

The benefits of fermented products in bakery

International Bakery speaks with Stefania Montalti, Communications Manager at Cepi Spa, to discuss the fermentation process and how it has adapted to a more standardised industrial format

Why are consumers attracted to products that have been fermented?

Conscious consumers seek fermented products (from all kinds of bread, to pizza, brioches, focaccia, with gluten or gluten-free), regarding them as high quality products in many ways. The defining factor in the last two decades has been the rediscovery of sourdough, and the development of technologies that make artisan quality possible on an industrial level.

Not only are products fermented with such processes seen as more natural and authentic, they are tastier and more fragrant and meet consumers' need for whole and healthy food. Fermented products intercept the trends that have had the most impact in modern food markets: the search for authenticity, the demand for a product with benefits beyond nutrition, and a taste that can satisfy palettes that are becoming more and more refined.

Is there a shift on consumer focus where they are more attentive to their health and wellbeing?

Health and wellness are currently among the most powerful drivers in any market, and attitudes toward food are shifting to integrate the ability of any given meal to improve physical and mental health. The industries for such products – naturally healthy food, functional food, enriched foods – have experienced some of the fastest growth globally in the last few years.



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Modern health-conscious markets pursue advantages such as reducing the risk of diseases but also aiding with energy and stimulation, mental clarity, fitness, anti-aging, stress and sleep. With functional food they are achieved through the addition of compounds such as vitamins, proteins and fibres. With fermented products, customers are looking for food manufactured through processes that preserve and enhance the natural

properties of its ingredients. Fermented foods are very easy to digest, and achieve a long-shelf without preservatives.

Are consumers still interested in artisan products?

There is major interest in artisan products. In fact, artisan products are sought after as much as healthy ones – often overlapping with each other in perception and coming together as two of the most defining factors shaping current food culture. Media coverage reflects this, with an emphasis on movements such as slow food, zero kilometer, the recovery of traditional food and food making processes, and the push towards supporting small businesses creating such food.

All the trends we are seeing – focus on health, artisanship, authenticity, as well

as environmental consciousness and ethical concerns of various kinds – are interconnected, showing a sharp move away from the fast eating culture of the Eighties, where speed was demanded so as not to interfere with activities that were considered more important.

Now, consumers want to eat well. As well as eating food that grants flavour and health, that means eating in a way that makes them feel more connected to territories and histories. For industrial food production, the challenge is how to match this quality with the volumes and standardised processing required by their manufacturer.

Could you explain how the fermentation process has developed from making artisan products to producing more standardised industrial production?

Historically, one way to ferment bread was by adding water and fruit sugars to flour to make the sourdough, and this such product was then added to the dough as yeast. For the longest time this was the domain of artisan manufacturing, as it was a highly empirical method relying on the style

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and method of each individual producer, without an exact knowledge of the bacteria in the sourdough. This was too unstable a process from an industrial perspective as the recipe was difficult to repeat and generally reliant on a single person controlling very changeable parameters.

Leavening the bread through the brewer's yeast became the industry standard as production was faster and high-performing. However, the final product saw a loss in fragrance and taste, as well as being harder to digest. Progression in science led to the identification of the bacteria and micro-organisms found in the sourdough, causing the market to shift. A large number of strains have now been recognised – such as *Lactobacillus sanfranciscensis*, a famous San Francisco lactic acid bacteria used in three million tons of sourdough

goods every year. This knowledge supplied the industry with the strains of micro-organisms needed to create an easily repeatable recipe. With the evolution of the technology controlling physical parameters such as times, temperatures and pH, sourdough making finally became possible on an industrial scale.

Given the demand, the investment was immediate and implementation wide-ranging and transversal. Large volumes of production can now be automated and managed by non-specialised operators for all the diverse fermentation processes – the black rye bread common in the Northern and Eastern parts of Europe relies on a more acid dough, while the white bread from the South based on soft wheat flour or semolina has a less acid note but a wider bouquet. As well as this, the longevity of



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products fermented with sourdough meets the need of modern food distribution – making it possible to achieve a large spatial and temporal distance between production and consumption points.

Right now, sourdough fermented bread represents the meeting point of the artisan feel and the production standards the food industry is pursuing at full speed.

How has that process developed due to meeting demand?

As mentioned, to intercept consumer interest in high quality products, manufacturers need technologies that can combine natural processing~ and competitiveness. All sourdough fermented products have a high quality claim that can help manufacturers expand the market of any sort of bread, including loaves and slices.

Cepi's fermentation technology has been developed to achieve this goal – with a deep knowledge of the materials involved and of all aspects

of the process, Cepi offers solutions that add a tangible value to the production in terms of both quality of product and rationalisation of resources. Meeting the highest standards of precision and repeatability with a perfect control of physical parameters, our technology fully preserves the characteristics of the ingredients. They produce healthy, natural and aromatic products with long shelf life such as rye, wheat and multigrain breads, while saving space, manpower, additives and yeast.

As with all of the company's technologies, the Cepi systems are highly flexible and versatile, spanning from fermenters, to yeast melters and bread re-work dissolvers for liquid sponge, rye and wheat sourdough. Diversified and optimised for the needs of each specific plant, they can stand-alone or be easily integrated in the production process, allowing for bread making through both direct method and indirect two steps method depending on the need of the manufacturer.

The design meets the highest standards of hygienic production and is equipped with CIP washing systems, made in stainless steel and comes with an environment analysis to prevent pollution from bacteria and fungi. With a highly precise, automatised large volume production, not only are consumptions hugely reduced but so is human error as only a recipe and touch panel are required.

What are the general benefits and health benefits to a fermented product?

Sourdough fermented bread has a longer shelf life than brewer's yeast bread. This is because it's more acidic and therefore less prone to develop degenerative micro-organisms and moulds, with sourdough delaying starch retrogradation and the staling of bread.

As mentioned, fermented bread is easy to digest as leavening is longer: starches are metabolised and broken by the micro-organisms in the dough, making it easier for the body to process them. Sourdough fermentation eliminates the use of additives and improvers such as enzymes to break the starch and to aid flour tightness during the process.

Sourdough can be gluten free, based in flours such as rice flours, and fermentation technology can be applied in both traditional and non-traditional sectors, adding any further health benefits as desired to the final product.

Can you see a rise of these types of products in the future?

Sourdough fermentation in industrial production has steadily increased since the Nineties and the trend is only growing. We think that as consumers become more and more conscious and innovation progresses, it will go from being an added value to the industry standard. Not only have the number of fermentation systems we build radically increased, they are also being used in the manufacturing of a growing range of products – including mass market goods such as sliced bread and products in the healthy foods sector.

