

Transforming lives through science, innovation and collaboration



Innovation that delivers real-world food and beverage solutions

By your side, from first ideas to successful launch, and beyond

R&D services

Passionate about science



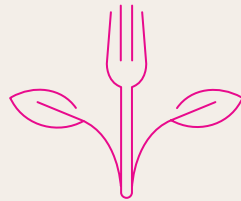
We're a cutting-edge food research company, pushing the boundaries of science and innovation to help make our world safer, healthier and more sustainable. Our clients trust us to deliver innovative solutions to real-world problems facing the global food and beverage industry. From start-ups to household names, we work hand in hand with our clients to scope, develop and manufacture products that are not only innovative and acutely match the demands of the target market but are also trusted for their safety, quality and sustainability.

From our scientists and professional chefs to our regulatory and market experts, we're by your side, 24/7.



Established:
1987

Members of staff:
c350



Scientific disciplines:
Food science,
nutrition, chemistry,
biochemistry,
molecular biology
and physical sciences



Global reach:
> 50 countries



Accredited:
ISO 17025

Tailored solutions to complex problems



‘There’s nothing more satisfying than working with a client throughout the product life cycle to realise their ambitions and watch the final product fly off the shelves.’

In today’s highly competitive food and beverage industry, speed to market and product differentiation matter more than ever. We work hand in hand with our clients to anticipate trends, identify market openings, create compelling solutions and provide the insight and support to ensure a successful launch.



Intelligent collaboration

Intelligent collaboration is the key to our approach. Whether you want our insight and expertise to unlock a specific challenge or for development kitchen-to-launch support for your new product, you can count on us

to be by your side every step of the journey. And because we don't do off-the-shelf solutions, you can be reassured that our input is fast, responsive and tailored to your specific needs.

‘It’s great knowing that our work improves the food being consumed in thousands of homes everyday.’



Innovation with real-world impact

‘Whatever the scale, scope or timeframe of the project, we add value through scientific rigour, creative thinking and tangible results.’



Innovation with real-world impact

Concepts that work

Good products start with good ideas but bringing them to life can be a challenge.

With up-to-date analysis of the latest consumer trends and market forces, plus our deep ingredient and formulation knowledge our experts can help facilitate this process by identifying innovative concepts and strategic opportunities for your portfolio. We bring a unique perspective to the mix and push ourselves to think differently. Importantly, our formulation know-how and practical culinary skills ensure we identify concepts that are commercially viable and have real world impact.



Innovation with real-world impact



A research partnership

Innovation isn't just about inspiration. It takes solid research, agile iteration and in-depth due diligence to turn a promising concept idea into a commercial success.

Our experts work closely with our clients to assess the commercial and technical feasibility of a concept. We undertake the in-depth scientific groundwork to ensure product functionality is achievable.

Our experienced team will work with you to:

- Assess the market to ensure the concept is on-trend
- Define the target audience and ensure the concept meets their needs
- Ensure any desired claim is achievable
- Use fundamental science to assess the product functionality

Innovation with real-world impact

Product expertise

Ingredient expertise

Sweeteners

- High potency – natural and synthetic
- Bulk sweeteners – sugar reduction and replacement
- Sweetener profile – enhance and modify sweetness

Functional ingredients

- Stabiliser and hydrocolloid systems
- Taste optimisation – flavour and bitterness masking
- Fat replacers
- Proteins – dairy and plant based
- Fibres



Confectionery

- Chewing gum
- Boiled candies
- Jellies
- Caramel



Beverages

- Soft and alcoholic
- Hot and cold powdered
- Energy and sports
- Smoothies



Bakery

- Biscuits cereal bars
- Cakes
- Snacks



Savoury

- Sauces
- Spreads
- Soups



Dairy

- Milkshakes
- Yoghurts
- Deserts
- Ice cream



Special Diets

- Baby foods
- Meal replacements
- Free from
- Vegan products



Innovation with real-world impact

Development derisked

When it comes to product development, it's the details that make all the difference. Our talented food technologists, chefs and scientists are passionate about maximising the appeal of every product. Additional expertise such as detailed analysis of products or undertaking sensory studies to optimise mouthfeel are included as needed. And we understand it's not just how a product performs in our state-of-the-art laboratories; we put our solutions to the test in real-world conditions in our dedicated development kitchens and third-party pilot plant facilities to run scale-up trials. It means our formulations are technically and commercially feasible as well as passing the all-important taste test.



Benefit from our detailed development services:

- Taste optimisation
- Packaging sourcing
- Recipe costings
- Nutritional calculations
- Regulation adherence
- Label generation support
- Scale up trials
- Factory trial management

Testing you can trust



‘Our deep multidisciplinary expertise, agile approach and scientific excellence accelerates your product innovation.’

We’re experts in analytical testing, providing clients with the scientific data to optimise their product development.

From quantifying individual ingredients, verifying label claims, understanding ingredient stability to understanding how specific processing conditions will impact taste and product performance, we provide data you can rely on.



Testing you can trust

Ingredient testing and claim substantiation

We use an extensive range of analytical methods and techniques to help you understand the level of specific ingredients in your final product, both pre and post processing, to provide the data you need to substantiate any label claims.

Ingredients analysis assists with quantification of specific ingredients such as:

- Sweeteners
- Acids
- Preservatives
- Functional ingredients/nutraceuticals
- Speciality oils

Claim substantiation verifies product claims including:

- Ingredient content
- Free-from
- Vitamins and minerals
- Functional foods
- Natural products



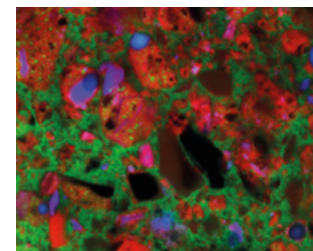
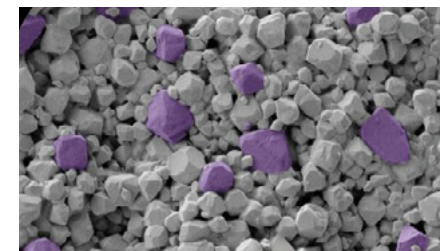
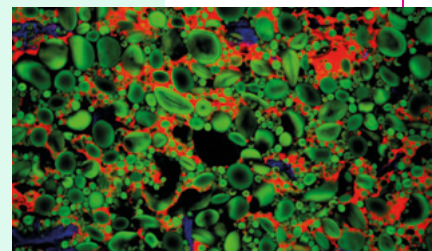
Testing you can trust

Microstructure and physical characterisation

Product development and performance depends on an in-depth understanding of your product and its constituent ingredients. This insight into a product's physical parameters and the products' microstructure is essential to help understand how it will perform under different conditions, to optimise manufacturing controls whilst delivering the consumer experience required.

Our experts will help you:

- Understand the size, shape, surface, mixing-efficiency and aggregation of different ingredients and how they change during manufacturing to impact the final product characteristics
- Explore the internal structure of a product and the effect of process conditions in order to optimise the consumer experience and improve product shelf-life
- Product benchmark and reverse-engineer through competitor analysis and deconstruction
- Quantify a product's physical parameters, such as viscosity, to optimise specifications and manufacturing controls
- Quantify the physical properties needed to troubleshoot processing issues and define the requirements for equipment such as pumps and chillers
- Measure parameters that relate to the texture and physical stability of products



Testing you can trust

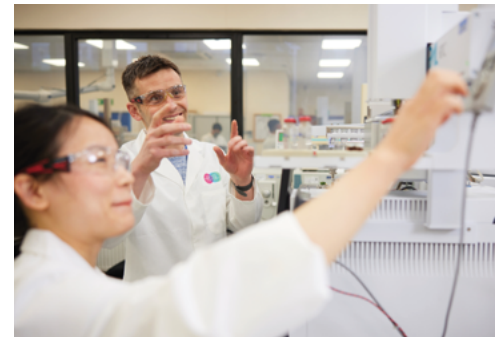


Aroma and taste characterisation

A thorough understanding of what gives your product its unique aroma and taste is essential to optimise flavour perception. We profile the volatile and (partly) non-volatile compounds in your product and provide identification and quantification of key flavour compounds.

In this way, we can play a pivotal role in your food innovation journey by helping you better understand:

- The impact of ingredients, recipes and processing on the desired flavour characteristics of products
- The consumer experience of flavour release under conditions that mimic real life
- Different flavour profiles during competitor assessments
- IP claims to protect competitive advantage



Testing you can trust



Specialist oils and fats expertise

Oils and fats are key components of most foods and their inclusion and interactions can impact processing, taste, aroma, texture and shelf-life.

Our analytical expertise can help you:

- Understand the behaviour and interaction of oils and fats and their impact on processing and product performance
- Optimise the use of oils, fats and blends to deliver the required nutritional, taste, texture or stability properties
- Determine the nutritional contribution of oil and fats and levels of fortified lipid ingredients such as saturates, polyunsaturates, omega 3 and sterols
- Evaluate the stability of oils, fats and lipids in raw materials and finished products to assist with ingredient or formulation selection and ensure desired shelf-life is achieved
- Assess the quality and authenticity of ingredients to ensure value and cost optimisation when selecting suppliers



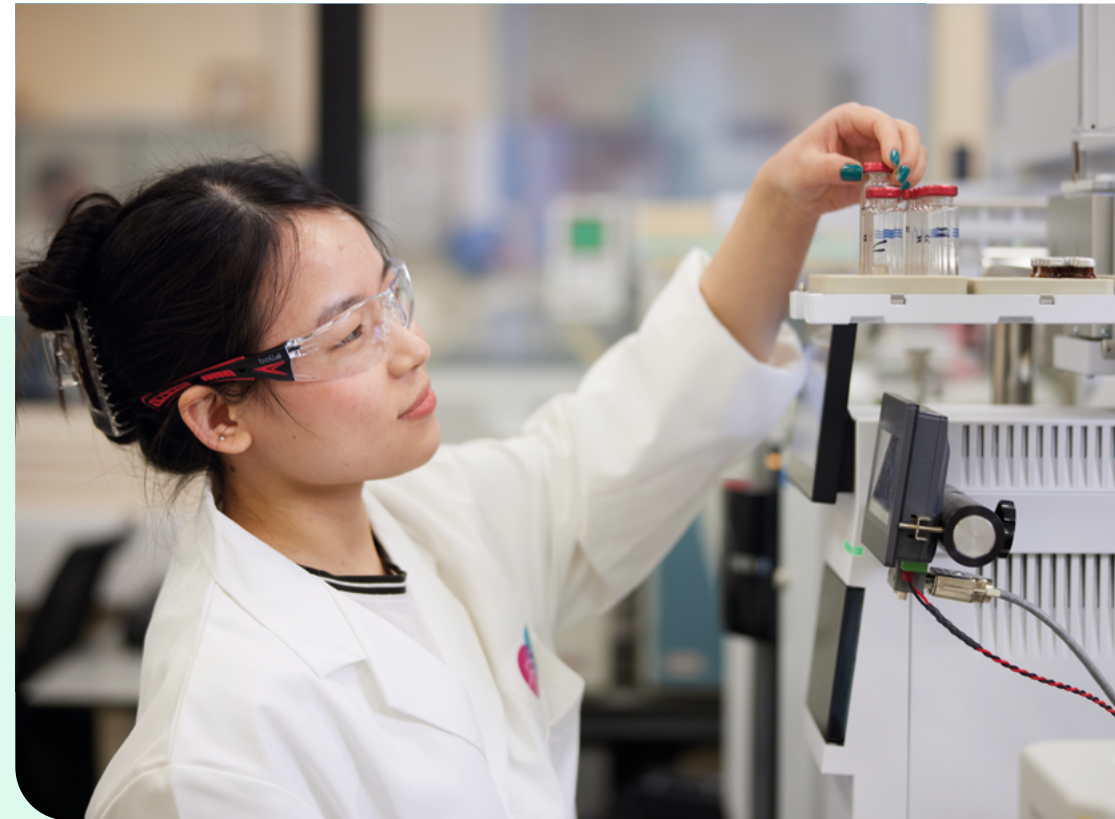
Testing you can trust

Specialist protein and carbohydrate expertise

Proteins and carbohydrates are key components of most foods and their inclusion and interactions can impact processing, taste, texture and product shelf-life.

Our analytical support helps you to:

- Understand the profile and quantify ingredients to predict their performance and nutritional profiles
- Understand the effect on the generation of undesired components
- Quantify the levels of ingredient present and understand how this impacts shelf-life
- Confirm nutritional and label claims



Commercialisation derisked

Scaling your product can be challenging, with the push for commercialisation balanced against the need to maintain quality, consistency and performance. We support clients through this critical stage by undertaking scale-up trials to iron out glitches and fine-tune manufacturing controls.

Our post-trial optimisation services can also help assess and improve post-launch performance, including all-important shelf-life testing. We conduct shelf-life testing on products in their final packaging to assess a range of characteristics including:

- Aroma and flavour characterisation
- Appearance
- Texture and mouthfeel
- Aftertaste
- Microbiological stability
- Lipid oxidation stability
- Nutritional content
- Specific ingredient stability

‘Our ability to successfully balance consumer and commercial demands is why our food clients come back to us, time and again.’



Packaging testing



Packaging is an integral part of bringing a food and drink product to the market. Not only does it ensure the safety and protection of a product during its shelf-life but it also plays a key role in influencing consumer buying behaviour. With the increased focus on sustainability as more brands switch to more sustainable packaging, the sector is facing new challenges.

We can help you to:

- Understand the barrier protection the packaging offers your product
- Understand the mechanical strength, ease of opening and integrity of packaging materials
- Confirm if the packaging is fit for purpose and help select the most suitable packaging materials as part of a wider product development process
- Identify the source of chemical taints and off-flavours from packaging materials
- Understand the impact of packaging materials on product shelf-life
- Identify counterfeit packaging materials

Ingredient development



Anticipate the next ingredient

Consumer behaviours and preferences are changing and the food industry needs to not only keep pace but also anticipate the next big trend. Our food scientists and ingredients specialists are on hand to help you confidently identify new opportunities, applications and markets to delight consumers and grow your business.

We can help with:

- Fundamental research to maximise the full potential of your ingredient
- Product application development to showcase your ingredients in targeted formulations
- Optimisation of concepts and preparation of delicious samples for customer sales events
- Competitor benchmarking to compare performance
- Analytical method development and validation to ensure quantification of ingredients



Regulatory submissions and novel foods

When bringing new ingredients to market, we understand that constantly shifting regulatory requirements can pose a significant challenge. Our multidisciplinary team has the specialist knowledge to interpret complex dossier requirements and carry out the required analysis to support your regulatory submissions.

Our services include:

- Review of ingredient status to identify what data is required for the submission
- Evaluation of ingredients in relevant model food systems
- Analytical methods developed and validated for specific chemical entities
- Shelf-life studies to demonstrate the stability of the ingredient itself, as well as in finished products
- Unique internal process to allow the informal sensory evaluation of non-EU/non-UK approved ingredients
- Assessment of particle size for nano-material characterisation



‘We understand the complex regulatory landscape and our experts will ensure your submission has all the right data to be fully compliant.’

Food safety and quality services

We understand that getting your product to market is only half the story. We're there to support you post-launch with a range of food safety and quality services to ensure you have the stringent controls and processes in place to protect the consumer and your brand reputation.



We provide analytical and testing support for a range of manufacturing safety and quality issues including:

- **Allergens:** Cleaning validation and product testing
- **Chemical contaminant identification:** Taints/off flavours, heavy metals and chemical contaminant screening
- **Physical contaminant identification:** Foreign body and metals identification, NMR screening
- **Consultancy:** Training, risk assessments, allergens and food safety
- **Product authenticity:** Fats and oils, vegan/vegetarian products, meat/fish speciation and counterfeiting

Food safety and quality services

Even with the best manufacturing practices in place, a crisis can still hit. Faced with a potential contamination issue or product recall, you need answers to important questions quickly in order to resolve the situation with minimal disruption to your business.

24/7 Emergency Response Service

Membership of our Emergency Response Service gives you access to our technical experts 24 hours a day, 365 days a year. When a crisis hits, you can rely on us to respond quickly to provide the data you need to make informed and timely decisions.

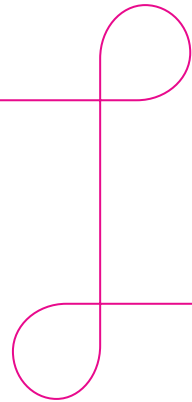


We can identify a range of contaminants including:

- Foreign material
- Taints, off flavours and chemical contaminants
- Allergen contaminants
- Species adulteration



‘In an emergency situation, you need calm heads, rapid analysis and experienced problem solvers so you can quickly make the right decisions at the right time.’





Intelligent analytics you can trust

With our comprehensive suite of analytical techniques, we can support every aspect of your R&D programme. With extensive expertise in developing and validating analytical methods, we provide robust and reliable data that you can trust.

Techniques available on-site include

Chromatography techniques:

HPLC, GC, UPLC, IC, GPC/SEC

Mass spectrometry:

GC-MS, LC-MS, LC-TOF, ICP-MS, PTR-MS, GC-GC-TOF

Elemental analysis:

AAS, ICP-OES, XRF

Spectroscopy:

NMR, FT-IR, NIR, UV/Vis, and Colour (both reflectance and transmittance)

Microscopy:

SEM, LM, Confocal scanning laser microscopy, Surface topography and roughness, X-ray tomography, Confocal raman microscopy

Image analysis

Physical sciences:

DSC, PSD, Rheometers, TGA, DVS, Texture analysers, Zetasizer, XRPD

Biochemistry:

ELISA, PCR, Whole genome sequencing/NGS, SDS-PAGE, CE

‘With highly experienced multi-disciplinary teams and state-of-the-art technologies, we can support you throughout the innovation life cycle.’

Sharing expertise and understanding

We're proud to employ some of the industry's most respected figures to deliver specialist guidance and expert insight on a wide range of technical, commercial and regulatory issues.



Mark Auty
MICROSTRUCTURE

Internationally recognised food microstructure expert across multiple product categories. Published over 100 scientific papers. Food and Drink Federation Scientist of the Year 2021. Fellow of the Institute of Food Science and Technology and the Royal Microscopical Society



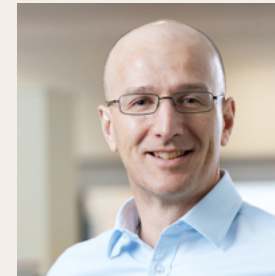
Carole Bingley
PRODUCT DEVELOPMENT

Extensive experience of product development and ingredient evaluation across numerous food categories including plant proteins, vegan meat and dairy alternatives, sweeteners and bulking agents. Fellow of the Institute of Food Science and Technology.



Fred Gates
TEXTURE AND
PHYSICAL PROPERTIES

Extensive experience in food research with particular focus on physical properties and the impact of food processing on product characteristics.



Robert Griffiths
LIPIDS

Extensive experience in the analysis, uses and properties of oils, fats and lipids in a variety of food and non-food applications. Current Chairman of the British Standards Institution (BSI) oilseeds, fats and oils committee. Member of the Society of Chemical Industry lipids committee.



Barbara Hirst
ALLERGENS

An allergen management specialist, with broad analytical and technical expertise gained over 20 years in the food industry. Actively involved with industry, clinical and regulatory bodies, as well as patient support groups.



Sharing expertise and understanding



Daniele Leonarduzzi
PHYSICAL PROPERTIES

Material scientist with many years' experience in a broad range of industries, linking physical attributes to key process and quality parameters in order to facilitate scale-up and speed up product launches.



Ellen Norman
INGREDIENT AND
PRODUCT CHEMISTRY

Wide range of chemical analysis experience, with a specialist interest in linking analysis to the process and product. Fellow of the Royal Society of Chemistry and Chair of the Food and Drink Federation residues and contaminants committee.



Paul O'Nion
FLAVOUR

Experienced chromatographer specialising in flavour and taints analysis using multi-dimensional chromatography, mass spectrometry and troubleshooting. Elected member of Analytical Division and Analytical Chemistry Trust Fund.



DAVID WRIGHT
PACKAGING

Experienced materials scientist and microscopist specialising in packaging materials testing and material structure. A Fellow of the Institute of Materials, Minerals and Mining and Institute of Food Science and Technology.

Transforming lives through science, innovation and collaboration

Your food passion, our scientific expertise. We think it's a recipe for success.

Contact us now to find out how we can help realise your food and beverage research and development goals.



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For more information, please visit
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