

How plant-based and hybrid dairy offer manufacturers natural routes to stabilised success



With around a quarter of European consumers regularly purchasing dairy alternatives as a normal part of their shopping¹, this category is now firmly part of the mainstream. Here, Louisa Parrillo, strategic marketing lead – dairy & alternatives and emerging markets, at Ingredion, examines the key trends driving the evolution of dairy alternative products, the emergence of the hybrid-dairy category and some innovative ingredients that are helping manufacturers deliver on modern consumer preferences.

The rise of plant-based dairy or dairy alternatives is one of the biggest changes to the packaged food and beverage landscape over the past decade. The global market reached \$30.96bn in 2024 is predicted to more than triple by 2034, with a healthy CAGR of 11.70%². With the maturity of this established category, research is consistently telling us about the consumer preferences behind this growth. This is providing manufacturers with the knowledge required to position their products at the forefront of the minds of the consumers driving this trend.

While the growth in dairy alternatives has been associated with the rise in veganism, the size of the category is now beyond what could be driven by the small number of people cutting out animal products altogether. Research tells us that only around 3% of consumers in Europe identify as vegan, while 27%, nine times as many people, now follow a 'flexitarian' behaviour pattern. And the most common reason cited by those reducing their consumption of animal products, is the desire to eat a more healthy diet³.

So, it seems likely that consumers of dairy alternatives exhibit higher than average health awareness. When you consider that 79% of global consumers say they want to recognise a product's ingredients, and 62% say they always or usually read the back and side of the product⁴, it becomes clear that the ingredients list has higher than average importance for consumers in the alternative dairy products category.

We also know that two of the top health-related reasons for consuming dairy alternatives are naturalness and protein intake¹. Going forward this is valuable knowledge for manufacturers who are looking to gain competitive advantage in a cat-

egory full of opportunities for products like plant-based milk, yoghurt and cheese alternatives.

Meeting consumer demand

In trying to understand these opportunities from the consumer point of view, first, let's look at the issue of 'naturalness'. The challenge here is to develop cost-effective formulations with a short list of recognisable ingredients. When trying to solve this problem, stabilisers are probably the hardest component to get right, because the natural emulsions found in milk and other dairy products are technically quite difficult to mimic.

Often the best solution has been to create a customised functional blend of stabilisers that can create the texture and stability required to create dairy-like textures that are stable over shelf life. This approach though often involves two or more hydrocolloids such as xanthan gum, guar gum, locust bean gum, carrageenan or gellan gum.

These ingredients are rarely recognisable to anyone outside the food industry and very few people would know where they derive from. So, an alternative approach that uses more recognisable ingredients is often more acceptable to a larger number of consumers.

One ingredient that is already fulfilling this promise is citrus fibre. Ingredion's FIBERTEX® CF 500 & FIBERTEX® CF 100 citrus fibres are cost-effective, consumer-preferred ingredients which add fibre content whilst also providing superior viscosifying power, giving control over texture and mouthfeel.

They offer good gelling properties and improved emulsion and texture stability over shelf-life, providing an excellent alternative to conventional systems. Carrying virtually no flavour or colour of their own and with the ability to impart dairy-like creaminess, these products are understandably growing in popularity.

Citrus fibres support popular on-pack claims, including "derived from natural sources," "plant-based," and "high in dietary fibre." Derived from upcycled citrus peels, these ingredients also carry the extra attraction of having excellent sustainability credentials, which 67% of consumers say is important to them⁵.

Hydrocolloids like gums can also be replaced in dairy alternative formulations with modified starches but these too are subject to a lower percentage of consumer acceptance when compared to clean-label starches. This is where functional native starches are very useful as clean-label texturisers. Minimally processed starches are being used in a wide range of dairy alternatives, with Ingredion's NOVATION Indulge 2940® starch forming a good example with its use as a texturiser in vegan cheeses.

Derived from waxy maize, this corn starch offers process tolerance, a soft set and importantly, thermoreversibility. This means it can impart dairy-cheese-like behaviour like grating well when cold and melting when heated to give that stretchability that consumers love. Providing some of the texture functionality of both dairy proteins and fats, NOVATION Indulge 2940® texturiser can be listed as just 'starch' on the ingredients list. It can also be used to impart creamy indulgent textures in dairy alternative desserts, toppings and fillings.

Clean-label texturisers then, can play a key role in formulating dairy alternatives with short lists of recognisable ingredients, creating a perception of naturalness that consumers find attractive. The other major factor consumers are looking for in dairy alternatives is for these products to help with their protein intake.

Protein has become a cornerstone of modern nutrition, with consumers increasingly prioritising it for its role in muscle maintenance, weight management, and overall health. Protein is essential for building and repairing tissues, supporting immune function, and maintaining bone health. It also promotes satiety, making it a key component in weight management strategies. As a result, high-protein diets and products are gaining traction across all demographics, from fitness enthusiasts to generally health-conscious consumers.

As dairy products have traditionally provided a high proportion of the protein intake for European consumers, it is only natural that they will expect products marketed as dairy alternatives to deliver on their protein needs. While plant proteins don't offer the digestibility and bioavailability of dairy proteins, dairy alternatives can still deliver substantial protein often with the bonus of being cholesterol-free and lower in saturated fat. Thanks to advances in plant protein technology, plant-based products can cater for protein aware consumers by offering similar overall levels of protein to their dairy equivalents.

Dairy hybrids: A hot trend

One of the most interesting trends in food and beverage right now is one that crosses the divide between the worlds of real dairy and plant-based dairy to create a new category: hybrid dairy.

Hybrid dairy products offer the best of both worlds, with the nutritional benefits and indulgent taste of dairy, and reduced amounts of animal derived ingredients thanks to partial replacement with plant-based alternatives. This taps into the trend for foods that meet modern consumer demands for healthier, flavourful options without compromising on taste and the eating experience, or nutrition.

So, what is behind this trend? In a flexitarian world where many consumers enjoy both real dairy and plant-based alternatives there is the possibility to create new taste experiences with new combinations of benefits.

Undoubtedly some consumers who have no ideological objection to dairy are still looking for easy ways to reduce their intake of animal products for perceived health reasons. We also know that more consumers than ever before are

from the combination of milk proteins and fats. It is the behaviour of dairy proteins, and casein in particular, that have proved very difficult to replicate using plant-based ingredients.

Replacing dairy proteins with those from plant origin makes sense from a nutritional point of view, and this is important because today's flexitarian consumers are very protein aware. However, plant-based proteins have traditionally suffered from undesirable flavours including bitter off-notes and dark colours. This has limited their uses in terms of the applications they are suitable for and the concentrations that can be included in formulations, especially where sugar reduction or a light colour is desired.

Thanks to recent advances in plant protein science, these problems have now been solved, and Ingredion offers unique plant protein systems that are being used to create delicious, nutritious dairy alternatives and hybrid dairy products.

VITESSENCE® Pulse Pea Protein Isolates contain at least 80% protein. Derived from yellow peas and processed without the use of solvents like hexane, these isolates support clean-label and formulation



reading the ingredients list and there is no doubt that more people are more interested in nutrition than ever before. This awareness, combined with the flexitarian trend, seems to be opening new possibilities and hybrid dairy products currently in market include hybrid milks, yoghurts, cheeses and spreads.

When it comes to the formulation of hybrid dairy products the challenges for manufacturers revolve around blending dairy and plant-based ingredients and creating the indulgent, satisfying tastes and textures that consumers expect from dairy while also being able to leverage the health-appeal associated with plant-based products. Advancements in plant-based dairy analogues have uncovered the know-how and ingredients to achieve dairy like taste and textures very effectively, so hybrid products with their real dairy content, can potentially taste just as good as pure dairy or maybe even better.

The most difficult challenge here lies in replicating the texture of dairy products. Awareness of texture is growing and 70% of consumers recognise the importance of texture to their eating experience⁴, and texture is central to the enjoyment of dairy products.

The many different textures found in dairy foods like milk, cream, cheese and yoghurt, come

of non-soy-based products.

As well as helping to achieve the desired nutritional profile, these protein solutions offer emulsification, water-holding capacity, and gelation properties that are essential for achieving desirable textures in dairy-free or hybrid products like yoghurts and cheeses.

References:

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