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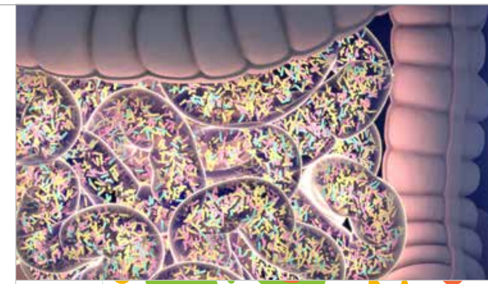
The Future for the Digestive Health Market

Vitafoods insights

CONTENT

December 2017



Go With Your Gut

Probiotic awareness is at an all-time high and the global probiotic industry is expected to reach a value of €53 billion by 2023, with much of its growth in Asia. George Paraskevakos, executive director of the International Probiotics Association, covers the boom in the Asia-Pacific market in this podcast, while Anders Henriksson from DuPont looks at the global commercial opportunities within the microbiome in this blog. Consumers are beginning to truly embrace digestive health, making it the third largest trend globally.

As fresh research arrives seemingly every day, we are in the early days of a real revolution in health and wellness: these trillions of tiny microbes (which outnumber human cells by 10 to 1!) may have powerful effects on all areas of health. Enthusiasm may have gotten ahead of the science but as increasing numbers of consumers board the probiotic bandwagon, validating research is sure to catch up.

Manufacturers and consumers alike tend to relate probiotics to digestive health, but research is uncovering endless additional health benefit possibilities, including a focus on immune health. We spoke to the experts from Ganeden to examine the probiotic market in the article beginning on page 5, and notes consumer demand is shaping the product landscape as people now prefer to get their daily dose in food and beverages as opposed to supplements. As they note, consumers are open to a multitude of possibilities, and the future for this market is fortification.

This enthusiasm for probiotic products is tempered in the article from Jim Tonkin. In his piece on page 10, Jim focuses on the potential pitfalls in bringing a probiotic beverage to market, and highlights the fact the medical community has stayed quiet on the subject of probiotics and their health benefits. He does, however, agree consumers are open to fortified products and stresses personalised nutrition will grow rapidly in this sector.

Finally, Hamish Renton explains the low-FODMAP diet on page 18, detailing how a group of short-chain carbohydrates could be causing all sorts of uncomfortable symptoms in the large intestines of people suffering from Irritable Bowel Syndrome (IBS). Luckily, studies and anecdotal evidence suggest patients can follow this medical-exclusion diet and see personalised results by identifying their 'trigger' foods. The diet is gaining traction in the United Kingdom with followers lobbying for a certification programme for products in this area.

Probiotic potential seems limitless and our industry is right at the forefront of this new way to take our health into our own hands. This is an exciting time to be involved!

Jade Mitchell-Ross
Associate Editor, Vitafoods Insights
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IN THIS ISSUE


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The Future is Fortification

by Mike Bush, Teresa DeJohn and Tony Revill-Johnson

Probiotic awareness is at an all-time high and delivery formats have expanded beyond traditional capsules into unique foods and beverages, often powered by shelf-stable, spore-forming strains. While many consumers turn to probiotics for basic digestive health, ongoing research is suggesting probiotics have health benefits far beyond the gastrointestinal (GI) system.

The gut health trend has boomed around the world, mostly due to new strain-specific research. It has long been known probiotics help with digestive health; but, following new research into overall gut health and the microbiome, the health benefits are stacking up: digestive health, immune health, protein absorption, ingredient interactions, etc. As more studies show the potential for probiotics, overall consumer awareness increases alongside demand as consumers realise they can influence these areas of their health with a single product.

Consumer demand is also shaping the product landscape as the industry sees the transition from people taking traditional probiotic supplements or dairy products to seeking fortified food and beverages. Consumers have a more proactive approach to their health and want more functional ingredients; they don't want to add another pill to their morning regime and have new dietary preferences. Just as daily pill fatigue is increasing, so is dairy fatigue. Consumers are favouring non-dairy sources of probiotics and now have a choice of supplementation delivery forms—they can grab a beverage, snack bar, or anything they typically consume for their daily probiotic dose. A 2017 Survey Sampling International (SSI) survey showed 79 percent of consumers prefer to get their probiotics in food and beverages as opposed to supplements, and across every category surveyed, consumers would purchase a probiotic product over a product that didn't contain a probiotic—and would pay more for that product.

There has been a rise in better-for-you snacks and the industry has seen a revolution in snacking products from traditional bars and granola to unique launches like cauliflower puffs and sauerkraut crisps containing probiotics. These snacks have been transformed into healthier and functional options. There has also been an increase in sports nutrition products as various probiotic strains have been shown

2017 SSI Consumer Survey

98 percent of consumers would purchase a food with a health benefit if priced the same as a similar food without.

76 percent of consumers are aware of probiotics.

Of those consumers:

93 percent are aware that probiotics can support digestive health

82 percent are aware that probiotics can support immune health

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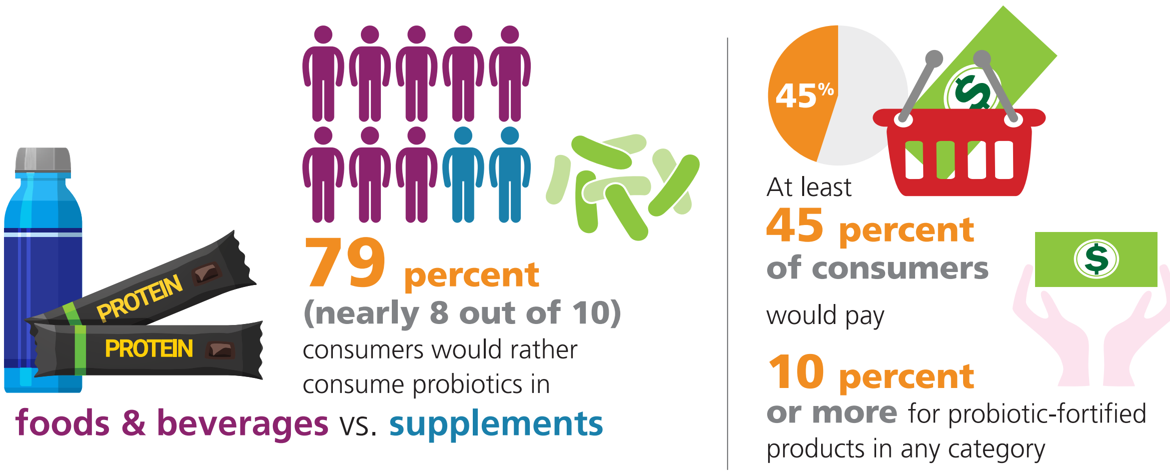


to help protein absorption and utilisation. There will always be a market for probiotic supplements; but, as more consumers suffer pill fatigue, and with so many supplements available, it's a pleasant change for a consumer to be able to swap their pill for a functional product they would consume anyway, and allows them to ensure they get their daily dose—if a consumer forgets to take their probiotic pill, they can easily find a fortified snack. Examining launches in 2017, there are increasingly unique launches and the categories in which probiotic products can be found are more numerous than ever. According to the SSI survey, 98 percent of consumers would purchase a product if it had a health benefit and was priced similarly to one without. The variety of probiotic offerings make it more likely consumers will get their daily dose by offering variation in the same way the normal daily diet differs.

Spore-forming strains mean the probiotics stay dormant and don't require constant refrigeration, until they have all the factors they need to germinate, which are found in the digestive tract. Because the strains are hearty enough survive most manufacturing processes, there is an opportunity for food and beverage manufacturers to formulate with probiotics and create different, shelf-stable options for consumers. A combination of increased science and understanding of specific strains and greater availability of products from spore-forming strains have seen the gut health trend boom across the world. There are very few manufacturing processes spore-forming strains can't survive. However, shelf-stable beverages are still out of reach as the temperature and moisture levels will force germination. Beverage manufacturers are developing work-arounds to this, including introducing cap technology, where depressing the cap releases the probiotic contained within into the beverage when the buyer is ready to consume it. Other strains benefit health even in an inactivated state, allowing these strains to be formulated in all products and avoiding any issues with manufacturing. These strains don't have the traditional digestive health benefits but do offer immune support. As there are now strains resistant to heat in manufacturing processes, another option for consumers is fortified staple ingredients. Products currently available include fortified coffees, teas, flours and sugar as these strains can be heated, boiled or baked without destroying the cultures.

Homespun fermented foods are also helping to drive the gut health trend, particularly in Asia, but at home, there's no way to tell which strains are available and if they're surviving. There is a considerable market for premixed strains for homemade kombuchas and kefirs, and the Asian market has seen success with stick packs containing probiotics to be mixed into a drink or food. Given global consumer acceptance for superfood smoothie mix powders and other similar products, a scoop of probiotic powder could be marketed to the health-conscious consumer.

Marketing a Probiotic

It is commonly assumed marketing a probiotic product to consumers in Europe can be tricky; however, manufacturers are increasingly finding this is not the case. Tony Revill-Johnson, managing director at Nature Works Brands, the Daily Cultures brand owner, says manufacturers need to start with the consumer; consumers intuitively understand probiotics are good for digestive health and recognise the importance of digestive health. Revill-Johnson explains research on the microbiome is appealing to consumers and short-cutting through the issues and getting to the heart of the solution will attract their attention. There's no barrier with marketing products despite the EU red tape—as Revill-Johnson says, 'consumers get it.' Research from Daily Cultures shows 60 percent of the population are 'actively concerned with their digestive health' and 81 percent 'associate probiotics with good health'. Revill-Johnson adds, the big dairy brands have well-educated consumers thanks to decades of effective advertising and education, although the Daily Cultures survey suggests the majority (76 percent) of consumers are 'seeking dairy-free alternatives' to the traditional probiotic beverage. But he also adds while consumers are taking to the Daily Cultures concept, the main hurdle is trade education. Revill-Johnson notes some of the supermarkerts in the UK and Europe are a little behind when it comes to the demand for choice from consumers. He also points out the regulatory environment is far behind the consumer and there is a dire need for simplification and harmonisation in Europe, which everyone hopes won't be slowed by Brexit.

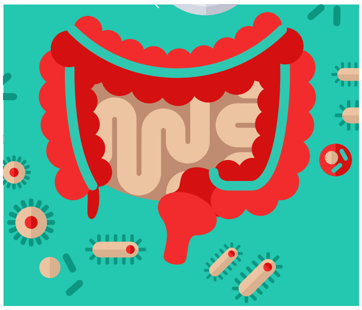
Parents and Millennials were the groups most interested in purchasing probiotic-fortified products, and willing to pay the most more for those products

87 percent of parents would be more likely to buy a product for their children if it was fortified with a probiotic

However, there is the usual difficulty of convincing a consumer to continue to take their daily dose. As with many supplements, the health benefits are cumulative and consumers tend not to continue if they don't feel an immediate benefit. The answer to this is increased education for consumers to understand probiotics are transient and must be taken consistently to maintain the benefits to the body. Consider sharing research showing the health benefits when probiotics are taken consistently and data from consumer surveys that report people do indicate they feel a difference when taken consistently, especially in people with digestive issues.

Another issue is consumer understanding of cultures. A potential tripping point in marketing a probiotic product is some consumers expect to see millions and millions of cultures in their product, with the 'more is better' mentality, and not understanding different strains have different health benefits at different quantities. The number of colony forming units (CFU) is the focus for many consumers and the number included defines the desired health benefit. At a certain CFU, a strain offers digestive health benefits; at another, there are protein utilisation benefits; and so on. When working with a product manufacturer, the strain supplier will discuss the health benefit to be offered and go from there to determine the CFU. There might be different overage amounts to ensure consumers get the promised health benefits, but despite the 'more is better' mentality, it's the desired health benefit that determines the minimum number of CFU, and the specific strain used. Previously, the industry was concerned with sharing what probiotics were and what their health benefits were, but consumers tend to generalise the health benefits, and education is now needed on strain specificity. One strain might need 5 billion CFU, but another might only need 200 million. There is still a responsibility for the supplier to ensure the correct information is being disseminated by manufacturers to their consumers. Should a manufacturer be sharing incorrect information, suppliers should step in and correct them. Because probiotics benefits are strain specific, it's important to delve into the science behind each specific strain. Research must confirm the strain's safety, efficacy and health benefits to end users. This amount should be included in finished products and maintained through the entire shelf life of the product.

From heart health and brain function, to vitamin and mineral absorption and protein utilisation, studies are uncovering a new world of benefits from these bacteria. One of the top focuses of this research is immune health. It's widely understood 70 percent of the immune system cells are found in the digestive tract and it's therefore safe to assume there's a correlation between digestive health and immune health. With immune health commonly listed among the top five health concerns for consumers, functional ingredients addressing both digestive and immune health are in high demand. Overall, consumers are opting for functional or fortified foods and beverages, rather than supplements, to pump up their digestive and immune systems, opening endless opportunities for manufacturers to stand out in the respective categories using probiotics. For this reason, more researchers are looking to probiotics and probiotic-related technologies to provide consumer-friendly immune health benefits.



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Future research will reveal more probiotic strains that are very specific to certain health benefits—including certain organisms specific to heart health, managing cholesterol, kidney health, influencing cortisol levels, and reducing inflammation. As research explains more about the microbiome, the different strains and the different health benefits these strains can offer, there will be more condition-specific organisms and products on the market. Daily Cultures' research shows 70 percent of consumers want to add more digestive health food and drink to their weekly shopping and industry can expect interest to widen to the inclusion of free-from products including allergen- and GMO-free as consumer diets continue to evolve.

Consumers are open to a multitude of possibilities, from multi-probiotics for overall health to specific strains for a condition-specific option—it all comes down to education on strain specificity as consumers realise it's not just probiotics in general anymore. Revill-Johnson is optimistic and says continued innovation and education should see continued interest in this category. Avoid claims and the 'probiotics are the cure for everything' mentality to keep consumer confidence.

Mike Bush and Teresa DeJohn are CEO and public relations manager, respectively, at Ganeden Inc. Tony Revill-Johnson is managing director of Nature Works Brands.

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Probiotic Beverages and How to Market Them

by Jim Tonkin

Probiotics have been around for a long time, but now, as a number of companies begin to focus on gut health, and with the increasing prevalence of issues associated with an imbalanced microbiome, the industry is seeing a voracious energy to fix the root of these problems. The US Food and Drug Administration (FDA) takes a hard line on pro- or prebiotic health claims that haven't been clinically proven with more than one clinical trial, and a similar situation exists in Europe, with no health claims authorised for use by the European Food Safety Authority (EFSA).

Big companies are interested in dipping their toes into the probiotic space, irrespective of claims that could or could not be made about their products; they view this as the next health and wellness playground. For now, consumers are insatiable in their demand for probiotic products, but these are the health-conscious consumers ahead of the trend. They are the early adopters, so it's too early to say whether daily probiotic beverage use will enter the mainstream. Interestingly, Europe and Asia look at probiotic health as part of the daily routine; yoghurts and probiotic shots have been around for years. The United States, in contrast, is very slow in developing that same probiotic demand.

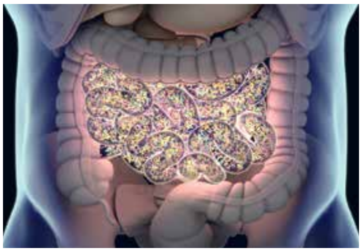
Europe and **Asia** look at probiotic health as part of the daily routine; yoghurts and probiotic shots have been around for years. The **United States**, in contrast, is very slow in developing that same probiotic demand.

In any market, but particularly the high-risk beverage space, when looking at a product before adding it to a portfolio, it's important to examine the scalability: will consumers accept it long-term? At this point, the jury is out because probiotics in beverage form are comparatively new—a vertical category has been developed, but how big it will grow is anyone's guess.

Marketing a probiotic product is a concern as great care is needed; inference and nuance are required to reach the consumer.

Structure/function claims should be avoided while regulation rules against the use of health claims—unless you have a dossier full of third party, double-blind, placebo-controlled studies with verifiable outcomes to offer the regulatory bodies. Taking advantage of the new way to communicate a message—social media—can pay dividends in getting marketing across quickly, but at the risk of unsolicited commentary directly back from the consumer. While positive testimonials may also result from this marketing technique, the industry has yet to see any truly encouraging responses for probiotic beverages. This may be because of the 'cleansing' phenomenon: while consumers were previously clamouring for 'cleansing' and 'detoxifying' products, education is informing consumers they need nothing more than their liver to 'detoxify'. They are now sceptical of such claims and products should avoid using these terms.

Taste and appearance are also a concern for these products. While many companies use techniques like filtration to great effect, consumers are still wary of cloudy beverages with unusual tastes. Funnily enough, when they were first developed in the United States, many companies received letters from FDA as their products were fermented over the legal limit for alcohol. The intended healthy beverages had accidentally become alcoholic. However, research is showing consumers are demanding better-for-you products with added functionality. They want convenience and choice and, as probiotic beverage sales will no doubt show, they seem happy to try no matter the appearance. The success of kombuchas and kefirs in the United States reflect this as well.



Research is showing consumers are demanding **better-for-you products with added functionality.**

The lack of health claims and clinical trials is a concern to many players in the beverage space. It appears none of the manufacturers currently marketing their products are using the medical community to support their claims—everything is anecdotal. Health claims are marketed through inference on social media networks and the clinical trials backing them tend to be very small and rely on consumer perception of the claimed health benefits. Who, therefore, is the authority? The medical community seem happy to stay silent here and it's difficult to find any physician who would say a consumer can rebalance their microbiome through probiotics alone. Yet, the alkaline water trend in the United States grew without any backing from the medical community. The stomach is naturally acidic to begin breaking down food and acid reflux, for example, is a direct result of people eating foods that irritate their stomach. The alkaline water they consume temporarily masks the condition, but it's certainly not making the stomach more alkaline as some marketing campaigns seem to suggest. There's

no conclusive or even hypothetical proof alkaline water can change the human condition. It's interesting to note some of the larger probiotic suppliers are now being purchased by pharmaceutical conglomerates, which is an indication pharma companies are beginning to move into this space. Pharmaceuticals are much more closely regulated and bringing a pharma product to market requires decades of intensive research and clinical trials on humans; this may be why the medical community has been quiet on probiotics.

Consumers are moving towards probiotic products via claims they see on social media promoting gut health and they seem to be blindly accepting something this popular must be good for them.

It may appear consumers are moving towards probiotic products via claims they see on social media promoting gut health and they seem to be blindly accepting something this popular must be good for them. But consumers are losing faith in marketing from big companies and are taking their health into their own hands with research and science they understand. They want personalisation, not just a blanket product, and are willing to pay for it. In this sense, personalised nutrition will be huge. Consumers will take that information and get medical advice to make changes; a personalised approach will allow consumers to select specific strains and probiotic products to support them in reaching their end goal of a healthy microbiome. Without such personalisation and understanding their own microbiome and needs, there's no validation to purchasing a probiotic product. As personalised nutrition grows, the source of the information needs to be confirmed bona fide, with a position of standing in the medical community.

Self-regulation and morality, tempering the market hyperbole with the reality of your product working and offering quality research to consumers are essentials before bringing your product to market.

Jim Tonkin is founder and president of Healthy Brand Builders.

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Barry Skillington
Director of Sales and Marketing

Office: +353 (0) 21 423 1000
Mobile: +353 (0) 86 818 1543
bskillington@atlantiafoodtrials.com

Unit 2, Bridge House, Skehard Road,
Blackrock, Cork, Ireland, T12 H2TK.

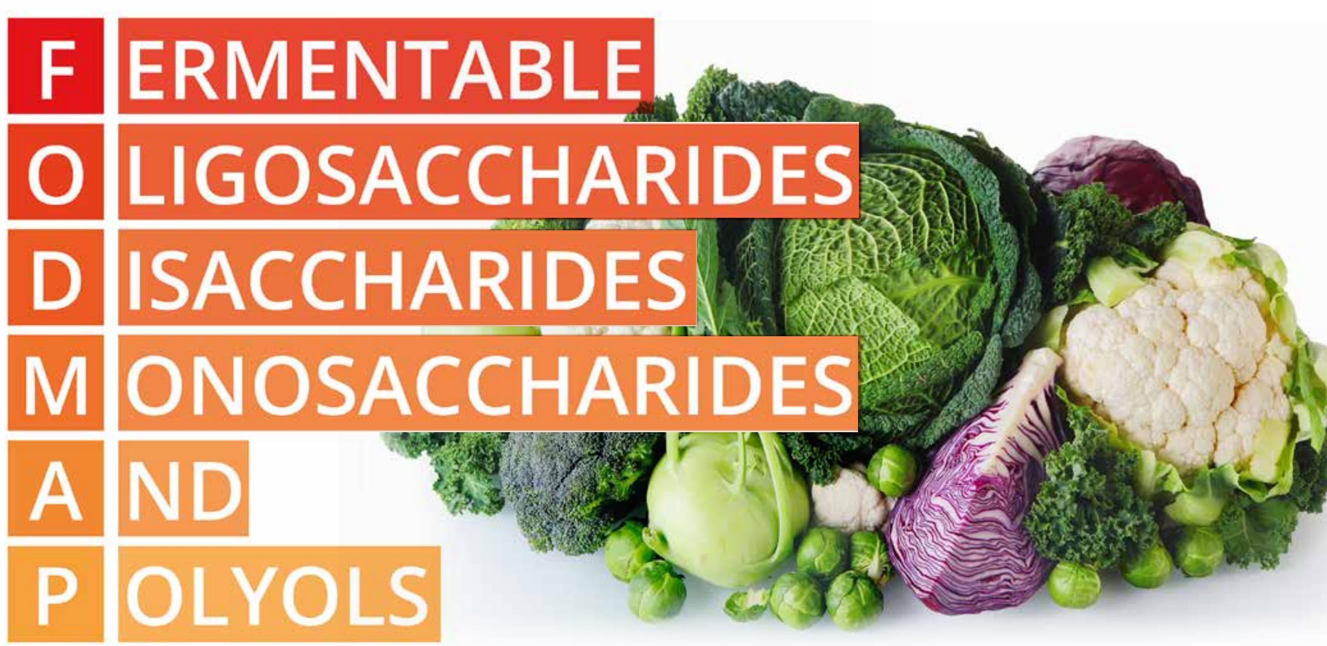
The Low-FODMAP Diet

by Hamish Renton

The low-FODMAP diet is one of the latest diets to have emerged and is gaining traction in the free-from world and beyond. Unlike the countless other diets which seem to emerge every year, low-FODMAP is distinct in that it is a medical-exclusion diet—to be followed under the supervision of medical professionals. Originating in Australia, the low-FODMAP diet began as an exclusion-treatment diet for those who suffer from Irritable Bowel Syndrome (IBS) and involves avoiding the different groups of short-chain carbohydrates which have been found to be poorly absorbed within the small intestine.

What are FODMAPs?

FODMAPs are a group of short-chain carbohydrates present in many foods—particularly fruit and vegetables.



Oligosaccharides are a component of fibre found mainly in plants:

Cereal grains	Vegetables	Legumes	Fruit	Breast milk
wheat and rye	artichokes, leeks, onions, burdock, chicory, asparagus	baked beans, chickpeas, lentils, red kidney beans, soybeans	apples, rambutan, watermelon, peach	

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Disaccharides consist of two monosaccharides linked together:

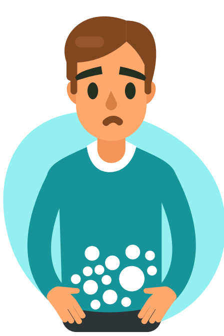
Table sugar	Lactose	Malt sugar
sucrose (combination of glucose and fructose)	(glucose and galactose)	maltose, present when food starch is broken down

Monosaccharides are the basic building blocks of carbohydrates—the simple sugars. The two most common are glucose and fructose, which combine to make sucrose. A third common monosaccharide is galactose, which the body makes from sugars in dairy products. Monosaccharides are present in many foods:

Sweeteners	Fruits	Dairy products and meat	Vegetables and legumes
honey, molasses, corn syrup, maple syrup, agave nectar	apples, cherries, grapes, guava, lychees, honeydew melon, watermelon, mango, papaya, pear, pineapple, dried fruits and juices	milk, butter, cream, ice cream, whey and casein, cheese, organ meats	artichokes, asparagus, beans, broccoli, cabbage, chicory, onions, leeks, peanuts, tomatoes, courgette, lentils, chickpeas

Polyols are sugar alcohols, present in:

Sweeteners	Fruits	Vegetables
sorbitol, mannitol, xylitol, isomalt, lactitol, erithrytol	apples, apricots, avocados, berries, cherries, lychees, nectarines, peach, plums, prunes, watermelon	cauliflower, peas, sweet potato, mushrooms



IBS is a common functional gastrointestinal disorder affecting one in seven adults.

Symptoms of irritable bowel disease:

- Lower abdominal pain and discomfort
- Bloating and swelling of the stomach
- Excess wind (flatulence)
- Distension
- Altered bowel habit (ranging from diarrhoea to constipation)

There is no abnormal pathology, and IBS should be diagnosed by a medical practitioner. The above symptoms can be accompanied by rarer symptoms such as lack of energy, nausea, backache and bladder problems. IBS symptoms can have a significant impact on a person's day-to-day life and can have a deep psychological impact—many with the condition suffer from feelings of depression and anxiety. It is more prevalent in women, but is common throughout the world.

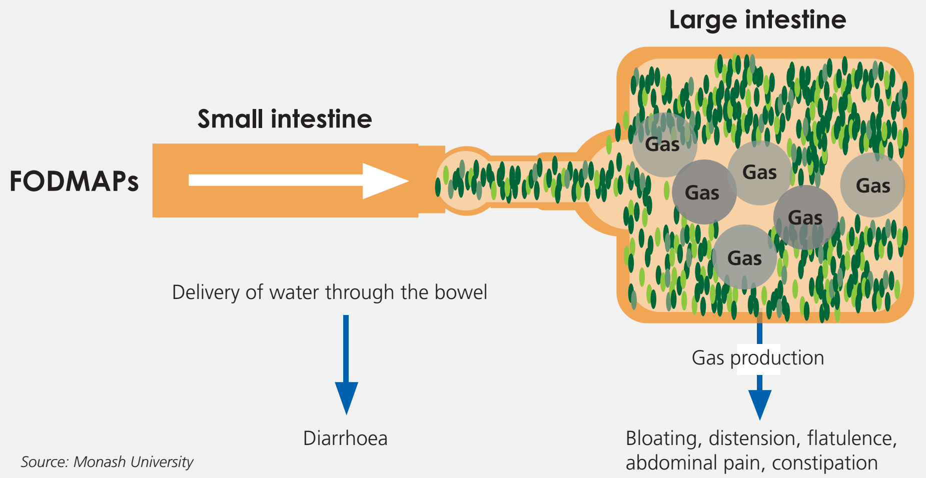
Once ingested, some FODMAPs do not get absorbed into the small intestine, and increase the amount of water present. The sugars pass along the gut to the large intestine, where they linger and are fermented by the billions of bacteria present. This fermentation may result in gas production and symptoms such as wind and bloating. To some degree, this occurs in all people regardless of whether they have IBS—nobody can break FODMAPs down fully. However, in IBS, gut symptoms are induced more readily for a variety of reasons:

- The way the muscles of the bowel respond to the distension
- The gut is 'hypersensitive' to changes in the gut environment and interactions with the immune and nervous systems

The type of bacteria in the bowel

Figure 1

What happens when the FODMAPs are mal-absorbed by the small intestine?



Source: Monash University

Professor Peter Gibson, alongside researchers at Monash University in Melbourne, first provided evidence that following a low-FODMAP diet improves IBS symptoms. Monash University has undertaken repeated clinical trials proving the effects of FODMAPs on the bowel. Of all of those who took part in the trials, over 70 percent reported a distinct improvement in their symptoms. There is no evidence, however, the diet works for the non-gut symptoms sometimes associated with IBS, such as headaches and skin or joint issues.

The diet is complicated, so it is important sufferers receive good quality advice when following each stage. Referrals are usually carried out via general practitioner to a registered dietitian, usually one with experience of the FODMAP diet. The dietitian will ensure the sufferer follows a healthy, balanced diet and provide ideas for suitable low-FODMAP alternatives. One recent study showed 76 percent of patients who had seen a FODMAP-trained dietitian reported improvement in symptoms. The diet should be individualised to each patient, taking into consideration usual dietary intake and their symptom profile.

There are three stages involved in adopting the Low-FODMAP diet. To carry them out, it is essential to record all foods eaten and eliminated, and any symptoms experienced.

Stage 1: Elimination

During this stage, sufferers completely eliminate their FODMAP intake, completely avoiding foods high in any FODMAPs for a period of six to eight weeks, to identify whether symptoms will actually respond to a low-FODMAP diet. There are several apps available to assist with this stage, such as the original Monash FODMAP app, and an app created by Food Maestro in partnership with Kings College London. Those who are FODMAP intolerant should expect to see an improvement in their symptoms within two weeks.

Stage 2: Reintroduction

This phase is for those whose symptoms improve following FODMAP restriction—around 70 percent of those trialling the diet— and involves introducing each separate group of high-FODMAP foods separately. Each food group is reintroduced on its own for a period between several days to a week, to assess which group triggers symptoms. This will show to which foods the sufferer is sensitive, as well as how much of each particular item triggers symptoms. Sometimes, sufferers will react to some foods within a group and not others—it depends how many FODMAPs are present within each food.

Stage 3: Personalisation

The long-term aim of a low-FODMAP diet, once it has been ascertained which FODMAPs trigger IBS and in what quantities, is for the sufferer to personalise their own diet. This involves reintroducing all foods to the diet that do not cause symptoms, making the diet as 'normal' as possible.

Common High FODMAP Foods/Ingredients	Low FODMAP alternatives
Regular milk, yoghurt, ice cream	Lactose free milk products, rice, hemp or almond milk, sorbet
Cottage or ricotta cheese	Aged cheeses
Dried fruit, fruit juice, trail mix, fruit bars	Small portions of fresh or frozen fruit
Apple, pear, stone fruit, watermelon, blackberries	Small portions of strawberries, blueberries, raspberries, cantaloupe melon, kiwi, unripe banana, orange, grapefruit
Artichokes, broccoli, beets, cauliflower, Brussels sprouts, button and Portobello mushrooms, sweetcorn, asparagus, leeks, peas	Spinach, kale, lettuce, tomatoes, cucumber, summer squash, carrots, red or yellow bell pepper, white potatoes, sweet potato
Regular bread made of wheat, barley or rye; cereals, pastas or baked goods containing wheat, barley or rye; high fibre bars or cereals	Rice, cornmeal, quinoa; breads, cereals, pastas or baked goods made of rice, cornmeal, millet, sorghum or quinoa; gluten free oats; some sourdough breads
Sugar free candy, gum, supplements or shake mixes sweetened with sorbitol, mannitol, maltitol, xylitol, isomalt; milk chocolate	100% pure maple syrup; stevia; small portions of dark/semi-sweet chocolate
Canned, baked or refried beans; hummus; soymilk	Firm tofu; tempeh; small portions of canned, drained chickpeas or lentils
Garlic, onions, shallots, ketchup, commercial salad dressings	Garlic-infused oil; chives; leafy herbs; sweet spices; ginger; vinegars; mustards; lemon or lime
Beverages, syrups or condiments sweetened with high-fructose corn syrup (or glucose-fructose syrup); honey; agave; sugar syrup or sugar	Beverages sweetened with 100% pure maple syrup; small amounts of sugar; or stevia
Rum, champagne, sherry, port	Beer, wine, gin, vodka, whiskey
Camomile or fennel tea	Espresso or filtered coffee; green, peppermint or ginger tea

One of the most obvious difficulties faced when following the diet is that it is relatively complex and can therefore be tricky to trial, implement and follow. For this reason, it is heavily advised those who follow the diet only do so under the supervision of a dietitian or doctor. It can be surprisingly tricky when reintroducing foods, as it is important to eat them in as 'natural' a way as possible—not by themselves, but with other (low-FODMAP) foods as close to how one would have them in a normal mealtime situation as possible. For many, this can be too prescriptive, and it may not always be possible to eat alongside a low-FODMAP food.

Although trigger foods can differ from person to person, for those who are particularly sensitive—intolerant to a larger amount of FODMAPs and at smaller quantities—the diet could make mealtimes an organisational and culinary nightmare. FODMAPs are present in many foods, and many of these foods contain high levels of useful vitamins, minerals and nutrients. This means followers could potentially miss out leading to nutritional deficiencies. Some high-FODMAP foods, such as onion and garlic, are considered 'staple foods' and are present in many recipes. It isn't always possible to cook from scratch, and eating on-the-go and out of the house can be very difficult.

Some high-FODMAP foods, such as onion and garlic, are considered 'staple foods' and are present in many recipes.

As with any new food trend, particularly within free-from, one of the most frequently asked questions is 'how will this impact the market?' As an avoidance diet designed to relieve symptoms, the low-FODMAP diet fits well within the free-from space—covering two major free-from categories: gluten-free and lactose-free. For many, the emergence of the low-FODMAP diet reflects a growing wider trend— consumer needs vary, and there may be no such thing as 'one size fits all' when it comes to allergy and intolerance. Many marketers within the existing gluten- and lactose-free spaces may therefore find themselves

needing to retarget their marketing and promotions strategies to at least partially aim at those following a low-FODMAP diet. There is, however, a small portion of the market which could be threatened—those who believe their symptoms are driven by gluten intolerance and sensitivity as opposed to sensitivity to another high-FODMAP food. This could threaten gluten-free purchases in this area should any sufferers discover that gluten isn't the cause of their symptoms, but rather another high-FODMAP food is. The impact of this, however, is likely to be minimal.

Many free-from producers will find it beneficial to diversify into other areas of free-from as a business strategy regardless and low-FODMAP provides an interesting potential avenue of further exploration. Although the market remains small, awareness and trials are rapidly growing. Retailers in Australia have already caught on, with several low-FODMAP brands and even a certification scheme—FODMAP Friendly. It is the only registered trademark worldwide certifying FODMAP levels in food products that have been laboratory tested to be low in FODMAPs, and is designed to enable customers with IBS following a low-FODMAP diet to easily identify suitable food products. The logo is clear and recognisable, and indicates a product has been tested to have appropriately low levels of all FODMAPs. It is more convenient than reading ingredients lists, and aids sufferers in selecting suitable foods without requiring an in-depth understanding of ingredient interactions. The FODMAP Friendly certification programme has proved successful in Australia, although none currently exists in the UK. Several brands, such as Tideford Organics, have adopted the FODMAP Friendly certification on UK products—although it remains unregulated and relatively unrecognised here. Many low-FODMAP followers in the UK are lobbying for a similar FODMAP certification programme within the UK, or for a UK roll-out of the Australian programme. On the whole, although Low-FODMAP is in its infancy within the UK market, it seems a promising opportunity for the Free From market to develop and expand.

Hamish Renton is managing director HRA Food and Drink Marketing.

Takeaways for Your Business

Consumers are taking a proactive approach to their health and want more functional ingredients; they don't want to add another pill to their morning regime and have new dietary preferences. A 2015 Ganeden survey showed 79 percent of consumers prefer to get their probiotics in food and beverages as opposed to supplements, and across every category surveyed, consumers would purchase a probiotic product over a product that didn't contain a probiotic—and would pay more for that product. However, there will always be a market for traditional probiotic supplements.

While many consumers turn to probiotics for basic digestive health, ongoing research is suggesting probiotics have health benefits far beyond the gastrointestinal (GI) system. From heart health and brain function, to vitamin and mineral absorption and protein utilisation, studies are uncovering a new world of benefits from these bacteria. As research explains more about the microbiome, the different strains and the different health benefits these strains can offer, there will be more condition-specific organisms and products on the market.

Big companies are interested in moving into the probiotic space despite the regulatory environment surrounding health claims in Europe and the United States. They are particularly interested in probiotic beverages as consumers turn to functional products and away from dairy. Marketing a probiotic product is a concern as great care is needed; inference and nuance are required to reach the consumer. Structure/function claims should be avoided while regulation rules against the use of health claims and brands should consider using social media to communicate their messages.

The industry can also expect personalised nutrition to make strides in the probiotic space. Consumers want personalisation and are willing to pay for it; a personalised approach will allow consumers to select specific strains and probiotic products to support their end goal of a healthy microbiome.

Consumers are also turning to specific diets to rebalance their digestive microflora. The low-FODMAP diet is one of the latest diets to have emerged and is gaining traction in the free-from world and beyond. Unlike the countless other diets which seem to emerge every year, low-FODMAP is distinct in that it is a medical-exclusion diet—to be followed under the supervision of medical professionals. Originating in Australia, the low-FODMAP diet began as an exclusion-treatment diet for those who suffer from Irritable Bowel Syndrome (IBS) and involves avoiding the different groups of short-chain carbohydrates which have been found to be poorly absorbed within the small intestine. FODMAPs are a group of short-chain carbohydrates present in many foods—particularly fruit and vegetables—comprising fermentable oligosaccharides, disaccharides, monosaccharides, and polyols. As an avoidance diet designed to relieve symptoms, the low-FODMAP diet fits well within the free-from space—covering two major free-from categories: gluten-free and lactose-free. For many, the emergence of the low-FODMAP diet reflects a growing wider trend—consumer needs vary, and there may be no such thing as 'one size fits all' when it comes to allergy and intolerance.

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Jon Benninger
Vice President, Health & Nutrition
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

Jenn Moreira
Senior Marketing Manager

Informa Exhibitions LLC
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

Julia Wocka-Gowda
Head of Sales
julia.gowda@informa.com

Maria Sidiropoulou
Sponsorship Programme Executive
maria.sidiropoulou@informa.com

Colin Williams
Senior Marketing Manager
colin.williams@informa.com

Jade Mitchell-Ross
Associate Editor
jade.mitchellross@informa.com

Informa Exhibitions
2nd Floor
5 Howick Place
London SW1P 1WG
United Kingdom

Phone: +44 (0) 20 3777 3616
www.vitafoods.eu.com

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