1.Summary

Food fermentation is the oldest biotechnology. It is responsible for many properties of fermented foods such as flavour, shelf life, texture and health benefits. A variety of fermented foods can be found throughout the world, such as beer, bread, sauerkraut, pickles, cheese, yoghurt, sausages, etc. Within the fermentation industry, microorganisms are used for the production of specific metabolites such as acids, alcohols, enzymes, antibiotics and carbohydrates. Major fermentation microorganisms include lactic acid bacteria (LAB), moulds and yeasts. In particular, LAB are the major microflora involved in fermented dairy products, vegetable, and sourdough fermentation, whereas mainly lactobacilli and pediococci are part of the starter cultures used in meat fermentation to produce desirable acids and flavour compounds. Food fermentation covers a wide range of microbial and enzymatic processing of food and ingredients to achieve desirable characteristics such as prolonged shelf-life, improved safety, attractive flavour, nutritional enrichment, and promotion of health. Fermentation enhances the nutrient content of foods through the biosynthesis of vitamins, essential amino acids and proteins, by improving protein and fibre digestibility, by enhancing micronutrient bioavailability, and by degrading anti-nutritional factors. It also serves as a source of calories when used for the conversion of raw foods into consumable substrates, which are otherwise unsuitable for human consumption. In addition to its nutritive, safety and preservative effects, fermentation enriches the diet through production of a diversity of flavours, textures and aromas. It improves the shelf-life of foods while reducing energy consumption required for their preparation.