



Scientific and technical needs of the food and drink supply chain 2018-2020



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Compiled, written and designed by Campden BRI with sincere thanks to the hundreds of industrial colleagues from all parts of the food and drink supply chain, who gave their time, energy and ideas during the consultation process.



Introduction

by Steven Walker

Food and drink production - including preservation, manufacturing and distribution - is a cornerstone of a civilised society. The industry around these activities relies heavily on science and technology. This document, derived through extensive industry consultation, maps out the needs of the food and drink supply chain that can be addressed through science, technology and their application. Addressing the needs will help industry to 'innovate, improve and comply' in pursuit of growth and commercial sustainability.

Many of these needs are 'pre-competitive' whilst others will fuel innovations closer to market - the consultation addressed this full spectrum. No restriction was placed on whether the needs would be met through basic, strategic or applied pre-competitive activities or through 'near-market' innovations. However, it is a statement of 'needs', not of solutions or approaches to addressing those needs.

We have been providing an industrial statement of needs since 1996 - refreshed on a three-year cycle. This helps to ensure that the ongoing developments in industry and in science and technology are continually reviewed in the context of the major strategic issues. Although some of the

needs expressed are quite pertinent to a 3-5 year timescale, many are long-standing and likely to demand innovation well beyond this timescale.

I would like to thank the hundreds of industrial colleagues from all parts of the food and drink supply chain who gave their ideas, time and energy. I hope you find the document useful.

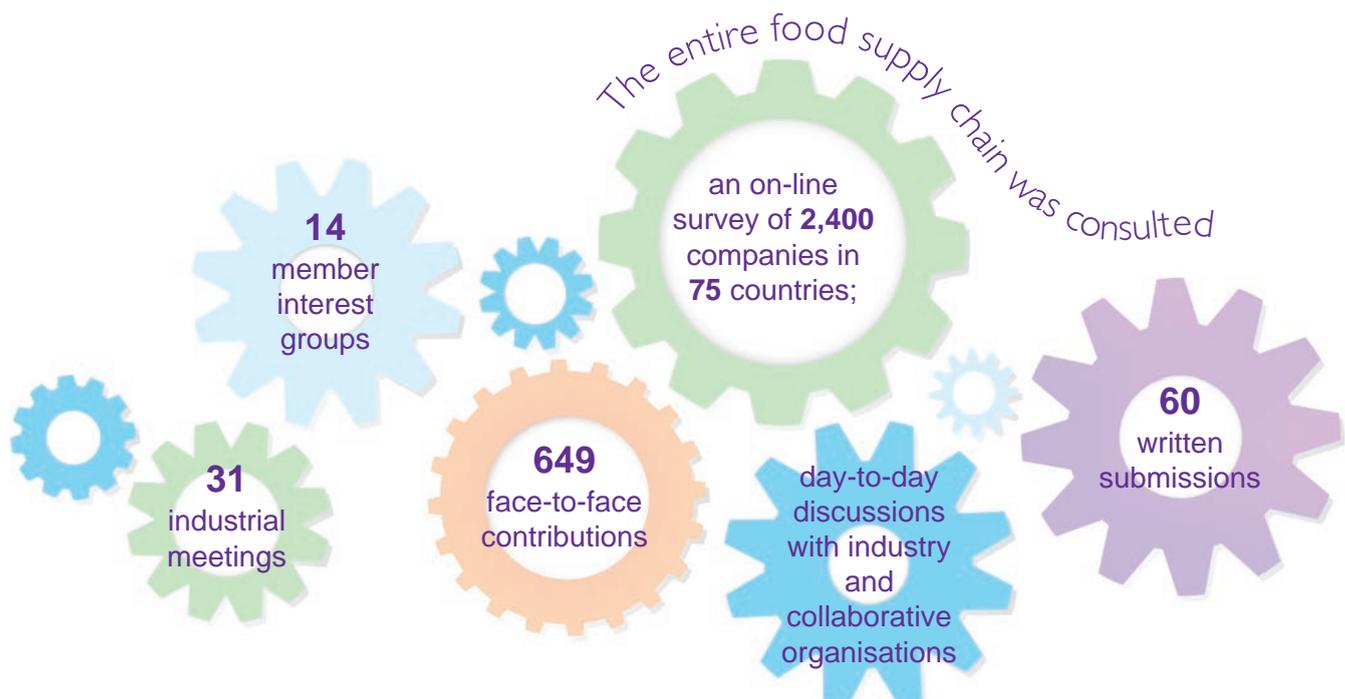
Why?

This document 'catalogues' industry needs - as identified by industry itself - to encourage the application of science and technology to address those needs. It has three broad uses:

- First, to target our support for industry through technical services, research and development, knowledge and skills development, and information provision
- Second, to provide a resource for companies to sense check their own needs and shape their own strategies for addressing these
- Third, through our work with government departments, agencies, funding bodies, standards organisations, universities and other science and technology providers, we raise awareness of industry's needs and can forge collaborations to tackle these

The consultation

The needs were identified through an extensive consultation with Campden BRI members, the largest consultation of the sector in identifying its own needs as shown in the infographic.



Matrix - drivers for industry needs



Drivers for industry needs	Supply chain			
	Primary production, raw materials and ingredients	Manufacturing and supply	Product and packaging	Food, drink and the consumer
Safety	Minimising contamination in production	Managing product safety hazards and risks in processing, distribution and sale	Delivering products that are safe throughout shelf-life	Protecting the consumer through appropriate guidance
Quality and value	Ensuring suitability for purpose at proportionate cost	Maintaining and enhancing quality through cost-effective process technologies	Maintaining product quality throughout shelf-life	Exceeding consumer expectations
Nutrition, health and well-being	Enhancing nutritional potential	Preserving and enhancing nutritional value in processing, distribution and sale	Delivering nutritious products that meet dietary needs	Responding to nutritional requirements and dietary habits
Sustainability, resilience and food security	Producing and securing 'more with less'	Assuring efficient and resilient manufacturing and distribution	Delivering safe and compliant products that minimise waste	Building consumer trust in the supply chain and its management
Skills and knowledge	Developing and maintaining skills, knowledge and 'tools' in production	Developing and maintaining skills, knowledge and 'tools' in manufacture, retail and food service	Anticipating and responding to regulatory and technical changes and their impacts on product and packaging	Engaging consumers in production, process, product and packaging knowledge

Scope

The consultation focuses exclusively on industry needs and involved the whole supply chain - from primary production through processing and manufacturing to retail and food service - as well as companies that supply into this chain. The needs are organised in a matrix which maps the flow of product along the chain to the major 'drivers' of the needs, namely:

- Safety (of the product)
- Quality and value
- Nutrition, health and well-being
- Sustainability, resilience and food security
- Skills and knowledge

This matrix (page 2) illustrates how a particular driver might create different needs at different points in the chain. For example - 'food safety' creates the need for assurance systems through primary production and manufacturing whilst with the finished product there might be a need for tools for analysing particular hazards should a problem arise.

Given that it spans the whole supply chain and its sub-sectors, the document does not list detailed sector-specific needs. But each sub-section can be viewed in the context of a sector or supply chain stage - for example, for that sector's raw materials, ingredients, processes and practices. Also, given the diversity of interests across the many sub-sectors it does not attempt to ascribe a universal set of industry priorities.

Commonly expressed needs

Through the consultation some needs arose which were common to different parts of the supply chain. Some are long-standing, such as:

- Assuring product safety through assurance schemes and analytical tools
- Encouraging consumer well-being through healthy diets
- Protecting consumers and industry from food fraud
- Encouraging sustainable practices and reduced use of resources
- Tackling industry's 'skills shortage'

Others were more prominent than in the previous consultation, including:

- Sustaining product quality in the face of rising costs of operations and materials
- Soil health - recognition of soil as a resource and methods for its protection
- Human microbiota - understanding and harnessing the role of gut microbes in diet-related health conditions
- Anti-microbial resistance - addressing its significance for the food and drink sector
- Artificial intelligence (AI) and cyber-security - managing the benefits and risks of the 'connected world' (e.g. Internet of Things, 'Big Data', machine learning and intelligent robots)

Whilst Brexit does not represent a scientific need, it did of course feature in many of the discussions with UK and EU member companies - in particular, for example, around regulatory change and uncertainty, potential changes to labour, and impact on costs of food ingredients, raw materials, packaging and distribution. These needs were captured, often with Brexit in mind even if it is not stated explicitly as an underlying component.

Addressing the needs

The needs identified here will be addressed in various ways, including:

- The Campden BRI member-funded pre-competitive research programme and tailored, company-specific innovation projects
- Scientific, technical and knowledge based services (e.g. courses, seminars, publications and databases) from Campden BRI
- Research in other organisations (e.g. universities, research institutes, RTOs) and individual companies
- Raising awareness of industry needs amongst government departments, agencies, funding bodies, standards organisations and other third parties - to stimulate and inform new approaches in the application of science and technology
- Collective provision of innovation and technical support through collaboration between wide-ranging, interdisciplinary and internationally dispersed third parties that serve the supply chain globally



Primary production, raw materials and ingredients

Safety

Minimising contamination in production

- Understanding emerging and existing hazards that can enter the supply chain (and their associated prevalence and risks) with agreement on what constitutes a significant and / or compliant level for specific hazards (e.g. allergens, bacteria, viruses, mycotoxins)
- Management of routes of contamination of raw materials and ingredients during primary production and their transfer to subsequent products (including, for example, micro-plastics in the environment)
- Systems for assuring and validated methods for assessing the safety of raw materials, ingredients and animal feed - with regards to microbiological, chemical and physical hazards
- Guidance on sampling for 'meaningful testing' with regards to raw material and ingredient safety
- Guidance on sourcing and reliable procurement of raw materials and ingredients to help assure safety (e.g. including geographical and biological factors)
- Strategies and technologies for managing antibiotic resistance in microbial flora of livestock and their environment

Quality and value

Ensuring suitability for purpose at proportionate cost

- Ingredients, products and packs which meet consumers' desire for enhanced value
- Agreement on what constitutes 'quality' and 'defects' for particular raw materials and ingredients (e.g. specifications, functionality, sensory properties)
- Systems for assuring, validated methods for assessing, and guidance for procuring raw materials and ingredients of the appropriate quality - including predictive and non-destructive tests of quality and functionality
- Simplified and harmonised specifications and standards for raw materials and ingredients, to increase business efficiency
- Increased use of robotics, machine learning, artificial intelligence (AI) and other technologies for 'precision agriculture', improved efficiency and reduced contamination risks
- Better use of genomics and related sciences to improve raw materials with and without the use of GM (genetic modification) technology
- Better tests for prediction of end-use traits for breeders
- New raw materials and ingredients for product innovation and differentiation, and systems for assuring their quality,



nutritional value and safety (e.g. 'natural', clean label, flavour extracts, and replacements for bulk constituents such as sugar and fat)

- Technical solutions to maximise the value of raw materials and ingredients (e.g. in face of price fluctuations) including alternatives to unsustainable ingredients (e.g. palm oil)
- New sources and systems for assuring an adequate supply of protein (e.g. plant protein sources, meat-based ingredients, insects) safely and at proportionate cost, in the face of globally changing consumption patterns
- Use of algae as sources of protein, essential fats and micronutrients
- Better understanding and more effective 'good practice' tools for continued improvement of animal welfare in the supply chain
- Better ways of ensuring reliable, consistent supply of locally sourced materials



Nutrition, health and well-being

Enhancing nutritional potential

- New raw materials and ingredients for product innovation - for example, for reformulating products to reduce fat, sugar or salt or achieve free-from status - with understanding of the underlying science
- Enhancing nutritional quality (macro- and micro-) and nutrient bioavailability through a range of approaches (e.g. breeding, agronomic practices, post-harvest handling) and without undermining quality and functionality, in the face of changing raw materials, ingredients, processing, production and distribution practices
- Use of novel or neglected crop varieties that offer high nutritional or health benefits

Sustainability, resilience and food security

Producing and securing 'more with less'

- Anti-microbial resistance - understanding and addressing its significance for the food and drink sector
- Soil - better understanding and more effective 'good practice' tools for protecting soil health as well as optimal management (e.g. delivery) of crop protection, fertilisers and agronomic practices
- Developing crops that are less susceptible to pests and climate change or more resistant to environmental stresses and more variable growing conditions
- Better understanding of and tools to pre-empt or deal with seasonal and regional variations in raw material and ingredient yield and quality - including ability to cope with raw materials of more variable quality



- Better sensing systems for early detection of crop health problems
- New pesticides, biological control and integrated systems to protect crops against pests and diseases of the future whilst respecting biodiversity
- Systems, technologies and practices for 'sustainable intensification' to secure the supply of raw materials, ingredients and other inputs as affected by environmental, economic and political factors (e.g. automation, artificial intelligence, machine learning)
- Recovery, reuse and more efficient use of phosphates, water and energy
- Technologies and systems to identify waste streams, maximise efficiency and reduce and valorise waste during primary production
- Better systems and methods for recovering and recycling flexible packaging
- Tools to better match supply and demand within the supply chain (to reduce waste of unwanted / unsold product)
- Mechanisms for balancing the implications of conflicting drivers (e.g. nutritious diets based primarily on locally sourced, seasonal products)
- Understanding the impact of changing agronomic / production practices in terms of supply chain security and product integrity
- Systems for assuring the identity and authenticity of raw materials, ingredients and animal feed - including detailed traceability, assurance systems, risk assessment, horizon scanning and intelligence management

- Rapid and reliable verification of 'authenticity' attributes such as GM status, species of origin, presence of allergens, geographical origin, organic status, method of slaughter and free range status, and - where problems arise - distinguishing between adventitious contamination and deliberate substitution/fraud

Skills and knowledge

Developing and maintaining skills, knowledge and 'tools' in production

- Approaches for addressing the skills shortages faced in primary production - including (in the UK sector) as a consequence of Brexit
- Uses of technology, 'integrated data' and artificial intelligence (e.g. web, Internet of Things, remote sensing, social media) to monitor and manage agricultural products
- Guidance and knowledge on new technologies, materials and all aspects of agronomic practice in primary production, and their regulation globally
- Better guidance on legislation controlling waste disposal and on routes for disposal of unavoidable waste
- Better public communication of primary production practices and their importance in ensuring a secure, sustainable food supply - including corporate social responsibility
- Education and encouragement to reduce in-home waste of fresh produce



Manufacturing and supply

Safety

Managing safety hazards and risks in processing, distribution and sale

- Management of food-borne hazards and threats - from availability of definitive information on specified hazards (e.g. known and emerging pathogens, allergens, known and emerging chemical species, foreign bodies) through continued cultivation of a food safety culture (e.g. through training and development of operatives) to the practical implementation of systems such as HACCP, TACCP, VACCP (vulnerability assessment), risk management and due diligence testing
- Preventing contamination and cross-contamination that could introduce safety hazards (e.g. pathogens, allergens, chemical contaminants, foreign bodies) during manufacturing, distribution and sale (e.g. food contact equipment in food service)
- Systems and practices for preventing mislabelling, especially where this has significant safety and quality implications (e.g. allergen declarations, date marking)
- Better hazard management through improved understanding of the origin and fate of specific hazards during established and emerging processes, distribution and use in manufacturing, retail and food service (e.g. formation, degradation, removal in waste / spent materials)
- Rigorous assessment of and controls for the hazards posed by 're-used' and recycled materials and resources in the production chain
- Analytical methods that are fit for purpose, with guidance for interpreting and acting on 'presumptive' and 'interim' analytical results - balancing the need to maintain safety with the avoidance of unnecessary 'scares'
- Robust systems for ensuring process efficacy and validation (thermal and non-thermal) for control of hazards in specific products - including, for example, developments such as 'low temperature cooking'
- Better hygienic design of equipment, production environments and buildings - enshrining good hygienic design / easy 'clean-ability' throughout manufacturing operations
- Efficient and cost-effective operative hygiene systems and cleaning methods for plant, equipment and facilities in manufacturing, retail and food service environments
- Reliable detection and prevention of difficult-to-detect foreign bodies (e.g. plastic)





Quality and value

Maintaining and enhancing quality through cost-effective process technologies

- Improvements to established and emerging technologies and processes for enhanced product quality, production efficiency and product safety - and strategies for their introduction at proportionate cost (e.g. super-chilling, nutrient retention, low alcohol beverages)
- Prevention of cross-contamination during manufacturing and distribution that could compromise product quality (e.g. authenticity, free-from claims)
- More effective on-line technology for monitoring and predicting product quality during production
- Rationalised, simplified, harmonised and cost-effective customer specifications, standards and auditing to increase manufacturing business efficiency without compromising product quality
- Lean, efficient and flexible manufacturing practices with increased automation and use of smart technology, artificial intelligence and machine learning - including reduced down time for cleaning and maintenance



- More flexible approaches to manufacturing (e.g. modular production lines) to enable rapid but efficient (low waste) responses to customer requirements
- Better cost-benefit analysis tools for investment in capital equipment and manufacturing infrastructure

Nutrition, health and well-being

Preserving and enhancing nutritional value in processing, distribution and sale

- Optimisation of existing and emerging processes to retain nutritional content and value (e.g. bioavailability, bioactivity) through product shelf-life
- New technologies and processes to assist the development and production of products aimed specifically at improving diet and health
- Minimising the impact of low cost production on nutritional quality, and methods for improving this where needed

Sustainability, resilience and food security

Assuring efficient and resilient manufacturing and distribution

- Creation of production systems with built-in 'sustainable practices' based on the complete product and package life cycle (e.g. reduced energy input, environmentally-friendly sanitation methods)
- Technologies, benchmarking systems, modelling tools and best practice guidance for saving and/or recovering water,



energy and other resources and reducing/valorising waste, without displacing the problem (e.g. carbon footprint)

- Valorisation of co-products to reduce waste
- Ways to extend product shelf-life to reduce waste (within the supply chain and with consumers) and extend markets (wider distribution)
- Systems for assuring supply chain integrity and preventing / tackling food fraud - including analytical methods, systems for intelligence gathering, effective horizon scanning and ways of assessing and managing risk
- Cyber-security - understanding and managing the benefits and risks of the connected world (including, for example, big data, Internet of Things, remote sensing and control, artificial intelligence, machine learning, social media)
- Effective systems for crisis management - anticipating and responding to incidents involving safety, food fraud and food quality
- Better in-line and near-line analytical methods for relevant parameters - including reliable, factory-safe, user-friendly (non-specialist) and portable test kits for testing products and the environment in the factory
- Mechanisms for simplifying the supply chain (e.g. technical support for more local sourcing)
- Better traceability systems (e.g. electronic, integrated) and best practice throughout the supply chain - especially for blended commodities (palm oil, cocoa, flour)
- Ways of implementing quality management systems and working practices in multi-lingual and multi-cultural manufacturing sites
- Systems and equipment for the protection of the health, safety and welfare of industry operatives (e.g. production staff, laboratory personnel) - including appropriate consideration of these aspects at the planning and design phase

Skills and knowledge

Developing and maintaining skills, knowledge and 'tools' in manufacture, retail and food service

- Approaches for addressing the technical, management and leadership skills shortages faced by manufacturers and their suppliers - such as clear maps of required skills, learning progression and demonstrating competency at all levels in industry including, in the UK, as a consequence of Brexit
- Methods for effective knowledge and technology transfer within and into the food and drinks sector - including links between the academic and industry communities, and tailored and targeted delivery of information
- Promoting education and careers opportunities within the food, drink and allied industries
- Systems for combining, analysing, sharing and exploiting 'big data' - from genomics and associated sciences, through analytical data, quality and compliance trends and food safety information, to 'augmented and virtual sensing', the 'Internet of Things', artificial intelligence, and social media
- Appropriate, proportionate and evidence-based regulatory controls with equitable and just enforcement - including mechanisms for industry input into advising on practical aspects of implementing legislation
- Access to rapid guidance on legislation and government policy, and their variations across the globe - including regulations and constraints emerging in the UK, EU and through new trade deals as a consequence of Brexit
- Simplified guidance on accessing research funds
- Better public communication of manufacturing practices, including existing and emerging technologies, and their importance in ensuring a secure, sustainable food supply



Product and packaging

Safety

Delivering products that are safe throughout shelf-life

- Agreement on what constitutes a significant and / or compliant level for specific hazards in products (e.g. allergens, bacteria, viruses, mycotoxins)
- Systems for assuring and independently validated methods for rapidly and cost-effectively assessing the safety and spoilage of food and drink products - especially new and emerging products
- Promotion of the functional benefits of ingredients, additives and packaging as an integral part of maintaining product safety
- Establishing limits of key components (e.g. sugar, salt, preservatives) and their 'clean label alternatives' in reformulated products, so that preservation efficiency and product safety are not compromised
- Smart packaging technologies that assist in assuring and communicating product safety and extending shelf-life
- Better product protection through tamper-evident packaging

Quality and value

Maintaining product quality throughout shelf-life

- Clear definitions of product quality - including sensory, physical, chemical, nutritional and microbiological

attributes / criteria - and the way in which it is measured and perceived

- Systems for assuring and independently validating methods for rapidly and cost-effectively assessing the quality and spoilage of food and drink products
- Clean label replacements for, or ways of, reducing sugar, fat, salt, preservatives, other additives and other components without compromising product quality or shelf-life
- Use of new and refined processing, preservation and packaging technologies to improve quality, preserve nutritional value and/or extend product shelf-life without compromising product safety
- Clearer guidance on and better methods for shelf-life determination, prediction and modelling for different product types
- Methods for predicting and measuring colour, texture, flavour and spoilage of food and drink products to assess final quality, stability through shelf-life and the impact of processes and reformulation
- Test methods for the performance, integrity and 'openability' of new packaging formats (e.g. light-weight, new materials)
- Agreed risk assessment, analytical protocols and management tools for packaging materials and their components and their interaction with the food or drink product (e.g. hygiene, migration compliance)
- Better understanding, management and measurement of packaging component migration
- Replacements for specified packaging components such as bisphenol A



Nutrition, health and well-being

Delivering nutritious products that meet dietary needs

- Better understanding of the science, technologies and materials available to support products targeted at specific dietary needs (e.g. diabetes, cardiovascular disease, elderly, free-from)
- Reformulation of products to create healthier alternatives (e.g. tackling nutrient deficiencies) without compromising product safety or quality
- Guidance, information and services for supporting nutrition and health claims on products
- Understanding of the dietary and health impact of reformulated products

Sustainability, resilience and food security

Delivering safe and compliant products that minimise waste

- Better use of technology and 'product design' to reduce product waste (e.g. extended shelf-life, portioning, packaging technologies, alternative valorisation) through the supply chain and in the home
- Reformulation of products to reduce use of finite resources that are difficult to source or recover / reuse (e.g. palm oil, phosphates)
- Reduced environmental impact of packaging (e.g. light-weighting, reusability, biodegradability, recycling) which provides appropriate functionality (e.g. barrier properties, physical strength) and is compatible with process, product and quality

- Guidance on systems for assuring, and methods for verifying, the identity, authenticity and labelling compliance of food and drink products - including those developed for specific diets (e.g. free-from, kosher, halal, organic)
- Systems and support for assessing risks (e.g. safety, fraud) to help target product analysis

Skills and knowledge

Anticipating and responding to regulatory and technical changes and their impacts on product and packaging

- Systems and support for anticipating regulatory changes and their impact on products
- Accessible and clear guidance on labelling and other legislation in different geographical areas
- Improved databases and tools (e.g. 'wikis') to support food and packaging information provision (e.g. compositional data for emerging ingredients, reference databases for authenticity tests)





Food, drink and the consumer

Safety

Protecting the consumer through appropriate guidance

- Provision of evidence-based guidance for consumers on food safety hazards (e.g. allergens, microorganisms, natural toxicants) and consumer responsibilities in helping to manage these (e.g. storage, handling, cooking)
- Better approaches to encouraging and enabling consumers to contribute to the culture of food safety (e.g. food handling, hygiene, storage, smart technologies)
- Guidance for business on managing food allergies and intolerances, especially with regards to thresholds, labelling, manufacturing and information provision (e.g. pre-packed versus food service)

Quality and value

Exceeding consumer expectations

- Continued improvement (speed, reliability, scale, interpretation, exploitability) of methods for sensory analysis and access to these - including knowledge transfer between academia and industry
- Instrumental methods for measuring sensory qualities of products to complement or as more cost-effective alternatives to sensory techniques
- Analysis and use of consumer perceptions of product quality and a product's 'sensory signature' - including the

foodstuff, packaging and wider product attributes (e.g. brand, claims) - factors that influence these (e.g. purchase and consumption environment), and how these in turn influence choice

- Understanding the 'global palate' and regional preferences to inform product innovation
- Methods for better measurement of consumer satisfaction with products
- Understanding and applying lifestyle changes on packaging requirements (e.g. recycling, portioning, eating occasion, convenience, littering)

Nutrition, health and well-being

Responding to nutritional requirements and dietary habits

- Ways to improve consumer health and well-being through understanding of the relationship between diet and health for individuals, groups (e.g. age, health conditions, ethnicity) and populations - at the genomic to physiological levels (e.g. bioavailability, intolerances, diabetes)
- Better insight into factors that influence food, drink and calorie intake (e.g. satiety, psychological cues) and how this can be harnessed to help tackle obesity, diabetes and metabolic syndrome
- Understanding the role and significance of the gut microbiota, especially as it relates to dietary factors that influence it and, through it, consumer health



- Influencing purchasing decisions through better understanding of consumer perception of diet and health issues and associated behaviours
- Understanding the links between nutritional value, price, product quality, product claims, marketing information and other factors on consumer dietary choices
- Provision of transparent, evidence-based guidance for consumers on diet and health
- Simple tools and techniques to help consumers plan and manage their diet (intake of key nutrients and energy)

Sustainability, resilience and food security

Building consumer trust in the supply chain and its management

- Systems to promote sustainable but healthy consumption
- Promotion of an informed debate on waste-related issues (e.g. shelf-life, product storage and durability marks, purchasing patterns) through better understanding of consumer perceptions of food and drink waste
- A more informed debate on packaging-related issues (e.g. product protection, recycling, waste, migration) through better understanding of consumer perceptions of, and attitudes towards, packaging
- Communicating to consumers the pros and cons of new production, processing and preservation techniques, as well as new ingredients, in the context of sustainable food production and waste reduction strategies
- New approaches to building and retaining consumer confidence and trust in business integrity and the food and drink supply chain - and its processes and practices

Skills and knowledge

Engaging consumers in production, process, product and packaging knowledge

- Better understanding of how consumers access and use food information (from major policies, media coverage and social media to product labels, leaflets, menus and food service operatives) and use of this to improve communication
- Provision of evidence-based information to consumers on food, drink and ingredients, the technologies underlying their primary production, manufacturing, distribution, as well as environmental impact - for a more rational and 'risk informed' debate
- Better agreement on the role of government, industry and other groups (e.g. media, single-interest groups) in promoting a more rational and 'risk informed' debate - especially in a post-Brexit regulatory landscape
- Better understanding of consumer resistance to new and emerging technologies in food production (throughout the chain) and factors affecting trust in the supply chain
- Better approaches to improving 'food literacy' (e.g. cooking, food safety, healthy eating, minimising waste) through education, healthcare and more generally
- Better communication with consumers around production and manufacturing practices, traditional and novel, and their importance in ensuring a secure, sustainable food supply - directly and through relevant forms of social and mass media
- Working with consumers on phenomena such as the 'sharing economy' and 'ambient intelligence' (Internet of Things) to deliver products and processes that meet consumer needs



About Campden BRI

Campden BRI helps food and drink businesses succeed

We do this through practical scientific, technical and knowledge support

We work closely with industry to ensure the absolute relevance of all our activities - from analysis and testing, process validation and safety assurance to product innovation, consumer studies and training, events, databases and publications.

All our activities are underpinned by a strong programme of research - steered by industry for maximum relevance.

Membership-based, we provide services to companies all along the supply chain.

Vision

To be the partner of choice for the development and application of technical knowledge and commercially relevant solutions for the food and drink chain.

Mission

Practical application of technical excellence for the food and drink chain.

We work with industry, for industry

This document was compiled, written and designed by Campden BRI with sincere thanks to the hundreds of industrial colleagues from all parts of the food and drink supply chain, who gave their time, energy and ideas during the consultation process.

Consultation for this document consisted of:

- day to day discussions with industry and collaborative organisations
- 14 member interest groups
- 31 industrial meetings
- 649 face-to-face contributions
- an on-line survey of 2,400 companies in 75 countries
- 60 written submissions

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© Campden BRI

Campden BRI, Station Road, Chipping Campden, Gloucestershire, GL55 6LD, UK
+44(0)1386 842000 Fax: +44(0)1386 842100



information@campdenbri.co.uk
www.campdenbri.co.uk