

TATE&LYLE SUMMER 2019 ISSUE 31
WORLDWIDE



PRINTED ON
PAPER
CONTAINING
OUR STARCH!



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EMOTION: GETTING TO
THE HEART OF BAKERY

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TATE & LYLE

Editorial Board Miriam Wilkens (Chair), Rowan Adams, Chris Olsen, Jennifer Walker.

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Spellings Since Tate & Lyle is a UK-owned company, we follow UK spellings (eg 'fibre') in our magazine, except when a brand name is different (eg PROMITOR® Dietary Fiber) or within quotes from American-English speakers.

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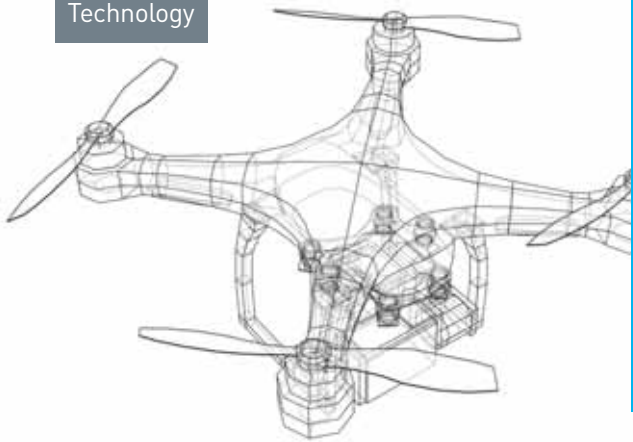
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Translated into nine languages For our non-English speaking colleagues, we translate article summaries. The number boxes by the first paragraph link to the translation sheets so that they can be read together with the magazine. The first number denotes the page and the second the article, so, for example, '6.1' refers to the first article on page 6.

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Opinion



**SPECIAL
160th
ANNIVERSARY
ISSUE**

Nick's column



Nick Hampton
Chief Executive

We're publishing a special anniversary issue of Worldwide in place of our usual magazine in December. Tate & Lyle has a truly amazing history, as you'll soon find out!



Proud of the past, excited about the future

On 24 July, we began our 160-day countdown to the end of 2019, our 160th anniversary year. 160 days of opportunity to remember with pride how far Tate & Lyle has come since 1859, to celebrate the role each of us has played in that story, and how, together with our colleagues of today and yesterday, we have contributed to Improving Lives for Generations.

But an anniversary is so much more than taking pride in our past. We remember the past because we can learn from it, and because it gives us inspiration to continue to succeed. These 160 days are also days of opportunity to do more, to go a bit further, to stretch ourselves – in short, to be even more ambitious for ourselves and our Company.

Reinventing ourselves for the needs of our time

Businesses come and go, so what is it about Tate & Lyle that means we're still here, thriving and growing, 160 years later? If you look back at our history, you'll see it's because Tate & Lyle has continually reinvented itself successfully to meet the needs of the time and make a positive impact on society. And, throughout our history, we've had very talented people making this happen.

Last year was no exception, and I'm very proud of what we achieved. Everywhere I go across the

Group, I see people bringing our purpose to life. We're making strong progress on our J2EE journey, and the way we continued to serve our customers in the US this past winter during the polar vortex was literally outstanding – marking us out from the competition. We're also making progress in innovation, and customers are telling us we're becoming a real growth partner for their business. We're seeing some great initiatives coming out of our simplify priority, and across the business I can see signs that we're moving with more pace and agility.

All this gives me great confidence in our future. That's not to say there aren't challenges – some of the markets we are operating in remain undeniably tough. But if we look beyond those, at the global trends shaping our markets over the longer term, we couldn't be better placed to continue our success for future generations.

China at the heart of future growth

As many of you will have heard me discuss during my town halls over the last few months, one of our biggest opportunities for growth is Asia, particularly China (read more in our feature on pages 24-28). The gateway to Asia, China has 20% of the world's population, and is experiencing many of the same health challenges of rising levels of obesity and

diabetes as the rest of the developed world. We have an excellent local team in China that has built a thriving business there, and the opportunities for growth are tremendous.

There are certainly challenges to overcome, but China is a country which is changing incredibly quickly, as I've seen for myself on recent visits. I've been impressed by the pace of change in areas like technology and infrastructure, and increasingly in areas such as environmental stewardship and ethical business practices. And you can be assured that our values and our purpose are as alive and healthy in China as they are everywhere else we operate – and that they will remain central as we develop our business there, just as they are central to developing our business anywhere.

The reason? It is these things – our values and our purpose – that have remained constant, that are the essence of why Tate & Lyle has thrived for 160 years. As Chief Executive, I want to make sure that I do my part in handing on a successful, growing business to the next generation, and I know I can count on you all to do the same.



IMPROVING LIVES WITH FIBRE4LIFE



Fibre is really good for your health, but it's tough to eat the recommended 25g each day.

5 Across EMEA, over 1,100 colleagues learned first-hand how our customers are benefiting from our fibre solutions, thanks to our internal 'Fibre4Life' initiative, led by Ieva Laurie, Principal Nutrition Scientist EMEA, and supported by like-minded colleagues at our sites. They took home their very own 100-day supply of PROMITOR® Soluble Fibre with some tasty recipe ideas.

PROMITOR® Soluble Fibre can be added to breakfast cereals, snacks and drinks and makes it much easier for people to increase their fibre intake without making radical changes to their diet.

Our colleagues also learned about how fibre can improve lives for consumers around the world. The EMEA fibre initiative followed a similar one in NOAM, with plans to roll out to LATAM next.

Murat Orhon, SVP and GM EMEA, comments: 'PROMITOR® Soluble Fibre is one of our "star" ingredients. It's a tremendous source of growth and profitability for Tate & Lyle while enabling healthy and tasty foods and drinks – and it was a pleasure to bring its benefits to our EMEA employees.'



"It has been wonderful to see how colleagues have embraced the initiative – and brought in their families and friends too. And it's great that Tate & Lyle

supports such initiatives which make a tangible difference to our wellbeing."

Ieva Laurie Principal Nutrition Scientist EMEA



Colleagues at Boleraz (above) and Koog (right)



TASTY RECIPE IDEAS!

Fun Fibre Facts

44% of consumers in Europe want to boost their fibre intake.

Only 1 in 10 of us is eating the recommended 25g fibre each day.

Fibre promotes digestive health, keeps blood sugar levels healthy, helps maintain a healthy weight and may even improve bone health.

To get 25g of fibre, you would need to eat 21 slices of wheat bread, 1.5kg of brown rice or almost 1kg of broccoli.

GLOBAL NEWS

Anniversary

McIntosh is 20!



6.1 **N**ick Hampton and Melissa Law paid a special visit to McIntosh to commemorate its 20th anniversary. They conducted a town hall talk on the FY19 results and congratulated the plant on another strong year.

Built in 1999, our McIntosh, Alabama plant produces SPLENDA® Sucralose – the purest sucralose available on the market – with the world’s most efficient continuous sucralose operation.

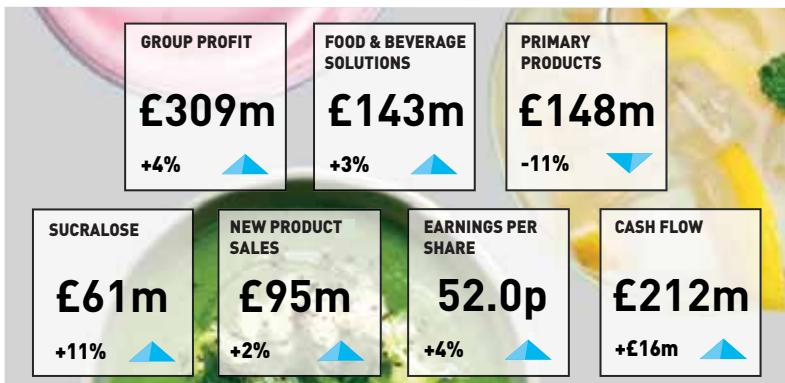
Employees celebrated the plant’s birthday in style – by washing down some birthday cake with a special tasting of a new Pepsi Mountain Dew product that contains our sucralose. Happy Birthday McIntosh – here’s to the next 20 years!



Results

A YEAR OF GOOD PROGRESS

Results for full year ending 31 March 2019





TATE & LYLE IN THE MEDIA

7.1 Did you hear Chief Executive **Nick Hampton** talking about fibre-enriched chocolate on Sky News? Nick explained how we helped lower calories in Mondelēz International's iconic Cadbury chocolate while setting out our full-year financial results. He also spoke on CNBC International and Bloomberg. CFO **Imran Nawaz** has also been busy talking to the financial press, with a results day interview with Investors Chronicle, and a CFO profile with Financial Director.

Over in Łódź, colleagues **Anna Przedzdek**, **Anna Michalska** and **Malgorzata Czyzewska** spoke to leading Polish financial newspaper Gazeta



Wyborcza about gender balance in the business services sector. Did you know that 70% of our team managers in Global Shared Services are women?



Talking of great women, Putman Media, an industry news publisher, named Loudon's **Arial Ruble** one of the Most Influential Women in Manufacturing. Arial spoke to local press about what it meant to win this national award, which recognises female team leaders

who support gender balance and make a difference in their community.

April was a big month for allulose news, with the US Food and Drug Administration's new guidance on how brands can label it on-pack (see page 19 for details). **Abigail Storms**, **Lisa Spence**, **Jim Carr** and **Megan Bishof** helped promote our role in this unprecedented move by the FDA on Fox News, Bloomberg and a host of trade titles.

PLANT POWER SUPPORTS OUR PURPOSE AND SUSTAINABILITY AGENDA

7.2 Our innovation is contributing to environmental sustainability as we transform waste into valuable ingredients. The ByProFood project is an exciting global collaboration with industry partners and the Fraunhofer Institute launched in 2016. As part of the project, our Lübeck, Germany team evaluated its first samples of high-value extracts from coffee by-products, mango and banana peel. They can be used as an ingredient to add organic aroma, colour or texture to food such as yoghurt.

'We need to feed a future growing population as efficiently as possible,' said Sven Tiedemann, Manager, Global Ingredients Team, SFS. 'Our vision is to take low-value by-products and transform them into high-quality food products.'

MOLD WORKS WITH EU AND INDUSTRY PARTNERS IN SEARCH OF NEW PROTEIN SOURCES

7.3 Our Mold, UK facility is playing a key role in Pro-Enrich, a €3.5m, three-year EU bio-based industries joint undertaking to develop new proteins and ingredients from crops and food by-products. For the last year, we have been working with 12 companies and three research companies from seven countries to develop new products for the food, cosmetics, pet food and adhesives sectors. This pioneering research, co-ordinated from our pilot plant at Mold and working together with our Global Ingredients Team, is investigating how to use residues from olives, tomatoes, citrus fruit and rapeseed meal.

'It ticks a lot of boxes – sustainability, open innovation, collaboration, moving away from animal proteins,' says Will Ballantyne, Category Technical Manager, Bakery. 'I'm hoping that the project will result in protein powders that we can use in our stabilisation and functional systems to help our customers!'

Find out more at Pro-Enrich.EU





BAKERY: ART, SCIENCE AND EMOTION

8-13 Cookies, pastries, pies, cakes and breads... around the world, baked goods are a much-loved part of everyday life. Whether it's a staple like bread or the most intricate patisserie, getting bakery right on a commercial scale takes immense technical, creative and business skill.

It's a category we at Tate & Lyle understand implicitly. Find out how we work with our customers to deliver products consumers can't resist!

\$528 BILLION
TOTAL GLOBAL REVENUE FOR
BAKERY PRODUCTS, 2018

Source: IBISWorld Global Bakery Goods Manufacturing Industry, Industry Market Research Report



Why bakery?

'Our portfolio of sweetening solutions, texturants, stabilisers and fibres meets just about any bakery requirement,' says Courtney Kingery, Director, Health and Wellness Innovation. 'And when it comes to technical know-how, customer facilities, and experience in overcoming formulation and processing challenges – we're among the best in the industry.'

While bakery is not one of our three global category priorities, it is a regional priority in many of the markets we operate in across the world. And it's easy to see why. 'Think of the range of products – from cookies to cakes, pastries to pizza, grain bars, pretzels and crackers,' Courtney continues. 'All different flavors and shapes, requiring very different approaches. And not just dough: we also help customers with creme and fruit fillings, savoury toppings, glazes, and added nutrition.'



Our advantage

So in this buoyant global market, what sets us apart?

- **Sugar reduction:** Nobody does sugar reduction like Tate & Lyle! Our expertise is even more of an advantage in bakery, where the structure and texture that sugar provides are as integral to the consumer's enjoyment as the sweet taste.
- **Texture:** Each of our 140 speciality texturants – such as our CLARIA® and MERIGEL® starches – works brilliantly to deliver the desired texture in bakery products: soft, crispy, chewy, creamy, crunchy, etc.
- **Health and wellness:** Whatever consumers are seeking – reduced fat, sugar and calorie options; fibre-enriched; gluten-free; or low-salt – we have the ingredients to help manufacturers meet that demand. For example, our expertise means we can help customers develop a reduced-sugar bakery treat that tastes just as good as the full-sugar original.
- **Outstanding facilities:** 'Our innovation center at Hoffman Estates is a real benefit for customers,' says Cecilia Shiroma-Kian, Director, Global PM – Health & Wellness. 'In one building, we can create an idea together, develop it in the lab, bake it in our kitchen and test it in our pilot plant. We can then roll it out locally, matching local taste preferences, through our global network of application centers.'

CLARIA EVERLAST®: our latest CLARIA® starch

- Its key feature is that it's especially process tolerant – stays stable through freeze-thaw, refrigeration and room temperature storage.
- Perfect for bakery fillings and glazes.
- Cleaner taste and whiter, more attractive colour than conventional modified starches.
- And naturally, it's 'clean label' – allowing customers to formulate with a starch ingredient that can be explained on a label in language consumers understand.

BAKERY IN OUR REGIONS

NORTH AMERICA

Shaking up the market

In what's considered a relatively mature market in North America, we've experienced 35% growth in two years! That's thanks to a team effort driven by Stefanie Lee (Business Development Manager, Bakery), who switched from the technical side to our commercial team in 2017. Her experience and our category focus helped us spot a market that wasn't being served – ingredients and distribution support for intermediaries who make bakery blends [see BakeMark win right]. We're raising awareness of Tate & Lyle and really making our mark in the category.

Looking at the NOAM bakery market in general, consumers seek indulgence without calories, which manufacturers are answering with sugar reduction and mini sizes. Sweet baked goods are the largest sub-category, alongside ready-to-eat, icings, crackers and cookies.

SALLY ROMANO
Director, Nutrition and Bakery



Our embossed cookies are a hit at trade shows!

The Nutrition and Bakery team at their recent sales meeting



Customer focus

Who we work with

As well as global customers including Mondelez and Bimbo, we work with major regional companies. These include BakeMark, a large manufacturer and distributor of bakery ingredients (through whom we reach thousands of bakeries across the US), and CSM Bakery Solutions with their Brill icings division.

NEW BUSINESS WINS



Schulze and Burch Fruit & Grain Cereal Bar – healthier options for everyone

Schulze and Burch biscuit company launched six variants of a private label cereal bar. Working with their R&D teams, we created a bar enriched with PROMITOR® Soluble Fibre and KRYSTAR® Crystalline Fructose, and a real fruit filling. The result: a cost-conscious product that offers a 30% sugar reduction and 3g of fibre.



CSM Brill – enabling innovation

Customised celebration cakes are popular in the US right now. To capitalise on this, our customer CSM Brill teamed up with a 3D printing company to sell printers and materials to bakery manufacturers, enabling them to create amazing sugar sculptures at a fraction of the time and cost it would usually take. We had to work out the precise particle size of our STAR-DRI® Maltodextrin to make it work in the 3D blend!



BakeMark's 'competitive conversion'

BakeMark is a leading manufacturer and distributor of bakery ingredients. Recently we scored a major win, becoming their exclusive supplier. We reformulated 50 bakery products, replaced 15 competitive starches and sweeteners, and trained their 250-strong sales team, all within a 10-month timeframe.



LATIN AMERICA

Flourishing in a regulated market

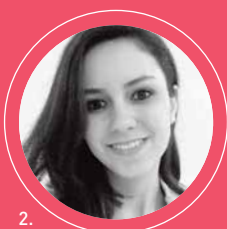
Across the region, we see consumer 'pull' and regulatory 'push' for healthier foods. The key opportunities for us are in 'better-for-you' options (less sugar, fat and salt), and fibre and protein enrichment.

The fibre opportunity is particularly strong, with growing demand for sugar reduction solutions using our fibres as bulking agents and for nutritional enrichment. Affordability is also important. Along with reformulating, we help customers across their entire supply chain avoid having to pass costs on to consumers.

Of course, there are variations between countries. In Brazil, for example, the government has set ambitious sugar reduction targets in a number of bakery sub-categories. And, because they don't allow high intensity sweeteners to replace sugar in this context, we use ingredients approved by FEMA, the Flavor and Extract Manufacturers Association of the United States, such as Natrose™ Stevia, PUREFRUIT™ Monk Fruit Extract and DOLCIA PRIMA® Allulose in combination with fibres to achieve the same result.



1.



2.

1. RENATA ANDRADE
Regional PM, Health
& Wellness

2. MARINA MIGUELI
Marketing Manager

Customer focus

Who we work with

Our global customers include Kellogg's, PepsiCo, Mondelēz, General Mills, Nestlé and Bimbo. We also work with leading regional manufacturers such as Arcor, Carozzi, Nutresa, M. Dias Branco, Marilan and Pandurata.

NEW BUSINESS WINS



Bimbo – sugar reduction in muffins

Bimbo Peru have 43% of national market share. When the Peruvian government introduced new sugar reduction regulations, Bimbo chose us to help them reformulate. We trained their R&D team to use stevia, and worked closely with them from recipe to prototype, using our OPTIMIZER™ Stevia and STA-LITE® Polydextrose.



Puripop – food labelling law drives reformulation

When the government of Chile introduced food labelling (using a 'black diamond' health warning mark), Puripop, an end customer of our distribution partner Inversiones PST, asked us to reduce the calorie content of their sweet popcorn. We helped them reformulate with DOLCIA PRIMA® Allulose: a solution that reduced calories without compromising taste or texture – and no black diamond!



Pandurata – formulating with a winning texturant

Pandurata is the third-largest player in Brazilian baked goods. Since 2018, our TENDER-JEL® Starch has been keeping cakes and biscuits in the customer's Cereale brand soft and moist throughout their shelf life. Its high performance and competitive price secured the win.

Congratulations to everyone making our bakery business a global success – from ICD, manufacturing and logistics, to sales, applications and customer service teams.



EUROPE, MIDDLE EAST AND AFRICA

Quality, innovation and winning combinations

Bakery trends and tastes vary enormously from country to country, but the macro trends are for clean label, plant power, quality carbs and sugar reduction. Our key sub-categories are biscuits, grain bars and savoury snacks; then cakes and pastries, and lastly bread – an area we're hoping to expand. People are now more open to trying new things in bread, which means we're seeing much more innovation – for example, inclusions like chia seeds; using different grains; and different ways of baking, such as part-bake for finishing at home.

We're also helping customers innovate in areas like sports nutrition. We've done a lot of work in sports bars – texture, shelf life, protein fortification, and long-lasting energy. Our stabilisation platform gives our customers the flexibility to work with different protein sources, for example.

Our customers appreciate the breadth and quality of our portfolio – that we can provide the bakery custard for a doughnut filling, as well as ingredients for the doughnut itself! We also know how to put the two together, and how the product will behave during processing, baking, transportation and storage. It's this combination of ingredients and expertise that sets us apart.



CHRIS BARTLETT
Category Director, Beverage,
Bakery and Confectionery

Customer focus

Who we work with

As well as global players such as Mondelez and pladis (core brand McVitie's), we supply bakery blends companies such as CSM and Dawn. We also serve independent bakeries making branded or own-label products across the whole bakery spectrum.

NEW BUSINESS WINS



Huel – 'human fuel' contains our texturants!

Huel is a relatively new brand meeting the growing demand for meal-replacement products using only high-quality, natural ingredients. This bar, launched in January, is enriched with PROMITOR® Soluble Fibre.



Deli Breads – reduced-calorie tortilla

We supplied a stabiliser system to help this Spanish brand produce a reduced-calorie tortilla.





BAKERY BLEND INTERMEDIARIES

Also known as 'improver houses', these specialist companies add agents to flour to improve baking functionality (making dough rise faster, for example), which they supply to bakery manufacturers.

ASIA PACIFIC

Where taste meets technology

Health and wellness is a major trend across the region, both in sweet baked goods and savoury snacks. Consumers are making conscious decisions about what they eat, seeking lower-sugar and healthier choices that taste great. Convenience is another priority, as urbanisation increases and consumers get busier. For this reason cereals are being targeted towards the working population (and are also positioned as helping with weight management).

Retailers in countries where distribution can be challenging, such as China, Vietnam, the Philippines, Malaysia and Indonesia, need bakery products with a long shelf life – which plays to our expertise in texturants and stabilisation blends.

Some pastries, like mooncakes, are traditionally associated with festivals. These little pies, available in a variety of fillings and flavours, are often attractively packaged for gifting at the Mid-Autumn Festival. We helped our customer TungLok launch Singapore's first mooncake to be certified by the country's Health Promotion Board (see Worldwide 29).



BEVERLY WEE
Marketing Specialist



TIFFANY CHEW
Marketing Communications Manager



AUDREY ONG
Regional Category Marketing Manager

Customer focus

Who we work with

We work with global enterprise accounts and regional key accounts such as PepsiCo, Mondelez, Nestlé, Glico, Nissin Cisco, YBC, Arnott's, Kellogg's, Orion, Lotte, Mamee, AB Mauri, and Puratos.

NEW BUSINESS WINS



Japan – Glico SUNAO cream sand biscuit

Formulating this biscuit with PROMITOR® Soluble Fibre, we helped Glico in Japan achieve a 50% sugar reduction without any taste 'off-notes'. [Note – 'sand' here is short for 'sandwich'!]



PepsiCo – Sunbites Nut Mix range

In extending their Sunbites 'better-for-you' savoury snack brand, PepsiCo presented its supplier partners with an unusual challenge: how to bind seaweed and nuts without sweetness. Showing how STA-LITE® Polydextrose worked in lab trials to deliver the desired binding, crispiness and enrichment, our technical colleagues won the backing of PepsiCo's R&D team.



Arnott's – texture mapping baked snacks

Tate & Lyle's expertise in texturants and processing led to this exciting, ongoing project in Australia. Arnott's asked us to help them develop a 'texture map' of the action of different starches in baked snacks, to give their development team a head start in meeting their marketing team's brief. MERIGEL® Starch provided a crisp, crunchy texture in the latest flavour – Vegemite and cheese – of their popular Shapes cracker range.



Recipe round-up HOME BAKING

YOUR RECIPES

14-15 There's something about baking that's close to the heart – so it's no surprise that our recipes in this issue mean so much to our colleagues and their families.

Pablo Repetto
Buenos Aires, Argentina

My Italian grandmother, 'Nonna', used to make this cake for the family – and it's my favourite, because I love nuts and dried fruits and it's packed with them. Nowadays I love cooking it with my little daughter to share with our family and friends. I have changed the original recipe to improve the nutritional content by reducing sugar and saturated fat, and increasing fibre – while, of course, keeping the same great taste and texture!



NONNA'S BLACK CAKE WITH NUTS AND PRUNES

INGREDIENTS

- 2 cups wholewheat flour (350g)
- ½ cup sunflower oil (180g)
- 1 cup prunes (175g)
- ½ cup sugar (170g)
- ½ cup SPLENDA® Sweetener Granulated
- 2 eggs
- 1 cup chopped nuts (120g)
- ½ cup reduced fat (semi-skimmed) milk (80g)
- 2 tsp baking soda (bicarbonate of soda) (5g)
- 2 tsp raising agent (cream of tartar) (5g)
- 2 tsp vanilla extract/essence (1g)

METHOD

1. Set the oven to 165°C (330°F).
2. Grease a cake ring.



3. Chop the prunes and mix with half the sugar, all the SPLENDA® and baking soda.
4. Put eggs, oil and the remaining sugar in a mixer and mix at high speed for 2 minutes.
5. Add the prune mixture and the rest of the ingredients. Mix all at medium speed for 1 minute.
6. Pour into the cake ring, and bake for 1 hour or until done.



Georgia Qualey
Houlton, US

This recipe is a family favorite passed along for at least three generations. Growing up, we called them Valeria's Blond Brownies because Cousin Valeria passed the recipe on to us. These brownies were always a go-to dessert for any occasion.



VALERIA'S BLOND BROWNIES

INGREDIENTS

- 2 cups plain flour
- 2 cups brown sugar
- 1 cup chocolate chips (or a few large handfuls)
- ½ cup chopped walnuts (optional)
- 2 tsp vanilla extract
- ¼ tsp baking soda (bicarbonate of soda)
- 1 tsp baking powder
- ⅔ cup oil (I use canola)
- 2 eggs
- 1 tsp salt

METHOD

1. Preheat oven to 180°C (350°F).
2. Grease a 9x13inch pan (approx 30x20cm).



3. Mix together the brown sugar, oil, eggs, vanilla extract, baking soda, baking powder, and salt.
4. Fold in the flour gradually, half a cup at a time.
5. Stir in the chocolate chips and chopped walnuts (if using).
6. Pour the mixture into the pan and bake for 30 minutes.

Giselle Metcalf
Brisbane, Australia

ANZAC (Australian and New Zealand Army Corps) biscuits are symbolic to Australia and New Zealand and were created during World War 1. Families would send soldiers ANZAC biscuits because they travelled and kept well. Today, ANZAC biscuits are a reminder of the sacrifices our soldiers made. My family love these biscuits any time of the year. There are many variations – crunchy, chewy and crispy. We love the crunchy kind and they are perfect with a good cuppa!



ANZAC BISCUITS

INGREDIENTS (MAKES 35 BISCUITS)

- 2 cups (180g) rolled oats
- 1 cup (150g) plain flour
- ⅔ cup (150g) caster (superfine) sugar
- ¾ cup (60g) desiccated coconut
- ⅓ cup (115g) Lyle's Golden Syrup
- 125g unsalted butter
- 1 tsp bicarbonate of soda (baking soda)
- 2 tsp hot water

METHOD

1. Preheat oven to 160°C (325°F).
2. Line baking trays with non-stick baking paper.
3. Place the oats, flour, sugar and coconut in a bowl and mix to combine.

TIP

- Use brown sugar instead of caster sugar for crunchier biscuits.
- Refrigerate mixture for 5-10 minutes before shaping into biscuits; this allows easy rolling and prevents spreading.



4. Place the golden syrup and butter in a saucepan over a low heat and stir until melted. Combine the bicarbonate of soda with the water and add to the butter mixture.
5. Pour into the oat mixture and mix well to combine.
6. Place tablespoonfuls of the mixture onto the baking trays and flatten to 7cm (3 inch) rounds, allowing room to spread.
7. Bake for 8–10 minutes or until deep golden.
8. Allow to cool on baking trays for 5 minutes before transferring to wire racks to cool completely.





Monica Gilbert of Coca-Cola (in the truck) with Samantha Carroll of Tate & Lyle

customersingredients

SHARPEN: DOING MORE TO SOLVE CUSTOMERS' CHALLENGES

16-17 Sharpening the focus on our customers is one of our three key priorities, so we're taking a look at what this means in practice. We talked to Chris Guild, SVP Commercial, Food & Beverage Solutions, who's been leading the effort from the sales team – although of course we can all do our bit!



'It's all about understanding business from our customers' perspectives,' says Chris. 'We're moving away from "we've got starch to sell!" to conversations about how we can help address customers' challenges. The deeper the relationship, the more we become

their trusted advisor. It means they come to us with big problems not just with, "I need to buy something..."

Technology is helping us with this priority – we've now implemented Salesforce.com, a customer relationship management platform, which is freeing up salespeople to spend more time with customers, allowing us to build much deeper relationships. And it's working. This year, we increased by nearly 40% the number of discussions we're having with customers each month about growing our business with them.

Cross-functional teams to understand customers better

We're creating cross-functional account teams for our biggest global and regional customers. So rather than teams of only sales people, the teams might also include people from R&D, applications or global operations. This empowers us to work as partners and trusted advisors to our customers, rather than suppliers.



Recently, we had some challenges delivering HFCS to Coca-Cola. 'With our supply chain colleagues, we used this as an opportunity to do a cross-functional review of our whole system of order fulfilment,' says Adam Juszynski, VP and GM Coca-Cola GEA. 'This led to a much better experience for Coca-Cola, and an easier process for us – as well as learnings to apply to other customers. In summary: good for our customers, and great for us!'



Bringing new concepts to customers

Instead of just bringing our ingredients to customers, we're showing prototypes of what our ingredients can do in potential new products that they could commercialise.



Our industrial starch scientists, working with manufacturing colleagues at Sagamore, US, have developed STA-LOK® 376, which, when used in paper manufacturing, reduces the

downtime associated with cleaning production processes. 'Our teams have a busy summer lined up with customer trials,' says Greg Wemndt, SVP and GM, Industrial Starch. 'We're very excited about the potential!'

Ensuring customers have a great experience at every stage

Sharpening our focus on customers is also about ensuring they have a positive experience through every single touchpoint with us.



Our new customer service measurement tool has been used in EMEA to improve our service for Nestlé. 'Our service already compared well against competitors,' says Rogier Van Hasselt, Supply Chain Director EMEA, 'but we came up with improvements which resulted in a pilot using one of their preferred delivery partners. It'll be more cost effective for all of us – and all thanks to being more joined up!'

Category focus to match our customers

In Food & Beverage Solutions, we've reorganised our sales, applications and marketing teams around categories rather than products – which is how our customers are organised too. This helps us think like they do and focus on the market. This approach is making our conversations with customers more focused and relevant.



Our customer Vigor, one of the largest dairy companies in Brazil, and a pioneer in Greek yoghurt is an excellent example. 'Our category strategy work quickly identified Vigor as a great prospect, and in six months, we went from zero to winning three projects with significant revenue,' says Henrique Biasioli, Sales Manager Dairy.

DURING 2018/19 SALESFORCE.COM HAS HELPED US ACHIEVE: 50% INCREASE IN THE PIPELINE OF GROWTH OPPORTUNITIES WITH CUSTOMERS



Henrique Biasioli, Sales Manager Dairy, Brazil (left), and Eli Pereira, Account Manager Dairy, Brazil

HOW CAN YOU SHARPEN YOUR FOCUS ON CUSTOMERS?

We all play a role for our customers, even if we don't all work directly with them, or see them every day. For example, a plant interruption, a quality issue or a railcar getting backed up may have a ripple effect on our customers. We can make their lives easier if we give it some thought – after all, we're customers ourselves in our personal lives.

CONSIDER THESE QUESTIONS:

- How does your own role have an impact on our customers? If you're not sure, have a chat with your manager.
- Think about a positive and a negative experience you've had as a customer. What made the difference?
- How might you contribute to that positive experience in your own work?





“WE BELIEVE IN BRAZIL— WE BELIEVE IN DAIRY”



Gabriel Castro

That's the message we're sending to customers across Brazil, as we and our former joint venture partner Gemacom Tech are now one Tate & Lyle.

'Our customers are excited to work with us,' says Gabriel Castro, Business Leader. 'As one company, we have a strong market presence, world-class technical expertise and high standards of local service – and we can provide 80% of the ingredients the dairy industry needs here. This combination will unleash our potential to grow sustainably in this category, which is meeting consumer demand for healthier choices.'

The dairy opportunity in Brazil is huge, and fundamental to our regional strategy. Gemacom, a family business with a large and loyal SME [small/medium-sized enterprise] customer base, was the obvious choice when we were seeking a partner back in 2014. Five years on, with a clear category focus, dedicated dairy teams and unified systems, the time was right for us to merge.

'We now all feel part of the same team,' says Leonardo Vitoriano, SFS Product Manager LATAM. 'People enjoy being more involved in decision-making, and realising that the business can help them achieve their goals.'



Leonardo Vitoriano



"We're now a full solutions provider for dairy in Brazil, with a mission to be the preferred supplier for innovation and mainstream products. Integration is always a challenge, but we've proved we have the resilience and ability to execute while fixing the issues. Now for the exciting part – #GoDairy!"

Henrique Biasioli Sales Manager, Dairy, Brazil



MADE IN BRAZIL

We have two manufacturing plants in Minas Gerais, Brazil's largest milk-producing state.

Juiz de Fora is Tate & Lyle's only fruit pulp processing plant. Here water, sugar, fruit and stabiliser blends are combined to make purees for dairy and bakery applications.

Guarani produces stabiliser systems and starches.

WELCOMING IN A NEW ERA

In May, our colleagues in Brazil attended a lively convention in Juiz de Fora, to celebrate the coming together of two great food companies, the achievements of the year, and to engage people around 2020 objectives. Among the highlights were videos of Nick Hampton, Joan Braca, Melissa Law and Martyn Worsley, welcoming everyone to Tate & Lyle.





FDA CLEARS THE PATH FOR DOLCIA PRIMA® ALLULOSE



19 **W**hat a win! Our team battled long and hard for allulose (a low-calorie rare sugar) to gain exemption from being labelled as ‘sugars’ or ‘added sugars’ on nutrition panels – a decision reached by the US Food and Drug Administration (FDA) in April this year.

Since as early as 2012, our cross-functional team, including Legal, Marketing, Regulatory, Nutrition and Manufacturing, has been assembling evidence to prove that this breakthrough ingredient doesn’t behave like sugar in the body, which is at the heart of the labeling question. An exclusion from sugars and added sugars for allulose was really important for demonstrating its credentials for addressing health issues like diabetes and obesity.

‘We could not have succeeded without the expertise of all our disciplines,’ says Lisa Spence, Senior Principal Scientist, Global Nutrition. ‘It takes a team effort from a lot of experts to make it happen.’

The long journey from submitting a petition to gaining approval involved lobbying Congress in Washington, and a series of meetings with the FDA over the course of nearly five years to provide the evidence and support it required. This included a number of clinical trials, most recently to prove that DOLCIA PRIMA® Allulose doesn’t cause dental cavities, the key piece of evidence that clinched the ruling.

‘DOLCIA PRIMA® Allulose is a great product – it tastes good and it’s just what the market and consumers want – zero sugar,’ says Sue Potter, Director, Scientific and Regulatory Affairs. ‘We knew our customers were very interested but the correct labeling was critical for success.’



“Healthcare professionals are encouraged by how we’re reformulating to reduce sugar and make food healthier.”

Lisa Spence Senior Principal Scientist, Global Nutrition



“Many customers have already worked closely with our technical teams to develop great-tasting products with DOLCIA PRIMA® Allulose and are now moving forward given the new labeling guidance by the FDA. This activity, along with an overwhelming new interest in this truly breakthrough innovation, is really exciting for our technical teams.”

Jim Carr VP, Applications and Technical Service

DID YOU KNOW?

Allulose is a low-calorie sweetening ingredient with the same clean, sweet taste you expect from sugar (sucrose). It is one of many different rare sugars that exist in nature in very small quantities. Originally identified in wheat, it has since been found in certain fruits including figs and raisins. Key for us was our ability to produce allulose from corn at a commercially viable scale. Our plant in Loudon, US leads the world in producing both syrup and crystalline allulose.



“It’s an exciting time. The personal care market isn’t huge in terms of volume, but it’s stable and strong – another good reason to have something in our market portfolio.”

Jeremy Zimmerman Director, Speciality Starches (Industrial)



TATE & LYLE GETS PERSONAL

Industrial starch is a key part of our business in the US. It’s a dynamic area, tapping into important new trends and innovating in new product areas. In May this year, our industrial starches broke into the personal care market with five new products under the TEXTURLUX® brand.

TEXTURLUX® is an exciting venture because it meets the growing trend of consumers looking for ‘natural’, plant-based ingredients in their skin care products, as an appealing alternative to petrochemicals.



‘Many value-added, enabling ingredients can be created from corn to enhance other markets beyond the world of food and beverages,’ says Chris Atkinson, Director of Marketing and Pricing, Industrial Starch. ‘We saw the success Zemea® Propanediol from our joint venture DuPont Tate & Lyle BioProducts was having in the personal care market, and we knew we could replicate that success with our own corn-derived products.’

We have two new US customers for TEXTURLUX® Personal Care Additives already, and are in conversation with some global fast-moving consumer goods companies as well. And, we’ll be working with a distribution partner to supplement our direct offering to customers.

So what does the future hold? ‘We’re focusing on selling the first five products at the moment, but there are more to come,’ Chris says. ‘And, our goal is to get nationwide coverage in the US and Canada and then expand internationally. We’ve already sent a sample to Australia!’



Five sample bio-based formulations certified by the United States Department of Agriculture containing TEXTURLUX® Personal Care Additive Products:



MOISTURIZING SPRAY LOTION

This ultra-hydrating spray will give the skin a soft, moisturized look and feel.



DAILY DOSE SUNSCREEN

Moisturizing sun protection for today and healthy, youthful looking skin for the future.



SIGNATURE SHAMPOO

A clear, sulphate-free shampoo with an exciting flow, foam, feel, finish and fragrance.



OLIVE EYE GEL

This rejuvenating eye gel packs moisturization, gentle pH correction and invigoration for tired eyes.



NOURISHING NIGHT CREAM

This cream works hard overnight to help the face recover from the stresses of the day.

Five TEXTURLUX® products:

TEXTURLUX® RHEO | TEXTURLUX® FEEL | TEXTURLUX® STABIL
TEXTURLUX® HOLD | TEXTURLUX® RESIST



“There’s real science behind TEXTURLUX®. The bottom line is that it works great and it’s bio-based and natural. The consumer wants that and the formulator wants that too.”

Meggan Hostetler-Schrock Technical Services Manager, Industrial Starches



“SPENDING TIME LIVING IN CHINA CHANGED MY WAY OF LOOKING AT THE WORLD.” BRIAN CHAMBERS

Q&A

TITLE
Chief Procurement Officer

JOINED
April 2018

JOB DESCRIPTION
Leads the team that sources the materials, equipment, goods and services we use across Tate & Lyle – essentially everything we purchase except corn. The team is accountable for our external supply relationships and aims to make them as valuable as possible.

BACKGROUND
Born and raised in Detroit, Michigan, US, Brian got into procurement early in his career after studying engineering at university. He spent 13 years at Wrigley and Mars before becoming CPO at CSM Bakery Solutions.



BECOMING A LEADER IN CHINA!

21 What do you think might surprise colleagues about your job?
I spend more time selling than buying! People think procurement is all about buying stuff and negotiating, but we spend more time trying to sell concepts, supplier changes and technology internally.

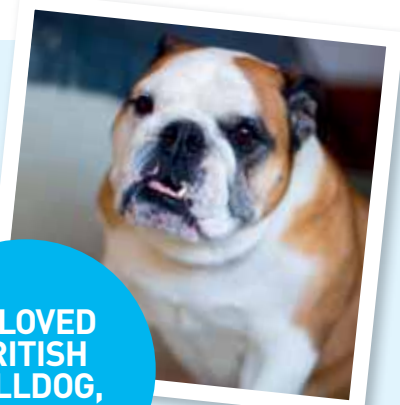
Who or what has been most beneficial to you in your career?
In 2006, I moved to China as Wrigley’s only expat in the market. I was sent to rebuild the supply chain and procurement for the Asia Pacific region. Before I left I was having dinner with a senior executive colleague and he said, ‘You’re going to come back a leader.’ At the time I was thinking, ‘what is this guy talking about – I already am a leader.’ But he was right. The big difference for me was that I went from running a function to representing HQ – people wanted to know what Bill Wrigley (CEO and family owner) would think about this or that. So I quickly moved from being a functional leader to becoming the conduit between the CEO and the region.

What were you like at school?
My wife would tell you I was lazy but I don’t think I was! Things didn’t come easy to me and I had to work hard to stay ahead. It taught me about the benefits of hard work.

Which three words describe you?
Patient, calm but driven.

If you had a year off, what would you do?
I’d go on safari in Africa. I have always been fascinated with the culture and animals.

Is there any food you hate?
Oddly enough I hate pasta with any type of shellfish in it. I love them each separately, just not together.



BELOVED BRITISH BULLDOG, RIESLING

What do you do to keep fit/healthy?
I love to run. I’ve even done some half-marathons.

Do you have a favourite pet?
Our family dog was a British bulldog named Riesling; she passed away a few months ago. She was 10. We’re thinking about getting another dog but not another bulldog because of the breed’s health issues.



I'M AN ADRENALINE JUNKIE!

How much of a daredevil are you?
I’m an adrenaline junkie! I’ve been sky diving, hang gliding, bungee jumping, zip lining (zip wire) and heli-skiing.

INTRODUCING OUR FIRST DEDICATED SAFETY ENGINEER

22.1 An important investment we're making as part of our journey to EHS Excellence (J2EE) is to recruit new safety engineers at our major plants. They work closely with the Global EHS team and their sole focus is to lead the efforts around process safety, particularly combustible dust. This includes global safety expectations, identifying high hazard risks, performing risk assessments, and training. Co-ordinating the initiative for the global EHS team is our first safety engineer recruit, Brenda Seggerman.



'My job is to apply my engineering knowledge from a safety standpoint, working hand in hand with my plant colleagues,' says Brenda. 'I also interpret codes and regulations. For example, the National Fire Protection Association recently updated a standard for installing explosion prevention equipment. Together, we will work out how to implement it in our facilities.'

'I experienced a process safety incident before I joined Tate & Lyle. Thankfully no one was injured, but it's something I'll never forget. People always ask, "what is your why?" That memory is my why. People should be able to go to work and not be injured. We all have the right to a safe workplace.'

SAFETY ENGINEERS UPDATE

ALREADY STARTED:
Decatur, Lafayette Sagamore,
Loudon, Koog and Boleraz

STARTING SOON:
Lafayette South



Brenda (left) with Marvin Wiederhold, EHS Manager for the Lafayette South and Sagamore sites.

"I'm a fresh pair of eyes to look at what can go wrong in our processes and how we can prevent it."

Brenda Seggerman Safety Engineer

EHS update

EHS results to end June 2019



22.2 First, I'd like to congratulate you all on your J2EE efforts. Many sites have reached tollgate 2, with some frontrunners, including Mold, UK, McIntosh, US and Santa Rosa, Brazil, reaching tollgates 3 or 4.

Overall, our EHS performance remains strong, with fewer recordable injuries (19 compared with 31 in 2018 in the same period), and fewer PSE events (6 in total compared with 13 in total in the same period). I'm sure our 'Be April Alert' campaign helped

– traditionally April is the most unsafe month, and, while we still had recordable injuries, we had fewer than last year. With regards to environmental performance, we've seen an improvement with fewer deviations and penalties. Also on the environmental side, World Earth Day was a great initiative, with 27 sites taking part, as you can see in our picture round-up opposite.

During this quarter, we've been building our EHS team, globally and locally. I'd personally like to welcome our 12 new members, with a particular mention of our five new safety engineers – you can find out more about this important new role in the interview above. Eight of the team have joined from outside Tate & Lyle, bringing with them fresh eyes and experience outside the food industry.

But of course EHS is the responsibility of all of us – so please look after each other!

JJ van der Bij SVP, Global EHS

	2018	2019 (to end June)	2019 target
Recordable incident rate	0.93	0.58	0.88
Lost-time rate	0.46	0.27	0.44
PSE Levels A or B	16*	6	No target
Activated CSD	428	315	No target
Reportable EHS deviations	276	28	238

Recordable incident rate: number of injuries per 200,000 work hours, requiring more than first aid treatment

Lost-time rate: number of injuries per 200,000 work hours resulting in lost-work days

PSE Levels A or B: potential major (A) or severe (B) events

Activated CSD: a critical safety device that has been used ('activated') to prevent an incident

Reportable EHS deviations – an event which causes us to contravene a legal or permit requirement

* Restated to reflect categorisation of level B incidents

Earth Day

GOOD FOR US, GOOD FOR THE ENVIRONMENT



Improving our environmental impact is high on our agenda as part of J2EE, and it was great to see this reflected by our people as we celebrated Earth Day earlier this year. A fantastic 27 sites looked at what they can do for the environment, including cleaning up our sites, protecting local species and eliminating single-use plastics. 'J2EE will continue to build on these great examples of environmental stewardship,' says Sara Leeman, Global Environmental Manager.

SANTA ROSA, BRAZIL native tree planting at a local school



PLANTING TREES

NANTONG, CHINA tree planting



ADOPTING BEEHIVES



NOTO, ITALY beehives



BIRD AND BAT HOUSES

DECATUR, US
Houses for purple martins



LILLE, FRANCE
insect house

SPECIES PROTECTION



LOUDON, US trash pick up

CLEANING UP



DAYTON, US tree planting and garden creation at a local school

COMMUNITY EDUCATION



BIODIVERSITY

MCINTOSH, US crimson clover planted outside our buildings



**1.4 BILLION
PEOPLE**
**20% OF WORLD
POPULATION**
**10% OF WORLD
FOOD AND BEVERAGE MARKET**



24-28 Expansion in China is one of our priorities this year – as you may have heard Nick discussing at a town hall. In this feature we look at our current position in this dynamic market; what the opportunities are, and how we’re approaching them, in China and beyond.

OUR OPPORTUNITY IN CHINA

The commercial viewpoint



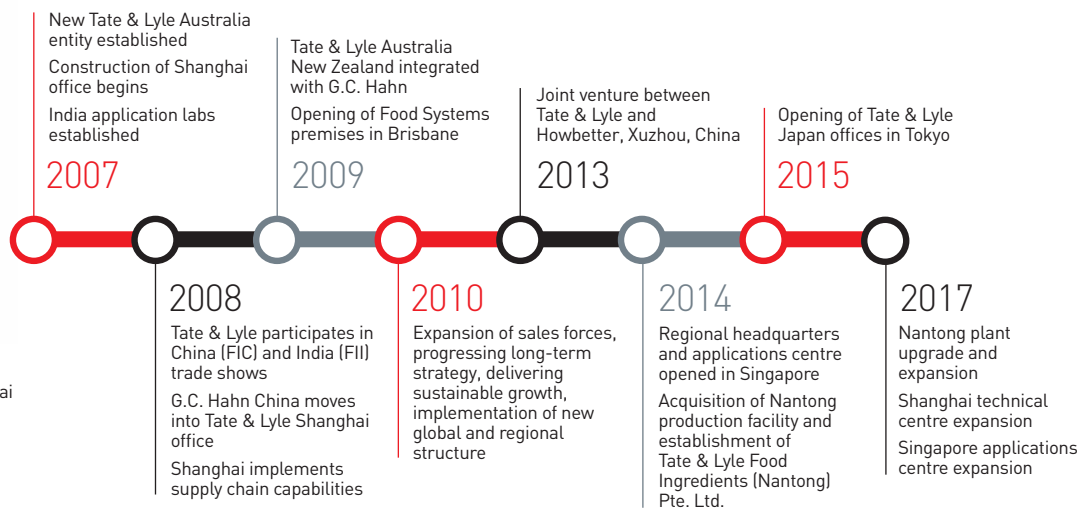
Harry Boot, SVP & GM, Food & Beverage Solutions, APAC, conveys the scale of what can be achieved. ‘The opportunities for us are incredible,’ he says. ‘We’ve had major wins, primarily in dairy, and our share of the market is still very small. We have a real opportunity to grow our business very substantially over the next four or five years.’

Sebastian Lemke, Global PM, Sweeteners, is equally confident. Having joined Tate & Lyle in 2007, when we opened our first office in Shanghai, he knows what it takes to succeed in a market where competition is fierce and customer expectations are high.

‘The opportunity in China and Asia shouldn’t be seen as too big a mountain to climb,’ says Sebastian. ‘There’s room and there are opportunities for everyone, and we have quality and service on our side.’



Key points in our Asia Pacific story



OUR OPERATIONS



“New product sales are higher for us in Asia than in any other region. But we still need to do more and faster – so we’re working on expanding our innovation capability.”

Andrew Taylor President, ICD

THE HEALTH ISSUE: HOW WE CAN HELP

Asia is the epicentre of the war on diabetes. In China alone, there are 110 million people with the condition. The Chinese government has launched ‘Healthy China 2030’: a wide range of policies to increase average life expectancy from 76 years (2015) to 79 years (2030).

It includes goals to reduce obesity and diabetes, among other health issues, and requires food and beverage manufacturers to:

- Reduce the sugar and saturated fat content of their products
- Increase usage of vitamin A (for eye health) and calcium (for bone health – a promising potential benefit of PROMITOR® Soluble Fibre, currently being researched).

With our portfolio and expertise across sweeteners, texturants, fibres and nutrition, we’re ideally placed to help manufacturers meet these challenges. Crucially, we also offer the expertise and infrastructure to make a real difference. We can point to our:

- Long track record of reformulation work with both regional and multinational manufacturers in APAC. For example, last year we helped TungLok in Singapore launch their lower-calorie, lower-sugar mooncake
- Significant expansion in 2017: doubling our lab and customer facilities in Shanghai, and tripling polydextrose capacity at Nantong
- Extensive research, white papers and Scientific Education and Outreach work in health and wellness
- Partnerships with governmental and other bodies – such as our ‘Healthy Eating, Happy Learning’ schools programme
- Purpose of Improving Lives for Generations.

Right, our team at Healththink Asia (Singapore) and below, our Asia distribution meeting



Healththink Asia: the success story continues

The Healththink concept, with its experiential deep-dive into food- and drink-related health topics, is proving popular with customers worldwide – and APAC is no exception. Last year, the Shanghai team held an event for Coca-Cola; one for distributors in the ASEAN region; and another for customers in Indonesia, with 150 attendees!

“Healththink events attract a lot of interest in APAC – perhaps because we’re relatively new players, offering fresh energy and perspective. They’re great for helping customers see us as partners, not just suppliers.”

Kenneth Keh VP Business Development, APAC

OUR PLATFORM FOR GROWTH

The main consumer trends in China are areas in which we have exceptional expertise:

‘Better-for-you’
(sugar, fat, and salt reduction)

Functionality and fortification
(fibre enriched)

More authentic/cleaner taste

Clean label





TO DOUBLE GDP
PER HEAD WILL TAKE:
UK 60 YEARS
USA 40 YEARS
JAPAN 38 YEARS
INDONESIA 17 YEARS
CHINA 12 YEARS

PREPARING THE GROUND



Dairy opens the door

Thanks to our great portfolio, expertise and responsiveness to customers, in just over a decade we've established ourselves as leaders in dairy texturants in China. Even more impressive is that we achieved this in a country where our presence is small, and in the face of some strong competition. Our aim is to use this firm foundation to grow our

business significantly in China with more people, facilities and capabilities – building an end-to-end team on the ground.

'Our strategy is twofold,' says Rui Nascimento, Strategy Director. 'Firstly, to build on our current strengths in dairy as a key supplier and make breakthroughs with other customers. Secondly, to leverage our global portfolio and capabilities to unlock opportunities in our other key categories.'



Innovation overcomes obstacles

Challenge: In 2010, as consumers were starting to appreciate the health benefits of yoghurts, the Chinese dairy industry hit a growth barrier, due to the lack of a cold supply chain.

Solution: Working with leading dairy manufacturers Bright, Mengniu and Yili, we developed long-life yoghurts with our REZISTA® Starch range. Now consumers across China can enjoy great-tasting yoghurts that don't require refrigeration.

Did you know?

All the stevia for our TASTEVA® Stevia Sweeteners comes from China – supplied by our partner, Sweet Green Fields. We're also currently working with Earthwatch, a science-based sustainability non-governmental organisation, to conduct research on the sustainability of our stevia production in China.



Growing volumes

This example from one of our first polydextrose customers in China, gives an idea of how fast we're growing.

- Relationship began in 2011
- Initial customer forecasts: 300 tonnes per year
- Volumes ordered in the first 2 months: 200 tonnes
- Increasing volumes plus other customers led to our acquisition of the Nantong polydextrose facility in 2014
- Today, this customer account has grown to 10,000 tonnes per year

What it takes to win

- **Speed to market** – vital in an economy where new product lead times can be as short as six weeks
- **Capabilities on the ground** – from customer-facing teams, to innovation capability, and labs, production and logistics facilities
- **Customer intimacy** – our dairy success has given us a pathway for this.

Our regional Global Operations team is already gearing up to the challenge. Desmond Tong, Global Operations Leader APAC, explains what's at stake: 'In this part of the world, agility and adaptability to change is critical. If we're not out in front, breaking new ground, we'll be left out very quickly.'



To this end the team has been organised into four sub-regional zones: China; Japan/Korea; Australia/New Zealand; and ASEAN (India, Vietnam, Philippines, Malaysia, Singapore, Thailand). Each will partner with the business to ensure that we serve our customers quickly and efficiently in every part of the region.



The APAC Global Operations Team celebrates Chinese New Year

"APAC depends on Europe and the US to supply products. Please cheer us on as we grow stronger. It'll be a win-win for all of us!"

Desmond Tong Global Operations Leader APAC



TATE & LYLE IN THE COMMUNITY
TELL US ABOUT THE IMPACT YOU
ARE MAKING WHEREVER YOU ARE!

Please get in touch with Jennifer Walker,
Director, Global Community Relations,
jennifer.walker@tateandlyle.com

Out and about in our COMMUNITY

WE PAY HEARTFELT TRIBUTE TO THE MANY
COLLEAGUES WHO GIVE THEIR TIME, EFFORT
AND MONEY TO HELP OTHERS IN NEED.

Back to school in Mexico

29.1 Our team in Mexico are going back to school to help underprivileged children understand the importance of a healthy balanced diet and regular exercise. Through an ongoing initiative with charity Fondo Unido (United Way Mexico), we're working with Gertrudis Bocanegra, a boarding school for 100 children from poor backgrounds.

In May, more than 30 people from our Mexican office spent the morning at the school working through nine activities with the children including blindfolded vegetable tasting, crafting food necklaces and dancing, ending with a group lunch.

A big thank you to Julian Galina, Ali Raziel and Rene Milla for organising this worthwhile collaboration, which was an amazing experience for everyone. We're now working on a year-long programme with the school.



Ivory Coast team don their overalls!

29.2 Our team in Ivory Coast has been helping a local group, involving our colleague Marina Legendre, with a primary school renovation project in Abidjan – including getting the rollers out to paint the classrooms! Guy Le Joly and Dominique Floch from the EMEA leadership team have been great supporters of the project, recognising that helping our communities keep their environment clean and safe and supporting education are intrinsically linked to our purpose and sustainability agenda. We'll be continuing to support children's education through the group during the year.





“Innovation at Tate & Lyle isn’t just happening in our labs – it’s boosting the efficiency

of our plants and creating a safer work environment for our people.”

Tom Robinson Engineering Fellow

A BRAVE NEW WORLD

HOW WE'RE USING HIGH-TECH FROM DRONES TO THUMB PRINT ID

30-31 People often think of plants as old-fashioned environments with lots of manual labour. But visit our plants today, and you’ll find high-tech, sophisticated environments where our people are just as likely to be operating complex computing systems as using a spanner or a wrench.

Technology is changing the way we work in all environments. But in the plants, it means simpler, easier processes for employees. For example, regulating corn flow at Decatur, US used to require someone on constant alert, manually manipulating 36 valves from the steeping system. This year, we replaced the 30-year-old legacy process controls with state-of-the-art systems which allow us to control the corn flow remotely.

Technology is also a useful tool for our maintenance and engineering teams, creating safer ways of working, boosting efficiency and enabling us to spot potential problems. Here are some great examples.

ROBOTIC BOILER INSPECTOR

→ WHAT DOES IT DO?

A magnetic robot inspects our boilers to check for deterioration. It climbs up the sides using magnets.

→ WHAT'S THE BENEFIT?

Robots can supply thousands more data points than we could ever do manually, in a fraction of the time.



Decatur, US mapped out their coal boiler water tube thickness to detect wear spots

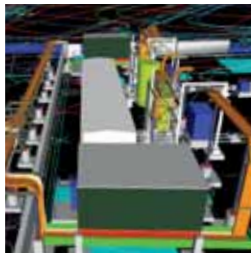
3D LASER SCANNING

→ WHAT DOES IT DO?

Creates accurate 3D digital images of objects and structures through laser light reflections.

→ WHAT'S THE BENEFIT?

Engineers can use these images to map new equipment, piping and buildings in our plants without having to measure everything manually. It's safe, fast and economical.



At Loudon, US, we're using laser scanning to model and upgrade the main electrical circuitry. We can now take measurements for fitting electrical components without having to turn off the power or expose our people to the risk of 13,000 volts

AERIAL DRONES

→ WHAT DO THEY DO?

Flying cameras take footage of hard-to-reach locations like smokestacks and corn silos.

→ WHAT'S THE BENEFIT?

Safety and speed – people don't have to use giant platforms or hang from baskets in cranes to inspect at height, for example.



At Boleraz, Slovakia we are using aerial drones to inspect corn silos for wear and tear



An inspection at Lafayette South, US using MAV



MOTION AMPLIFIED VIDEO (MAV)

→ WHAT DOES IT DO?

Detects movements too small to be seen by the human eye. The camera's software slows down and exaggerates motion so viewers can see complex components of machinery moving in relation to each other.

→ WHAT'S THE BENEFIT?

MAV technology helps solve difficult reliability problems with equipment. For example, MAV cameras showed how a centrifuge frame was rocking up and down, causing problems with vibrations and excess wear.

THUMB PRINT SCANNERS

→ WHAT DO THEY DO?

Allow only employees who've been trained and approved to operate certain equipment.

→ WHAT'S THE BENEFIT?

Reduces risk of injury by preventing anyone untrained to access the equipment – and puts an end to the frustration of lost keys and battling with padlocks!



Lafayette's Jesse Martin powers up shop equipment using a thumb print ID scanner

THERMAL IMAGING

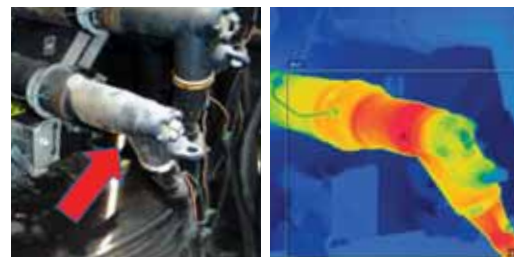
→ WHAT DOES IT DO?

Looks inside hard-to-see equipment including pipes.

→ WHAT'S THE BENEFIT?

Spots issues before they become a big problem, and enhances our safety.

High voltage electrical connections get warmer as they start to deteriorate, showing up on the thermal image



THE VAN BUREN PLANT'S NEW CONTROL SYSTEM

Van Buren, US has just replaced its 30-year-old distributive control system, which controls or monitors virtually all the functions in the plant. The new system uses wireless technology that enables operators to control it remotely and on-the-go. Terry Davis, Process Technician says: 'I've been here nearly 37 years, and this was the best systems migration I've ever seen – thanks to the collaboration between the operators, engineers and our third-party engineering group. A lot of planning made sure people at our plant were fully engaged.'

Terry Davis (left) with Odis Pilgrim



**CELEBRATING
160 YEARS
OF TATE & LYLE**

1920-1969 THE MIDDLE 50 YEARS

32.1 From the origins of the ampersand in our name and the Chicago Bears, to the largest private commercial shipping fleet of its time, Tate & Lyle's middle years had some unique moments!

1950

Thames Refinery, London runs its own beauty queen competition - with Kathleen Rose Myers picked for 1950 as the 'Sweetest Girl in Sugar'!

1920

AE Staley founds (American) football team the Decatur Staleys, which later moves to Chicago and becomes the Chicago Bears

1921

The year of the ampersand: our two founder companies merge to form Tate & Lyle

1939-45

During the occupation of the Netherlands, one director and two employees of Koog are executed for involvement in the resistance

1965

In acquiring United Molasses, Tate & Lyle becomes the owner of the largest private commercial shipping fleet in the world, transporting raw sugar and molasses



HALF A CENTURY WITH TATE & LYLE

32.2 Lawrence Margison, aka Bear, works in our warehouse receiving raw materials and distributing the finished product. He is our longest serving employee at Houlton, having joined on 2 March 1970.

We look forward to commemorating his Golden Anniversary next year!



Houlton history

- **Early 20th century:** Old New England Starch Co operates a potato starch plant on our site.
- **1962:** current plant built (then owned by Morningstar Nichol Co) processing potato, tapioca, arrowroot, rice and yellow dent corn starches for the food, textiles and paper industries.
- **1967:** plant sold to Staley (which joined the Tate & Lyle family in 1988). Houlton continued to process tapioca and potato starch but the corn, arrowroot and rice starches were dropped.

Houlton today

- Produces 35 different starch-based ingredients.
- Derived from: 65% tapioca, 20% potato and 15% corn starches.



WHO'S BEEN HERE LONGEST?

If there are any employees who started before 1970, please let us know by 30 September so we can highlight you in our 160th anniversary issue of Worldwide!

