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Newsletter

SASNET - Fermented Foods

"A network for connecting fermented foods to health status and social well being"

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CHAIRMAN'S MESSAGE

Dear Friends

We are indeed delighted to present you the very first newsletter of our Network. You may remember that we wished to have a newsletter, a website and a journal of our own already at the first International Seminar held at Anand Agricultural University on 14th of November, 2003, when we resolved to form a Network.

As many of you might have noticed, we have a website since a couple of years and it has been improved by Centre for Bioinformatics, Kerala University and Mr. Srijith, Managing Director, Sooryakaran Bioinformatics Ltd. The new website was demonstrated at the Third International Conference 'Fermented Foods, Health Status and Social Well-being' at Anand on 14th December, 2007. It has a section called 'Forum' where you are able to interact with your fellow members of the network on questions of interest. We hope that you will visit the website and make the best use of the facility.

We hope to start the publication of our journal as soon as possible. Most importantly, we need an Editorial Committee to take charge of the production of the journal. Your suggestions on how we can achieve this are welcome and kindly nominate members among prominent & leading scientists from India and abroad.

Since the beginning, I have been the Chairman of the Network and Dr. J B Prajapati the Coordinator. We think that we need one Vice-Chairman, an Additional Coordinator and an Assistant Treasurer for our Network. If you have any suggestions on who may take up these posts, kindly forward it to Dr. Prajapati (prajapatijashbhai@yahoo.com).

Now you are holding the maiden issue of the newsletter of our Network in your hands. I am happy to inform you that Mr. Tansukhlal Jain, MD of Christian Hansen India (Pvt) Ltd, who has been very helpful to us from the inception, has also agreed to support the production and distribution of our newsletter two times a year. Contributions are welcome from all of you so that the contents of newsletter of our Network actually reflect the activities of its members. Please send your opinions, comments and suggestions to Dr. Pratima Khandelwal, who is the executive editor of the newsletter. Her email id is pratima2k1@gmail.com

With best wishes

Baboo M. Nair
Chairman

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Retrospection

J B Prajapati and Lata Ramachandran

Few milestones reached....

As this is the maiden issue of Newsletter, we would like to give you a short historical description of what has been done till now which can be described as the previous activity of the network. Most of the information is also presented on the website www.fermented-foods.net under various headings.

A Network was established...

An International Seminar on Fermented Foods, Health Status and Social Well-being was organized in Anand, India during November 13-14, 2003 with the financial support from SASNET - Lund University, SWEDEN.

The Programme was jointly organized by Swedish South Asian Studies Network (SASNET), Lund University, SWEDEN and SMC College of Dairy Science, Gujarat Agricultural University, Anand, Gujarat State, INDIA. In all, 164 delegates participated in the Programme, representing different parts of India and also Sweden, Denmark, Nepal, Srilanka, Bangladesh, USA and Australia. In the final Joint Session, the participants resolved unanimously to establish a Network on Fermented foods asking the organizing committee of the seminar to be the interim Coordinating Committee for development of proposals and for entrusting Dr. JB Prajapati as the Coordinator of this network during this period. The aim of the network was to promote collaboration between scientists, students and industrialists of Sweden and South Asian countries.

The strategic plan, the projects and the meetings followed...

The first steps of the strategic plan for the network was to develop a set of rules and regulations, a manifesto, a prospectus, recruitment of some prominent scientists and personalities as Advisors and Coordinators, and last but not the least, to acquire funds for organizing the activity of the Network to promote and propagate its mission.

In 2004, a project proposal was submitted to EU-delegation in New Delhi. The objective of the project was to organize a series of strategic meetings to put across the message of the network to the industry, institutions, policy makers, politicians, social workers, press and media of India. With the financial support from EU - SPF grant, a series of four strategic meetings were organized.

Development of a data base for indigenous fermented foods

The first EU-SPF strategic meeting and workshop for policy makers and heads of the institutions of research and higher education in food science was held on 26th May, 2005 in cooperation with Anand Agricultural University, Lund University, Sweden and Institute of Rural Management, Anand India. The programme began with a formal inauguration in the auspicious presence of Dr. V. Kurien, Chairman, IRMA and Prof. M. C. Varshneya, Vice Chancellor, AAU.

Prof Varshneya, in his inaugural address reiterated that India had emerged as the largest milk producer of the world and acknowledged the role of Dr Kurien in the process. He said that fermented foods were known to us since ancient times and were as old as the Indian history. He confirmed the **significance of the network and acknowledged the need to create a database of the traditional fermented foods of India** in an attempt to prevent some products from becoming extinct.

Dr Baboo M. Nair, Chairman of the Network and Professor Emeritus at Lund University, Lund, Sweden made an explicit presentation tracing out the sequence of events that led to formation of the network and described the vision mission and objectives of the network. He urged the members to have a look into the website of the network www.fermented-foods.net and join hands in strengthening the network and in realizing the objectives of the network.



'The idea is good and it can benefit all. You have to stick to your programme and put in all your efforts. I am here to help you. If you feel you need my help at any point of time, then tell me'.

- Dr. Varghese Kurien



'It is a privilege to be with you. The vision, mission and the objectives of the network seems to be very relevant and I shall do what ever I can to help you'

- Dr. M. S. Swaminathan

Fortunately we have the extraordinary privilege of having the two of the most prominent personalities of Indian Agricultural development as our Advisors, which of course is a matter of great strength and confidence to us.



Dr V Kurien delivering the presidential address

In his Presidential address, Dr V. Kurien emphatically said that India would undoubtedly become a major player in the food market and stressed on the need for India to acquire a humane face before she gains stature as a major power in the food market. He felt that the network had a major role to play in ensuring research and development to authenticate the health claims made by fermented milks.

Value addition and R&D

The second EU SPF strategic meeting and workshop for Policy Makers of the Indian Dairy and Food Processing Industries was organized during September 8-9, 2005 at IRMA, Anand. The meeting started on a formal note with an inaugural session. Prof M C Varshneya, Vice Chancellor of AAU was the Chief Guest and Dr Verghese Kurien, Chairman, IRMA was the President of the function. In his opening remarks, Dr Baboo Nair, Chairman of the SASNET-Fermented Foods, welcomed the delegates and highlighted the significance of R&D in general and in particular in food processing industries. He pointed out that the degree of value addition in agro-food sector of south Asian countries at present is very low and that only by increased input in Research and higher education, development of novel, value added, functional fermented foods for global marketing, can be achieved. This is not only a necessity but also the only way by which the productivity of the agro-food sector and through that the income of the poor farmers can be improved. He further urged the industry to join hands with the Network to promote its objectives by becoming corporate members and financing collaborative research projects.

Agri Food sector and poverty alleviation

The third EU-SPF strategic meeting and workshop for the Press/media- and social/health workers was organized by SASNET- Fermented Foods, Anand Agricultural University, Anand; India Institute of Rural Management, Anand, India and Lund University, Lund, Sweden during December 17-18, 2005 at AAU, Anand.

In his welcome address, Chairman of the SASNET-Fermented Foods Dr Baboo M. Nair congratulated the then present Government of India for giving due importance to poverty alleviation as one of its 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. The best approach should be to exploit the potential by for their further development into highly value added fermented functional food products which could be marketed in the global market for a higher price.



In his address the Minister of State for Food Processing Industries Shri Subodh Kant Sahai, the Chief Guest of the meeting expressed his pleasure that such a network on fermented foods is functioning and that it is working for promotion of the health status

and 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.

A Core Group for Centre of Excellence for research and higher education

A strategic meeting with Hon. Minister for Food Processing Industries was held at Panchsheel Bhavan, Govt. of India, New Delhi on 2nd May, 2006. At the very onset, Hon. Minister warmly welcomed Prof. M.C. Varshneya, VC, AAU, Anand, Dr Baboo M. Nair and Dr J.B. Prajapati. Recalling his visit to Anand for the SASNET conference on Fermented Foods, Health Status and Social Well-being on December 17, 2005 and appreciated the work done at SMC college of Dairy Science, AAU in general on fermented foods and the concept of Vidya Dairy Training pattern in particular. Prof. Varshneya thanked Hon. Minister for inviting the team to present the proposal on Centre of Excellence

and gave introductory remarks indicating the purpose of meeting. Prof. Baboo Nair made an impressive presentation by giving background information on fermentation, synbiotics, present status of functional fermented foods in the world and multifarious advantages of producing fermented functional foods in India for export and how it will directly improve the efficiency of the agro food sector and the income level of the poor people who depend on the agro-food sector for their livelihood. He outlined a proposal that the Ministry may consider establishment of a Centre of Excellence on Fermented Foods at Anand Agricultural University in cooperation with SASNET- Fermented Foods. He then explained in detail about the possible activities of such centre and various strategic steps to achieve the goal. He also indicated that while the centre of excellence at Anand could be based on milk and milk products, there could be three more such centers located strategically at different parts of the country destined for cereals & pulses, vegetables & fruits and fish & meat respectively. At the end of the meeting, a Core Group was formed under the chairmanship of the Minister and Prof. MC. Varshneya Vice Chancellor of the Anand Agricultural University as the Vice - Chairman.

Visit to Sweden and Denmark to bench mark Indian fermented foods research

The fourth EU-SPF Strategic meeting and workshop was organized in October 2006 at Sweden and Denmark by the SASNET-Fermented Foods, India in collaboration with Øresund Food Network, Denmark ([www.oresund foodnet.org](http://www.oresundfoodnet.org)) and Lund University, Sweden (www.lu.se).



From L to R:

Dr. Jorgen Holm (Øresund Food Net), Dr. PA Shankar, Dr. Rekha Singhal, Dr. G. Vijayalakshmi, Dr. Baboo M. Nair, Mr. Lars Eklund (SASNET Lund University) and Dr. CD Khedkar.

Morning session of this meeting consisted of five presentations by five food scientists from five different academic institutions of India. Just before the beginning of the session Dr. Jørgen Holm, Director of Development of Øresund Food Net, introduced the Øresund Food net while he welcomed the participants to the seminar. Following this, Dr. Baboo M. Nair, Professor of Lund University gave a short presentation of SASNET Fermented-foods.net and its intentions.

The first technical presentation was by Dr. J.B. Prajapati Professor & Head, Department of Dairy Microbiology, SMC College of Dairy Science, Anand Agricultural University, Anand, who spoke about the isolation of *Lactobacillus* strains from human source and their applications for making foods following a series of experiments for evaluating their probiotic characteristics.

Dr. C. D. Khedkar, Professor from College of Dairy Technology, Pusad, presented a paper on isolation and identification of promising strains of *Lactobacillus acidophilus* from human body sources and screening them for their antimicrobial properties on human volunteers.

Dr. Rekha S. Singhal of the Food Engineering and Technology Department, Institute of Chemical Technology, University of Mumbai, talked about Fermentative production and downstream processing of four different -glucans viz. yeast glucan, curdlan, scleroglucan and schizophyllan from different microbial sources studied with respect to optimization of media constituents and environmental factors.

Dr. P. A. Shankar, Ex-Professor of Dairy Microbiology, Director of Post Graduate Studies, KVAFSU, Bangalore, gave the presentation on the production and evaluation of biofilm based lactic acid cultures for immuno-modulatory properties.

Dr. G. Vijayalakshmi of the Food Microbiology Department, Central Food Technological Research Institute, Mysore, spoke on utilization of a filamentous fungus as functional food and presented several reports on the microbial synthesis of colour (pigments) that can find application in food formulations.

The after-noon session started with a presentation by **Dr. Peter Olesen** of Christian Hansen A/S Denmark who described the company and its research in probiotics at Chr. Hansen A/S. Under 'Human Health & Nutrition' session, he focused on dietary supplements for gut health, boosting of immune defence, constipation, vaginal health, inflammatory gut diseases and infant nutrition moving towards

clinical nutrition while under 'Functional Foods' section, he mentioned of attention that shall be directed from gut health parameters ('soft') to specific health functionalities ('harder') expressed in food products with an example of the new product *Cardi-04*.

Dr. Egon Bech Hansen of Danisco A/S, Denmark spoke on Health promoting food ingredients and stated that the Firm is the Leading supplier of ingredients and sustainable bio-based solutions. They produce emulsifiers, stabilisers, enzymes, cultures, protectants, flavours, sweeteners, sugar. Danisco is also interested in Nutrigenomics for understanding of how nutrients (bioactive compounds) can modulate gene expression.

It is also expected that Danisco's research activity in nutrigenomics would enable strains to be developed or selected that can be used to impact a range of targeted health maladies. In this connection, *acidophilus* adherence *in vitro* and Cytokines and immune health are important. Among the Danisco's health & nutrition ingredients, POLYOLS Xyitol, Lactitol, FIBRES & PREBIOTICS Litesse, Betatrim, PROBIOTICS Florafit, Howaru and Benefat, Fructose, Betaine are reported to be well known by the speaker.

The next speaker, **Dr. Åsa Ljungh**, Dept of Medical Microbiology, Lund University, Sweden elaborated various modes of action of common known probiotics and their selection criteria. Dr. Ljungh mentioned that the Probiotic foods were consumed by prehistoric man to digest roots and other dietary fibers, to ferment fruits ('prehistoric wine and beer'), to combat food decay, and stated that today the microbes used as probiotics are mainly *Lactobacillus* spp, *Enterococcus* spp, *Lactococcus*, *Leuconostoc*, *Pediococcus* spp, *Bifidobacterium* spp, *Bacillus subtilis*, *Saccharomyces boulardii*, *Clostridium butyricum*, *Staphylococcus* spp and others.

Finally, **Dr. Olof Mårtensson** of Oatly AB, Sweden presented data on the production and use of the non-dairy beverage based on oats which has high protein of good amino acid composition, high content of oleic and linoleic acids in addition to high amount of vitamin E, vitamin B1, folic acid as well as high amount of the soluble dietary fibre component β -glucan.

The experiments they carried out on production of non-dairy fermented milk based on oats and its keeping quality, its effect on intestinal microflora and effect on plasma lipids show that there is a good possibility of making oat-based fermented milk like product of acceptable sensory quality with positive health effects.

www.fermented-foods.net

Visit to Stockholm

After the meetings and various visits in Denmark and South of Sweden the SASNET- fermented foods delegation went to Stockholm to visit The School of Biotechnology at the Royal Institute of Technology, Arla Foods and the Indian Embassy at Sweden.



The Indian Ambassador Mrs. Deepa Gopalan Wadhwa (in the middle of the picture) was very cordial and helpful. She continued to be helpful until her transfer from Sweden to Qatar.

Visit of a delegation from Anand Agricultural University: Meeting at the LTH, Lund University, SWEDEN and the MoU.....

The primary objective of the meeting was to present the main points of the concept note for discussion and to prepare ground for future collaboration between the two institutions- AAU & LU, with focus on the centre of

excellence. After the meeting, the delegation visited various institutions of interest in the field of food science and biotechnology. It was indicated that a presentation of the research in the area of food science and biotechnology with focus on fermented foods could be carried out in Sweden.

It was worked out that student and staff exchange program could be initiated. As a result of these visits and meetings, a number of proposals for collaborative research could also be evolved from the various meetings and contacts taken during the visit at individual as well as institutional level.



Prof. Arvind Pathak, Prof. Olle Holst, Prof. Rickard Öste, Hon. Ambassador Deepa Gopalan Wadhwa, Prof. JB Prajapati, Prof. Klas Malmqvist, First Secretary Mr. Rajesh Vaishnav and Dr. M. Abdulla attending the meeting held at the office of the Vice Chancellor, LTH, LU.

Student exchanges at post-graduate level: Some of the students' exchange that has been undertaken are:
Visit of Ms. Padma Ambalam from Saurashtra University, India to the laboratory of Dr. Torkel Wadström, Dept of Medical Microbiology for carrying out the definite DNA level identification of the Strain of lactic acid bacteria isolated by her in Rajkot, India

Visit of Mr. Vishwanath from AAU to the laboratory of Dr. Åsa Ljungh, Dept of Medical Microbiology, Lund University, Lund for evaluation of the adhesion properties of probiotic starins isolated at Anand.

Visit of Ms. Padma Ambalam from Saurashtra University, India to laboratory of Prof Kerstin Skog of the Department of Food Chemistry to study the antimutagenic effect of some strains isolated at Rajkot.

Student exchange at graduate level:

One thesis work 'Effect of fermentation of Lactic acid fermentation of vegetables (cabbage, spenat and fenugreek) on the nutritional value and sensory qualities' of the International Masters' Degree Programme in Food Sciences of the Lund University

could be carried out at Gujarat Agricultural University by a student of Lund University, Mr. Ugandhar Dasi under the supervision of Dr. J. B. Prajapati.

Research Link projects already initiated

One research link project on 'Antimutagenic effect of fermentation of food by lactic acid bacteria' has been conceived, developed and submitted. A planning grant of 72 000 SEK has been awarded to Dr. Kerstin Skog of the Department of Applied Nutrition and Food Chemistry to collaborate with Dr. JB Prajapati, Department of Dairy Microbiology, Anand Agricultural University.

Research link projects being initiated

Research link on the production of microbial β -Glucans for food use between Prof. Rekha Singhal, University Department of Chemical Technology, University of Mumbai, India and Prof. Olle Holst of the Department of Biotechnology, LTH-Lund University is being developed in cooperation with Prof. Rickard Öste of LTH-LU at Lund and of Oatly AB at Landskrona.

On 3rd October 2007, a meeting was conducted at Oatly where Marcus Brautigam of Crop Tailor, AB Mölndal, a student of Prof. Olof Olsson, Institution för Molekylärbologi, Gothenburg University and Dr. AR Pathak, Director, Research, Anand Agricultural University were present. Now both these Swedish colleagues are invited to Anand to develop a collaborative research programme on breeding of Oats partly based on the idea presented by Dr. Pathak to evaluate if oats with thinner husk could be developed.

Collaboration with Swedish small and medium scale industries

Need to evaluate consumer acceptance of Oatly products in India: Oatly AB at Landskrona, a company originated from the research of LTH-Lund University, is interested to see if they can market their products in India. A collaboration between Oatly, (Rickard Öste), LTH-LU (Baboo Nair), Dr. PA Shankar, Ex- Director, KVAFSU, Bangalore, is developed and the group is working on a project to carry out a consumer acceptance test in cooperation with Dr. Mridul Salgame, Bangalore.

A Memorandum of Understanding

A Memorandum of Understanding between LTH-LU and Anand Agricultural University has been executed for providing a legitimate platform for the members of the LTH-Lund University and the counter parts of the various faculty and departments of the Anand Agricultural University for the development of collaborative programmes in higher education and advanced research including exchange of students and teachers.



For further development of the commitments of the meeting at the Rector's Office of the LTH on 2nd October, 2007, an Action Committee consisting of Prof. Ole Holst, Prof Christian Trägårdh, Prof. Rickard Öste, Prof AR Pathak, Prof JB Prajapati and Prof. Baboo M. Nair was formed.

A meeting of the Joint Action Committee was held on 17th December, 2007 at Anand, in connection with the International Seminar on 'Fermented Foods Health Status and Social Well-being' to define specific areas of common interest in the fields of food science and biotechnology for

exchange of students and teachers, to produce concrete recommendations on the basic requirements for establishing collaboration between AAU and LTH and to produce a Draft Project Proposal in harmony with the concept note on the establishment of a Centre of Excellence in Food Processing at the AAU, Anand.

Development of value added functional fermented foods

"SASNET-FF facilitated development of a value added functional fermented dairy product containing a probiotic strain of lactic acid bacteria isolated, identified and characterized at SMC Dairy Science College, Anand Agricultural University. The product was standardized at Calicut dairy and it is expected to be launched shortly." A published report is furnished below:

Milma to launch probiotic lassi

Probiotics are dietary supplements, usually lactic acid bacteria, which when administered in adequate amounts are beneficial to health.

Express News Service
T'Puram, July 6

THE Milma is all set to open its probiotic portfolio. This Onam, the Malabar union of the Milma will launch probiotic lassi.

Probiotics are dietary supplements, usually lactic acid bacteria, which when administered in adequate amounts are beneficial to health. In this venture, the Milma is being assisted in research by the Swedish South Asian Network (SASNET) on Fermented Foods, Lund University, Sweden.

An agreement to this effect was reached a few months back and the product has already been standardised. According to the agreement, the SASNET will be providing the bacterial cultures and Milma will be manufacturing and marketing the product.

"We are launching this product with several purposes. That is, to popularise the concept of probiotic foods in the state, to create a market for lassi, the ethnic drink of Punjab, and to encourage our people to opt for health drinks instead of drinks that are declared harmful," said Milma

Malabar Union (production and planning) senior manager K T Thomas.

The SASNET is into promoting collaborative research with the South Asian countries in the development of fermented foods.

"We will wait to know about the product's acceptability. This is more than just a drink and we are also very particular about creating awareness about the benefits of probiotic food among the consumers," said Thomas.

Only live bacteria can bring about the promised result and for this the temper-

ature should be maintained at five degree Celsius. "This means only those shops with cold storage can keep the product. We are planning to launch it in select supermarkets in Kozhikode city and in Day Express trains first," he said. Milma has zeroed in on vanilla flavour for the drink.

Mother Dairy, Yakult Danone India, Amul and Nestle have already launched probiotic products. They all are purchasing bacteria culture from MNCs.

This Onam, the Ernakulam union of Milma will launch sweetened curd 'Mistidahi'.

The Third International Seminar and workshop on "Fermented Foods, Health Status and Social Well-being"

was organized at Anand Agricultural University, on Dec 14-15, 2007 by SASNET-Fermented Foods in cooperation with Lund University, National Dairy Development Board and UNESCO Institute of Trace Elements, France. The programme was attended by 200 delegates from India as well as from Australia, Denmark, Finland Sweden and United States. Four technical sessions, two poster sessions, an industry forum on "Marketing of functional foods for health and nutrition of the society" and a panel discussion on "Regulatory, safety and marketing aspects of fermented foods" were conducted. Dr A. S. Ninawe, VC, Maharashtra Animal and Fishery Sciences University, Nagpur, was the Chief Guest and Dr Amrita Patel, Chairman, NDDDB, Anand was the Guest of Honour, Prof. M. C. Varshneya, VC, presided over the function.

Dr Baboo M. Nair introduced the theme of the meeting and expressed the high appreciation of the Network on the participation of Dr. Amrita Patel, an important and noteworthy personality of the Indian food and dairy industry, as the Guest of Honour and on the cooperation of the NDDDB as the co-organizer.

Dr. Nagendra Shah, Prof of Food Science & Technology, Victoria University, Australia gave a key note lecture on 'Probiotics: From Metchnikoff to Bioactives'. He talked about the history of probiotics, world market scenario and their increasing popularity. He also highlighted the health benefits of consuming probiotics and then discussed some of the research work and new products developed in his laboratory *viz.* probiotic cheese dips, soy-yoghurt *etc.*

In his presentation on 'Recent trends in protecting and delivering probiotic bacteria in diary foods', **Dr. K. Kailasapathy**, from Center for Plant & Food Sciences, University of Western Sydney, Australia discussed a commercial encapsulator and highlighted some of the research work carried on micro encapsulation of probiotics for use in yoghurt and cheese. **Dr. Sampo Lahtinen**, of Danisco Health & Nutrition, Finland spoke on 'Use of probiotics for the benefits of human health', and observed that while some of the health benefits of probiotic were well documented, others need concrete scientific evidence. He pointed out some new frontiers of probiotics *viz.* in binding dietary toxins, kidney and liver diseases, dental and oral problems, ear infections, autism as well as high rising disease like diabetes. He also discussed the results of some recent trials conducted in China and India using probiotic strains of Danisco for improving health and general well being of children.

Dr. Pratima Khandelwal, Brindavan College, Bangalore spoke on Biocompatibility of selected probiotics used for preparation of a synbiotic acidophilus milk and synbiotic shrikhand using *L. acidophilus*, *L. casei*, *Bifidobacterium bifidum* with a commercially available bioyoghurt culture. The prebiotics tested were inulin, oat fiber and honey. She concluded that *L. acidophilus* and *B. bifidum*, individually and in combination showed better ability to survive in the GI tract under in-vitro conditions. These probiotics could be used in the preparation of synbiotic dietetic acidophilus milk and shrikhand. **Ms. Lata Ramchandran**, Victoria University, Australia presented her work on addition of probiotics and prebiotics to improve antihypertensive properties of yoghurt. She narrated the experiments on production of bioactive peptides in yoghurt using selected probiotic microorganisms for possible beneficial influence the biochemical and health related properties of the fermented milks.

Dr Kalpagam Polasa, Food & Drug Toxicology Research Center, NIN, Hyderabad, in her talk visualized a great demand for probiotics containing beverages and infant food formulas. She also emphasized the need of consuming fermented foods to

maintain good health. **Ms Cecilia Enelund & Ms Marica Anderson**, Research Scholars, Applied Nutrition and Food Chemistry, Lund University, Sweden jointly narrated their study on health effects of microbial β -glucans and mentioned the possibility of reducing plasma cholesterol levels in mice fed with high fat atherogenic diet, which is mainly due to viscosity and solubility factors

Industry Forum - Marketing of Fermented Foods for Health and Nutrition of the Society: Eight speakers representing the Industry shared their research, commercialization as well as marketing experiences on the fermented milk products and probiotic milk products in this session that was chaired by Dr Rickard Oste, CEO, Oatly, Sweden and co-chaired by Dr Peter Oleson, V.P (R&D), Chr-Hansen, Denmark.

Mr. H. Sabharwal, Laktobiotics LLC, USA talked on 'Properties of Milk α -Lactalbumin (MAL) enhanced by Probiotics', followed by **Dr. Olesen P**, who made a presentation on 'Cardio-04TM- A New Platform for Functional Dairy Foods Targeted to Heart Health Claims'. He mentioned that dairy products are the perfect functional foods for treating such diseases and discussed the new isolated strain *Lactobacillus helveticus* Cardio-04TM for its use in fermented milk product. He confirmed the safety of the product as shown by human studies. It was believed that the Cardio-04 product concepts may provide a strong platform to reduce cardiovascular disease and improve heart health". **Dr Sampo Lahtinen** pointed out that *Lactobacillus* and *Bifidobacteria* continue to be the major dairy probiotics studied all over the world. Of the 2700 publications on probiotics published in listed journals, it's encouraging to note that about 972 probiotic products have been launched since 2000. In recent years, more and more products were launched in the Asian region. He also informed the house that most claims made on the probiotic products target GI benefits and Immune Stimulation. Only 5% of the foods are targeted towards specific age groups and this could be possibly due to regulations.

Panel Discussion: The session began with the Chairman's view on acknowledging the issue of the day 'When different countries have different climatic, social, economical, and technical conditions, is it rational to suggest a common code of laws to judge the quality of the products?' The product in question was fermented foods and the emphasis laid on the socio-economic feasibility of India to meet the stringent demands of the post WTO global market. **Dr. Baboo Nair** presented the house with a document from the SASNET website www.fermented-foods.net namely 'Health claims in

labeling and marketing of food products – The Swedish Food Sector's code of practice'. He stressed on the need for India to come out with its own set of codes that will pave the way of quality management in all areas of food processing, regulation and marketing.



Dr. Rickard Oste, of Oatly AB, Sweden stated that marketing and regulation should go hand in hand. He stressed that the manufacturer should claim the proved benefits only. He said that vague claims like 'good for stomach' was to be permitted but specific claims need to be backed with scientific validations. **Dr. Purnendu Vasavada**, USA spoke of his experiences in India regarding the overbearing sentiment among Indian manufacturers to follow superior quality standards for exported products while resorting to inferior quality management for local distribution.

Dr. Peter Olesen laid stress on documentation of probiotic claims, efficacy studies of established strains and said that studies are still scanty on the safety issues, dosage and health claims of functional foods. He concluded by saying that industry and authority should go hand-in-hand, taking the consumers on their way up. **Dr. Sampo Lehtinen** remarked on the inadequate number of human trials in ongoing studies. He further stressed on the need for the industry and the academia working together. **Dr Kalpagam Polasa** commented on the Food Safety and Standards Bill, 2005 and enlisted some of the drawbacks of the bill like the stringent punishment which is similar to small and big manufacturers and applauded the speedy regressal system of adulterated food laid down in the bill.

Answering to **Mr. Lehtinen**, she listed some of the studies on nutrigenomics in her lab. The discussion concluded with the fermenting thoughts of **Dr. PA Shankar** questioning that why should there be two laws; one for India and one for the world, when both lives are equally precious. **Dr Jasvir Singh** finally threw a thought provoking question to all regarding if there is anything called 'absolute safety'? The day ended with the Valedictory Function. **Dr. B. P. Shah**, Principal and Dean of SMC College of Dairy Science presided over the

function. After a brief introduction he invited Chairman/Rapporteur of the various sessions to present their reports. **Dr J. B. Prajapati** requested all the rapporteurs to submit soft copy of the report and the relevant recommendations at the earliest for compilation and uploading on the SASNET-FF website. **Dr. Baboo Nair** gave concluding remarks and thanked all concerned for the successful conduct of this Conference.

Looking forward – a Strategic Plan for the Network

J. B. Prajapati and Pratima Khandelwal

Strength of the network, to a great extent, depends on the level of activities of its members. During the last years, effort has been to bring the message of the network to the policy makers of the Government, Industrialists, Directors of the institutions of higher education and research as well as to the media and general public. This has been done through the Strategic Meetings financed by EU-SPF projects.

As a result of the activities of the Network during the last years, we now feel that we have a strong foundation for the future activity. We have a well equipped office at Anand Agricultural University, Anand, where we also have a niche Centre of Excellence for development of fermented foods from milk.

We feel that we have a galaxy of eminent and experienced persons as our Advisors along with a team of young budding scientists and professionals as our members. We founded the Network by passing a resolution in our first Conference in 2003 and did lot of work as reported else where in this newsletter. We have also registered the Network as a Scientific Society and our legal as well as academic responsibly to the society and its members has also increased.

A plan for the future is given below and the members are requested to give their opinion, suggestions and comments to us, so that it can be further improved.

- 1. Membership development:** This is the most urgent and utmost important field of activity of the network in the coming years. A network cannot exist with out members and it is also clear that the quality of the network is strongly related to the quality of its members. Taking this fact into account, we aim to activate our present members to acquire new members. Our aim is to increase the number of individual membership, Institutional membership and corporate membership to the double during the next two years when the biannual meeting of the network will be held at the

- end of the year 2011. This will be achieved by establishing a Membership Development Committee to in connection with the next biannual meeting to be organized at the end of Dec 2009. The mandate of the said committee will be to advice and assist the Coordinator on various strategic steps to be taken for reaching the goal. We also want to activate the members by promoting regional seminars all over India and other south Asian countries.
2. **Website:** As it is well known, an active and lively website is an indispensable instrument of easy communication for any organization in the present day life. We have developed a website www.fermented-foods.net and we need a fulltime webmaster for further development of the website and its regular updating. There is a forum in the website for interaction and the next step would be to add new components for members' interaction. We aim to have a membership registration facility including payment of registration fee by internet. We will also establish a Website Committee to assist and advice the Coordinator on how a self financed website can be developed for the benefit of the network and its members.
 3. **Newsletter:** Even though, we now have a website with a forum for interaction between members, communication through printed matter is also very important as it continues to have greater and repeated effect in the hands of every member. We plan to produce a Newsletter two times in a year and send it to the members every June & December. To promote the production and publication of newsletter, a Newsletter Committee will be constituted under the leadership of Dr. Pratima Khandelwal, Brindavan College, Bangalore, who shall coordinate this activity as its Executive Editor.
 4. **Journal of Fermented Foods:** In agreement with the aims and aspirations of the Network, it was suggested at its very first meeting that the network may consider production and publication of a journal on fermented foods. We plan to establish a committee to advice and assist the Coordinator with the further development of this project.
 5. **Fourth International Seminar and workshop on Fermented foods, health status and social welfare.** The biannual seminar with General Body Meeting of network is a much sought after event for all those who are interested in fermented foods. The meeting will be organized at the Head Quarter of Network at AAU, Anand, Gujarat, India in December 2009.
 - . A committee for advising and assisting the Coordinator in the matters regarding the organization of the future biannual seminars will be constituted in connection with the biannual meeting to be held at AAU during December 2009.
 6. **Regional Seminars:** Till now most of the activity of the network has been developed in collaboration with Anand Agricultural University and other related institutions like IRMA-Institute of Rural management, NDDDB-National dairy Development Board, Amul Dairy and GCMMF-Gujarat Cooperative Milk Marketing Federation at Anand. One Regional Meeting was conducted in collaboration with university of Veterinary Sciences at Chennai and one strategic meeting under the EU-SPF was conducted in Denmark in collaboration with Öresund Food Net and in Sweden in collaboration with Lund University. In the future, we look forward to initiate organization of one regional meeting every half year in different parts of India and/or in other south Asian countries offering a refundable seed money of 25,000 INR.
 7. **Development of a database:** Requirement of data base on fermented foods has been pointed out in all our earlier conferences. We plan to prepare the project for this purpose, wherein we will need to launch nationwide survey and then analyze data and host on a server of our own. A Project Group for this purpose will be formed at the said next biannual meeting to be organized in Dec 2009.
 8. **Publication of Handbooks on Fermented Foods:** The network has a team of experienced academicians and professionals. We would like to serve the society, students and food industry of the world by providing comprehensive, handy, ready reference books on different types of fermented foods. Dr J.B. Prajapati will write one such book on "Dahi" during the year 2010. The suggestions from prospective authors and titles form other members are welcome. By the end of this year, a book on 'fermented foods, health status and social well-being' based on the manuscripts of the three previous meetings will be printed for publication.
 9. **Development of Centre of Excellence on Fermented Foods:** SASNET Fermented Foods has conceptualized the idea of Centre of Excellence on Fermented Foods and its Chairman, Prof. Baboo Nair had presented this concept for the first time in a meeting with Hon'ble Minister of Food Processing Industry of India, Shri Subodhkant Sahai on May 2, 2006 at New Delhi. The proposed Centre, with the rich and wider technical expertise of the members of

our network, will strive to achieve following objectives:

- a. Start a Centre for conducting a specially designed Internationalised Masters Degree programme of two years duration in Food Science and Biotechnology with special emphasis on development and design of Indian food products for export.
- b. Conduct Advanced Research for acquiring new knowledge for development of value added functional fermented foods based on the traditional fermented foods of India.
- c. Undertake scientific documentation of the health effects by carrying out unbiased clinical trials and analysis in a model laboratory of its own in collaboration with other faculties and institutions in the country and abroad.
- d. Serve as Reference Laboratory for scientific validation of nutritional, health and stability claims of functional fermented foods.
- e. Collect and store data on traditional fermented foods of India and other countries in South Asia as a basis for development of novel food products.
- f. Coordinate the functions of the SASNET - Fermented foods and develop its future activity in a sustainable manner.

A committee for development of this idea also will be established in connection with the next biannual meeting to be held at Anand in December 2009.

10. Development of a model production unit.

Value addition in the Indian agro food sector is very low. India's share of the global market is very small. The amounts of money spend by food and dairy industries for research and development aiming to produce value added products is not even visible in their annual financial reports. In general, food and dairy industries seem to prefer the status of followers instead of becoming trend setters and shy out from taking risk of investing in R&D. Without value addition, the productivity of the agro-food sector is low and consequently also the income level of the people who have their livelihood. In this background, the network feels that development of model production units would be a good activity for the network and it may also fetch financial benefit to its members.

One yoghurt plant making 10,000 liters/day of synbiotic yoghurt is being planned. A committee for advising and assisting the Coordinator in this matter will be established in the forth coming meeting (December 2009 at AAU).

11. We hope that **SASNET-Fermented Foods** in a few years will be recognized as
 - **A friend of the food scientists** connecting fermented foods to health status and social well being of the society.
 - **A source of up-to-date information for the food industry** for developing fermented foods for the health benefits.
 - **An authority** on Indian Fermented Foods.



Announcement...

Fourth International Conference on "Fermented Foods, Health Status and Social Well-being" will be organized at AAU, Anand during **December 11-12, 2009**. The brochure for the conference will be soon uploaded on www.fermented-foods.net

For getting detailed information on sponsorship, participation, contribution of oral and poster papers, etc, please send an e-mail on

anandconf2009@gmail.com

SNIPPETS

- *Membership to SASNET-Fermented Foods is open for all those interested in promoting fermented foods for health and social well-being. Download membership form from www.fermented-foods.net. You are welcome to take advantage of initial discounted fee.*
- *All the members are requested to update their contact details and designation by sending an email to the Coordinator.*
- *Please send us a brief note of your professional achievements, which may be inspiring to other members of the network for publishing in the newsletter.*
- *With the initiative of SASNET-Fermented Foods and Dr Baboo Nair, Dr JB Prajapati and Dr Anna Lindberg in particular, AAU became of the consortia partners in Erasmus Mundus External Cooperation Window 15 mobility program being financed by European Commission. Two academic staff and 10 students of AAU have been awarded this prestigious fellowship for a period of 2 to 34 months for education in Europe, while one academic staff from Lund University, Sweden is awarded this fellowship for academic activities at AAU.*



Of all the ingredients available from Chr. Hansen the most important one is inspiration. You'll find it in everything we make, from probiotic cultures with clinically documented health benefits to natural ingredient solutions for various dairy products. You'll experience it in person, too, every time you need a hand adapting one of our products to your process. The challenge of enhancing the taste, texture, appearance and performance of food and dairy goods is what drives us at Chr. Hansen. Because we know that making them more appealing to consumers is what inspires you.

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