groups.

Current GLP-1 Users

Those currently taking GLP-1 type medications.

Former GLP-1 Users

Those who have come off a GLP-1 medication.

GLP-1 Non-Users

Weight-conscious consumers, who are not currently taking GLP medication.

This understanding of different GLP-1 consumer stages opens a range of opportunities for our partners around the world. Instead of only focusing on the short window of GLP-1 medication use, we go beyond. By delivering solutions for all three groups of consumer, our partners can provide meaningful support, ultimately helping people create lasting, sustainable change - all while building brand loyalty. [Explore more >](#)

Not so hungry: How GLP-1 medications affect appetite

The simple act of eating is surprisingly complex and driven by various hormones and neurotransmitters in the gut, brain, and body that signal feelings of hunger, appetite, cravings, and satiety. However, for some people, those signals are out of sync, leading to persistent or intrusive thoughts about food, making it easier to overeat. The various types of GLP-1 medications on the market have been life-changing for many of these individuals.

These injectable or oral medications boost the body's natural glucagon-like peptide-1 (GLP-1) hormone, which is released in the small intestine. The hormone increases insulin secretion after meals, helping to regulate blood sugar levels. It also puts the brakes on the stomach and intestines, causing them to empty more slowly, so users feel full and satisfied with much smaller amounts of food. Some medications also target the gastric inhibitory polypeptide (GIP) hormone for an amplified effect.

The various types of GLP-1 medications on the market have been life-changing for many of these individuals.

Goodbye, food noise

GLP-1 medications also act on areas of the brain involved in appetite control, cravings, and reward. Users typically report that the medications reduce the chatter and “food noise” in their brains. That means fewer intrusive thoughts about food, with a dramatic reduction in impulse food and beverage purchases and consumption while on the medication.

Hello, side effects

Despite the benefits, it's not all peaches and cream for GLP-1 users. Digestive side effects, including nausea, diarrhea, and vomiting, are common within the first few weeks or months of starting these medications. Although they often lessen over time, for some people, they're severe and longer-lasting.

Over time, other potential risks lurk. Because they're eating and drinking less, users run the risk of dehydration, malnutrition, muscle loss, and weaker bones. And many GLP-1 users feel emotionally unsatisfied because comfort foods and indulgences, especially higher-fat meals and snacks and decadent desserts, are missing from their routine, as these can worsen side effects.

GLP-1 medications are not a cure, but a life-long treatment. And for those who stay on them, nutrition is a priority.

The skinny on GLP-1-type weight loss medications

GLP-1 medications, also known as incretin-based therapies, are here to stay. Currently, two types of injectable medications are widely used. However, the research and development pipeline is filled with new products, including several oral pills.

Beyond obesity and type 2 diabetes, emerging research on these medications suggests they may have benefits for cardiovascular and chronic kidney disease, osteoarthritis, sleep apnea, metabolic dysfunction-associated fatty liver disease, and peripheral artery disease.

Medication class	GLP-1 receptor agonists	GLP-1 and GIP receptor agonists
Active ingredient/ product name	Semaglutide, Liraglutide (Wegovy®, Rybelsus®, Ozempic®, Saxenda®, Victoza®)	Tirzepatide (Zepbound®, Mounjaro®)
Mechanism of action	Mimics the GLP-1 hormone in the small intestine and brain.	Mimics the GLP-1 and GIP (gastric inhibitory polypeptide) hormones, which work in similar ways to promote weight loss. This can provide a synergistic, enhanced effect for some people.
How it promotes weight loss	Slows stomach emptying, increases satiety, regulates appetite and cravings, and helps lower blood sugar.	Promotes earlier satiety, dampens cravings and appetite, lowers blood sugar, and improves fat metabolism.
Commonly reported side effects	May cause gastrointestinal symptoms, including nausea, vomiting, abdominal pain, diarrhea, and constipation, as well as headache, dizziness, and fatigue.	Nausea, vomiting, acid reflux, constipation, and diarrhea. May have more severe gastrointestinal symptoms at higher doses.
Other benefits	Can also reduce cardiovascular disease risk.	Can be more effective at managing type 2 diabetes than semaglutide and result in greater weight loss.

Nourishing changing appetites

With smaller appetites, GLP-1 users are focused on optimizing nutrition in every bite and sip. Still, their goal isn't just to consume food; it's to find a way to reconnect with the joy and ritual of it — even as the biological drivers of hunger and cravings are diminished.



I'm eating less, so I want food to be nutritious, but also bring me joy.

Current GLP-1 user

Source: Tate & Lyle Proprietary GLP-1 research study May 2025

Seeking nutritional density

For these consumers, nutrient density is in, and empty calories are out. They understand the importance of a well-balanced diet rich in specific nutrients to mitigate the risk of malnutrition, muscle and bone loss, and to help manage digestive side effects.

GLP-1 users show stronger engagement to increase intake of key functional ingredients

Stevia

36%

of current GLP-1 users intend to consume more stevia

29%

of former GLP-1 users intend to consume more stevia

36%

of non-GLP-1 users intend to purchase more items with stevia

Soluble Corn Fiber

31%

of current GLP-1 users intend to consume more soluble corn fiber

21%

of former GLP-1 users intend to consume more soluble corn fiber

25%

of non-GLP-1 users intend to purchase more items with soluble corn fiber

Source: Tate & Lyle Proprietary GLP-1 research study May 2025
GLP Users Current and Former: Q34. When looking at ingredient list on food and drinks, would you say you try to consume more of or avoid any of these? ingredients below?

Source: Tate & Lyle Proprietary Ingredient Tracker, September 2025
Non GLP1 Users: 32. cq10 If you read these ingredients on the label of a product you were considering buying, please explain what effect, if any, they have on your decision to buy.

The shift in spending and behaviors across numerous food and beverage categories indicates consumers are hungry for added nutrition in products within “better-for-you” categories, and a reduction of unhealthy ingredients in less healthy categories.

Consumer insights data reveal that approximately 44% of new GLP-1 medication users change their eating habits, with behavior shifts strongest within the first 90 days. They also become label readers: 69% of GLP-1 users report they “almost always” read labels, and 34% “sometimes” read labels to seek out GLP-1-friendly foods with the following attributes:

- \ **Higher protein content** to maintain lean muscle.
- \ **Added fiber**, especially soluble fiber, to promote digestive comfort and prebiotic fiber for gut health, and enhanced absorption of calcium and other minerals to protect bone health.
- \ **Reduced sugar and refined carbohydrates** for calorie control and to support healthy glucose levels.
- \ **Max nutrient density** in smaller portions to offset the risk of malnutrition while satisfying smaller appetites.
- \ **“Clean label,” recognizable ingredients**, and nutrition facts panels that reflect higher protein and fiber, and lower sugar.

Consumers seek foods that check these boxes and support their nutrition goals. But enjoyment and healthy indulgence are ultimately what keep them coming back for more. To excel in this new era, innovators must strike a balance between nutritional benefits, taste, sensation, and overall satisfaction.



Life after GLP-1: Do former users revert to old habits?

GLP-1 medications are meant for long-term use, but side effects, access, and affordability are barriers for many. As a result, many people eventually discontinue them. Research studies suggest that up to 65% of those who use the medications for weight loss alone, without diabetes, discontinue them after one year.¹ However, weight regain is common, and about one-third of former users often restart the medication.

When medications are stopped, food noise and cravings often return, and eating habits change — but not all former users immediately reverse course and return to their former habits. Between 17 and 25% of former users still maintain healthier eating habits, even after a year without GLP-1 use.

And 41% of former users report that they “almost always” read ingredient labels, and 51% “sometimes” read labels as they continue to seek clean, simple ingredient lists. Former GLP-1 users remain hungry for clear, easy-to-find options that help squash the food noise and allow them to savor, enjoy, and feel satisfied without guilt.



The intersection of nutritional needs and consumer psychology becomes fascinating with the introduction of GLP-1. This medication revolutionizes weight loss by reducing food cravings but maintaining good nutrition and managing side effects can be challenging with a reduced appetite. Consumers may seek foods with appealing taste and texture, like snacks and smoothies, to ensure adequate nutrition without the effort of consuming traditional meals when desire to eat is low.

During peak appetite suppression from GLP-1, users are more receptive to healthier habits. However, as their appetite returns, former users need foods that promote satiety and address lingering side effects. Without proper support, old comfort habits may resurface, leading to weight gain.

The key opportunity to support former GLP-1 users (and in parallel, non GLP-1 users) lies in creating food solutions that provide satiety with fewer calories while maintaining nutritional density and enjoyment.

Addressing returning appetites within a better-for-you product line distinguishes between short-term fixes and lifelong weight management support.



Emma Cahill
Platform Marketing Director
Sweeteners & Fibers, Tate & Lyle



I want to maintain my success, still enjoy food, but feel fuller.

Former GLP-1 user

Source: Tate & Lyle Proprietary GLP-1 research study May 2025 North America, Tate & Lyle

The appetite shift: Influence on what we buy and why

These medications are impacting grocery spending patterns, with certain categories, particularly indulgent snacks, experiencing declines in purchases among new GLP-1 users. Those at highest risk include:

- \ Chips and savory snacks
- \ Sweet bakery items and cookies
- \ Fresh and frozen side dishes
- \ Soft drinks
- \ Packaged meals
- \ Pizza, pasta, and other frozen meals



Instead, consumers are rethinking their purchases and filling their carts with nutritionally dense foods, like yogurt, meat snacks, nutrition bars, and shakes formulated with less sugar and more fiber and protein.

And although former GLP-1 users gradually increase their consumption of crackers, tortilla chips, cookies, and ice cream over time, they still demand better-for-you alternatives of these foods that offer indulgent comfort and lasting satiety.

Many current and former GLP-1 users find a gap in food and beverage options.

GLP1- former users

For the below listed food and drinks, how has your consumption changed since you stopped GLP-1 medication? Select the reason you feel if most relevant for each category.

Food item	Time lapsed- less than 3 months ago	Time lapsed- 3-6 months ago	Increased- But I am seeking healthier versions
Crackers	↑	↑	✓
Ice Cream	↑	↑	✓
Tortilla Chips	↑	↑	✓
Cookies	↑	↑	✓

Finding more food joy with less food noise

Indulgence isn't off the table for consumers at any point along the GLP-1 journey. Despite the suppression of food noise and significantly reduced appetites while on the medication, consumers still want snacks and meals that spark joy—crunchy, creamy, crispy, sweet, and savory sensations that make healthier eating feel like a treat. And food joy remains a priority for both former and non-GLP-1 users as they seek foods that satisfy their senses and provide enjoyment, while also helping them feel full and quiet their food chatter.

“The sensorial experience is one of the most satisfying parts of eating, and people will always desire that, whether they're on a weight loss medication or not,” says Louisa White, Senior Manager, Consumer Insights and Analytics, North America, Tate & Lyle.

CPG innovators that can successfully formulate products with the right flavors, textures, and mouthfeel will capture grocery dollars.

Taste and mouthfeel are crucial components of the sensorial experience and key drivers of satisfaction. However, they're also challenging to get right when formulating packaged foods that cater to the GLP-1 target market. At least 57% of consumers have indicated that taste is a barrier to repurchasing a healthier beverage, such as a protein shake.² Both current and former users rate taste and texture, along with cost, as major barriers to maintaining healthier eating habits.³

57%

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²Tate & Lyle Proprietary Study Functional Beverages, July 2024

³Tate & Lyle Proprietary GLP-1 research study, May 2025

Nutritional optimizations: The next generation of innovation

The demand for healthier food, driven by GLP-1 medications, is expected to intensify, driving further changes in purchasing behaviors. Consequently, the nutritional rebalancing of food presents a significant growth opportunity for CPG manufacturers who can reframe indulgence as functional.

However, as product developers know, working with these desired ingredients can be a tricky recipe. “Reducing sugar and increasing fiber, protein, or other functional ingredients changes a product’s sensory aspects, adding challenges to formulation,” says Susan Butler, Technical Service Director, Tate & Lyle.

What’s more, not all fibers, proteins, and sweeteners are created equal. Each plays a unique role in a product’s texture, mouthfeel, and taste. It’s also critical to consider how these ingredients affect clean labeling considerations, she adds.

Successful formulation requires a toolbox of ingredients that consumers can feel good about, along with the knowledge of how to use them effectively to create products that satisfy all consumers’ need for healthier, guilt-free indulgences, Butler explains.



Reducing sugar and increasing fiber, protein, or other functional ingredients changes a product’s sensory aspects, adding challenges to formulation functional ingredients.



Susan Butler
Technical Service Director,
Tate & Lyle



Ripe opportunities for innovation

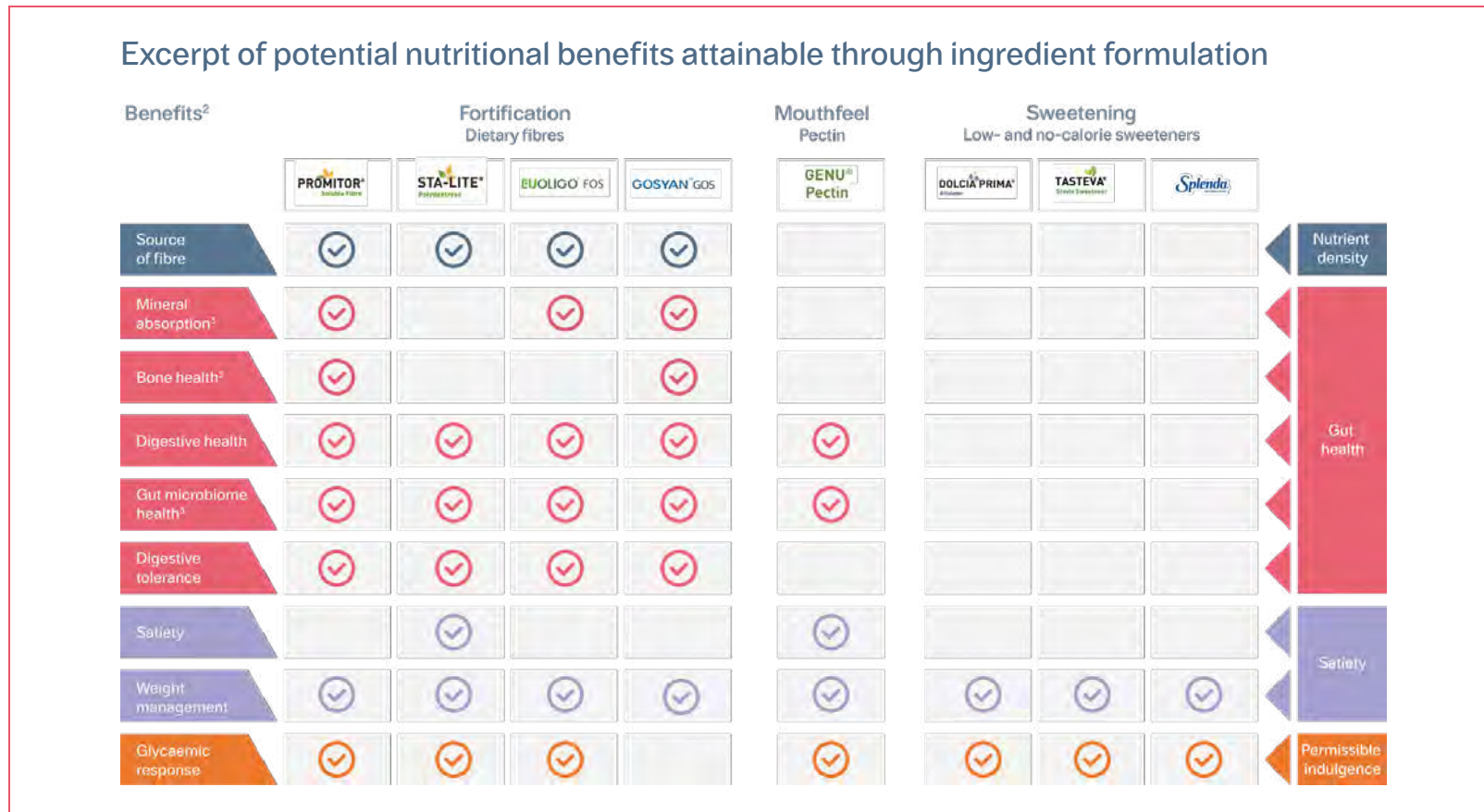
White-space opportunities exist across several categories, including:

- \ **Dairy** - Reduced sugar and protein/ fiber-enriched yogurt, ice cream, and frozen treats
- \ **Bakery** - Fiber-enhanced crackers or chips with crispy, crunchy, craveable textures
- \ **Beverages** - Clean-label, refreshing functional beverages, and low sugar, fiber-enriched protein shakes

A recipe for success

We have ingredient solutions for every formulation challenge, from fortifying with fiber and protein to improve macros and promote satiety, replacing sugar to avoid glycemic spikes and reduce calories, or simply enhancing mouthfeel to increase the feeling of indulgence. Tate & Lyle's extensive ingredient portfolio enables you to create the attributes needed to turn GLP-1 consumers into brand advocates.

By combining all this with our proven expertise in nutrition, fortification, sweetening and mouthfeel – our GLP-1 solutions empower our partners to formulate products that are beyond satisfying. They're sensational.



Recipe redo: Reimagining a GLP-1-friendly protein shake

74% of GLP-1 users increase their consumption of protein shakes to help meet their nutritional needs, making this category overflowing with possibilities for GLP-1-friendly alternatives.

The Problem: Achieving a base with a clean, sugar-like sweetness, neutral flavor, and smooth mouthfeel is especially challenging with plant-based proteins.

The Solution: Tate & Lyle can tap into a broad range of ingredient solutions to hit the sweet spot for mouthfeel and flavor with protein shakes.

- ✓ **PROMITOR® Soluble Fiber** prebiotic can achieve a creamy mouthfeel while providing nutrition and gut health benefits, including promoting calcium absorption.
- ✓ **NUTRAVA® Citrus Fiber** adds texture and stabilizes plant proteins
- ✓ **All-Americas Stevia Reb M**, monk fruit, and allulose provide non-artificial, sugar-like sweetness without carbohydrates or calories.
- ✓ **NATROSE® 2.0 Flavor** reduces off notes and astringency from the pea protein.
- ✓ **KELCOGEL® Gellan Gum**, carrageenan, and other stabilizers significantly improve the stability of protein suspensions.

The Impact: Reformulating by removing or adding ingredients can dramatically influence mouthfeel—whether you’re aiming for a thick milkshake texture or a thinner flavored milk experience.



Our diverse solutions can help you create products that not only satisfy but also keep customers coming back for more.



Susan Butler
Technical Service Director,
Tate & Lyle

Traditional Plant-Based Protein Shake	T&L’s GLP-1-Adapted Plant Protein Shake Prototype																																
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A satisfying partnership

The GLP-1 wellness trend is changing many consumers' grocery shopping habits, but their appetite for food that tastes great and does good isn't going anywhere. Creative formulators who understand the needs and gaps in this market and can strike a balance of function and indulgence will quickly capture consumers' palates and grow their business.

At Tate & Lyle, we bring more than ingredients to the table. We're the strategic reformulation partners of choice that can help guide innovation with tailored better-for-you solutions crafted for GLP-1 users, combined with in-depth, evidence-based expertise to drive product development success. We partner with manufacturers, innovators, and marketers to provide industry insights, along with scientific, nutritional, technical, and regulatory knowledge, to serve up smarter innovation—one delicious bite at a time.

[Connect with Tate & Lyle](#) — Let's develop the ideal solutions together.

GLP-1 users are transforming food & beverage: Are you ready?

Join Tate & Lyle for "Formulating for GLP-1 Users and Beyond", an exclusive webinar that explores how formulating with the right ingredients can capture this fast-growing consumer segment and turn them into loyal, repeat customers. Our experts will share our current proprietary consumer research and insights into ingredient solutions and formulation strategies that satisfy, nourish, and delight consumers with every bite and sip.

Register for this important webinar for insights you won't find anywhere else.

Watch on-demand today.

[Register now >](#)

About Tate & Lyle PLC:

Supported by our 165-year history of ingredient innovation, we partner with customers to provide consumers with healthier and tastier choices when they eat and drink. We are proud that millions of people around the world consume products containing our ingredients and solutions every day.

Through our leading expertise in sweetening, mouthfeel and fortification, we develop ingredients and solutions which reduce sugar, calories and fat, add fiber and protein, and provide texture and stability to food and drink in categories including beverages, dairy, bakery, snacks, soups, sauces, and dressings.

Tate & Lyle recently acquired CP Kelco, a leading provider of pectin, speciality gums and other nature-based ingredients to create a leader in mouthfeel, significantly enhancing our solutions capabilities. Following this combination, we now have more than 5,000 employees working in around 75 locations in 39 countries, serving customers in more than 120 countries. Science, Solutions, Society is our brand promise and how we will achieve our purpose of Transforming Lives through the Science of Food. By living our purpose, we believe we can successfully grow our business and have a positive impact on society. We live our purpose in three ways, by supporting healthy living, building thriving communities and caring for our planet.

Tate & Lyle is listed on the London Stock Exchange under the symbol TATE.L. American Depositary Receipts trade under TATYY. For the year ended 31 March 2024, and on a pro forma basis which assumes for illustrative purposes that the combination with CP Kelco took place on 1 April 2023, revenue for the enlarged Tate & Lyle Group would have been £2.25 billion. For more information, please visit www.tateandlyle.com or follow Tate & Lyle on LinkedIn, X (Twitter), Facebook or YouTube.