IFSTSL
INSTITUTE OF FOOD SCIENCE & TECHNOLOGY SRI LANKA

INSTITUTE OF FOOD SCIENCE & TECHNOLOGY SRI LANKA

NEWSLETTER

VOLUME 4, ISSUE III
December 2015

15th Dec 2015	First IFSTSL Annual Research Session
8th Jan 2016	TRAINING SEMINAR ON MICROBIOLOGY LABORATORY ACCREDITATION

TRAINING SEMINAR ON
MICROBIOLOGY LABORATORY ACCREDITATION
PREPARATORY GUIDANCE FOR ACCREDITATION AGAINST INTERNATIONAL STANDARD ISO 17025:2005

Scope of the seminar: This training seminar covers the general requirements for accreditation that are laid down in the International Standard "General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2005)". Compliance with this standard provides a globally accepted basis for laboratory accreditation. The standard specifies the management and technical requirements to be met by testing and calibration laboratories in both their organization and their management of quality. While the ISO 17025:2005 provides a strong theoretical knowledge required in getting accreditation, the practical aspects requires much broader interpretation of the general requirements focusing on individual interests and activities of the laboratories. Conversion of these theoretical guidelines into practice focusing on the interests of the laboratory requires knowledge arising from vast experience. The contents of the seminar emphasizes the ways and means to obtain compliance with ISO 17025:2005 and to enable laboratories to identify whether their current operations meet the requirements of ISO 17025:2005 and, in those areas where they do not, to guide them in developing systems to achieve such compliance.

Resource person: Conducted by Emeritus Professor Upali Samarajeewa who has worked on laboratory accreditation as an International Expert for United Nations Industrial Development Organization and the Asian Development Bank in 20 countries since 1998. He has guided building up of more than 100 testing laboratories in the areas of microbiology, chemistry, pesticide residue analysis and heavy metal analysis through several accreditation bodies in the developed countries. IFSTSL is providing a golden opportunity for the Sri Lankan testing laboratories to gain knowledge, to plan the way-forward counting on his wide laboratory experiences, developmental approaches, and the techniques that has led to undisputed success internationally.

Ifstsl Colombo

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Program:
The planned activities aim in exposing the participants to a practical approach along with interactive short activities to guide them towards progress through commitment.

1. Introduction to concepts of Laboratory Accreditation.
2. Infrastructure development, maintenance of laboratories and financial requirements .
3. Preparation of quality system documents in line with ISO 17025:2005.
4. Preparation of technical documents for accreditation in line with technical requirements of the ISO 17025:2005.
5. Staff Responsibilities and quality management activities for successful gain and maintenance of accreditation.
6. Method validation and Proficiency testing as key to international acceptance
7. Discussion.

Date: 8th January, 2016 (9.00 am to 5.00 pm)

Venue: Renuka City Hotel, Colombo 03

Fee: Rs. 15,000 per participant (Rs 12,000 for members and employees of Corporate members of IFSTSL).

Who should participate: Laboratory managers, quality system managers, laboratory auditors, laboratory analysts, consultants, executive officers planning to get their laboratories accredited, persons engaged in construction of laboratories from the public and private sectors and the export oriented food industries operating testing laboratories.

FOR REGISTRATION AND DETAILS, CONTACT

IFSTSL secretariat (Mrs. Sandhya Fernando)
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FOOD AND AGRICULTURE ORGANIZATION ASSIST IN IMPROVING THE SAFETY AND QUALITY OF FOODS IN SRI LANKA

The FAO is currently engaged in assisting several programs focusing on improvements in quality and safety of local foods. The FAO assistance extends in to the areas of pesticide residue testing, preventing quality and quantity losses in the food chain with special reference to fruits & vegetables, and upgrading the national food control infrastructure to be in line with the international standards.

In the area of pesticide residue testing, assistance is provided to improve the testing laboratories of the Registrar of Pesticides to seek accreditation for checking pesticide formulations, examining heavy metals in pesticides, and testing pesticide residues in foods. The laboratories are ready to submit the applications by the end of the year for accreditation against the international standard ISO 17025:2005. Once accredited the results generated from the laboratories would be internationally acceptable, enabling strict controls on entry of undesirable agro-chemicals to the country.

In a second program, mechanisms to address quality and quantity losses in fruits and vegetables along the food chain, from farm to market, are addressed by examining the points of losses and providing education and facilities to handle the fruits and vegetables during sorting, transport and storage. The impact of this effort is expected to bring down the current losses in the range of 30-40% to at least 10%, bringing additional income to the farmers and high quality fresh produce to the consumers.

The Food Control system in Sri Lanka, currently operates under the Food Act No 26 of 1980 and regulations brought in under the Act from time to time. Sri Lanka is expected to meet obligations to the WTO as a signatory and follow safety and quality standards, identified under the agreements on Sanitary and Phyto-sanitary standards and those stipulated in the Codex Alimentarius Commission of the FAO/WHO. Addressing the phyto-sanitary and sanitary issues would bring in protection of humans and animals from diseases of plant and animal origin. All these goals require strengthening of the national food control structure. The FAO is currently engaged in assessment of the local situation relating to operation of the Food Laws, with the view to provide services of International Consultants to bring the food laws in line with international standards.

Emeritus Professor Upali Samarajeewa is engaged in these three activities as the national consultant. FAO is looking forward to have a long term initiative to provide technical assistance in much needed national developments in the area of food safety in Sri Lanka.

"The canopy in the Economic Trade Centre at Dambulla, helps to keep the fruits and vegetables protected from heat and sunlight reducing the quality losses at loading, unloading and short time storage" .

THE FIRST IFSTSL ANNUAL RESEARCH SESSION - 2015

The 01st Annual Research Session organized by the Institute of Food Science & Technology Sri Lanka (IFSTSL) will be held on 15th December, 2015 from 8.30 am to 4.00 pm at Renuka City Hotel Colombo 03. The objective of the IFSTSL Research Session is to give an opportunity for graduates to present research findings on food science, food technology, food and nutrition, food analysis and allied fields to the members of the food industry thereby create a common platform to have a linkage between universities and food industry in Sri Lanka. This would help to identify mechanisms to utilize the research findings of universities for the betterment of Sri Lankan food industry and to create employment opportunities for the talented graduates. The presenters represent five state Universities of Sri Lanka. Attendees include members from the food industry, academics, researchers, students, and other interested individuals.

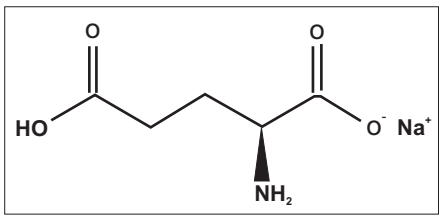
Addressing Contamination Problems in the Food Industry: Technical Guidance

A seminar organized by the Institute of Food Science & Technology Sri Lanka

It has been observed over the last few years that the most of Sri Lankan food companies use inappropriate approaches, techniques in assessing microbiological issues faced by them and interpretation of test results. Specially in the international trade, these test methods and test reports should comply with the internationally recognized procedures and standards. The Institute of Food Science & Technology Sri Lanka recognized this as a timely requirement to be addressed for the betterment of the Sri Lankan food industry and a seminar on "Addressing Contamination Problems in the Food Industry: Technical Guidance" was held on 08th August at BMICH in parallel with the ProFood/ProPack- AgBiz exhibition 2015 as a half a day session. This seminar covered the methods to understand the sources and causes of microbiological issues in industrial settings, good practices that can be adhered in preventing the occurrence of issues, tackling problems and microbiological data interpretation and reporting during food exportation. Emiritus Professor Upali Samarajeewa, Dr. Niranjan Rajapakse and Dr. Eresha Mendis served as resource personnel.

MONOSODIUM GLUTAMATE AND HEALTH IMPLICATIONS

Monosodium glutamate (MSG) was first isolated in 1908, and it is used widely today as a flavor enhancer in foods. It would be hard to find a person who has not enjoyed the taste simulations created in foods by MSG. The sensory response in humans to MSG does not arise through the normal buds in the tongue detecting the four basic flavors sweet, sour, bitter and salt. It is suggested that the effect of MSG is due to detection by special L-glutamate receptors in the tongue. Its effect is also described to be due to the suppression of bitterness and sourness, and enhancing the responses related to sweetness and salt. In the middle of the last century the literature described MSG as a substance creating a new flavor named "Umami". However, this concept is yet to be scientifically accepted. MSG containing two simple components sodium and glutamate, carry 30% less sodium than common salt and the glutamic acid naturally present in several foods. Glutamic acid is one of the abundant amino acid among 22 amino acids that constitute proteins.



Glutamic acid contributes to the flavor of a variety of natural foods and is a component in yeast extracts and acid hydrolyzed vegetable proteins. Unbound glutamate is present in lentils (120 mg/100g), tomatoes (246 mg/100g), onions (18 mg/100g), beef (33 mg/100g) and eggs (23 mg/100g). Higher concentrations of bound glutamate are present in the same products naturally, and released during digestion of the foods. MSG is produced industrially by fermenting corn, sugar or manioc using microorganism *Corynebacterium glutamicum*, and is purified for use in the food industry as white crystals of more than 99% purity. In 1958, MSG was identified along with many other food additives as a substance "Generally Recognized As Safe" (GRAS) by the WHO/FAO Codex committee engaged in examination and guiding the safety of foods, and it continues to remain as a GRAS substance.

While MSG has wide global acceptance and extensive use as a flavor enhancer both in processed foods and cuisines, there are concerns expressed by various groups on its safety as a food additive. The temporary responses of heavy head experienced by some individuals after consuming MSG containing meals were described in the literature as "Chinese Restaurant Syndrome" linking to major exposure sites.

The health concerns expressed by many persons, interested individuals, public media and public organizations resulted in 4 international bodies committed to food safety work, examining all the available research findings, complaints, case reports and implied health effects reported during the period 1978 to 1992. The five bodies were Select Committee on GRAS substances, FAO/WHO Committee on food additives, Commission of the European Communities, Council of Scientific Affairs of the American Medical Association and an expert panel of the Institute of Food Technology (IFT) in USA. They are all prestigious and pre-eminent entities within their subject areas. There were independent reports published after each study and later, The Federation of American Societies of Experimental Biology did another review which was published under the title "Analysis of Adverse Reactions to Monosodium Glutamate". The information arising from the expert reviews are used in preparation of this document.

The symptoms reported in more commonly, where MSG was supposed to be the cause of an adverse effect included pains, burning sensations in fore arm, neck and chest, tingling warmth and weakness in face, nausea, headaches, palpitations, drowsiness and bronchospasms in persons suffering from asthma. It appears from experimental evidence that there is a subgroup of healthy humans responding to consumption of doses of above 3 grams of MSG in the absence of food, meaning taken on empty stomach as pure MSG. The average consumption of glutamate is around 0.55 grams per day by individuals through foods, which is much below the levels that has been shown to create responses in certain individuals. Concentrations of glutamates in the range of 0.1 to 0.8 % by weight of food are observed in consumption of tomato and Parmesan cheese. Similar exposures do occur through consumption of yeast extracts containing 5.2% glutamic acid, and acid hydrolyzed vegetable proteins containing 8.2% glutamic acid and even soy sauce. It is obvious that the responses of certain individuals probably represent an overexposure to the additive MSG, in the same lines as overexposures to many additives. Overexposure to components in foods present as additives or naturally could create undesirable responses in humans. The adverse health effects setting in humans due to heavy and continuous consumption of sugars, salts or saturated fats through normal diet are well known. Even with natural foods, which are supposed to be in line with human evolution there are components such as cyanide in manioc and several other foods, and oxalates in tomato which could lead to unexpected health effects instantly or on long term. Thus adverse effects on human health cannot be expected in use of MSG within recommended doses applied to achieve the technical effect of flavor enhancement in foods.

The wealth of research data examined has clearly shown that the individuals showing adverse reactions to MSG are those with asthma. There are speculations based on limited scientific evidence on the possibility of persons suffering from Vitamin B6 malnutrition, females taking oral contraceptives, and individuals with affective disorders exhibiting responses to MSG.

In normal human populations there are difficulties in identifying whether the claimed allergic responses are solely due to MSG, as histamines in foods could cause similar responses. There are no reports of estimating blood glutamate levels in any of the reported and examined cases to confirm positively whether the health effects are due to glutamates itself.

The hazards associated with foods in relation to permitted ingredients are dose related in most instances. In certain countries in the Mekong region, one could observe MSG packets of weight 500 g or 1 kg and they are purchased by individuals for household use. The packets available in markets in Sri Lanka are of a much lesser weight. Thus the exposure of individuals to MSG in Sri Lanka is probably well within allowed limits. However, situations where excessive use of MSG may occur in large scale food preparations. WHO/FAO Codex Committee on food additives approved the use of MSG in 1999 and the approval continues to hold even today. Most instances of adverse reactions reported for MSG are linked to use of heavy doses than permitted. One of the incidents reported recently in the press associated with use of MSG from a neighboring country, was due to addition of much higher concentrations than permitted in certain foods. The key to controlled use of food additives lie in the genuine adoption of Good Manufacturing Practices (GMP) and Hazard Analysis and Critical Control Principles (HACCP) by the food industries. Application of these food safety management systems make it compulsory to document the intended and actually used concentrations of food additives, including MSG, and declare their usage in the labels so that the individuals who may carry factors that make it impossible to consume foods containing MSG, or for that matter any other food additives could best avoid them. One of the incidents reported recently in the press associated with use of MSG was due to use of much higher concentrations than permitted in certain foods.

In summary, all prestigious international bodies committed to food safety have observed that there is no scientific evidence linking MSG in foods with serious long term medical problems in the general human population, consuming normal levels of glutamates. Finally, the decision of choosing foods lies in the hands of the consumers who should be well educated in selection of foods for nutritional and sensory attributes to meet their needs.

Emeritus Professor Upali Samarajeewa
President,
Institute of Food Science and Technology Sri Lanka

MODERN ASPECTS OF RICE PROCESSING

Prof. Keerthi B. Palipane

The Sri Lankan economy has traditionally been dominated by Agriculture. The production of paddy has occupied an extremely important place in the agriculture sector. Rice processing industry is the largest agro-based industry in the country turning more value of product than any other industry. Rice milling involves converting paddy into an edible form and consists essentially of removing the paddy husk followed by removing the rice bran either partially or wholly. There are two main forms of rice mills in the country, namely custom and commercial rice mills. The custom rice mills are those that mill rice belonging to farmers for a milling hire, and the commercial rice mills are those that mill paddy purchased from growers and produce rice for the open market. The total milling capacity in the country is approximately 12000 metric tons per day.

The primary objective in rice milling is to produce maximum number of unbroken grains that have had their bran layers uniformly removed, resulting in an appearance that is of a desired color and luster. Rice processing plants in Sri Lanka can be categorized into three main types depending on the machinery used namely traditional, semi-modern, and modern types. Other than these three categories, a new category called the ultra-modern type rice mill has emerged in the present rice processing industry. Both raw and parboiled rice are processed in these rice processing plants.

In the traditional huller type of mills, both de-husking and polishing operations are performed by one or two steel hullers or de-husking is performed by using Rubber roll sheller and polishing is done by steel huller. The rice recovery is low and the quality of rice produced is poor with a high level of grain breakage and discoloration. Power consumption is also very high.

A semi-modern rice mill is an improvement of the traditional huller type mill. A pre-cleaner is used for initial cleaning of paddy. Rubber roll sheller is used for the de-husking operation and friction polisher is used for the polishing operation. A de-stoner is used for removing stones from rice. Some of the semi-modern mills are custom type and others are commercial type or both. The rice recovery level in this type of rice processing plant is also low and quality of rice produced is poor.

A modern rice mill has specialized machines for each operation in the process line. This type of plant consists of a pre-cleaner for initial cleaning of paddy, a rubber roll sheller for paddy de-husking, separator to separate paddy grains from rice, a combination of abrasive type and friction type polishers for primary, secondary and final polishing of unpolished (brown) rice and de-stoners for removal of stones from the rice. Elevators are used to convey paddy and rice from machine to machine. In addition to these machines, bran aspirators and graders are used to obtain superior quality rice. Few millers have also installed water shining polishers for final polishing and color sorters for removing discolored grains in their modern type rice milling plants. The rice recovery in a modern

type of rice mill is considerably higher than that of the traditional and semi-modern mills. The quality of the processed rice is also reasonably good.

The primary objective of modernizing rice processing plants is to maximize the amount of unbroken rice with desired color and luster in the milled product. The secondary objectives of modern rice processing are maximized throughput capacity, minimized consumption of power, minimized consumption of consumable parts and maximized productivity of human resources.

The process line of an ultra modern rice processing plant can be divided in to six stages namely cleaning, hulling, whitening or polishing, grading, optical sorting and packing. This type of processing plant has specialized machines for each unit operation. The cleaning section has the pre-cleaner and the de-stoner. The pre-cleaner removes large, small and light impurities whereas the de-stoner separates heavy impurities like stones present in the incoming paddy. The hulling stage has the rubber roll sheller, paddy separator and in some mills thin/thick grader. Rubber roll sheller shells paddy and separates hulls and kernels into two fractions. Paddy separator separates unshelled kernels from brown rice. Thick/thin drum grader grades rice by thickness. The whitening and polishing stage consists of combination of abrasive type whiteners, friction type whiteners or both and water mist polishers. The whitener machines process rice in several phases to have a sparkling white appearance. The polisher polishes rice to gain a pearly high gloss luster. The grading stage has sifter and indented cylinder grader. The sifter typically separates the milled rice in to three groups: whole grains, mixture of whole and broken grains and small brokens. The separation of milled rice into whole and broken grains is done by indented cylinder grader or length grader. The optical sorting stage has only a color sorter. The color sorter removes discolored grains from rice. The material handling equipment like elevators, screw conveyors, belt conveyors are used to convey paddy and rice from machine to machine and place to place.

Since the demand for superior quality rice is continuously increasing in the global as well as in the domestic market it is important to modernize the prevailing rice processing plants to sustain high quality production in the future rice industry.

NEWS FROM IFSTSL MEMBERS

Dr. Nimsha Sevwandika Weerakkody is serving as a committee member of the IFSTSL for the year 2015. She is a Senior Lecturer attached to the Department of Agricultural and Plantation Engineering of the Open University of Sri Lanka (OUSL), Nawala. She joined the OUSL in 2004 as a probationary Lecturer and after completing her PhD in Food Molecular and Microbiology at the University of Queensland, Australia, she was promoted as a Senior Lecturer in 2011. She was appointed as the head of Department since 15th October 2015.

COMMITMENT AND HARD WORK: THE KEY TO SUCCESS IN SERVICE TO PALMYRAH FOOD INDUSTRY

Miss Sageetha Sriskandarajah, a food science graduate from university of Sri Jayewardenepura has been successful in contributing to the palmyrah based food product development through a series of research activities addressing value addition and quality improvements to palmyrah products, focusing on working at appropriate level technology to be used at small and medium industries and cooperative societies in Jaffna. Her efforts have resulted in introducing to the market a palmyrah fruit pulp incorporated stirred yogurt, a jelly yogurt, and a precooked supplementary food, Palmposha, an improved palm tuber flour. The products are available at the sales points of the Palmyrah Development Board.

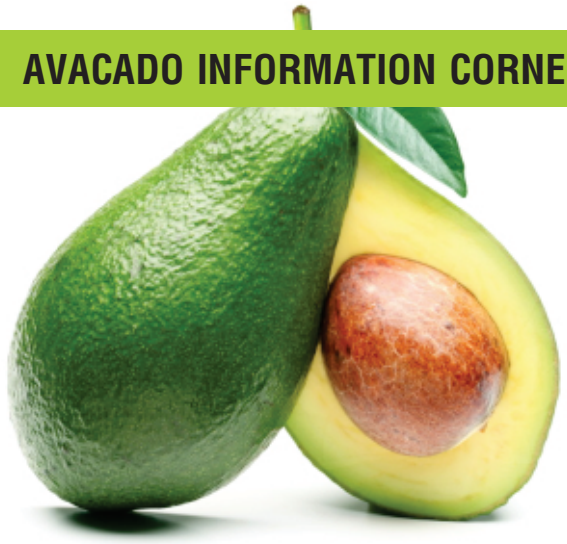
Development of technology to improve the quality of palmyrah tuber flour based precooked supplementary food (Palmposha) was an appropriate level effort that resulted in introduction of Palmposha, which is now commercially available in the sales outlets of Palmyrah Development Board. The Ministry of Traditional Industries and Small Enterprise Development recognized her contribution to the development of palmyrah food industry with an honorary award in 2014. She also has contributed to trainings and workshops conducted by Sri Lanka Food Processors Association as a certified trainer imparting new knowledge since 2014. She is an associate member of the IFSTSL.

DISCUSSION ON BILATERAL TRADE BETWEEN SRI LANKA AND BANGLADESH

A discussion on bilateral trade between Sri Lanka and Bangladesh was held at the National Chamber of Commerce (NCC) auditorium on 30th June 2015 which I attended. This was organized by NCC and the keynote speaker was His Excellency Tarik Ahsan the High Commissioner for Bangladesh in Sri Lanka. At the discussion that followed the speeches I took up the case of the possibility of Sri Lanka supplying the refined coconut oil requirements of Bangladesh for the manufacture of confectionery products. In my experience I am aware that some companies in Bangladesh import refined coconut oil from East Asian countries. Sri Lankan product is of high quality but they are unable to import the Sri Lankan product to Bangladesh as there is an import duty rate of 25% payable since the product (HS Code 15. 13. 19000) is in the SAFTA sensitive list for NLDCs. I requested the High Commissioner to persuade Bangladesh authorities to remove this product from the SAFTA negative list.

Mr. Cyril Wickramaratne
Editor/IFSTSL

AVACADO INFORMATION CORNER



Avacado is one of the most consumer preferred fruits in Sri Lanka. It is gaining higher popularity all around the world pertaining to its functional properties that are attributed to its composition. Avacado is well grown mainly in the wet zone of Sri Lanka. Kegalle, Kandy, Matale , Bandarawela and Nuwara Eliya are the districts highly contributing to the production of Avacado. Other potential areas for cultivaton of Avacado include Colombo, Gampaha and Kurunagala. Avacado is getting popular in home gardens of intermediate zone of Sri Lanka as well. This fruit possesses two main seasons, the longer season falls between May and August and the low production period falls between September and March. Due to high perishable nature currently there are very high degree of postharvest losses which limit the profit margins for Avacado growers. However, higher availability for a relatively longer period provides the opportunity for manufacturers to go for product development in Sri Lanka. This corner gives you few product development attempts which Avacado has been incorporated into new products in recent years. It is expected that these findings will motivate the potential manufacturers to go for product diversification targeting a better economic outcome and the health promotion of Sri Lankan consumers.

THE EFFECT OF DIETARY PHYTOSTEROL AND UNSATURATED FATTY ACIDS ON CHOLESTEROL LOWERING EFFECT

Dr. Ananda Chandrasekara
Senior Research Scientist

Hypercholesterolemia represents a significant risk for cardiovascular disease (CVD). Dietary plant sterols (phytosterols) and unsaturated fatty acids have been shown to improve the lipoprotein profile in animals and humans. In this study Avacado, soy milk and olive pulp were incorporated to a drink to have higher dietary phytosterols and unsaturated fatty acids. This drink was adminitered to human subjects to find out the effect of consumption of diet containing phytosterols and mono and poly unsaturated fatty acids on serum lipoprotein.

For this purpose, a convenience sample of 50 adult volunteers were used to conduct the clinical trial. Out of 50 initial subjects, 36 completed the study (14 drop outs). All the subjects were given freshly prepared minimum of fourteen fruit based drink consisting 45% Avocado pulp, 10% Soy milk, 2.5% Ceylon olive pulp within a period of 3 weeks. Pre and post intervention fasted blood samples were collected and analyzed for serum cholesterol and lipoproteins.

According to the results mean (± SEM) serum cholesterol concentration at the pre-trial stage was recorded as 227.9(± 6.7) mg/dl; High Density Lipoprotein (HDL) was 37.3 (± 2.2) mg/dl and Low Density Lipoprotein was 148.2 (± 6.8) mg/dl. An 11.2% significant reduction of serum cholesterol was observed at the end of the trial. Serum HDL concentration was increased by 37.3% compared to the pre-trial readings.

Analyzing the results of this study it was concluded that the food drink comprising avocado, Ceylon olive and soy bean substantially reduce serum cholesterol and may account partly for the cholesterol-lowering activity attributed to functions of phytosterols and unsaturated fatty acids.

DEVELOPMENT OF AN AVOCADO FAT INCORPORATED BUTTER

Ms. V. Rizliya and Ms. Ranithri Abenayaka
Department of Food Science and Technology
Faculty of Agriculture, University of Peradeniya

Butter consists mostly of saturated fat and is a significant source of cholesterol. For these reasons, butter is believed to be a main contributor in the development of cardiovascular diseases and other non-communicable diseases. Margarine was recommended as a substitute to butter as it is high in unsaturated fats and contains little or no cholesterol. But in recent years, it has been shown that the Trans fats contained in partially hydrogenated oils used in typical margarines to significantly raise undesirable LDL-cholesterol levels (bad cholesterol or low density lipoproteins carrying cholesterol in the blood). To date, no one has tried to incorporate good fat, that is, monounsaturated (MUFA) and polyunsaturated fats (PUFA) in to conventional butter. Plants are rich sources of PUFA and MUFAs. In addition to this, they are also rich sources of antioxidant compounds such as phenolic acids, carotenoids and anthocyanins. Avocado is a seasonal fruit rich in monounsaturated fats which is grown widely in Sri Lanka. Avocados contain oleic acid, a monounsaturated fat that may help to lower cholesterol. For these reasons incorporating avocado cream into butter can be considered as a good move to enhance nutritional properties of butter. Therefore, the primary aim of our study was to develop a novel butter with high degree of unsaturation with enhanced functional properties such as antioxidant and hypolidemic activity.

The butter was produced using avocado cream and milk cream. The main challenge in producing the butter was the difference in behavior of milk fat and avocado fat. Confirmation of the presence of avocado fat in butter was done by assessing yield increase. Yield increase study confirmed the presence of avocado fat in butter and also textural studies also proved the presence of the fat. The butter produced by incorporating avocado fat was smoother than the conventional butter and the spreadability was also high in butter with avocado fat. Sensory test scores were higher for the butter with high percentage of avocado. The flavor of avocado was detectable in the butter with high amount of avocado and this was proven to be acceptable by the sensory panel.

OBJECTIVES OF IFSTSL

- To create an apex body representative of professionals involved with the processed food industry of Sri Lanka.
- To uplift the level of professionalism within the food processing sector in the country.
- To benchmark and promote best practices beneficial to the national processed food industry.
- To interact at an advisory level with state bodies engaging the Government and consumer representation in all national policies and regulatory matters.
- To serve as a forum for professionals to exchange ideas, conduct research and promote innovation.
- To conduct educational programs, training programs, award certificates and engage in any knowledge infusing activities which benefit the sector.
- To develop, nurture and promote the national image and the competitiveness of the food processing sector.
- To pursue co-ordination and interaction with Non-Governmental Organizations, International Funding Agencies and fellow professional bodies in furtherance of these objectives.
- To undertake all matters incidental or conducive to the

MEMBERSHIP BASE OF IFSTSL

The membership base of IFSTSL is rapidly expanding with more persons from the industry and potential employees of the industry, the university students reading for degrees in Food Science & Technology enrolling and participating in the activities of the Institute. This is a healthy sign for the future of the food industry in Sri Lanka.

EXECUTIVE COMMITTEE FOR THE YEAR 2014/2015

BOARD OF GOVERNORS

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FOOD FOR THOUGHT

Developing right mindfulness for stress reduction

At a time no one seems to have enough time, our modern devices allow us to be in many places at once.

Right mindfulness is to quieten down a busy mind becoming better aware of the present moment and not to get caught up in what happened in the past or what is going to happen in the future, as a means to deal with stress. If distraction is the condition of our age , right mindfulness is the logical response to it.

Scientists have proved right mindfulness training can lower cortisol levels and lower blood pressure and increase immune response.

1. Sit cross legged on a cushion on the floor or sit in a chair keeping your back straight. Take a deep breath and close your eyes.
2. Notice your breath. Focus on the sensation of air moving in and out of your lungs.
3. As thoughts come in to your mind & distract you from your breathing, acknowledge your thoughts and return to focusing on your breathing each time.
4. Your job is simply to notice that your mind has wondered and bring your attention back to breathing.

Do 10 minutes per day to see the enormous peace you acquire and how you react to things without agitation but calm and composed, dissolving stress and gaining peace and happiness through loving, kindness , softer attitude and see things as they are whether, they be thoughts, words or actions to deal with the right attitude walking towards divinity inherent only to humanity.

Mrs. Sunanda Weerasinghe
President – Sri Lanka Food Processors Association

IFSTSL - MEMBERSHIP

IFSTSL membership is open to all those who are engaged in the food industry. The following membership categories are available for individual applicants and corporate bodies.

- **Fellow members**
- **Associate members**
- **Student members**
- **Corporate members**
- **Associate corporate members**
- **Interim members**

Information and the application forms for membership could be obtained from:

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