



The growing popularity of fermented foods

Not so very long ago, foods like tempeh, yogurt and sauerkraut didn't show much potential on the radar of emerging food trends.

But today, thanks to rising interest in the benefits of an ancient technique, along with awareness of the importance of a balanced microbiome, you have a recipe for top superfood status. Fermented foods are now a high-growth category with a decidedly hip, contemporary image.

Fermented foods have actually been around for centuries, first used as a way to preserve and store foods prior to refrigeration. The technique uses enzymes and a simple anaerobic breakdown of carbohydrates to produce chemical changes. Yogurt is likely the most popular and well-known fermented food, but kefir, a fermented dairy beverage created in Turkey and Russia some 3,000 years ago, was likely the first known fermented beverage. The process is also responsible for some of today's fan favorites, including beer and chocolate.

Considering that many of these products were relegated to the annals of history, the current rise of fermented foods is certainly one for the record books. The global fermented food and ingredients market is now estimated to reach \$689 billion by 2023,¹ as consumers seek products like kefir, kombucha and kimchi to support digestive health and wellness. But the category is now expanding well beyond the traditional fermented favorites to new product categories as suppliers deliver fermented ingredients for a broad variety of products.

Fermented foods are most closely linked to digestive support and balance because of the microorganisms (aka probiotics) they contain. These products, and the microbes they contain, have seen a phenomenal rise in awareness because of the growing science around gut health and the role that probiotics play in a healthy microbiome.

There is no disputing that fermented foods are having a moment, but these products also lie at the center of numerous important food trends beyond digestive health, including demand for foods and beverages that are natural, label-friendly, authentic, science-based and sustainably produced. Like these mega-trends, desire for fermented products is also global in scope.

Europe is the leading market for the category, with a well-developed market, high market penetration in numerous countries, and strong government backing, while the market in North America is still emerging, and Asia-Pacific and South America are expected to see the fastest growth.

Fermentation facts

While fermented foods are increasingly connected to health and wellness, it is important to note that not all fermented foods offer equal health benefits. Fermented foods are defined as foods and beverages that are created through the activity of live microorganisms. They require a food "substrate" like a vegetable, dairy or meat product, plus bacteria or yeasts that are either naturally present or are added in order to kick-start the fermentation, according to the International Scientific Association for Probiotics and Prebiotics.³ The process starts with microbes that convert carbohydrates into acids and alcohols.

There are three basic ways to ferment products:

- 1 Lactic acid fermentation.** Foods like kimchi, yogurt and sauerkraut are created using this method, which occurs when yeasts and bacteria convert sugars or starches into lactic acid.
- 2 Ethyl alcohol fermentation.** Wine and beer are made using ethyl alcohol fermentation. This happens when pyruvate molecules (a simple alpha-keto-acid in sugar and starch) are broken down by yeasts into alcohol and carbon dioxide.
- 3 Acetic acid fermentation.** Sour-tasting vinegars and condiments like apple cider vinegar are created using acetic acid fermentation, which is used to convert the sugars and starches in grains or fruit.⁴

While all fermented foods are typically made using microorganisms, some products are processed or heated, which destroys the live probiotics, as well as the health effects they provide. For example, products like canned sauerkraut and jarred pickles offer nutritional value, but no health benefits from live microorganisms. Other foods, like yogurt, kimchi and kombucha, contain the live cultures and are increasingly touted for health benefits, such as digestive and microbiome support, as well as supporting healthy immune function.^{5,6}

A youthful aura

As fermented foods become increasingly associated with desirable health attributes, interest in them has skyrocketed. Consumers, especially those in the younger generations, have picked up on the growing science around the importance of digestive health and probiotics, which has in turn prompted demand. But fermented foods and beverages have also gained a “cool” factor, with growing coverage in the media (particularly social media), which has increased their appeal among these young adults.

Kombucha is a case-in-point. A fermented beverage barely recognized a decade ago, it is now a drink of choice among many Gen X and millennial consumers, who increasingly rely on healthy beverages for hydration, on-the-go nutrition and healthier substitutes for standard cocktails.^{7,8}

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These beverages have now attained mainstream status, reaching sales of \$699.8 million in 2018 (an increase of 15.7% from the previous year),⁹ and are available almost everywhere – from convenience stores to brew pubs.

But it is not just young consumers who are driving interest in fermented food and beverages. Consumers in general are increasingly interested in products to support various health goals where fermented foods have a growing luster. According to data from the Hartman Group, consumers are now looking toward foods and beverages to help them address an array of health topics, from weight management (61%) and digestive irregularity (44%) to food sensitivities (46%).¹⁰

Fermented beverages are particularly hot. The Specialty Foods Association named fermented functional beverages to its list of top trends for 2019, with fermented grain beverages like drinking vinegars, mushroom brews and kvas (a traditional Slavic, Baltic beverage) as some of the up-and-coming options.¹¹

Authenticity is another key driver of fermented foods' popularity. Given their long history of use in many traditional products, they are perceived not only as inherently natural, but also an easy and low-tech way to get added probiotics in the diet. These products also appeal because they harken back to an earlier age when our foods were less processed and had less impact on the planet, which is a growing consumer concern.

New nutritional solutions

Interest and awareness in fermented foods is also expanding beyond the traditional categories. Companies are now using fermentation to create new ingredients that can be useful across a spectrum of product applications to provide added health benefits and/or advancements in ingredient quality, nutrition, bioavailability, sustainability and cost efficiency. Products that are made using fermentation can provide quality and manage supply at a commercial scale, where other plant-based ingredients may not.

For example, fermentation is now used to produce EverSweet™ stevia sweetener. As it turns out, the sweetest components of the stevia leaf, Reb M and Reb D, are limited (or minimal) in the plant, and it would be far too expensive and take too much land to grow enough plants to produce these steviol glycosides conventionally.

Researchers at Cargill tackled the problem by developing a specially crafted yeast and using fermentation to produce these same molecules more efficiently. The result is a cost-efficient, great-tasting sweetener that is also environmentally friendly with a taste that is close to real sugar.

These types of innovations are likely to continue as interest and appreciation rise for fermented foods. Traditional favorites like kimchi and miso are already seeing growing popularity, along with newer options such as fermented sausages. What's more, the development of new ingredients created through fermentation will continue to meet demand for nutritious and sustainable products that take health promotion to a new level. All these factors will keep fermented foods and ingredients top of mind for health-conscious consumers – and on store shelves – for years to come.

References

- ¹ Research and Markets. "Global Fermented Food and Ingredients Market; Focus on Food Type (Fermented Dairy, Fermented Beverages, Fermented Vegetables) Ingredient Type (Amino Acid, Organic Acid, Industrial Enzyme and Distribution Channel: Analysis and Forecast (2018-2023)." <https://www.prnewswire.com/news-releases/global-fermented-food-and-ingredient-market-anticipated-to-reach-to--689-34-billion-by-2023--300845328.html>
- ² Ibid.
- ³ International Scientific Association for Probiotics and Prebiotics (ISAPP). "Fermented Foods." 2020. <https://isapppscience.org/for-scientists/resources/fermented-foods/>
- ⁴ Eat Cultured. "Fermentation: The Basics." February 22, 2018. <https://eatcultured.com/blogs/our-awesome-blog/fermentation-the-basics>
- ⁵ Markowiak, P; Slizewska, K. "Effects of Probiotics, Prebiotics and Synbiotics on Human Health." *Nutrients*. 2017;9(9):1021.
- ⁶ Maldonado, Galdeano C; et al. "Beneficial Effects of Probiotic Consumption on the Immune System." *Annals of Nutrition and Metabolism*. 2019;74(2): 115-124.
- ⁷ The Hartman Group. "Consumers Look for Functional Benefits in Beverages." *Modern Beverage Culture* 2018. August 22, 2019. <https://www.hartman-group.com/infographics/1251327552/consumers-look-for-functional-benefits-in-beverages>
- ⁸ Euromonitor Passport. "Coffee, Alcohol, and Tea: Blurring the Lines and Mindful Drinking." March 2019.
- ⁹ SPINSScan. Natural and Specialty Gourmet Channels (Proprietary): Conventional Multi-Outlet (powered by IRI; 52 weeks ending April 21, 2019).
- ¹⁰ The Hartman Group. "Food or Beverage as a Remedy for Health Conditions." July 9, 2020. *Health and Wellness 2019: From Moderation to Mindfulness Report*. <https://www.hartman-group.com/infographics/1256822017/food-or-beverage-as-a-remedy-for-health-conditions>
- ¹¹ Specialty Foods Association. "SFA Trendspotters Name 2019 Trends." November 15, 2018. <https://www.specialtyfood.com/news/article/specialty-food-associations-2019-food-trends/>