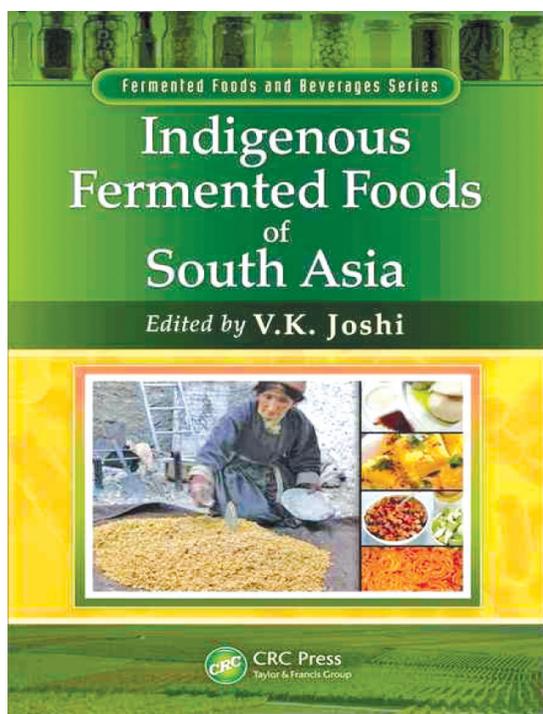


Book Review

Indigenous Fermented Foods of South Asia, 1st Edition, V.K. Joshi (Ed.), CRC Press, Boca Raton, FL, USA, 2016 (pp. 886, £ 136, ISBN 9781439887837, CAT# K14059)



Food symbolizes the culture of a community, reflecting its eating habits, consumption patterns and preferences, health, agricultural systems, marketing strategies, social life, ethnicity and religious taboos, though it is also a highly personal commodity, deeply embedded in our senses and memories. A casual reference to the ancient records would reveal that fermentation and drying were the techniques invented by humans to extend the availability of foods. Thus, it can safely be stated that humans might have prepared and consumed indigenous fermented foods long before the dawn of civilization. It is also known that the food substrates invaded or overgrown by the edible microorganisms whose enzymes hydrolyze various substrates to non-toxic products with pleasant sensory qualities that are also attractive to the consumers are described as indigenous fermented foods. According to the editor, these foods have been an integral part of the human diet in many cultures for centuries, and South Asia was no exception. The combination of cultures, ethnic diversity, and biological resources has produced a remarkably diverse food culture, consisting of a wide range of fermented

ethnic foods and alcoholic beverages. Thus, it is no exaggeration to say that it would have been impossible for humans to survive over the millennia without these foods.

The editor has rightly stated that the books are the most important source of documented knowledge and are the strongest link between our past and present, and scientific and technical books serve as a vast reservoir of useful technological information. There are a few books that deal with indigenous fermented foods, describing these foods world-over. Why, then, another book on the same subject? The editor have cited several reasons, but most important was to provide the reader ample opportunities for a glimpse into the holistic view of the indigenous fermented foods of South Asia and to consolidate research and identify gaps in that research and missing links in our knowledge so as to stimulate further research in appropriate directions, as there was virtually no text available on the subject.

The book is an edited volume by Prof.V.K.Joshi with 14 chapters written by well known expert in the respective field.In Chapter-1, an overview of indigenous fermented foods of South Asia (India, Pakistan, Sri Lanka, Bangladesh, Afghanistan, Nepal, Bhutan, and the Maldives) is presented.. There is, perhaps, no better way to understand a culture, its values and pre-occupations, than by examining its attitudes toward food. Food preferences also serve to separate individuals and groups from each other, and serve as a powerful factor in forming our physical, emotional, and spiritual identity. The role played by food fermentation and indigenous fermented foods in the social fabric and diet of a people is also elaborated.

There is a wide diversity of indigenous fermented foods of South Asia (see Chapter-2) that are made and consumed, including, *idli, dhokla, dosa, nan, appam, papad (papadam)* in India and Sri Lanka. *Nan* (naan) (flat leavened bread) is consumed as a staple food by the people of Afghanistan, Iran, India, and Pakistan, as are *bhaturas (pathuras)* and *kulchas*. Similarly, in almost all the tropical places in Asia, palm wine, or *toddy*, is made; *apong* (a local drink made from rice or millet) is part of Arunachali cuisine, while *Kyat* is a local brew made from rice and, prepared in Meghalyan. Sikkimese cuisine has a beverage locally called as *tchang*, a beer served in a bamboo mug. Products such as *gundruk, sinki, dried kinema, churpi, sukakomasu, sukaomaccha, gnuchi, ngari, masauyra, etc.*, are all still prepared and consumed by the people of the Himalayan regions.

Which microorganisms are associated with which traditional fermented foods is shown in the text (Chapter 3) to be due to diverse and wide variations in the agro-climatic conditions of South Asia. Diversity within the species of microorganisms, such as lactic acid bacteria, has created ethnic foods with functions that have imparted a number of important benefits, including health-promoting benefits, bio-preservation of perishables, bio-enrichment of nutritional value, and protective properties, as well as therapeutic values. In chapter-3, the description of several compounds formed during fermentation that affect the quality, antimicrobial production and effect on spoilage causing microorganisms is made clear, including chemical/biochemical changes that take place during fermentation. Changes during fermentation with respect to nutrients have also been cited.

Chapter-4 discusses the composition and nutritive value of traditional fermented foods. For any food product, quality and safety are indispensable considerations, and this aspect of indigenous fermented foods is elaborated in Chapter-5. Some foods in their raw state have toxins and anti-nutritional compounds that must be eliminated before consumption, and microbial action during fermentation has proved capable of removing or detoxifying such compounds. Microorganisms during fermentation also induce or produce different types of bioactive compounds, which have extra nutritional values, such as reducing the effects of aging and degenerative diseases, as well as producing several physiological effects related to signaling, cholesterol lowering, imparting immunity, etc. Research has been documented that revealed how indigenous fermented foods serve as therapeutic foods, and how their active ingredients impact human health by producing antibiotic and antioxidant activity, and this is highlighted appropriately in Chapter-6.

The technology or method of preparation of different indigenous fermented foods forms the main theme of Chapters-7 to 12 of the book. Traditionally, different types of cereals and grains are fermented with mixed starter cultures, leading to variability in product quality, nutritive value, and safety. Such foods with their methods of preparation are described in Chapter-7. Similarly, the technology of fermented vegetables and their products with high nutritive value, especially antioxidant activity, and of acidic fermented milk and milk products, which are part of a highly nutritious and healthy diet, besides having therapeutic values, is the subject matter of Chapter-8. Alcoholic beverages have strong ritual importance among the ethnic peoples of South Asia, and their social activities require the consumption of appreciable quantities of alcohol, playing a very important role in their local customs. In South Asia, these beverages are also offered in prayer to the family gods. Methods for their preparation are described in Chapter-9. Chapter-10 describes acetic acid fermented food products, mainly vinegars of different types. Besides the methods of their production, the composition, characteristics, and factors important in this fermentation are also described. Fermented fish and shrimp products are indigenous fermented foods greatly relished by the peoples of South Asia, and are consumed along with their staple food (i.e., rice). These, including peptide sauces, pastes with meat-like flavor, fish sauces and related products, and alkaline fermented foods are described in Chapter-11. In Chapter-12, details of mushroom production and its postharvest technology has been described.

Many developments have taken place in microbiology/biotechnology, biochemistry genetics, engineering, etc., that have made an impact on our ability to scale-up the processes for the production of indigenous fermented foods. Since most of such foods are produced from locally available raw material, using local methods at a home scale, upgrading such traditional processes is essential. Chapter-13 focuses on such issues, with possible improvements in both processes and products. It has been rightly advocated that in South Asia, many indigenous fermented foods are yet to be investigated, and the indigenous traditional technologies of such foods are also not easily adapted. At the same time, the people who invented and preserved the age-old traditional food fermentation technology need to be reassured about the worth of their indigenous knowledge. In Chapter-14, the socio-economic conditions and sustainability of indigenous fermented foods and related issues are discussed, with typical examples.

In conclusion, this book is an authoritative and illustrative compilation of different issues related to indigenous fermented foods of South Asia. It would be an excellent source of information on indigenous foods from biotechnological perspectives not only to the academicians, but also to the persons working in food industry.

Prof. R.S. Singh

Carbohydrate and Protein Biotechnology Laboratory

Department of Biotechnology

Punjabi University, Patiala-147002, India

Email: rssingh11@lycos.com; rssbt@pbi.ac.in

