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Gut feel:

Unlocking the growing potential for digestive health

Vitafoods™ INSIGHTS

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The science behind your gut

While digestive health has taken centre stage for years, consumer awareness and improved science has further bolstered the potential for this category. Modern lifestyles and poor eating habits have contributed to increased diagnosis of gastric disorders—ranging from mild heartburn to gastrointestinal disease, causing consumers to play closer attention to the science behind their gut. In fact, a GlobalData consumer survey revealed that 83% of consumers worldwide are aware of probiotics and the role they play in digestive health. Beyond stomach aches, there is abundant science behind the gut-brain axis, with proven immune health benefits of probiotic supplements.

The digestive health category is forecasted to grow 7% year-on-year over the next five years, with a ballpark market worth of $69.3 billion by 2023. Although probiotics have dominated attention, the innovation in the air is giving prebiotics and synbiotics their time in the spotlight too. Botanicals also continue to draw interest as a potential combination with probiotics, as Abey Thomas points out in his article (page 12). Not all probiotics are created equal, says Dr Laura Collins on page 5, and different strains possess unique characteristics—differing in safety and suitability for application. For example, brands are jumping onto the snacking bandwagon as busy lives drive demand for on-the-go solutions, with research revealing that 40% of consumers are more likely to buy snacks fortified with probiotics.

The science is solid and demand is at an all-time high—but are brands delivering on their package claims? Only 15% of consumers believe functional foods and beverages deliver on their promise. Without quality clinical evidence and safety data, a probiotic strain is not considered reliable and trustworthy. Irene Cisma Díaz highlights the importance of clinical trials on page 8, and talks through the process of designing a study, as well as meeting the requirements of regulatory bodies such as the European Food Safety Authority and the U.S. Food and Drug Administration. As an area of challenge, industry players throughout the supply chain will have to invest in research to promote transparency and win consumer trust.

The potential for the digestive health market over coming years is tremendous. With a rise in consumer interest and brands doing their part in meeting expectations from a research, science and delivery perpective, this category is sure to surpass its growth goals in coming years.

Charlotte Bastiaanse

Charlotte Bastiaanse
Associate editor, Vitafoods Insights
+44 (0) 20 337 73472
charlotte.bastiaanse@informa.com

Digesting the opportunities

What growing consumer interest in microbiome health means for food and beverage manufacturers

by Dr Laura Collins

Interest in digestive health has never been greater. Consumers are increasingly proactive when it comes to gut health and more aware of the importance of the microbiome in areas such as supporting immune health. Research also shows that 60% of consumers acknowledge the link between digestive health and overall health, while 85% say they are interested in buying products that deliver digestive health benefits.[1] Despite this, only 45% of consumers are actively buying them.[2]

This white space makes for a huge, but still largely untapped, potential for food, beverage and nutraceutical products that offer benefits that support the microbiome. Manufacturers that want to take advantage of this untapped opportunity need both innovative strategies and a detailed understanding of market trends and consumer needs.

Probiotic possibilities

By far the most straightforward means to deliver digestive health benefits is through probiotics. A recent survey found that 76% of American consumers are aware of them[3] and this figure rises to 83% worldwide.[4] As a result, the global probiotics market is performing strongly—sales were worth US$49.4 billion in 2018 and are forecast to grow by an average of 7% a year through 2023 to $69.3 billion.[5] Growth will be substantial in all parts of the world; in Europe particularly, research suggests there will be increased interest in foods and beverages that offer targeted benefits, with more consumers across the region actively using functional foods and beverages to maintain or improve their digestive health.[6]

It's all about the strain

However, not all probiotics are created equal, and there is growing awareness of the subtle but important differences between strains. Each possesses its own distinct characteristics, which can influence safety, efficacy and suitability for particular applications.

A major step forward in recent years has been the emergence of spore-forming probiotics, such as GanedenBC30®. Spore-forming probiotic strains are much more resistant to the extremes of pH, heat, cold and pressure than vegetative probiotic cells, making them a better fit for the fortification of everyday foods and beverages. This has transformed the landscape for probiotic products, opening up multiple new possibilities beyond the categories with which they are traditionally associated, like yogurt. Probiotics can now be added to almost any product, including teas and coffees, oatmeal, granola, muffins, pizza, chips, and peanut butter.

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Targeting snacks

Driven by busy lifestyles, 'snackification' has been one of the most significant trends in global food markets. Research has shown that approximately one third of Brits snack two or more times a day.[7]

The growing snack space is one where there is major potential for the addition of ingredients with functional benefits. Research among consumers who tend not to buy snacks found nearly 40% of them would be more likely to do so if they were fortified with probiotics or claimed digestive health benefits.[8] A number of brands have done this successfully, including Flapjacked with its portable probiotic muffin mix[9] and simplyFUEL, which has developed a range of protein balls incorporating probiotics.[10]

Making a meal of it

Despite the growing importance of 'snackification', the fundamental principle of eating three meals a day persists, providing opportunities for digestive health innovations that target breakfast, lunch and dinner.

Breakfast

The consensus, to the extent that it has become a cliché, is that breakfast is the most important meal of the day. It is closely associated with health, with 42% of consumers globally stating that they prioritise health and nutrition when preparing and consuming breakfast during the week.[11]

Incorporating probiotics into popular breakfast items such as cereals, waffles and pancakes creates a point of difference and taps into demand for nutritious products at the start of the day. Furthermore, breakfast cereals are often demonised for high sugar content and the addition of probiotics can help enhance their reputation. In fact, while the overall number of breakfast cereals launched globally has increased by 26.9% since 2014, the number of breakfast cereals with probiotic claims launched over the same period has risen by as much as 212.5%, reflecting keen interest in this area.[12] One such example is Linwoods' Hemp Protein+ seeds mix with GanedenBC30, which gives consumers the option to add a health-forward breakfast ingredient that can be used over breakfast cereal or mixed in a smoothie.

Lunchtime

At lunchtime, meal replacement drinks are often consumed, and beverages with probiotic or digestive health claims are increasingly important. Launches of such products have increased by 300% globally since 2014.[13]

Dinner

Four in ten consumers globally cite health and nutrition as a priority when preparing and consuming dinner during the week.[14] With prepared






meals popular in the evening, they are worthy of consideration for fortification. Overall launches in the category have increased by 4.8% since 2014.[15] But certain sub-categories are particularly vibrant, including instant noodles (launches up 21.1%), instant rice (+19.7%) and instant pasta (+16.9%), again echoing consumer need for convenient mealtime options.

One unique product in this space is Quality Pasta's Muscle Mac PRO, a great-tasting, high-protein White Cheddar Macaroni & Cheese fortified with GanedenBC30 and MCT Oil. Muscle Mac PRO is aimed at consumers looking for better-for-you benefits in foods and beverages, including women aged 18 to 35, students aged 5 to 18, student-athletes, fitness enthusiasts and vegetarians.[16]

Winning trust

However inventively digestive health products are targeted, the ultimate key to success is winning trust with the consumer. This is challenging in the functional health category; generally, only 15% of consumers believe that nutrition and performance drinks, for example, deliver on their promised claims.[17]

When it comes to probiotics, the most effective way to mitigate the risk that consumers will mistrust your product is to ensure you select a strain with scientifically substantiated benefits. Without good quality clinical evidence and safety data, a probiotic strain cannot be relied on to deliver on its promises and, by extension, the promise you're making to consumers.

Laura Collins, PhD, is a business development specialist with Kerry, and a subject matter expert for GanedenBC30®, which has more than 25 published papers confirming its safety and efficacy.

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Investing in research

Designing a probiotics clinical trial

by Irene Cisma Díaz

The microbial community that lives on and in the human body exerts a crucial role on human metabolism, function and immunity. The beneficial impact of the microbiome on human health is under intensive research, as is demonstrated by the increasing scientific literature published during the last 10 years. Assessment of PubMed, the main scientific literature data base, showed that publications focused on these themes (microbiome and human health) was fewer than 10 publications a year in 2007 and reached around 500 publications in 2018.

Research, research, research

This amount of research on the human microbiome is leading to the discovery and development of novel microorganisms derived from our microbial symbionts. This tendency can be detected in the cumulative number of patents related to microbiome and cancer research within the microbiome space that can be extracted from consolidated multiple patent databases (Fankhauser et al, 2018).

The global probiotic market is expected to reach a value of $57.2 billion in 2022, as revealed by BCC Research. It is not surprising, therefore, that there is growing interest in pursuing ways to treat or reduce the risk of disease by altering the microbiome. There are multiple approaches that are proposed to alter the microbiome including (but not limited to) prebiotics, live microorganisms, small molecules and faecal transplantation. Assessment of these approaches requires both pre-clinical and clinical studies, conducted to a standard which is acceptable to both the scientific, institutional and commercial community, and this work should be conducted to ICH-GCP standard.

By definition

The World Health Organization (WHO) defines probiotics as live microorganisms which when administered in adequate amounts confer a health benefit on the host. Probiotic bacteria are extensively integrated in food production, generally the bacteria belonging to the genera *Lactobacillus* and *Bifidobacterium*, although other genera such as *Escherichia*, *Enterococcus*, *Streptococcus*, and *Saccharomyces* have also been marketed as probiotics. The health benefits most commonly associated with probiotics have been to maintain a healthy microbiota or to improve its resilience, essentially—to preserve the gut microbiota balance and the defences against pathogens.

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The term prebiotic has been defined as a non-viable food component that confers a health benefit on the host associated with modulation of the microbiota, according to the Food and Agriculture Organization. Carbohydrate substrates (like dietary fibre) are widely used as prebiotics due to their capacity to promote the components of the intestinal microflora. Certain dietary components are resistant to digestive enzyme hydrolysis, which prevents them from being absorbed in the gastrointestinal tract.

When probiotics and prebiotics are combined, they provide a synergistic health benefit for the host; the products of this combination are known as synbiotics. A synbiotic is a product containing probiotic and prebiotic in which the prebiotic compound specifically favours the probiotic compound.

Traditional probiotics confer health benefit on the host that are preventative, rather than therapeutic, and are not based on microbiome analysis or understanding of individual microbiome imbalances. The next generation of probiotics may belong to less familiar and formerly uncharacterised strains of microorganism with unusual and in some cases valuable properties. As our understanding of the microbiome develops, there is a growing interest in the application of microbiome technologies in personalised medical foods which bridge the gap between the food and the pharmaceutical markets (O'Toole et al, 2017, Sun et al, 2016).

Regulatory tape ensuring quality

Regulatory institutions such as European Food Safety Authority (EFSA) and the U.S. Food and Drug Administration (FDA) require scientific evidence when associating a health claim to microbiome based products, and the European Directorate for the Quality of Medicines (EDQM) plays a major role in ensuring the quality of biotherapeutics, including biosimilars, thereby contributing to overall patient safety. The European Pharmacopoeia standards are designed to meet the needs of stakeholders, including industry, Official Medicines Control Laboratory (OMCLs) and regulatory authorities. These new strains aimed at improving disease and symptoms thereof have been termed recently: "Live biotherapeutic products (LBP). They are medicinal products containing live micro-organisms (bacteria or yeasts) for human use. LBP are administered orally or vaginally and are available in different forms. LBP may contain one or multiple microbial strains from the same or different species of micro-organisms. The evidence of the efficacy and tolerability needs to be obtained through human interventional studies, that need to be designed following the guidance provided by these institutions. The main requirements of the

study outcomes are the characterisation of the strain, the identification of the health benefit and the demonstration of the same in a normal healthy or pre-disease target population. The quantity of living bacteria or yeasts is determined by counting viable and culturable micro-organisms of the intended strain(s)."

Fecal microbiota transplantation (FMT) and products intended as gene therapy agents are not covered by the same standards.

Application claims

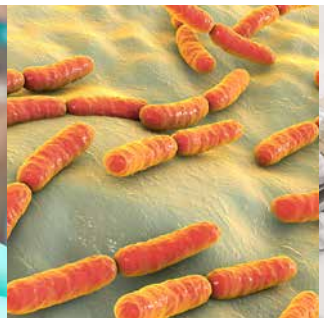
Applications for health claims on probiotics and other live-microorganisms have been submitted for evaluation to EFSA and no application has received a positive opinion. EFSA reviewed the reasons why in a meeting with IPA Europe in January of this year. It can be extracted from the meeting notes that health claims should only be authorised in the EU after a scientific assessment of the highest possible standard. General scientific guidance for stakeholders on health claim applications should answer the following questions:

- Is the food or constituent characterised?
- Is the claimed effect based on the essentiality of a nutrient? Or is the claimed effect defined and is it a beneficial physiological effect, and can be measured in vivo in humans?
- Is a cause and effect relationship established between the consumption of the probiotics or constituent and the claimed effect?

The above questions should always be considered for the target population and under the proposed conditions of use (CoU). The scientific substantiation (positive outcome) requires a favourable outcome to all three questions. Pertinent human efficacy studies are hierarchy of evidence, particularly randomised double-blinded controlled studies. The major reason for unfavourable opinions related to microorganisms were: Insufficient characterisation of the food or constituent, insufficient characterisation of the claimed effect and lack of pertinent human studies.

The characterisation of microorganisms refers to the species identification, but the strain characterisation/typing is also needed, since effects are strain specific unless the contrary is demonstrated. New molecular tools (multilocus sequence typing, optical mapping, whole-genome sequencing) as well as several methods often are needed in combination.




Study outcomes

The characterisation of the claimed effect needs to be specific and measurable and needs to be a beneficial physiological effect for the target population, not all outcomes, which can be measured in vivo in humans by generally accepted methods, reflect a direct benefit on human

physiology. EFSA states that peer-reviewed publications may not provide the evidence needed for scientific substantiation of health claims. Multiple applications have been rejected; while effects shown in animal studies may be used as supportive evidence, human studies are required for the substantiation of a claim, and evidence provided in animal studies alone is not enough to predict the occurrence of an effect.

Human clinical studies need to be designed according these guidelines. Since there is still no tracked example of a health claim for probiotics, newly developed science claims are the main point of reference up to now. Ten applications have received a positive answer and there are certain similarities: they have conducted human clinical trials and a broad study sample representative of the population. All of the approved submissions have at least three relevant human trials (up to 14 trials). The number of subjects varied between 30 and 300, but 60% were more than 100 subjects.

Takeaways

In conclusion, the characterisation of the product is important and must be adequate (manufacturing and analytical data) but this area is rarely cited as reason for failed health claims. EFSA may sometimes not even review manufacturing data if human study data is found to be inadequate in cases where the human study data reveals mixed results the non-human research (mode of action) increases in importance. The data that EFSA is questioning is: the statistical analytics (23%), the result reporting (14%), the outcomes (13%), the study participants (8%), the utilisation of the study products against the control or placebo (9%), the sample size and power calculation (5%), the randomisation (5%), blinding (3%), as well as other factors.

Frequently companies lack the in-house expertise to dissect and understand clinical results. Working with a partner owning the expertise on design and conducting clinical trials seems a key factor of success in the substantiation of health claims. ●

Irene Cisma Díaz is marketing executive at Atlantia Food Clinical Trials. Atlantia Food Clinical Trials, in collaboration with its academic partner, the Alimentary Pharmabiotic Centre, has developed a whole solution for client companies to assist in achieving a positive EFSA response. Atlantia has extensive experience in carrying out clinical trials with probiotics in health areas such as GI discomfort, constipation, IBS, sports, nutrition, stress etc. The research team works with sponsors to design and conduct a study most suitable for their investigational products, agreeing and applying the most suitable measurements/ end-points and statistically powering studies to ensure that study objectives are achieved and reported.

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Potential for plants

Botanical extraction and formulation for probiotics

by Abey Thomas

A healthy gut effectively absorbs nutrients, maintains immunity, and protects the body from pathogenic microbes. A healthy gut helps maintain good health by communicating to the brain about energy uptake and other conditions, which otherwise might affect mood and general wellbeing.

Botanicals and digestive health

While digestive health most readily conjures up thoughts of probiotics, herbs and botanicals have been providing solace for grumpy guts since ancient times. Remedies like ginger, spearmint, and senna have been used for a variety of digestive ailments from heartburn to constipation. Licorice has been shown to be beneficial for digestive complaints, and recent research is illuminating its beneficial actions on gastric emptying as well as the interactions of its flavanols with the gut microbiome. Botanical extracts and bioactives under investigation in clinical trials show great potential for natural digestive health benefits. For these reasons, botanicals continue to be investigated for their therapeutic effects and are sought out for their benefits.

Impact of digestive problems on quality of life

Chronic digestive issues can have a significant impact on quality of life. Mild heartburn or indigestion can be very unpleasant and may require dietary and lifestyle changes such as avoiding fatty foods or not eating large-portion meals late at night. Conditions such as gastroesophageal reflux disease (GERD) and peptic ulcers are even more disruptive and may not respond to lifestyle changes alone. Conventional treatment includes over-the-counter antacids, prescription acid blockers, and/or antibiotics for relief. More serious conditions such as inflammatory bowel disease, diverticulitis, and gastrointestinal cancer are beyond the scope of this article as they should be treated by a health care practitioner.

Gut health and the microbiome

Gut microbiota plays an integral role in the proper functioning of a healthy gut. The metabolism of gut bacteria is now thought to influence immune regulation and perhaps the whole immune system. This revelation has a profound impact on our understanding of autoimmune diseases, infectious disease, and other diseases related to immunology, including

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cancer. Digestive health may also affect other conditions like obesity, diabetes, depression and cognitive decline as well as the nervous system. A growing body of evidence also supports a complex connection between gut, microbiome, and brain.

The gut microbiota contributes meaningfully to nutrient breakdown and absorption and even produces certain vitamins for the body. It further helps to keep the intestine's mucosal layer healthy and protect against the invasion of pathogenic bacteria. The host's immune system must learn to tolerate the presence of the microbiota while maintaining defence against pathogens. In turn, the microbes 'train' the immune system to function properly.

Synergistic support for gut health

Plants represent a rich source of new active principles, and botanical extracts are used in different markets, including health foods and supplements. Quality and rigorous standardisation of the botanical extract are essential to guarantee the necessary safety and efficacy profile.

Furthermore, there is a growing need among consumers for scientifically supported information around health foods and supplements, as they want to be in a position to make informed choices. Consumers are demanding products backed by transparent composition, obtained from production chains and processes carried out in full accordance with best practices, and consistent with traditional dietary uses.

Polyphenols are present in all plants and have many proven human health benefits. They can occur in high amounts in the digestive system and directly protect the gut through several mechanisms, including antioxidant defence. The gut microbiota break down and metabolically transform many dietary polyphenols, allowing them to be absorbed into the bloodstream and be carried to their sites of action. This increases their bioavailability and efficacy.

Gut microbes are necessary to break down large molecules, such as ellagitannins, and proanthocyanins before they can enter the blood. This process provides nourishment to the gut microbes and regulates their metabolism. This metabolic regulation can enhance the host's immune system and trigger further metabolism of nourishing plant molecules.

Licorice from the roots of *Glycyrrhiza glabra* (part of the Fabaceae family) has a long history of use in treating digestive discomforts. Glycyrrhizin (also called glycyrrhizic acid), one of the best-known active ingredients, is a triterpene saponin from licorice that has been used as an emulsifier and a sweetener by the food industry.

Glycyrrhiza glabra (Yashtimadhu) is known for its anti-inflammatory and gastro-protective properties in the traditional systems of medicine (TSM) in India and China. Conventional methods extract glycyrrhizin and other polar components, leaving behind other constituents in the roots during the process. Classical deglycyrrhisinated extracts of licorice (DGL), with low content of glycyrrhizin, are common in the marketplace.

Case study:
Potential for botanicals with probiotics

Developed as an innovative bioactive for gut health, Gutgard® is different from DGL with regards to its chemistry and composition manufacturing process, mechanisms of action and physicochemical properties. The ingredient is extracted using a soft extraction process to capture the bioactive flavonoid chemistry of the plant, whereas a classical extract like DGL does not contain significant quantities of flavonoids.

Researchers developed the ingredient to contain more than 10% total flavonoids (w/w) and less than 0.5% glycyrrhizin as a standard. Over 50 flavonoids have been identified by hyphenated analytical techniques like LC-MS, including isoflavans (glabridin), flavones (such as licoflavone A), flavanones (such as glabrol), chalcones (such as isoliquiritigenin), and isoflavones (such as formononetin).

Compatibility with probiotics

Probiotics are known to provide health benefits when administered in adequate amounts. They have been reported to be beneficial in the management of irritable bowel syndrome (IBS), infectious diarrhoea and necrotising enterocolitis among others (*Sanders et al.*, 2013). Probiotics have also been found to be beneficial in reducing one or more symptoms associated with H. pylori infection.

In a recent trial, Gutgard® was evaluated for its compatibility with probiotic strains (*Lactobacillus casei*, *Lactobacillus fermentum*, *Lactobacillus plantarum*, and *Streptococcus thermophilus*), commercial probiotic drinks, and digestive enzymes (pancreatic α-amylase, α-glucosidase, phytase, xylanase, and pancreatic lipase. Effective dosage was found to be 7,500 µg/mL against all the tested probiotic bacteria.

No significant difference in the probiotic bacterial count was observed between the normal control (probiotic drink) and the vehicle control (probiotic drink plus methanol) at any of the tested time points. Results of the test sample were compared with the vehicle control to see the actual effect of the ingredient on probiotics. It did not show significant ($p < 0.05$) decline in the probiotic bacteria of Probiotic drink 1 at all the tested levels and time points.

The lowest level of probiotic count observed in Probiotic drink 1 is 3.57 × 107 probiotic bacterial cells/ml on day 42, which would equal approximately 2.142 × 109 cells per serving (60 ml), which is above the regulated level.

A stability study was carried out to determine whether the flavonoid-rich extract had degraded and if it remained within the acceptable level up to the shelf life of a probiotic drink. The stability of Gutgard® in Probiotic drink 1 was evaluated by measuring the glabridin (marker compound) content in the drink; glabridin is a unique species-specific marker to G. glabra, which is absent in G. uralensis and G. inflata (*Kondo et al*., 2007), the other commercially used species of Glycyrrhiza. Apart from being used as a marker, glabridin is also bioactive as it has been reported to possess multiple biological properties, including anti-inflammatory, antioxidant, and anti-H. pylori activities.

Probiotic bacteria	MIC (µg/ml) of Gutgard®
Lactobacillus casei	7,500
Lactobacillus fermentum	7,500
Lactobacillus plantarum	7,500
Streptococcus thermophilus	> 10,000

Conclusion

Overall, Gutgard® seems to be reasonably compatible with the tested probiotic strains, probiotic drinks, and digestive enzymes. Also, Gutgard® is stable in the tested probiotic drink for the entire shelf life of the drink. Therefore, Gutgard® can be safely incorporated or combined with probiotics, and/or with the tested digestive enzymes for added gut health benefits.

Abey Thomas is senior marketing manager at Natural Remedies. Thomas is a passionate brand management professional with diverse and meaningful experience in nutraceuticals, healthcare technology, e-commerce and pharmaceutical domains.

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The probiotic 2.0 trend

From ingredients to individual microbiomes

by Wendela Wennström

With digestive health remaining a strong category driven by innovation and consumer demand, there are no signs of slowing down and businesses across the globe want in. Understanding global trends and the changing consumer landscape is essential for businesses wanting to succeed in the digestive health category. There are unique findings and insights related to the digestive health category from the GameChanger 2019 Trend report, produced by the Healthy Marketing Team's ConsumerLab.

Digestive health = health

The awareness of digestive health is increasing rapidly, especially the understanding of the connection between digestive health and general physical and mental health. However, there is still a need to educate consumers on this topic and help them understand the holistic importance of the good bacteria in their bodies. Generally, consumers understand that better nutrition is key for health, which is true—but only on the condition that there is the right balance of good gut bacteria to support nutrient absorption. When the body receives the nutrition it needs and is also able to absorb it correctly, multiple health benefits perpetuate and quality of life increases. Probiotics are no longer just another supplement, but instead a vital part of individual healthy ecosystems.

The desire for consumers to feel the benefits of the food they eat is the catalyst for consumers demanding probiotic solutions. Stressful lifestyles, an ageing population, and unhealthy dietary habits cause feelings of stomach discomfort, such as bloating or stomach ache, and food supplements that reduce these effects are in demand. Consumers are more aware that management of their digestive health is linked to everyday wellbeing, and therefore they will continue to seek out preventive food and supplement solutions.

For health-conscious consumers who are eager to invest in probiotic solutions for their future health, the most exciting fact is that everyone has unique microbiota, which can be modulated by diet and lifestyle as well as specifically selected strains of probiotics and prebiotics.

The 2019 Game Changers Trend Report, which focuses on 'probiotics 2.0,' covers two key areas: The Balancing Act and Beyond Digestive Health.

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The balancing act

With self-diagnosis of digestive sensitivities on the rise, consumers are modulating their diets with free-from solutions. In the United States, the Low FODMAP diet has quickly moved from fad to a credible solution for people with living digestive discomfort, such as irritable bowel syndrome (IBS), with mounting testimonies of success. But where does this leave probiotics previously established as one of the best gut health allies?

With modulated diets gaining ground as solutions to digestive sensitivities, probiotics is still the solution to problems behind the digestive sensitivities, meaning the inflammation in the gut. There is still a lot of necessary consumer education about the digestive system and how best to maintain and treat it against discomfort and sensitivities.

Non-dairy probiotic solutions

In Western countries, probiotics remain popular but adults are increasingly demanding probiotics from sources beyond dairy to answer their concerns about digestive sensitivities as dairy remains associated with bloating and indigestion. Consumers like the idea of probiotics that are naturally fermented, such as kefir and water-based kefir drinks.

Dairy-based probiotics in Asia

In Asia, probiotic dairy yoghurts are still a strong product category as dairy is associated with slimming. New generations of health-conscious millennials are rapidly embracing probiotic dairy yoghurts as they convey the aspirational promise of feeling good and looking good. Because consumers can feel the benefit, probiotic supplements are also taking over traditional 'belief-driven' categories like omega-3.

Beyond digestive health

The human body hosts more bacteria than cells, and each individual has a totally unique microbiome. Consumers understand the gut is interconnected with all of the body's systems, so its impact stretches far beyond digestion. The gut is said to be the second brain, and the gut-brain axis is an emerging interest area for many as the gut-brain axis has the potential to explain how what we eat can affect how we feel.

Shift from ingredient focus to benefit focus

The immune system is the key influential factor for health and wellbeing. The gut microbiome plays an important role in maintaining a balanced immune and metabolic system, as 80% of immune cells are located in the gut. Microbiome modulation means a shift in focus from the

probiotic product to how the product impacts the microbiome. There is an anticipation that a focus on health benefits, rather than products, will be stronger in the future.

Who are the consumers driving these changes?

Since every value chain starts and ends in the mind of the consumer, it was important when looking into these Game Changer Trends to understand who the consumers driving these trends are. For this reason, the Healthy Marketing Team ConsumerLab worked on a project initially called 'The healthy eaters' that instead ended up being named 'The healthy believers.' This change from 'eater' to 'believer' stemmed from an understanding that the definition of health is no longer a rational discussion with today's health-conscious consumers, as the discussion becomes too emotional and personal. Consumers are learning about nutrition and how it is produced, manufactured and sourced, but when nutrition becomes personal, so do the questions. To educate the consumers on their own digestive health, and how this actually equates to their holistic health, one needs to understand which type of 'believer' consumer they are and what questions are personal to them. ●

Wendela Wennström is an insight consultant at the Healthy Marketing Team and a part of the HMT ConsumerLab. The HMT ConsumerLab is a 'think-tank' wherein master students and researchers, supported by industry professionals, combine the latest new research with long-proven market strategies.

Takeaways for Your Business

With digestive health remaining a strong category driven by innovation and consumer demand, there are no signs of slowing down and businesses across the globe want in. Understanding global trends and the changing consumer landscape is essential for businesses wanting to succeed in the digestive health category.

Although awareness of digestive health is at an all-time high, especially the understanding of the gut-brain axis, there is still a need to educate consumers further and help them to understand the holistic importance good bacteria. It is also essential for brands to keep up with the consumer evolution and maintain an understanding of changing needs and preferences, such as the movement toward snack solutions.

Beyond promoting consumer knowledge, it is equally important to deliver on health benefit claims in order to secure the value in digestive health supplementation and ensure long-term trust. Regional authorities are tightening their regulatory grip—especially around issues of transparency and requirements for scientific evidence to back health claims.

While probiotics have dominated the digestive health category, emerging combinations and refined strains are opening the door of innovation. Botanicals, in particular, are of interest to brands looking to differentiate their natural solutions—with much potential still to be seen for the combination with probiotics. Remedies like ginger, spearmint, and senna have long been used for a variety of digestive ailments, and recent research is illuminating the further potential for botanical extracts and bioactives. As an emerging area, clinical research will prove essential in gaining that all too important buy-in from stakeholders and end consumers.

With a projected year-on-year growth of 7% over the next five years, competition to deliver innovative and differentiated digestive health solutions has never been tighter. Clinical research is emphasises time and time again, and ultimately the brands who invest in trials and studies are the ones that will win the competition for shelf space in a crowded marketplace.

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Vitafoods insights CONTACTS

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Jon Benninger
Vice President & Market Leader, H&N SupplySide Portfolio
jon.benninger@informa.com

Heather Granato
Vice President, Content
heather.granato@informa.com

Danielle Dunlap
Vice President, Marketing Services
danielle.dunlap@informa.com

Andrew Rosseau
Art Director

Informa Markets
2020 N. Central Ave, Suite 400
Phoenix, AZ 85004
United States

Phone: +1 480 990 1101
www.naturalproductsinsider.com

Chris Lee
Managing Director, GHNN Europe
chris.lee@informa.com

Gareth Morris
Head of Sales
gareth.morris@informa.com

Maria Sidiropoulou
Client Success Manager
maria.sidiropoulou@informa.com

Stephanie Campos
Client Success Executive
stephanie.campos@informa.com

Charlotte Bastiaanse
Associate Editor
charlotte.bastiaanse@informa.com

Informa Exhibitions
240 Blackfriars Road
London SE1 8BU
United Kingdom

Phone: +44 (0) 20 7921 5000
www.vitafoods.eu.com