



ASSOCIATION OF FOOD SCIENTISTS AND TECHNOLOGISTS (INDIA) *Newsletter of the Delhi Chapter*

THEME: FOOD PACKAGING AND LABELLING

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Message from the President's Desk

Dear Reader,

I am delighted to bring to you the fifth edition of our newsletter. It serves as a medium for all of us to stay connected, share ideas, experiences and expertise with each other.

Food safety and security are promoted by innovative technologies in food processing and, what is equally important is food packaging. Our April issue is dedicated to **Food Packaging and Labelling**. It is well known that in the whole chain from agricultural production, food processing, transportation and storage, quality and safety of food products are ensured by efficient packaging. The role of packaging and labelling today is not only restricted to preserve and protect

the food product, but rather communicate and convey information to the consumer. Well packaged foods and beverages not only help in ensuring food safety but they also extend the reach of supply chain with increased shelf life, and increased availability of foods for the masses. A package is the face of a product and often is the only product exposure consumers experience prior to purchase. Similarly, the label of the food is a mandatory legal and regulatory requirement for the product identification, nutritional facts, and ingredients, in addition to instructions for use, alerts and warnings.

However, it is crucial that the packaging materials are managed in an environmentally friendly manner. The recent blanket ban imposed on the use all kinds of plastic by the Government of Maharashtra and later revoked for small PET and PETE bottles with capacity of less than half litre in the state has triggered off a massive debate. The growing quantity of plastic waste in the country has pushed the need and search for newer ways of packaging. The government has made installation of vending and crushing machines necessary at starred hotels, malls, tourist places and public places across the state. Therefore, managing waste is very critical in the interest of environment protection and public health. Cooperation and active participation of all stakeholders is required to bring a change in the approach towards waste management, recycling and environment protection. While the government can make rules, industry, consumers and NGOs have to be equal partners with shared responsibilities.

The answer to the problem is not banning plastic altogether but enforcing proper disposal and giving facility and reward for collection. There should be very strict monitoring and enforcement of law against littering. Plastic is extremely useful and we should use it and dispose it sensibly. Implementing strategy of "Reduce, Reuse, Recycle" for plastic packaging material by government with public participation and creating awareness is very important.



Eram S. Rao

Message from the Editor's Desk

Dear Reader,

Hope you enjoyed the November issue of the AFST(I) Delhi Chapter newsletter. The theme of this issue is 'Food Packaging and Labelling.' We have for you a feature article by Shri Deepak Khedkar on 'Innovations in Food Packaging.' He highlights the innovations which have taken place in packaging due to changes in technology as well as consumer needs. He also stresses the need for safety evaluation of packaging materials and sustainable solutions for disposal of packaging waste material. Dr Seema Puri is the expert for this newsletter giving her opinion on 'Nutrition Labelling' in India. She talks about how the label can be an important source of nutrition information for the consumer and help the consumer make healthy food choices.



Glimpses of the varied activities undertaken by the AFST(I) Delhi Chapter have been presented in the newsletter to keep you updated. Our usual sections on Current Affairs and Research and Development news on the campus bring to you news on recent Packaging and Labelling Regulations as well as research work done in the colleges of University of Delhi.

This newsletter also covers the ascent of young entrepreneurs on the campus who while pursuing their regular courses have set up their own micro enterprises and are doing well for themselves. They are indeed an inspiration for their fellow students!

We sincerely hope you find this newsletter interesting and informative. We look forward to your valuable comments and suggestions for the same.



Dr. Pulkit Mathur
Editor

Featured Article

INNOVATIONS IN FOOD PACKAGING

Deepak Khedkar

Technical Consultant, Food & Packaging Technology

Introduction

Packaging is essential and critical for promoting food safety and extended shelf life. With globalization of food distribution networks packaging plays a vital role in ensuring that the final product is safe and secure for consumption.

A variety of packaging materials are being used by the food and beverage industry. Over the years there has been a shift in the packaging material used ranging from glass and metal to currently paper and plastics. The two main principle objectives of packaging are –

1. Protect and preserve the food and thereby protect consumer health.
2. Inform the consumer about the content of the product, date of manufacture and MRP etc. through label and help them in buying the product.

There have been many technological breakthroughs in recent years in food packaging. New packaging materials have been developed to ensure that they are beneficial throughout the life cycle, are designed to meet market criteria for performance and cost, are manufactured using clean production technologies and best practices, are physically designed to optimize material and energy uses and can be effectively recovered mechanically, biologically or as energy.



Benefits of Food Packaging

Well packed foods and beverages help to ensure food safety, but they also extend the reach of supply chain with increased shelf life and enhance the affordability of foods for masses. Packaged foods have played an important role in growth of food industry, trade and enhancing food security.

However, the basic functions of packaging are more specifically stated:

- **Containment:** depends on the product's physical form and nature. For example, a hygroscopic free-flowing powder or viscous and acidic tomato concentrates
- **Protection:** prevention of mechanical damage due to the hazards of distribution
- **Preservation:** prevention or inhibition of chemical changes, biochemical changes and microbiological spoilage
- **Information about the product:** legal requirements, product ingredients, use etc.
- **Convenience:** for the pack handlers and user(s) throughout the packaging chain
- **Presentation:** material type, shape, size, colour, merchandising display units etc.
- **Brand communication:** e.g. pack persona by the use of typography, symbols, illustrations, advertising and colour, thereby creating visual impact
- **Promotion (Selling):** free extra product, new product, money off etc.
- **Economy:** for example, efficiency in distribution, production and storage
- **Environmental responsibility:** in manufacture, use, reuse, or recycling and final disposal.

Packaged food and beverage also offer benefits:

- Customer's valued packaging and product characteristics, for example, aesthetic, flavour, convenience, functional and environmental performance
- Marketing requirements for packaging and product innovation to establish a distinct (product/service) brand proposition; protect brand integrity and satisfy anticipated demand at an acceptable profit in accordance with marketing strategy
- Supply chain considerations such as compatibility with existing pack range and/or manufacturing system
- Legislation and its operational/financial impacts, for example, regulations regarding food hygiene, labelling, weights and measures, food contact materials, due diligence etc.
- Environmental requirements or pressures and their impacts, for example, light-weighting to reduce impact of taxes or levies on amount of packaging used

When food is produced openly in the market the consumer's health is at risk because the food is exposed to the environment.

Innovation in Packaging Materials

Changing consumer needs is the major force for innovation. Few are listed below:

- Changes in income level, demographic profile and life style changes
- Age profile of Indian population and opening of new consumer segment (9 -12 years group)
- Increased uses of internet and smart phones has shifted consumer awareness and buying pattern
- Growing health and environment consciousness
- Technological innovation every day
- Rising complexity of decision making for consumers
- Growth of small families and demand for small packs, single use consumer pack, flexible and handy pack, long shelf life pack
- Growth of private label, convenience stores and mega stores developed the need of shelf stable pack

The packaging industry has made significant efforts, for both commercial and environmental reasons, to optimize the use of packaging material and its environmental impact through light-weighting and packaging redesign. Examples of light-weighting are given below (*Source: INCPEN*):

- Food cans – 50% lighter than 50 years ago
- Yoghurt pots – 60% lighter than 30 years ago
- PET bottles for carbonated drinks – 33% lighter than almost 30 years ago
- Drinks cartons – 16% lighter than 10 years ago

Efforts are also being made for edible packaging material, biodegradable cellulose based packaging material, and gelatin based packaging material.

Metal is used for most canned food and beverage containers for ambient shelf storage. These are subjected to some form of heat process to prolong the shelf life of the product. For food cans, this will normally provide a shelf life of up to 2–3 years or more.

Recent innovations in the design and manufacture of metal packaging for food products include: large opening stay-on-tab ends for drink cans, widgets to provide a foam head to beer and chilled coffee, self-heating and self-chilling drink cans, full aperture food can ends which are easier to open, square section processed food cans for more efficient shelf storage, peel-able membrane ends for processed food cans, two-piece draw and wall iron as well as two-piece draw redraw cans made from steel with plastic extrusion coatings.

The **glass** package has a modern profile with distinct advantages, including:

- Quality perception, transparency, surface texture, colour decorative possibilities, impermeability, chemical integrity, design potential, heat processable, microwaveable, tamper evident, ease of opening, UV protection, strength, hygiene aesthetic appeal, product visibility and associated appetite appeal, re-seal ability, environmental benefits.
- Glass being an inert material, from a health and hygiene viewpoint offers great safety to the foods and beverages.
- Compatibility of glass material enables liquid and solid foods to be stored for long periods of time without adverse effects on the quality or flavour of the product.
- Market research has indicated that consumers attach a high quality perception to glass packaged products.

Selecting the correct glass finish to suit the closure to be used is essential. Advice on suitability should be sought from both the closure and the glass manufacturers before the final choice is made. A wide range of decorative formats are available for labelling, viz. silk screen printing with ceramic inks, plastic sleeving, acid etching, organic and inorganic colour coating and embossing (with good definition), especially for carbonated products.

Paper and paperboard materials are used for primary packaging (point of sale), in storage and for secondary packaging (distribution). Those used for packaging range from thin tissues to thick boards. The wide range of application of paper and paperboard based packaging includes, paper bags, wrapping, packaging papers and infusible tissues, e.g. tea and coffee bags, sachets, pouches, overwrapping paper, sugar and flour bags, carrier bags, multiwall paper sacks, folding cartons and rigid boxes, corrugated and solid fibre-board boxes (shipping cases), paper based tubes, tubs and composite containers, fibre drums, liquid packaging, moulded pulp containers, labels, sealing tapes, cushioning materials, cap liners (sealing wads) and diaphragms (membranes).

Paper and paperboard packaging is used to pack food/beverage products with a wide temperature range, from frozen food storage to the high temperatures of boiling water and heating in microwave and conventional radiant heat ovens.

Plastics are widely used for food and beverage packaging materials. The major advantage is their bio-inertness, resistance to corrosion and stability under acidic or alkaline condition.

Plastics also have the following features:

- Adaptability- can be easily molded in any shapes.
- Versatility- offers endless packaging option i.e. pouches, bottles, blisters, flow wraps, containers, films, trays, shells, drums.
- Provide protection to the product over entire shelf life cycle of the product.
- They are cost effective in meeting market needs.

- They are lightweight.
- They provide choices in respect of transparency, colour, heat sealing, heat resistance and barrier properties as needed.
- Plastics are commonly and frequently recycled.

Plastics have properties of strength and toughness. Specific plastics can meet the needs of a wide temperature range, from deep frozen food processing (-40°C) and storage (-20°C) to the high temperatures of retort sterilization (121°C), and reheating of packaged food products by microwave (100°C) and radiant heat (200°C). Most packaging plastics are thermoplastic. This feature has several important implications for the use and performance of plastics, as in the forming of containers, film manufacture and heat sealability.

The selection of plastic material used for packaging of food and beverages depends on:

- Type of plastic
- Thickness and surface area of film
- Method of processing and product characteristics
- Concentration or partial pressure of the permeant molecule and the barrier protection properties of certain plastic
- Storage temperature

Plastics are chosen for specific technical applications taking the specific needs, in packing, distribution and storage, and use of the product into consideration, as well as for marketing reasons, which can include considerations of environmental perception.

Retort pouch

The retort pouch is a rectangular, flexible, laminated plastic, four-side hermetically sealed pouch in which food is thermally processed. It is a lightweight, high-quality, durable, convenient and shelf stable pack. Foods packed and processed in retort pouches are in successful commercial use for a wide variety of foodstuffs in several countries.

Aseptic Packaging

Aseptic packaging is very well accepted in food service applications worldwide as a safe and high-quality packaging option. Aseptic processing sterilizes food products by destroying the harmful bacteria and pathogenic micro-organisms through a tightly controlled thermal process and combines the sterile product with the sterile packaging material in a sterile environment; the end result is a shelf-stable product requiring no refrigeration.

Bulk Aseptic Packaging

‘Aseptic Bag-In-Box’ system caters to packaging of ‘high’ as well as ‘low’ acid products and products containing particles for filling range from 25 litres up to 1140 litres. Typical packaging applications are:

- Fruit Juices, concentrates, purees
- Tomato Products
- Milk and Cream
- Coconut Products
- Jam

Safety Assessment of Packaging Materials

Packaging is a means of ensuring safe delivery of products to consumer. Packaging keeps foods safe from contamination, retaining the nutritional properties and sensory characteristics, provides tamper evidence, and the display of product information, as well as reuse or recycling features. Materials intended to come into contact with food must be safe as it interacts with food during processing, storage, and transportation.

Many international bodies have endorsed the usage of PET bottles for packaging based on assessment under conditions harsher than those prevalent in India. These include: WHO, Canadian and Spanish Governments, ILSI and NAPCOR, USA.

Regulation states that a product for contact with foodstuff must not:

- Endanger human health
- Bring about an unacceptable change in the composition of the food
- Bring about deterioration in the organoleptic characteristics of the food and this cannot be complied with on the basis of an overall migration test.

Food may pick up contaminants at multiple steps along the supply chain, from the point where raw ingredients are raised to the final dishing up of a meal. Compliance to International guidelines of A/WHO/OECD/FSSAI/BIS/HACCP/ISO 22000/Codex Alimentarius etc are necessary. Some guidelines are country specific such as the US FDA and the US Department of Agriculture; others are regional such as the European Food Safety Authority. Food packaging considerations include use of Hazard Analysis and Critical Control Points, Verification and validation protocols, Good manufacturing practices, use of an effective Quality Management System, Track and trace systems, requirements for label content. Safety of ancillary materials in food packaging needs to be established with focus on overall migration and toxicology. With the importance/relevance of packaging, sustainable waste disposal mechanisms are gaining more and more importance. The role of regulatory authorities across the globe w.r.t. handling, segregation and disposal of packaging material post consumption for a safe sustainable environment is a key task for the day.

Innovations in the field are:

- Smart packaging and active packaging mainly focused on the device indicators, interaction with the product, delivering information conditions like freshness, humidity, leakages, temperature, etc., and new devices, like the data matrix system and the new RFID technologies.
- Environment Protection-Sustainability, Recycling, composting, material lightness, PETs, bioplastics, etc.
- Improvements— Size, family packs, microwaveable or bakeable packs, and self- heating/cooling containers.

Life Cycle Analysis

Lifecycle analysis (LCA) takes into consideration various aspects of environmental impacts and provides tools and techniques to decide the appropriate product format and packaging system.

Effective legislation sets the foundation for recycling. However, recycling has to be a shared responsibility among consumers, government and the private sector. Collective aim should be that eventually all materials get recovered / recycled. Recycling diverts materials from the waste stream to material recovery. Unlike reuse, which involves using a returned product in its original form, recycling involves reprocessing material into new products. A typical recycling program entails collection, sorting and processing, manufacturing, and sale of recycled materials and products. Almost all packaging materials (glass, metal, thermoplastic, paper, and paperboard) are technically recyclable, but economics favour easily identified materials such as glass, metal, high-density polyethylene, and polyethylene terephthalate.

FOOD LABELLING

Dr Seema Puri

Associate Professor

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University of Delhi



Food labeling is a tool to promote and protect public health by providing accurate nutritional information so that consumers can make informed dietary choices. Manufacturers consider it as an instrument of marketing and product promotion. The power of the label has been often underestimated by both consumers and manufacturers. It is only in recent years, with increasing regulation, that the significance of accurate depiction of facts on the label has been recognized leading to greater transparency and trust between the consumer and manufacturer.

As per Food Law, every packaged food article has to be labeled and it has to be labeled in accordance to the law applicable in the country of the user. Every packaged food article for the domestic use has to be labeled in accordance to the related Indian Food Law i.e. **Food Safety and Standards (Packaging and Labeling) Regulations, 2011, notified by Food Safety and Standards Authority of India (FSSAI)**. The packaged food for export has to be labeled in accordance to the food laws and regulations applicable to the importing country.

Food labels carry a large amount of information ranging from manufacturer details, ingredients, price, weight, expiry date to nutrition information. However, for the health conscious, the main things to look at when choosing healthy food is the 'Nutrition Information Panel'. The way nutrition labels are formatted influences how effectively they can be used, interpreted and compared by consumers. Regulations are important because they dictate which nutrients are listed and the way that they are expressed quantitatively, along with other aspects of label design.

The Codex has encouraged consistency between trading partners, but different countries have developed a diverse array of approaches to these requirements. Current Codex guidelines recommend energy, fat, protein and carbohydrate be listed on nutrition labels. Dietary fibre should be added where a claim for dietary fibre is made, and sugars where a claim is made for carbohydrates. The guidelines allow, however, for national adaptation, stating, "Any other nutrient deemed by national legislation to be relevant for maintaining good nutritional status may be listed."

The Nutrition Facts Panel (NFP) on a label provides "comprehensible quantitative nutrition information" which enables consumers to make informed food choices and may result in significant long-term health benefits. According to Food Safety and Standards Authority of India (FSSAI, 2011), nutrition information on NFP shall be given as "per 100 g" or "100ml" or "per serving" of the product on the label (Food Safety and Standards regulations, 2011). On the other hand, US Food and Drugs Administration (USFDA) mandates that NFP should report nutrients in "Amount Per Serving" and "% Daily Value", with footnote and caloric conversion information (United States Food and Drug Administration, 2013).

The Nutrition Facts Panel provides information on the serving size as well as the number of servings in the pack. It also gives the total calories in a serving and the percent daily values. Daily Values (DV) are average levels of nutrients for a person eating 2,000 calories a day. A food item with a 5 percent DV of fat provides 5 percent of the total fat that a person consuming 2,000 calories a day should eat. Percent DV are for the entire day, not just one meal or snack. It is particularly important to track the levels of fat, sugar and salt as these in excess are deleterious to health over a period of time. On the other hand, vitamins, minerals and fibre are health promoting nutrients and their Daily Values should be higher.

The problem that both manufacturers and consumers often face is the overcrowding of information on the label, particularly on small food products like chocolates. Often there is too much information to be boxed and some of it is repetitive. Much of the information may not be easily comprehended by the consumer e.g. percent contribution to RDA (% DV). Usage of different comparison levels – per 100g, per serving - may complicate the information further.

Nutrition labeling in India is at evolutionary stage and data on “user friendliness” of these labels are scanty. Singh et al (2013) examined the food labels of over 1000 products and their compliance with the Indian food regulations. Results revealed that the most informative and easy to interpret Nutrition Facts Panel (NFP) [i.e. which gives nutrients as per 100g, per serving and percent Daily Value (%DV)] was displayed only in 8.4% of the products. Majority of the products (64.1%) displayed NFP as per 100g which does not have any reference values to compare unlike % DV NFP. Compliance for five mandatory nutrients as per FSSAI (i.e. energy, carbohydrates, sugar, protein and fat) and ingredients list was poor in products among various food categories. Vegetarian and non-vegetarian symbols were found in all the products based on the kind of ingredients. Most of the processed foods under study did not have realistic and standardized serving size for foods and inter brand variations were large.

European countries introduced “Multiple Traffic light label” signposting for nutrition labeling for 4 major nutrients (fat, saturated fat, sugar and salt) on Front of Pack (FOP) after rigorous testing among various population groups. It has been reported that the presence of “Multiple Traffic light label” on FOP made interpretation for nutrients easy and resulted in healthy food choices by the consumers. However, such attempts are still under deliberation in India.

According to FSSAI, it is mandatory to report the “Basic Five Nutrients” namely, energy value (kcal), protein (g), carbohydrates (g), sugar (of the total carbohydrates) (g), fat (g or ml) on NFP. However, when a nutrition or health claim is made the specific nutrient has to be reported on the NFP (Food Safety and Standards Regulations, 2011). However, products examined by Singh et al (2013) failed to comply with the same. Information on carbohydrates was reported on 99.2% of the NFPs followed by energy (99%), protein (98.8%), fat (97.7%) and the least reported nutrient was sugar (87.4%). USFDA mandates reporting of 13 nutrients unlike basic five by FSSAI.

“Nutrition claim means any representation which states, suggests or implies that a food has particular nutritional properties which are not limited to the energy value but include protein, fat, carbohydrates, vitamins and minerals”. Some of the authorized nutrition claims are “free of fat/ saturated fat/cholesterol/sodium/salt/sugars and calories”, “very low in sodium”, “high or good source of calcium”, etc. (Food Safety and Standards Regulations, 2011). Claims can be nutrient related, health related or allergen related. Claims help the consumers to get insight about the food products at a glance.

According to FSSAI, “Health claims” means “any representation that states, suggests or implies that a relationship exists between a food, or a constituent of that food, and health and include nutrition claims which describe the physiological role of the nutrient in growth, development and normal functions of the body, other functional claims concerning specific beneficial effect of the consumption of food or its constituents, in the context of the total diet, on normal functions or biological activities of the body and such claims relate to a positive contribution to health or to the improvement of function or to modifying or preserving health, or disease, risk reduction claim relating to the consumption of a food or food constituents, in the context of the total diet, to the reduced risk of developing a disease or health related condition.” Health claims in the front of the package have a positive role in selecting a healthy product.

In conclusion, nutrition labeling can be an effective means of helping consumers to make healthful food choices, although existing evidence concerning the effect of health claims on diet and public health is insufficient. Regulations can play a crucial role in enhancing the potential for nutrition labeling and health claims to promote health.

References:

1. FSSAI. Food Safety and Standards Regulations, 2011.
2. Meenu Singh, Uma Iyer and Suneeta Chandorkar. Nutrition labeling compliance of branded processed packaged foods with Indian food laws (FSSAI, 2011 regulations) (2013), IJFANS 2 (4): 14-19.
3. USFDA (2013). A Food Labeling Guide.

AMIFOST 2017- NATIONAL CONFERENCE ON FOOD SAFETY, NUTRITION SECURITY AND SUSTAINABILITY



*Dr Anupa Siddhu, Director,
Lady Irwin College chairing a session at AMIFOST -2017*



Inaugural session at AMIFOST -2017

A one-day conference on “Food Safety, Nutrition Security and Sustainability, AMIFOST – 2017” was organized on 26th September, 2017 at Amity University, Noida campus by Amity Institute of Food Technology (AIFT) in association with Association of Food Scientists and Technologists (India) (AFST(I)), Delhi Chapter. The conference was attended by food scientists, food technologists, nutritionists, dieticians, agricultural scientists and food industry personnel.

The event witnessed the presence of Dr Chindi Vasudevappa, Hon'ble Vice Chancellor, National Institute of Food Technology Entrepreneurship and Management NIFTEM, Kundli, Sonapat and Dr Murli, CRDO, Mother Dairy Fruit & Vegetable Pvt. Ltd., Delhi. Welcoming the guests, Dr V.K. Modi, Professor & Head of Institution, AIFT said that the Food Technology is gaining a fast momentum with an increased demand for processed food products. He emphasized that consumers have become conscious and aware about the importance of safe, nutritious and healthy food products.

Addressing the gathering, Dr Chindi Vasudevappa said that every year, there are 800 million tons of food production in India but the issue is about the quality of the food consumed. Lamenting on food wastage, he pointed out that every year, 2 million tons of food is wasted due to poor management during various stages of farm to fridge. Dr. Vasudevappa mentioned that the food production in India is lower in comparison to other nations but it is sufficient to feed the entire population, if food wastage is managed properly. Speaking on the occasion, Dr Murli said that the issue of food wastage is faced by every country in the world. He apprised that the milk industry is 80 percent unorganized and stressed the need for timely intervention and control.

There were 3 Technical Sessions on - Nutritional Security and Sustainability, Food Safety and Quality Assurance and Innovative Developments in Food Technology. Poster presentation and Oral presentations by research scholars were also organized. The sponsors of the conference were Pulse, MPOB, Freakeat, Uttam Sugar, Yakult Danone and Global Systems and Technology, Kanpur.

WORLD FOOD DAY CELEBRATION



*Mr Pawan Agarwal, CEO, FSSAI,
at the National Seminar on World Food Day, 2017*



*Keynote address by Dr Prema Ramachandran, Director,
Nutrition Foundation of India*

A one-day National seminar was organized by AFST(I) Delhi Chapter on the theme – “Change the Future of Migration: Invest in Food Security and Rural Development” on the occasion of World Food Day on 16th October 2017. It was held at the NCUI Auditorium, New Delhi. The keynote address on food security was delivered by the eminent nutritionist Dr Prema Ramachandran, Director, Nutrition Foundation of India. Other distinguished guests on the dias included Dr RK Sharma, Director DFRL, Dr Satyanarayana, CEO, NCUI and Ms Anuradha Prasad, Joint Secretary, MOFPI. There were two technical sessions with eminent speakers. One session was on 'Role of Food Technology on Sustainable Rural Development,' while the other session focussed on 'Innovative Approaches in Ensuring Food Security and Food Safety.' Shri Pawan Agarwal, CEO, FSSAI chaired the Valedictory session and gave away prizes to students who had participated in the several competitions which had been organized like – debate, product development and poster competition.

12th CII- FOOD SAFETY, QUALITY AND REGULATORY SUMMIT



*Participants at the Summit (Left), Dr Eram Rao, President and Dr Anita Malhotra, Secretary AFST(I)
Delhi Chapter interacting with Dr Guilherme Antonio Costa Jr. Chairperson, Codex Alimentarius Commission*

AFST(I) hosted a session at the two-day Food Safety, Quality and Regulatory Summit organised on the 4th and 5th December, 2017 at The Lalit Hotel, New Delhi by Confederation of Indian Industry. The objective of the summit was synergising food safety, quality and regulatory dimensions for excellence in food management ecosystem. The summit invited food scientists, academia from food research and technology institutes, food technologists, nutritionists, food industry personnel and decision makers responsible for functions like corporate strategy, planning, exports, procurement, quality, production, logistics and finance. The sessions were divided into technical plenary sessions, comprehensive discussion and knowledge building sessions on innovative solutions in food safety and quality. At the end of each session was the CEO panel discussion where the audience was given a chance to have an interactive session with the panel members.

The November issue of the newsletter of the Association of Food Scientists and Technologists (India) (AFST(I)), Delhi Chapter was released by Dr Guilherme Antonio Costa Jr. Chairperson, Codex Alimentarius Commission. Dr Guilherme Antonio Costa Jr. spoke about the hierarchy structure and inter-convergent systems within Codex Alimentarius. Dr Debabrata Kanungo, Chairman, Scientific Panel for Pesticides and Antibiotic Residues, FSSAI, spoke on "Understanding Global Practices in Risk Analysis of Chemical Contaminants" Both the speakers emphasised the role of young scientists in the country.

WORKSHOP ON CAKE ICING



Participants at the Workshop in Lakshmibai College

Department of Food Technology and Nutrition, Lakshmibai College, University of Delhi and AFST(I) Delhi Chapter organized a workshop on 'Cake Icing' on 19th February 2018 in the college campus. Chef Balendra Singh from Institute of Bakery and Pastry Arts conducted the workshop. The students found the workshop extremely useful and enjoyable.

Meet the Young Entrepreneurs

Amita Chaddha, student of B.Sc. (Pass) 3rd year Home Science from Lady Irwin College, started her journey of her love for chocolates in the form of a small start-up company, **Choco Loco**, in August 2016. Cake pops, chocolates, marshmallow pops, cupcakes, cookies and sweet delights are some of the items prepared and sold by the company. Choco Loco gained popularity across the city and she started receiving orders from The Lalit, Delhi, Scarlet, Punjabi Bagh and many others. She has been featured by many food bloggers. She has plans of expanding her home bakery business to a bakery store after completion of her studies.

Instagram- <https://instagram.com/choco.locol6>
Facebook- <https://m.facebook.com/Choco-LoCo-1106292629449628/>



Amita Chaddha and her products

Nailah Asim, another student of B.Sc (Pass) 3rd year Home Science from Lady Irwin College, turned her hobby of baking into a home based bakery. She started her start-up company, **Cocoa-Clock**, in June 2016. Cupcakes, chocolate cookies, assorted chocolate boxes are the major items sold by Cocoa-Clock across Delhi NCR. On many occasions, the home based bakery has put up stalls in colleges like Vivekananda, Institute of Professional studies, Hindu college, Lady Irwin college, etc. She wishes to expand her bakery business and open branches across India. We wish her all the best for her future endeavours.

Instagram: <https://www.instagram.com/cocoaoclock/>
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Nailah Asim and products of her company

Saumya Marwaha is doing her BSc HHA from IHM, Pusa. She has started a micro enterprise called **Sweet Tooth** which operates from home and provides baked and confectionery items on order in Delhi NCR region. The menu includes customised cakes, brownies, rum balls, hand crafted chocolates, cookies, granola etc. She has been executing multiple orders for events such as weddings, birthdays and festivals. She has also showcased her baking skills at the annual cultural fest of Shyama Prasad Mukherjee College for Women, the annual cultural fest of St Stephens College and has been featured by LBB Gurgaon, a popular Lifestyle and Food blog for being an upcoming home bakery in Gurgaon. She has also been a resource person for KitchenAid India at AAHAR and multiple events like food festivals and market penetration activities since 2016.

Email: saumyamarwaha1@gmail.com



Saumya Marwaha and products of her micro-enterprise

Research & Development – Campus News

The following Research and Development activities have been carried out in the field of Food Labelling, Packaging and Edible Films in colleges of University of Delhi:

+ Food Packaging and Labelling

- Research on effect of carom seed oil on the antimicrobial, physical and mechanical properties of pumpkin and arrowroot starch-based edible film was carried out by Dr Upasna Yadav, Institute of Home Economics.
- A study was conducted to assess the understanding of the nutritional information on food labels by adults living in Delhi by Sugandha Dua and Dr Pulkit Mathur, Lady Irwin College.
- Research on qualitative Analysis of Packaged and Unpackaged White Butter was done by Kanishka, Mrs Sweety and Dr Divya Bajaj at Lady Irwin College.

+ Edible packaging films

- Edible films with antimicrobial properties of bay leaf extract were developed in a research carried out by Dr Rajni Chopra, Institute of Home Economics.
- Aloevera based edible coatings were developed with anti-browning agents for cut apple slices by Dr Upasna Yadav, Institute of Home Economics.
- Protein rich edible films were developed using corn zein and soy protein isolates by student of Ms Deepshikha Kataria, Institute of Home Economics.
- Corn starch based films and biodegradable Gluten films for food packaging were developed by B.Tech. Students under the supervision of Mrs Saumya Chaturvedi, Shaheed Rajguru College of Applied Sciences for Women.
- A study on edible coatings to study their effect on the shelf life of green vegetables was conducted at Lady Irwin College.
- Edible films from guava pectin were developed by Ms Shilpi Sharma, Dr Manisha Sabharwal and Ms Prabhjot Kaur Sabharwal, Lady Irwin College.
- Films with tulsi leaves' extract using sago starch and soy flour developed by Ms Namrata, Dr Shailly Nigam and Ms Srishti Sinha, Lady Irwin College.
- Analysis of various characteristics of edible packaging developed using sago starch and sodium alginate incorporated with bioactive properties was carried out at Lady Irwin College.

- Edible coatings and their effect on shelf life of mushrooms was studied by Aayushi Bishoni under the guidance of Dr Pooja Raizada and Ms Sunaina Thakur, Lady Irwin College.
- Aloe vera based antimicrobial edible coating in fruits and vegetables was developed by Shweta and Deeksha Saxena, Ms. Prachi Shukla, Ms. Kavneet Kaur and Ms. Shashi Prabha, Lady Irwin College.

Current Affairs

FDA Commissioner, USA Clarifies the New Nutrition Facts Labeling Requirements for Food Companies (March 2018)

<https://xtalks.com/fda-commissioner-clarifies-the-new-nutrition-facts-labeling-requirements-for-food-companies-1199/#>

FDA Commissioner of USA released a [statement](#) that clarified the implementation of the new Nutrition Facts label for food products. This new label has been formulated to further educate consumers on the nutritional values of their foods and prevent diet-related diseases like diabetes, obesity and heart disease. The two key components to the successful implementation of the new Nutrition Facts label are a) consumer education and b) clearer guidelines for food manufactures.

In order to educate food companies on the new Nutrition Facts label's guidelines, the FDA has released practical guidance to provide further clarification of the required nutritional data needed for the new label. In addition, the FDA has also released a draft guidance to help food companies when declaring added sugars in their products. The FDA also clarified their requirements for serving sizes in their final guidance that was issued on March 1.

Customs shall not clear article of food without valid shelf life: FSSAI (Knowledge and News Network, 12th Feb 2018)

Food Safety and Standards (Import) First Amendment Regulations, 2018 amended the requirement relating to shelf life of imported product at the time of port clearance. As per this notification, Custom Authorities shall not clear any article of food unless it has a valid shelf life of not less than sixty per cent, or three months before expiry, whichever is less, at the time of import.

<http://knnindia.co.in/news/newsdetails/sectors/customs-shall-not-clear-article-of-food-without-valid-shelf-life-fssai>

India's Food Safety Authority proposes Traffic Light Labelling for foods sold a (Lester Wan, 27-Feb-2018)

The FSSAI wants to introduce a Traffic Light Labelling scheme for foods sold in the school canteens and vending machines in a bid to curb the increasing consumption of high fat, sugar and salt food. Foods categorised as green or yellow may be included in the school canteens menu and periodically be reviewed by the school's Health and Wellness team.

<https://www.foodnavigator-asia.com/Article/2018/02/27/India-s-food-safety-authority-proposes-traffic-light-labelling-for-foods-sold-at-schools>

Ready to fill the packaging leadership with big ideas (Rushikesh Aravkar, 23 February 2018)

The National Green Tribunal has ordered that a public notice be issued to the manufacturers and users of multi-layered/PET bottles packaging. Importance has to be given on the restriction placed upon such packaging and generation of municipal plastic waste. The order states that manufacture and use of non-recyclable multi-layered plastic should be phased out in two years' time.

<http://www.printweek.in/features/ready-packaging-leadership-ideas-28215>

Forthcoming Scientific Events

- 20th International Conference on Nutrition, Food Science and Technology
 - April 16-17, 2018 Dubai, UAE
 - Theme: Presenting a New Era to Food Science and Technology
- 3rd Annual Nutrition Summit'
 - April 18-19, 2018; Holiday Inn, Mumbai, India
- International Conference on Food Safety and Food Processing
 - April 22, 2018, The Piccadilly, Lucknow, India
- Conference on Food Ingredients, Vietnam, Ho Chi Minh City, 16-18 May 2018
- 20th World Congress on Nutrition & Food Science
 - May 14-16, 2018, Tokyo, Japan
 - Theme: Nutrition, Food Science & Public Health
- 3rd International Conference on Food Chemistry & Nutrition
 - May 16-18, 2018 Montreal, Canada
 - Theme: Shaping the Future of Food Quality, Health & Safety
- 8th International Conference on Food Safety and Regulatory Measures
 - June 11-12, 2018 Barcelona, Spain
 - Theme: Healthier the Food, Merrier the World
- 3rd International Conference on Food & Beverage Packaging
 - July 16-18, 2018 Rome, Italy
 - Theme: Food and Beverage Packaging – Making Life Healthier
- European Food Chemistry Congress
 - July 26-27, 2018 Amsterdam, Netherlands
 - Theme: Investigating the Interrelationships of Food and Human Health
- International Conference on Food Safety and Health
 - August 30-31, 2018 Dubai, UAE
 - Theme : Accentuating Current and Emerging Food Safety Issues
- FOOD EX INDIA
 - August 31-September 02, 2018
 - Palace Grounds, Bangalore, India
- 11th World Congress on Food Chemistry & Food Microbiology
 - September 03-04, 2018 Dubai, UAE
 - Theme : Exploring the recent advances in Food Microbiology and Food Chemistry
- Global Summit on Agriculture Technology and Food Science
 - September 12-13, 2018 Richmond, Virginia, USA
 - Theme : Sustainable Agriculture Technology to Eliminate Global Food Shortage
- 17th World Congress on Nutrition and Food Chemistry
 - September 13-15, 2018 London, UK
 - Theme : Exploring New Dimensions in Nutrition and Food Science

- 19th Global Summit on Food Technology, Nutrition & Health
 - September 26-27, 2018 San Antonio, Texas, USA
 - Theme : Unleash Key Research Findings for Making Food Systems More Efficient, Inclusive and Resilient
- 21st International Conference on Food Technology & Processing
 - October 02-04, 2018 London, UK
 - Theme : Emerging Trends in Food Technology Towards the Global Demand
- World Food Science and Technology Congress
 - October 15-16, 2018 Greece, Athens
 - Theme : Exploring the Recent Advances in Food Science and Technology
- International Conference on Food Quality, Testing & Supply Chain Management
 - October 17-18, 2018 Ottawa, Ontario, Canada
 - Theme : Maintainable Intensification of Food Quality, Testing & Supply Chain
- International Conference on Food Production & Preservation
 - October 17-18, 2018 Ottawa, Ontario, Canada
 - Theme : Technological Advancements in Food Preservation to provide Nutrients for Good Health
- IUFoST 2018; 23-27 October, CIDCO Exhibition Centre, Vashi, Mumbai, India
- International Trade Fair for Beverage and Liquid Food Technology
 - October 24- October 26, 2018
 - Bombay Exhibition Centre - NSE Exhibition Complex, Mumbai, India
- 21st International Conference on Food Chemistry & Nutraceuticals
 - October 31-November 1, 2018 San Francisco, California, USA
 - Theme : Global Perspective : A Cognizance Approach Towards Food Chemistry & Functional Foods

Contributions, Suggestions and enquires can be sent to afsti.delhi.editor@gmail.com

