Report of the Second International Conference on

"Fermented Foods, Health Status and Social Well-being"

December 17-18, 2005 at Anand Agricultural University, Anand, Gujarat State, INDIA.

By

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SASNET-Fermented Foods, Anand Agricultural University, Lund University, Sweden and Institute of Rural Management, Anand organized the Second International Conference on "Fermented Foods, Health Status and Social Well-being" during December 17-18, 2005 at AAU, Anand. The two-day programme was attended by 200 delegates from various parts of India as well as from Australia, Japan, Sweden and Sri Lanka. During the conference, there were five technical session in which 18 papers were presented, of which the second and third sessions and the fourth and fifth session were conducted as parallel sessions; two poster sessions in which 28 posters on research work were presented; and two panel discussions, one on "Safety and Sociological Aspects of Fermented Foods" and the other on "Marketing and Regulatory Aspects of Fermented Foods" were conducted.

The programme started with a formal inauguration programme by lighting a lamp and prayer to Goddess of knowledge, Devi Saraswati. Shri Subodh Kant Sahai, Honourable Minister of State for Food Processing Industries, Government of India, was the Chief Guest and Dr Verghese Kurien, Chairman, Institute of Rural Management, Anand was the Guest of Honour. Prof. M C Varshneya, Vice Chancellor, Anand Agricultural University, presided over.

In his welcome address, Dr Baboo M. Nair, Professor Emeritus, Department of Applied Nutrition, Lund University, Sweden and Chairman of SASNET-Fermented Foods extended a warm welcome to all. He congratulated the present government of India for giving due importance to poverty alleviation as one of the main goals and for recognizing the importance of developing the agro-food processing sector for producing value added products as a means of improving the productivity and income of the poor people of the country to achieve that goal. He also highlighted the need to spread the awareness regarding the enormous potential of traditional fermented foods of India among the researchers and industrialists for their further development into highly value added finished food products, which may be marketed for a higher price in the global market.

Dr Verghese Kurien then voiced his happiness in being associated with such a network that was honest in its approach and devoted to the cause of rural and

social well-being. He opined that fermented foods being an integral part of the Indian diet would be relatively easy to market and that there was a huge market waiting to be tapped. This was followed by the Presidential address wherein Prof M C Varshneya, expressed his appreciation over the progress and committed work of SASNET-Fermented Foods. He applauded the role of the network in bringing the importance of research and higher education in food science biotechnology especially in the field of traditional fermented foods to lime light and for giving it the impetus that it needs so that in a long run, not only the consumers but also the producers who provide the raw materials could benefit from value addition through fermentation.

In his address, the Minister of State for Food Processing Industries, Shri Subodh Kant Sahai, expressed his pleasure that such a network on fermented foods is functioning and that it is working for promotion of the health status, economic development and social wellbeing of the low-income sector of the Indian population. He stressed that given the major problem of malnutrition that the country is fighting; fermentation could be one of the suitable and viable solutions. He extended whole hearted cooperation and support of his ministry to the SASNET-fermented foods for reformation of higher education and advanced research in food science and biotechnology to suit the requirements of the present trends of globalization by setting up a model laboratory unit and a model production unit for developing and testing functional fermented foods to be exported to foreign countries. The programme ended with a vote of thanks by Dr J B Prajapati, Coordinator of SASNET-Fermented Foods. During this program the minister released the souvenir published for the conference, while Dr Kurien released the brochures prepared by the network on benefits of fermented foods.

Session- I

This was followed by interactive Session – I, which was specially meant for the social/health workers and press/media personnel. This session started with an introduction to the network, SASNET-Fermented Foods by the Chairman Prof Baboo M Nair. He elucidated the objective, mission and vision of the network as it is stated on its website http://www.fermented-foods.net. He also outlined the activities and the future plans of the network and explained how an increased input on advanced research and higher education in food science and biotechnology, especially on fermented foods would ultimately be beneficial to the agro-food sector. This can be one of the tools to achieve the coveted goal of the government of India to reduce poverty by a considerable degree as it will increase the productivity of the agro-food sector raising the income level to a significant extent. This was followed by a lucid presentation on "Applications of Fermented Milk for Community Feeding" by Dr C D Khedkar, Professor, Dairy Science College, Warud, Maharshtra. He explained the mode of action of the probiotics and then outlined how major health benefits accrue by the consumption of fermented milks on a regular basis by presenting the data from the feeding trials that he conducted on the tribals of Maharashtra.

The presentations were followed by an open house discussion, which was handled by a panel of experts, namely, Dr J M Dave, Retd. Principal and Dean, SMC College of Dairy Science, Anand; Dr Nagendra Shah, Professor of Food Science, Victoria University, Australia; Dr S S Sannabhadti, Retd. Principal and Dean, SMC College of Dairy Science, Dr P A Shankar, Dean Post Graduate Studies, Bangalore and Dr J B Prajapati, Professor & Head, Dairy Microbiology Department, Anand. The panel was supported by technical expertise of Dr G Vijayalaxmi, Deputy Director, Central Food Technological Research Institute, Mysore; Dr Rekha Singhal, Mumbai University and Dr E Sagarika, Sri Jayaverdenepura University, SriLanka. Most of the questions from press were concerned about the quality of the products and how they can be ensured. The need to develop infrastructure for testing of probiotic foods and validation of their clinical benefits was highlighted. It was opined that the modes of taking fermented foods to society were also discussed. The present systems like Mid-day meal scheme of Govt. of India could be utilized or help from other NGOs and Social workers could be taken. The house also felt the need to educate the people about the benefits of fermented foods.

Session –II

Four eminent speakers presented their papers in the Second Technical Session on Overview of Fermented Functional Foods. The presentations highlighted the status of fermented and functional foods in Australia, Japan and North-Eastern region of India and one paper on the health benefits of use of whey, a nutritional by-product of the dairy industry and its beneficial utility in whey based products. Prof. T Kimura from University of Tsukuba, Japan chaired the session and Dr G Vijayalakshmi, Deputy Director, CFTRI, Mysore, India was the rapporteur.

Session - III

In the third technical session on Fermented Foods and Cultures for Fermented Foods, conducted parallel to the second technical session, five papers that dealt with the characteristics and utility of the microflora associated with fermented foods; the development of novel functional foods from oats and whey based product with added bifidogenic constituents; and the use of solid-state fermentation were presented and discussed. This session was chaired by Dr S S Sannabhadti, Retd. Principal and Dean, SMC College of Dairy Science, Anand and Dr Rekha Singhal, UDCT, Mumbai, India functioned as the rapporteur.

Panel - I

The First Panel Discussion on “Safety and Sociological Aspects of Fermented Foods” was headed by a panel of experts namely, Dr Nagendra Shah, Professor of Food Science, Victoria University, Australia; Prof T. Kimura, University of Tsukuba, Japan; Dr M Abdullah, Professor at UNESCO Research Laboratory on Trace Elements, France; Dr P A Shankar, Director of Post Graduate Studies,

Bangalore, India and Dr B N Hiremath, Professor, Institute of Rural Management, Anand. Dr Nagendra Shah initiated the discussion by narrating the probiotic foods and bacteria and other fermented dairy and food products. The session generated several questions on various clinical aspects, safety aspects, shelf life, importance and validation of fermented foods, mechanism of action of probiotic bacteria and the research weaknesses of traditional Indian fermented foods which were dealt with great expertise by the panelists.

This was followed by a lively cultural programme and dinner.

Session – IV

The following day, there were two more parallel technical sessions. The fourth technical session on Functional Foods and Ingredients was chaired by Dr J M Dave and Dr C D Khedkar was the rapporteur. In this session four eminent speakers shared their experience on the clinical and public health aspects of trace elements in developing nations; the health benefits of misti dahi; preparation and significance of fungal pigments as functional ingredients in foods and the practical application of tree bark having antidiabetic properties in traditional fermented foods.

Session – V

The fifth session on cereal, fish and meat based fermented foods was chaired by Dr P A Shankar and Dr R K Shah worked as rapporteur. Dr Olof Martenson for Ceba foods, Sweden shared his experience on fermentation of oat milk. Two exhaustive reviews on cereals based fermented foods by Dr Rekha Singhal of Mumbai University and fermented meat products by Dr Mir Salahuddin of Sher-e-Kashmir University were presented. Original research work on fatty acid composition and cholesterol content of Jaadi from Indian Mackerel was presented by Dr Sagarika of Shri Jayaverdenapura University. Similarly Dr Harshada Shah of Sardar Patel University presented her work on effect of fermentation on chemical and biochemical parameters of mothbean Wada.

Panel – II

The second panel discussion on the marketing and regulatory aspects of fermented foods had a panel of experts from the world of dairy and management that included Shri Mayur Vyas, Managing Director, Sabar Dairy; Shri L K Vaswani, Director, IRMA; Dr Olof, CEBA Foods, Sweden; and Dr H K Desai, Managing Director, Vidya Dairy as rapporteur. The session was seeded with thought provoking ideas by Shri Mayur Vyas on matters related to marketing problems, the knowledge requirements, the facts on knowledge transfer from laboratory to field and the market situation of functional foods in India. All the panel experts shared their experience on marketing and regulatory aspects of dealing with fermented functional foods in India and Sweden. This generated an active discussion on these lines.

The day ended with the Valedictory Function in which Prof M C Varshneya, Vice Chancellor of Anand Agricultural University was the Chief Guest. The session began with presentation of brief report from all session rapporteur. This was followed by the Chief Guest's Address in which he expressed deep satisfaction on the successful completion of the event. He opined that the outcome of the deliberations should be directed to the well-being of the common man through judicious use of fermentation technology and encouraging the consumption of fermented foods. He also expressed his heart felt gratitude that such a consortium of delegates came to attend the conference. The programme ended with a vote of thanks by Dr J B Prajapati.

The main recommendations of the conference can be summarized as follows:

- There is a need to continue to inform the politicians, managing directors of the food industries, food scientists and people in general about the major health benefits of consuming fermented foods so that the society realizes the importance of these foods. This will ultimately help to improve the health status of the public and at the same time create more market for novel functional fermented foods.
- There is a great urgent need to direct more resources into advanced research and higher education in food science and biotechnology for isolation, identification, characterization, preservation and commercialization of the advantageous microorganisms from several traditional fermented foods.
- The nutritional and health benefits possible from each of these organisms must be documented after scientific research and careful validation.
- Fermentation as a means for value addition of food products should be given due consideration and should be popularized at all levels especially among students of food science and biotechnology.
- The time has come for initiating manufacture of fermented foods of India in an industrial scale for marketing in the world market. The organized sector and the private companies should be encouraged to come forward for implementing this so that the rural producers get remunerative returns.
- Emphasis should also be given on meeting international standards of quality for global marketing of such foods.
- There is ample scope for including fermented foods with probiotics in the school children feeding programmes of the government, such as mid-day meal scheme.

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