NEWSLETTER

VOLUME 05/2026

Food Notes



Society of Food Science and Technology
Department of Food Science and Technology
Faculty of Livestock, Fisheries and Nutrition
Wayamba University of Sri Lanka

Society of Food Science & Technology
Wayamba University of Sri Lanka

FOODNOTES

EDITORIAL TEAM

Guidance By
Dr. Haily Seneviratne

President
Sachinha Lakmina

Vice President
Vihanga Wijesinghe

Secretary
Shavindya Rathnayake

Cover Design by
Sachintha Lakmina

Editorial by
Rashmi Dissanayake

Designers
Rashmi Dissanayake
Janani Thilakshi
Erandi Silva
Jimasha Sheharee
Dinuththara Wijewardhana
Anjalla Ponnambalam
Wishmi Roopasinghe
Kasun Prabhashwara
Sachintha Lakmina

Proof Read by
Rashmi Dissanayake



Society of Food Science and Technology

Department of Food Science and Technology, Faculty of Livestock Fisheries and Nutrition, Wayamba University, Makandura, Gonawila

Editorial

Food is more than something we eat; it is closely connected to our health, culture, environment, and everyday lives. Behind every food product is a combination of science, technology, creativity, and careful decision-making. As the food industry continues to evolve, Food Science and Technology plays an increasingly important role in creating foods that are safe, nutritious, sustainable, and accessible.



Today, the food sector faces numerous challenges, including food safety concerns, changing consumer demands, food waste, sustainability, and the need for innovative food solutions. Addressing these challenges requires scientific knowledge, creativity, and continuous research. For emerging food scientists, these challenges provide opportunities to explore new ideas and contribute to the development of the food industry.

Beyond scientific knowledge, it is important to develop a sense of responsibility towards society and the environment. Food Science is not only about developing new products and technologies, but also about ensuring food quality and safety, improving nutrition, reducing waste, and supporting sustainable practices.

This magazine brings together a collection of ideas, knowledge, and perspectives that reflect the diverse nature of Food Science and Technology. We hope it encourages curiosity, inspires new ideas, and highlights the important role of the next generation of food scientists in shaping a safer, healthier, and more sustainable food future.

Rashmi Dissanayake

TABLE OF CONTENTS



06 DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

07 SOCIETY OF FOOD SCIENCE & TECHNOLOGY

08 MESSAGE FROM HEAD OF THE DEPARTMENT

09 MESSAGE FROM THE SENIOR TREASURER

11 MESSAGE FROM THE PRESIDENT

13 MESSAGE FROM THE SECRETARY

14 MESSAGE FROM THE VICE PRESIDENT

15 OFFICE BEARERS

17 ARTICLE : FOOD METABOLOMICS: HOW WHAT WE EAT SHAPES OUR BODY CHEMISTRY

19 IDB EXHIBITION 2025: SHOWCASING FOOD AND PACKAGING INNOVATIONS AT INDUSTRY EXPO 2025

20 ARTICLE : ULTRA PROCESSED FOOD : ARE THEY SAFE FOR EVERYDAY CONSUMPTION?

22 CELEBRTATING FOOD INNOVATION AT RUHUNU RASASARANIYA 2025

23 ARTICLE : NANO-ENCAPSULATION
A NOVEL APPROACH TO ENHANCE NUTRIENT STABILITY AND DELIVERY IN FOOD PRODUCTS

24 SFST HOSTS AWARENESS SESSION ON HALAL SCIENCE AND CERTIFICATION

25 ARTICLE : THE SCIENCE BEHIND CAKE BAKING: HOW INGREDIENTS WORK TOGETHER

27 SFST HOSTS GUEST LECTURE ON GRAIN-BASED FOOD INNOVATION

28 HOW FOOD PROCESSING AFFECTS ANTIOXIDANTS AND PHYTOCHEMICALS

30 DANUMATA SENEHASIN : A BOOK DONATION INITIATIVE FOR THE CHILDREN AFFECTED BY THE DITHWA STORM



31 GEN Z IS REWRITING THE FOOD INDUSTRY!

32 AURORA EVE : CHRISTMAS NIGHT 2025

33 FOOD TRACEABILITY

34 BUILDING FOOD SAFETY EXCELLENCE: HACCP IMPLEMENTATION ONLINE WORKSHOP

35 ARTICLE : CRYOGENIC PRESERVATION FREEZING FOODS WITHOUT LOSING NUTRITION

37 CELEBRATING TRADITION : SFST AVURUDU CELEBRATION

38 ARTICLE : TEA BAG AND MICROPLASTICS: TEA BAGS AS A POTENTIAL SOURCE OF MICROPLASTIC EXPOSURE

40 WORLD FOOD SAFETY DAY 2026: ADVANCING FOOD SAFETY THROUGH KNOWLEDGE AND ACTION

41 ARTICLE : ROLE OF BIOTECHNOLOGY IN THE ADVANCEMENT OF FOOD PACKAGING SYSTEMS

43 A GLIMPSE INTO LOCAL AND GLOBAL FOOD REGULATORY FRAMEWORKS AND CHALLENGES

44 GREENER PACKAGING : INNOVATIONS SHAPING A SUSTAINABLE FOOD INDUSTRY

46 PROFOOD PROPACK AGBIZ 2026 : SHOWCASING INNOVATION IN FOOD & PACKAGING

53 ARTICLE : EDIBLE INSECTS : CAN THEY BECOME A SUSTAINABLE PROTEIN SOURCE FOR THE FUTURE?

55 FOOD FRAME 2025 : WHERE FOOD MEETS THE LENS

56 FOOD ADULTERATION : MODERN SPECTROSCOPIC APPROACHES FOR ENSURING FOOD AUTHENTICITY AND SAFETY

57 FST FOOD CORNER – A TASTE OF TRUST

57 PRESERVATION LAB EQUIPMENT DONATION – SUPPORTING PRACTICAL LEARNING

58 CELEBRATING EXCELLENCE

53 ACKNOWLEDGEMENT

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY



The Department of Food Science and Technology provides an environment for students to understand the science behind food and its applications in the modern food sector. The programme covers areas such as food production, product innovation, quality assurance, food safety, and food processing through classroom learning, laboratory work, and practical activities.
Students are encouraged to develop scientific knowledge, technical abilities, creativity, and problem-solving skills relevant to the food industry. In their final year, they can explore areas of interest through specialized studies and individual research projects. Industrial training also allows them to gain practical exposure to professional food production settings.
The department aims to prepare capable graduates who can contribute to the advancement of the food sector locally and internationally.

Vision of the Department:

"Inspiring minds to meet global food and health challenges"

Mission of the Department:

"Contributing to society through the pursuit of education in Food Science and Technology in learning, research, disseminating knowledge, and meeting international standards at the highest level of excellence to meet global food challenges.



The Department of Food Science and Technology focuses on providing students with knowledge and practical abilities in food science, technology, quality, and safety. It promotes learning, research, skill development, and the sharing of knowledge while encouraging students to achieve high academic and professional standards.

Established in 2004, the Society of Food Science & Technology (SFST) provides a valuable platform for undergraduates to gain a broader understanding of their future profession. The Society encourages creativity, identifies individual talents, and helps students recognize opportunities in both academic and industrial settings. It also promotes teamwork, effective communication, confidence, and personal growth. Through its activities, SFST supports students in developing the skills and qualities required for successful careers in the food industry.

MESSAGE FROM THE HEAD OF THE DEPARTMENT



It is with immense pleasure and great pride that I extend my warmest greetings to the members of the Society of Food Science and Technology, Department of Food Science and Technology, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka, on the occasion of the Annual General Meeting 2026 and the launch of this inaugural newsletter. The Society has been established with the vision of creating a vibrant platform for students to enhance their academic knowledge, professional skills, creativity, leadership, and teamwork while fostering a deeper appreciation of the diverse and evolving field of Food Science and Technology. In today's world, where food security, nutrition, sustainability, food safety, innovation, and value addition have become increasingly important, the role of food scientists and technologists is more significant than ever.

This newsletter represents an important milestone in the activities of the Society. It provides a valuable avenue to showcase the achievements, activities, innovations, research interests, and creative contributions of our students and staff. I believe it will also strengthen communication, encourage knowledge sharing, and create opportunities for collaboration within our university community and beyond. I sincerely appreciate the dedication and commitment of the students and staff who have contributed to establishing the Society and bringing this newsletter to fruition. I encourage all members to actively participate in its activities and make the Society a dynamic and inspiring community. I wish the Society of Food Science and Technology every success in its future endeavors and hope that this newsletter will continue to grow as a meaningful reflection of our collective achievements.

Prof. KDPP Gunathilake
Head of the Department
Department of Food Science and Technology
Faculty of Livestock, Fisheries and Nutrition
Wayamba University of Sri Lanka

MESSAGE FROM THE SENIOR TREASURER



It is a great pleasure to be part of the publication of Food Notes, the official magazine of the Society of Food Science and Technology, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka. As a platform that brings together the voices, achievements, and experiences of our students and members, this magazine reflects the vibrant spirit of our Society and the dynamic nature of the food science and technology discipline.

The field of food science and technology is constantly evolving in response to emerging technologies, changing consumer expectations, environmental challenges, and the growing demand for safe, nutritious, sustainable, and innovative food solutions. In this rapidly changing landscape, our Society provides an important space for students and academics to exchange ideas, showcase creativity, build professional connections, and gain a broader understanding of developments taking place beyond the classroom. Food Notes captures these efforts and provides an opportunity to share them with a wider audience.

As the Senior Treasurer of the Society of Food Science and Technology, I am delighted to invite you to explore the pages of this magazine and discover the many ways in which our Society continues to grow and evolve. It is particularly encouraging to see how our degree programme continues to embrace current developments and emerging trends within the food industry, ensuring that our undergraduates are equipped with knowledge and skills that are relevant to the demands of the modern professional world. Our students have actively participated in academic, industrial, and extracurricular activities, giving them valuable opportunities to translate their classroom knowledge into practical experiences, develop professional confidence, and engage with experts and industry stakeholders.

The experiences and achievements of our students today are an important foundation for the professionals they will become tomorrow. Their participation in research, competitions, industry activities, workshops, exhibitions, and other initiatives demonstrates the diverse capabilities and potential of the next generation of food scientists and technologists. I believe that the stories and achievements featured in Food Notes will not only celebrate their accomplishments but also encourage our younger students to explore new opportunities, challenge themselves, and pursue excellence in their chosen fields.

I sincerely appreciate the dedication of the students, academic staff, committee members, and everyone who contributed to bringing this edition of Food Notes to life. I hope that this magazine will continue to serve as a source of knowledge, inspiration, and connection, while proudly showcasing the growing impact of the Society of Food Science and Technology.

I wish Food Notes continued success and hope that every reader enjoys this glimpse into the achievements, activities, and aspirations of our Society

Dr. (Miss.) Haily Seneviratne
Senior Treasurer
Society of Food Science and Technology
Department of Food Science and Technology
Faculty of Livestock, Fisheries, and Nutrition
Wayamba University of Sri Lanka

MESSAGE FROM THE PRESIDENT



It is with immense pleasure and gratitude that I present this magazine, which captures the memorable journey and achievements of the Food Science & Technology Society during the 2025/2026 term.

Serving as the President of the Society has been a great honor and a valuable learning experience. This year has been filled with enthusiasm, creativity, teamwork, and countless opportunities for our members to develop both academically and personally. Together, we have worked to create a platform where students could learn beyond the classroom, share their talents, build professional connections, and contribute meaningfully to the field of Food Science & Technology.

Throughout the year, our Society successfully organized and participated in a wide range of academic, professional, cultural, and recreational activities. From the IBD Exhibition 2025 and Annual General Meeting 2025, to the Halal Awareness Program, guest lectures, Ruhunu Rasasaraniya 2025 and Danumata Senehasin, each event brought new experiences and strengthened the bonds among our members.

Our commitment to professional and academic development continued through initiatives such as the HACCP Implementation Online Workshop, World Food Safety Day 2026, and the certificate program on Local and Global Food Regulatory Frameworks and Challenges. Our participation in ProFood ProPack 2026 also provided an excellent opportunity to showcase the creativity, innovation, and entrepreneurial spirit of our students.

Beyond academics, activities such as the SFST Avurudu Celebration, Aurora Eve 2025 and Food in Mood Photography Competition reminded us of the importance of creativity, culture, friendship, and togetherness in university life.

None of these achievements would have been possible without the dedication and cooperation of our committee members, society members, academic staff, resource persons, sponsors, collaborators, and everyone who supported us throughout the year. I extend my heartfelt appreciation to our Senior Treasurer, the Head of the Department, academic staff, and all our members for their continuous guidance, encouragement, and commitment.

As we look back on this journey, I believe our greatest achievement is not simply the number of events we organized, but the experiences we created, the knowledge we shared, the friendships we strengthened, and the confidence we built together.

I sincerely hope that this magazine will preserve those memories and remind us of the remarkable journey we shared as a Society. May the Food Science & Technology Society continue to grow, innovate, and inspire future generations of students.
Finally, I would like to thank every member who contributed, in big or small ways, to making this year meaningful and successful. Together, we turned ideas into action, challenges into opportunities, and moments into memories.

With sincere gratitude and best wishes for the future,

Sachintha Lakmina
President
Society of Food Science and Technology
2025/2026

MESSAGE FROM THE SECRETARY



It is an absolute honor and a privilege to reflect on our journey as the Secretary of the Society of Food Science and Technology for the 2025/2026 term. This year was defined by active commitment, growth, and relentless effort for the betterment of our student community, ensuring our members grew both professionally and personally.

On the academic and professional front, we took major strides to bridge classroom learning with real-world industry demands by successfully organizing technical, regulatory, and skills-focused programs, while showcasing our students' innovation and research on prominent stages. Facing operational challenges, tight timelines, and technical demands head-on taught us resilience and critical problem-solving, broadening our perspective on cross-sector collaborations and professional networking. Beyond academics, our society demonstrated heart and community spirit through meaningful outreach initiatives and vibrant social events that celebrated togetherness, culture, and creativity.

None of this would have been possible without our collective strength. I am deeply grateful to our President, Sachintha Lakmina, and our dedicated executive committee for their relentless drive and teamwork.

Heartfelt thanks to our Senior Treasurer, Head of Department, academic staff, and resource persons for their unwavering guidance.

Most importantly, thank you to all our members whose enthusiasm and support turned every idea into a reality, and I am confident that our society will continue to innovate, inspire, and thrive in the years to come.

As we look toward the future, the Society of Food Science and Technology remains steadfast in its vision to drive progress, innovation, and positive change across the food sector. Modern global challenges—from food security and regulatory complexities to sustainability and emerging processing technologies—demand a industry built on sound science, cross-sector collaboration, and forward-thinking leadership.

Shavindya Rathnayaka
Secretary
Society of Good Science and Technology
2025/2026

MESSAGE FROM THE VICE PRESIDENT

It is truly an honor to serve as the Vice President of the Society of Food Science and Technology. This experience has been a remarkable journey filled with learning, meaningful connections, challenges, and many memorable moments.

Throughout the year, being part of the society has provided me with valuable opportunities to work with an enthusiastic team, engage with fellow students, and contribute to activities that brought together our passion for food science and technology. Every event and initiative has been a reflection of the dedication, creativity, and teamwork of our members.

I am deeply grateful to our faculty members for their continuous guidance, encouragement, and support. I would also like to extend my sincere appreciation to all society members and committee members for their commitment, cooperation, and enthusiasm. Your contributions have played an important role in making our activities successful and meaningful.

This journey has taught me that leadership is not only about taking responsibility, but also about listening, learning, supporting one another, and growing together. The friendships and experiences gained through this society will always hold a special place in my life.



I hope the Society of Food Science and Technology will continue to create opportunities for students to learn, innovate, share ideas, and develop both personally and professionally. May we continue to strengthen our spirit of teamwork and contribute towards a brighter and more sustainable future in the field of food science and technology.

I am truly grateful to have been part of this journey and to have shared these wonderful experiences with all of you.

Vihanga Wijesinghe
Vice President
Society of Food Science and Technology
2025/2026

OFFICE BEARERS

2025 / 2026

EXECUTIVE BOARD

- Senior Treasures: Dr. Haily Seneviratne
- President: Mr. Sachintha Lakmina
- Vice President: Mr. Vihanga Wijesinghe
- Secretary: Ms. Shavindya Rathnayaka
- Vice Secretary: Ms. Jananie Thilakshi
- Junior Treasurer: Mr. Dinuka Dilshan
- Editor: Mr. Kasun Prabhashwara
- Editor: Ms. Rashmi Dissanayake



COMMITTEE MEMBERS

- Ms. Anjalla Ponnambalam
- Ms. Tharushi Yapa
- Ms. Subanya Rathnayaka
- Ms. Erandi Tharushika
- Ms. Jimasha Sheharee
- Mr. Kavishka Dissanayaka
- Mr. Tharaka Dilshan
- Mr. Therujan Mahendran



ANNUAL GENERAL MEETING 2025

Passing the Torch of Excellence: Annual General Meeting 2025

On 8th October 2025, the Society of Food Science and Technology (SFST), Wayamba University of Sri Lanka, marked a defining milestone on its academic calendar with the convening of its Annual General Meeting. Gathering faculty members, and undergraduate scholars, the AGM served as both a heartfelt celebration of the accomplishments of the past year and a springboard for new leadership, vision, and growth.

Honoring a Year of Dedication: The Outgoing Board 2024/25

The 2024/25 tenure reflected true resilience, innovation, and teamwork. Under the steady advisory guidance of Senior Treasurer Dr. Oshala Hettiarachchi, President Salman Athif, and Vice President Thenuka Chamith, the society spearheaded impactful academic workshops, student welfare initiatives, and industry-collaborative forums.

The executive leadership was driven by:

- Secretary: Wathsala Ranathunga
- Assistant Secretary: Kavindi Abeykoon
- Junior Treasurer: Lakindu Weerasinghe
- Editors: Hiruni Gunasekara and Pasindu Aloka

Their vision was translated into action through the unwavering commitment of the 2024/25 committee members: Maleesha Shehan, Anura Bandaranayaka, Hashan De Silva, Anton Dalson, Thakshila De Silva, Sehara Dewsini, Pamodya Samarakoon, and Bhagya Sumathipala. The SFST community expresses sincere gratitude to the outgoing board for setting high benchmarks and elevating the society's reputation.

Welcoming the Office Bearers 2025/26

With the conclusion of the review and transitions, the assembly formally appointed the incoming board for the 2025/26 term. The mantle of senior treasurer was assumed by Dr. Haily Seneviratne, providing academic oversight and mentorship to the student leaders.

Leading the society forward is newly elected President Sachintha Lakmina, alongside Vice President Vihanga Ishan, who pledged to build on past foundations while expanding industry linkages, scientific publication outreach, and community engagement.

The 2025/26 Executive Board comprises:

- Secretary: Shavindya Rathnayaka
- Assistant Secretary: Janani Thilakshi
- Junior Treasurer: Dinuka Dilshan
- Editors: Rashmi Dissanayake and Kasun Prabhashwara

Supporting the executive body is a dynamic panel of committee members: Tharaka Dilshan, Kavishka Dissanayaka, Therujan Mahendran, Jimasha Sheharee, Subanya Rathnayaka, Erandi Tharushika, Tharushi Yapa, and Anjalla Ponnambalam.

As the Society of Food Science and Technology begins this new chapter at Wayamba University of Sri Lanka, it reaffirms its dedication to nurturing capable food scientists, fostering technological breakthroughs, and empowering student leadership for years to come







FOOD METABOLOMICS

How What We Eat Shapes Our Body Chemistry

Every bite of food triggers a cascade of biochemical reactions—a silent conversation between our diet and the trillions of microbes in our gut. Until recently, scientists could only understand about 10% of this conversation. Advances in food metabolomics are changing that, revealing precisely how our diets shape our body chemistry at the molecular level.

Traditional nutrition research relies heavily on food diaries and questionnaires—methods that are notoriously imprecise. A breakthrough method called untargeted metabolomics now allows scientists to identify food-derived molecules in blood and stool samples with remarkable accuracy. This technique illuminates the 90% of molecular features that previously remained "dark matter" in nutrition studies.
How it works: Each molecule is charged, weighed, and broken into pieces to create a unique fingerprint. By matching these fingerprints against vast reference databases, researchers can determine what someone ate simply by analyzing a biological sample. This approach can distinguish dietary patterns (vegan versus omnivore) and even identify consumption of specific foods without relying on self-reporting—a major advance for studying populations like Alzheimer's patients who may struggle to remember what they ate.

Recent research has identified over 40 plasma metabolites that serve as reliable biomarkers for specific foods:
· Red meat – 1-methylhistidine, urea
· Fish – anserine, docosahexaenoic acid
· Fruit – ascorbic acid, hippuric acid, 4-coumaric acid
· Legumes – pipecolic acid
Notably, the study also revealed gaps , no reliable biomarkers were found for vegetables, dairy, or chocolate highlighting where more research is needed.



The Ultra-Processed Food Signature

Ultra-processed foods (UPFs) now account for more than half of calories in the average American diet, yet their health effects have been difficult to study objectively. In a major 2025 advance, researchers developed the first objective measure of UPF intake. Using data from over 700 older adults and validating their findings in a controlled feeding trial, the team identified hundreds of metabolites linked to UPF consumption. They then used machine learning to create poly-metabolite scores —molecular signatures that can accurately distinguish a high-UPF diet from one free of processed foods.

The Gut Microbiome: Our Metabolic Mediator

The molecules we eat don't travel alone—they are transformed by gut microbes. Recent research shows that plant-derived compounds like carotenoids, glucosinolates, and bioactive peptides help reduce inflammation and mitigate metabolic syndrome by modulating the gut microbiome. These compounds work through multiple mechanisms: carotenoids inhibit lipid peroxidation, glucosinolates support detoxification and blood sugar control, and bioactive peptides lower blood pressure while promoting probiotic growth.

Conversely, certain gut bacteria may contribute to harmful effects. One study found that bacteria such as Escherichia–Shigella and Ruminococcus torques can promote the formation of N-nitroso compounds from red and processed meat—compounds linked to colorectal cancer risk, especially in individuals with intestinal damage.

Polyphenols: Nature's Metabolic Modulators

Pomegranates have long been considered healthy, but new research has pinpointed exactly how they work at the molecular level. The key compound is punicalagin, a polyphenol that almost completely blocks the conversion of L-carnitine to trimethylamine (TMA)—the precursor to TMAO, a gut-derived metabolite strongly linked to cardiovascular disease and all-cause mortality. Remarkably, other pomegranate components (such as urolithins) did not show the same effect. This precision allows for more targeted nutritional strategies.



"What we eat shapes our chemistry, and metabolomics reveals the story behind it."

Processing Matters: How Food Preparation Alters Molecular Profiles

It's not just what we eat, but how it's prepared. A recent study examined how extrusion processing affects the metabolomic profile of composite flours made from coffee pulp and plantain byproducts—agro-industrial residues that would otherwise go to waste. Extrusion modified 124 metabolites, with 83% decreasing and 17% increasing. While some beneficial compounds (like procyanidins and chlorogenic acids) decreased, the process increased total phenolic content by 47% and boosted antioxidant activity by 43%. Importantly, extrusion significantly improved protein bioavailability. This shows how processing can transform food byproducts into nutritionally enhanced ingredients, advancing both sustainability and nutrition.

What's Next: From Biomarkers to Personalized Nutrition

The field is moving rapidly toward integrated multi-omics approaches. Researchers are now using machine learning to combine metabolomics and microbiota data into panels that reflect carbohydrate quality. By identifying combined signatures of metabolites and microbial species, scientists hope to map the biochemical mechanisms linking diet to chronic diseases such as type 2 diabetes, cardiovascular disease, and dementia. The ultimate goal is actionable, personalized lifestyle recommendations that individuals can easily adopt.

Food metabolomics is transforming our understanding of the diet-health connection from vague association into precise molecular science. We can now:

· Read dietary patterns directly from blood and stool samples, bypassing unreliable self-reports

· Identify objective biomarkers for specific foods

· Measure ultra-processed food intake at the molecular level

· Understand how specific polyphenols block harmful metabolite production

· Track how food processing alters the molecular composition of what we eat

Written by :
K.A. Vihanga Sathsarani Kodikara

IDB EXHIBITION 2025

Showcasing food and packaging innovations at Industry Expo 2025

The undergraduate students of the Department of Food Science and Technology, Faculty of Livestock, Fisheries and Nutrition, proudly participated in the IDB Exhibition 2025 held on 19th and 20th September 2025. The exhibition served as a valuable platform for students to showcase their creativity, innovation, and technical expertise through a range of novel food products and innovative food packaging solutions developed entirely by the students of the faculty.



The exhibition stall featured a diverse collection of value-added food products, functional foods, and sustainable packaging concepts that reflected the knowledge and skills acquired through academic studies and research activities. These innovative products attracted considerable attention from both local and international visitors, including industry representatives, entrepreneurs, academics, and members of the public.







Visitors expressed great interest in the uniqueness, practicality, and commercial potential of the products on display. The encouraging feedback and positive comments received highlighted the quality of innovation, research, and dedication demonstrated by the students. The event also provided an excellent opportunity for students to interact with industry professionals, gain exposure to emerging market trends, and develop their communication and presentation skills.

Participation in the IDB Exhibition 2025 was a rewarding experience that enhanced the visibility of the Department of Food Science and Technology while showcasing the talent, innovation, and entrepreneurial spirit of its undergraduate students. The event reinforced the department's commitment to developing future food scientists capable of contributing to the advancement of Sri Lanka's food industry through research, innovation, and sustainable product development.

ULTRA-PROCESSED FOODS
Are They Safe for Everyday Consumption?

In today's fast-paced world, food is no longer just about nourishment- it is about convenience, taste, and accessibility. Ultra-processed foods (UPFs) such as packaged snacks, instant noodles and soft drinks have become a major part of modern diets. Studies indicate that ultra-processed foods contribute to nearly 60% of total calorie intake among adults in countries like the United States, and even higher among children. This growing dependence raises an important question: Are ultra-processed foods truly safe for long-term consumption?

.



What Are Ultra-Processed Foods?

Ultra-processed foods are a category of food defined under the NOVA food classification system, developed by Carlos Monteiro. According to this system, ultra-processed foods are-Industrial formulations made mostly from substances extracted from foods, contain additives such as preservatives, emulsifiers, colorings, and flavor enhancers and designed to be highly palatable and convenient.



Why Are They Considered Harmful?

Ultra-processed foods are often not very healthy. They usually contain high amounts of sugar, salt and unhealthy fats, while lacking important nutrients that our bodies need. Eating these foods too often has been linked to problems like weight gain, type 2 diabetes, heart disease, and even some cancers. This happens not only because of what they contain, but also because of what they don't. UPFs tend to be lower in micronutrients, fiber and phytochemicals.

They can also affect the gut health. Some additives- especially emulsifiers, may disturb the balance of good bacteria in the gut, which can lead to inflammation and digestive issues. Another big concern is that these foods are made to be very tempting. They are carefully designed to hit the "bliss point," a perfect mix of sugar, fat, and salt that makes them hard to stop eating. Because of this, people often eat more than they need, feel less full, and end up consuming too many calories without realizing it.

The Sri Lankan Context

The rise of ultra-processed foods is not just a problem in Western countries, it is becoming increasingly common in Sri Lanka as well. Eating habits are changing quickly, especially in urban areas, where more people are turning to processed and packaged foods for convenience. As a result, traditional diets based on rice, vegetables, and legumes are slowly being replaced.

Health reports from organizations like the World Health Organization and the Food and Agriculture Organization highlight a worrying trend. Rates of overweight, obesity, and diabetes are rising steadily across the country. At the same time, these modern food choices can reduce feelings of fullness, leading people to eat more than they actually need. This often results in a higher daily calorie intake, which further increases the risk of health problems.





Are All Ultra-Processed Foods Bad?

It is important to note that not all ultra-processed foods are equally harmful. Some products may be fortified with essential nutrients, provide convenience where fresh food is unavailable and help improve food security in certain populations. However, the issue lies in overdependence rather than occasional consumption.

Finding the Right Balance

Ultra-processed foods are not necessarily harmful if eaten occasionally. The problem starts when they become a regular part of the diet. Eating too much of these foods can affect your health because they are low in nutrients, easy to overeat and linked to long-term health issues. The goal is not to completely avoid them, but to be more mindful in your choices. A good rule to follow is- eat real food, don't eat UPFs too much, and choose mostly plant-based options.

Written by : M.N.Vindya Fernando

Celebrtating Food Innovation at Ruhunu Rasasaraniya 2025

Innovation, creativity, and scientific excellence took center stage as the Department of Food Science and Technology, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka (WUSL), proudly participated in Ruhunu Rasasaraniya 2025. The event served as a dynamic platform for showcasing the remarkable talents and innovative spirit of our undergraduate students while highlighting the role of food science in shaping a sustainable future.





The department's exhibition stall attracted a large number of visitors who were eager to explore an exciting collection of novel food products, value-added food innovations, and sustainable packaging concepts developed through student-led research and innovation. Each exhibit reflected the students' commitment to addressing contemporary challenges in the food sector through scientific knowledge, creativity, and practical application.







Throughout the event, visitors had the opportunity to interact with students and learn about the development processes, research findings, and technological concepts behind the showcased products. The positive response from industry professionals, academics, and the general public highlighted the relevance and potential of these innovations.

Ruhunu Rasasaraniya 2025 also provided a valuable platform for strengthening connections between academia, industry, and the community. The event encouraged knowledge sharing, future collaborations, and research-driven innovation in food quality, nutrition, sustainability, and consumer well-being.

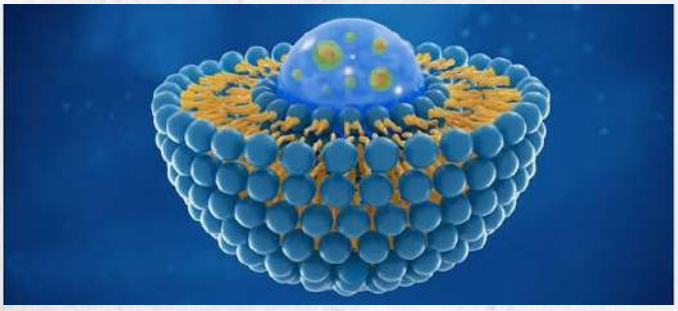
The successful participation of the Department of Food Science and Technology reflected the dedication of its students and staff to advancing food science education and innovation, while contributing to the growth and sustainability of Sri Lanka's food sector.

NANO-ENCAPSULATION

A Novel Approach to Enhance Nutrient Stability and Delivery in Food Products

The increasing demand for healthier and more nutritious foods has led to the development of new technologies in food science. Among these, nano-encapsulation which is a novel and effective approach to improve nutrient stability and delivery in food products. This technology involves the incorporation of bioactive compounds into nanoscale carriers, allowing better protection and controlled release of nutrients.

Many essential nutrients, including vitamins, antioxidants, and polyunsaturated fatty acids, are highly sensitive to environmental conditions such as heat, oxygen, light, and pH changes. These factors can lead to degradation during food processing and storage, ultimately reducing the nutritional value of the final product. Nano-encapsulation addresses this issue by protecting these sensitive compounds within tiny carriers, typically ranging from 1 to 100 nanometers in size. These nanocarriers act as protective barriers, shielding nutrients from adverse conditions during processing, storage, and digestion.



One of the key advantages of nano-encapsulation is its ability to enhance the bioavailability of nutrients. Bioavailability refers to the extent to which nutrients are absorbed and utilized in the body. Many bioactive compounds have low solubility and poor absorption in the gastrointestinal tract limiting their health benefits. Nano-encapsulation improves their solubility and dispersion, increasing their surface area and facilitating more efficient absorption through intestinal membranes. As a result, the nutritional effectiveness of these compounds is significantly enhanced.

Another important feature of nano-encapsulation is its capacity for controlled and targeted release. Nutrients can be encapsulated in such a way that they remain stable during food processing and storage, and are released at specific sites within the digestive system. For example, pH-sensitive nanocarriers can protect nutrients from the acidic conditions of the stomach and release them in the intestine, where absorption is more favorable. This targeted delivery ensures maximum utilization of nutrients and minimizes losses.



In addition to improving nutrient stability and delivery, nano-encapsulation also enhances the sensory properties of food products. It can effectively mask undesirable tastes and odors associated with certain bioactive compounds such as fish oil or plant extracts. This allows the development of more palatable functional foods, including beverages, dairy products, and fortified snacks.

Despite its numerous advantages, the application of nano-encapsulation in the food industry faces several challenges. These include high production costs, regulatory concerns. Consumer acceptance is also a critical factor that must be addressed through proper education.

In conclusion, nano-encapsulation represents a promising advancement in food technology by offering significant benefits in enhancing nutrient stability, bioavailability, and delivery. As research continues, this new approach could greatly improve how functional foods are made and help support better human health.

Written by : K.M. Imanthi Dasanayaka



SFST Hosts Awareness Session on Halal Science and Certification

In an increasingly interconnected global food market, understanding regulatory compliance, cultural dietary standards, and quality verification is vital for the next generation of food technologists. Addressing this need, the Society of Food Science and Technology (SFST) of Wayamba University of Sri Lanka organized an insightful awareness programme titled "Halal in Food: The Science, Certification, and Global Opportunity."

Held on 20th October 2025 from 10:30 AM to 12:30 PM at the University Mini Auditorium, the session provided undergraduate scholars and faculty members with a comprehensive perspective on how food science, safety protocols, and religious dietary compliance converge within industrial manufacturing.



Empowering Future Food Technologists

The interactive session bridged theoretical classroom learning with real-world food manufacturing realities. Participants actively engaged during the discussion, exploring topics ranging from analytical testing for non-compliant traces to navigating complex international trade requirements. All attendees were recognized with e-certificates in acknowledgment of their active participation.

By spearheading initiatives that explore both technical science and global market dynamics, the Society of Food Science and Technology continues its mission to equip Wayamba University undergraduates with the multifaceted expertise required to thrive in modern food industries.



Industry Insights from the Halal Assessment Council (HAC)

To provide authentic industrial and regulatory insights, SFST partnered with senior leadership from the Halal Assessment Council (HAC):

- Mr. Aakif A. Wahab (Director – CEO at HAC) highlighted the expansive economic landscape of the global Halal industry. Emphasizing the core philosophy that "Halal certification promotes respect, transparency, and inclusivity in food choices," he outlined the strategic market advantages and export opportunities available to certified food manufacturers worldwide.
- Mr. M. N. M. Nafas (Head of Quality Assurance at HAC) broke down the technical, scientific, and audit-driven aspects of certification. His presentation detailed supply chain traceability, cross-contamination control, ingredient verification, and how Halal standards integrate with established quality management systems such as GMP and HACCP.



The Science Behind Cake Baking

How Ingredients Work Together



Eggs: Structure, Binding, and Aeration

Eggs serve multiple purposes in cake baking:
· Structure: Egg proteins coagulate during baking, helping the cake set and maintain its shape.
· Binding: Eggs help combine ingredients into a uniform batter, improving stability.
· Aeration: Beaten eggs trap air bubbles, which expand during baking, contributing to lightness and volume.
· Emulsification: Egg yolks contain lecithin, a natural emulsifier that blends fats and liquids smoothly.
Different parts of the egg have distinct roles:
· Egg yolk: Adds richness, flavor, and emulsifying properties.
· Egg white: Forms foams that increase volume and produce a light texture in sponge and angel food cakes.



Cake baking is both an art and a science. What seems like a simple process—mixing ingredients and baking them in an oven—actually involves a series of complex chemical and physical reactions. Each ingredient in a cake plays a specific role in determining its texture, structure, flavor, color, and overall quality. Understanding the science behind these ingredients allows bakers and food technologists to create consistent, high-quality cakes and troubleshoot baking issues effectively.
The main ingredients in a cake—flour, eggs, sugar, fat, milk, and leavening agents—interact in unique ways during mixing and baking, resulting in the final product. The following sections explore the functions of these ingredients and how they work together.

Flour: The Structural Backbone

Flour is the primary structural component of cakes. It contains proteins glutenin and gliadin, which combine with water to form gluten. Gluten provides an elastic network that traps air bubbles, helping the cake rise and maintain its shape during baking.
Additionally, the starch in flour gelatinizes when heated, further stabilizing the cake structure. Different types of flour affect cake texture:
· Cake flour: Low protein (7–8%), produces soft and tender cakes.
· All-purpose flour: Moderate protein (10–12%), produces stronger structure and slightly firmer cakes.
Low-protein flour is preferred for most cakes because high gluten development can make cakes tough. Proper mixing is also critical to avoid over-developing gluten, which would negatively affect texture.

Fat: Tenderness, Moisture, and Flavor

Fats, such as butter, margarine, or oil, contribute to the texture, tenderness, and flavor of cakes.
· Tenderizing Effect: Fat coats flour proteins, reducing gluten formation and producing a soft crumb.
· Moisture Retention: Fat helps the cake remain moist, extending shelf life.
· Aeration: During creaming with sugar, fat traps air bubbles, which expand during baking and improve volume.
Different fats affect cakes differently:
· Butter: Adds rich flavor and enhances aeration.
· Oil: Produces moister cakes that stay fresh longer.



Leavening Agents: Creating Light and Airy Cakes

Leavening agents are responsible for the rise and lightness of cakes by producing gases that expand during baking.

· Baking soda: Needs an acid (like buttermilk) to release carbon dioxide gas.

· Baking powder: Contains both acid and base, producing gas without extra acidic ingredients; double-acting powders release gas during mixing and baking.

· Mechanical aeration: Air incorporated during creaming or
beating eggs also contributes to rise.

Importance of Temperature and Mixing

Room-temperature ingredients blend more easily, resulting in a smoother and more uniform batter. In contrast, cold ingredients may cause curdling or uneven mixing. Proper mixing is also important to ensure the uniform distribution of air bubbles and ingredients throughout the batter, which is essential for achieving a consistent texture in the final product.



Sugar: More Than Just Sweetness

Sugar plays several roles beyond providing sweetness:

· Moisture Retention: Sugar acts as a humectant, attracting and retaining water to keep cakes soft.

· Tenderizing: It interferes with gluten formation, resulting in a tender crumb.

· Browning: Sugar participates in caramelization and Maillard reactions, creating the golden-brown crust and rich flavor.

· Aeration: Sugar crystals help trap air during creaming with fat, contributing to a light and airy cake.

Milk and Other Liquids: Hydration and Flavor

Liquids like milk hydrate dry ingredients, dissolve sugar and salt, and help form a uniform batter. Milk also contributes to:

· Structure: Milk proteins strengthen the cake during baking.

· Browning: Lactose in milk promotes crust color through Maillard reactions.

· Nutrition: Provides proteins, vitamins, and minerals.

Special liquids, like buttermilk, can react with baking soda to improve leavening and add a mild tangy flavor.

Balancing Ingredients in Cake Formulation

The final quality of a cake depends on the balance of ingredients:

· Structure builders: Flour, eggs, milk

· Tenderizers: Sugar, fat, leavening agents

· Moisturizers: Eggs, milk, fat

Too many structure builders can produce a dense cake; too many tenderizers may cause collapse. A proper balance ensures the ideal combination of strength, softness, moisture, and volume.



Cake baking is a complex interplay of ingredients and processes. Flour provides structure, eggs contribute binding and aeration, fats add tenderness and flavor, sugar ensures sweetness, browning, and moisture retention, milk hydrates and enriches the batter, and leavening agents create a light and airy texture.

Understanding how these ingredients work together allows bakers and food technologists to create consistently high-quality cakes, troubleshoot issues, and innovate new bakery products. Ultimately, cake baking is both a science of precision and an art of flavor and texture.

Written by : K. Kasuni Gayana Warnadasa

SFST HOSTS GUEST LECTURE ON GRAIN-BASED FOOD INNOVATION

Cereal grains and pseudocereals form the cornerstone of global nutrition, yet their functional, nutritional, and industrial applications continue to evolve rapidly through modern processing technologies. Expanding the academic and research horizons of undergraduates, the Society of Food Science and Technology (SFST) of Wayamba University of Sri Lanka hosted a distinguished international guest lecture titled "Grain-Based Food Innovation: Exploring Oats & Wheat."

Held on 12th November 2025 from 1:00 PM to 2:00 PM at the University Mini Auditorium, the session welcomed undergraduate students, postgraduate researchers, and faculty members eager to gain specialized exposure to cutting-edge developments in grain chemistry and cereal processing.

The lecture was delivered by Dr. Maneka Malalgoda, Assistant Professor in the Department of Food and Human Nutritional Sciences at the University of Manitoba, Canada. An accomplished researcher in cereal chemistry, protein functionality, and grain quality, Dr. Malalgoda brought a wealth of international research experience to the audience.

Her presentation delved deeply into:

- Macromolecular Functionality: The structural chemistry of gluten proteins in wheat and beta-glucan soluble fibers in oats, illustrating how molecular structures govern texture, rheology, and end-product performance.
- Value Addition and Novel Ingredients: Modern extraction and isolation techniques that transform raw grains into functional food ingredients, plant-based protein concentrates, and nutraceutical components.
- Processing Quality and Challenges: Industrial-scale milling, extrusion, and thermal processing dynamics, along with practical solutions for mitigating allergenicity and optimizing dough characteristics in novel food formulations.



Connecting Academia to Global Frontiers

The lecture concluded with an active question-and-answer session, where undergraduates engaged directly with Dr. Malalgoda. Discussions touched on postgraduate research pathways, contemporary challenges in plant protein extraction, and the potential of adapting advanced grain technologies to local crop systems.

By facilitating international scholarly exchanges with leading global institutions, the Society of Food Science and Technology continues to inspire research excellence and broaden scientific perspectives across the university community.





Antioxidants and phytochemicals are naturally occurring bioactive compounds found mainly in fruits, vegetables, grains, and legumes. These compounds play a vital role in protecting the human body against oxidative stress, reducing the risk of chronic diseases such as cancer, cardiovascular diseases, and diabetes. However, most foods undergo some form of processing before consumption, which can significantly influence the content and effectiveness of these health-promoting compounds. Food processing, therefore, has both positive and negative impacts on antioxidants and phytochemicals.

How Food Processing Affects Antioxidants and Phytochemicals

Effects of Thermal Processing on Antioxidants

Thermal processing is one of the most widely used methods in food preparation and preservation. However, it often leads to the degradation of heat-sensitive antioxidants such as vitamin C and some polyphenols. For example, boiling vegetables can cause significant losses of water-soluble vitamins due to leaching into cooking water. High temperatures and prolonged heating further accelerate the breakdown of antioxidant compounds, reducing their activity. Frying, in particular, may destroy sensitive nutrients while also introducing oxidative changes in oils.

Impact of Mechanical Processing

Mechanical processing methods such as chopping, slicing, blending, and juicing can have both beneficial and adverse effects. On the positive side, these processes break down plant cell walls, making phytochemicals like carotenoids and flavonoids more accessible for absorption in the human body. For instance, blending fruits into smoothies can enhance the release of antioxidants. However, exposure to oxygen during these processes can also lead to oxidation and loss of certain sensitive compounds.

Beneficial Processing Methods

Not all processing methods are harmful. Certain techniques can enhance the nutritional quality of foods. Steaming and microwaving are considered gentle methods that preserve most antioxidants compared to boiling. Fermentation is particularly beneficial, as it not only preserves food but also increases the content and bioavailability of phytochemicals. During fermentation, microorganisms break down complex compounds and produce new bioactive substances with antioxidant properties. Germination is another process that improves the availability of nutrients and phytochemicals in grains and legumes.
compounds.



Negative Effects of Excessive Processing

Highly processed foods often undergo refining, which removes nutrient-rich outer layers. For example, polishing rice and refining wheat into white flour significantly reduce their phytochemical and antioxidant content. Additionally, industrial processing involving high heat and pressure can lead to the formation of harmful compounds, which may counteract the benefits of natural antioxidants. Therefore, excessive processing can lower the overall nutritional value of foods.

Strategies to Preserve Antioxidants and Phytochemicals

To retain the maximum nutritional value of foods, appropriate processing techniques should be selected. Minimal processing, reduced cooking times, and methods such as steaming or microwaving are recommended. Using less water during cooking can prevent the loss of water-soluble nutrients. Additionally, proper packaging and storage conditions can protect foods from light and oxygen, helping to preserve antioxidants.



Factors Affecting Stability of Antioxidants

The stability of antioxidants and phytochemicals during processing is influenced by several factors, including temperature, processing time, oxygen exposure, light, and pH. Longer processing times and higher temperatures generally lead to greater nutrient loss. Exposure to air and light can accelerate oxidation, while certain pH conditions may either stabilize or degrade specific compounds. Proper handling and storage conditions are essential to minimize these losses.

Food processing has a complex impact on antioxidants and phytochemicals. While some methods lead to nutrient loss, others enhance the availability and effectiveness of these compounds. The key lies in selecting appropriate processing techniques that balance food safety, convenience, and nutritional quality. By understanding these effects, consumers and food producers can make informed decisions to maximize the health benefits of foods.

Written by : B.G. Hiruni Dinesha

DANUMATA SENEHASIN

A Book Donation Initiative for the Children Affected by the Dithwa Storm







The Society of Food Science and Technology of Wayamba University of Sri Lanka organized the book donation programme "**Dhanumata Senehasin**" (With Love for Knowledge) on 17th December 2025, as a meaningful initiative to support the children and families affected by the Dithwa storm in the Giriulla area. The programme was carried out with the generous support and participation of academic staff, university students, and non-academic staff of Wayamba University of Sri Lanka. Through their collective efforts, a valuable collection of storybooks, educational books, other reading materials and sanitatiory equipments were gathered and donated to children who were affected by the storm. The initiative aimed to bring happiness and encouragement to the children while helping them continue their educational journey despite the challenges they had faced.





As part of the project, books were also donated to the library of Wickramashila National School- Giriulla, which was damaged by the Dithwa storm. The donated books will help rebuild the school's collection of reading and educational resources, giving students greater opportunities to learn, explore, and develop their imagination. Dhanumata Senehasin was more than simply a book donation programme. It was an expression of kindness, unity, and social responsibility by the Wayamba University community. The involvement of lecturers, students, and non-academic staff demonstrated how a collective effort can bring meaningful change to communities in times of need. For the children who received them, each book represents more than just pages filled with words. They are sources of knowledge, imagination, inspiration, and hope. Through these books, the project hopes to encourage children to continue learning, dreaming, and looking forward to a brighter future.

With the successful completion of Dhanumata Senehasin, the Society of Food Science and Technology has taken a small but meaningful step towards rebuilding hope through knowledge. The donated books will now pave the way for new stories, new dreams, and bright beginnings in the lives of young readers. Dhanumata Senehasin stands as a reminder that when knowledge is shared with love, it has the power to bring smiles, inspire dreams, and create a brighter tomorrow

GEN Z IS REWRITING THE FOOD INDUSTRY!



Today's food environment is no longer driven by tradition, affordability, or convenience. Instead, it is shaped by the preferences of **Generation Z**; people who born between the mid-1990s and early 2010. Their food choices are informed by digital information, global culinary exposure and interest of health and sustainability.

From a food science and product development perspective, these evolving consumption patterns are not only trends but also indicators of structural change within the food industry. Gen Z consumers actively seek foods that align with their personal health goals, ethical values, and digital lifestyles. As a result, their influence is driving innovation in formulation, processing, packaging, and marketing strategies.These shifts are essential for food technologists aiming to develop products that are both scientifically sound and commercially relevant in a rapidly transforming marketplace.

PERZONALIZED NUTRITION

One of the most prominent shifts driven by Gen Z is the personalized nutrition. Rather than adopting generalized dietary guidelines, this generation increasingly favors to individual health needs, lifestyle choices, and even genetic tendency. From a scientific standpoint, this has accelerated the development of functional foods, fortified products, and data-driven nutrition platforms.



Advances in nutrigenomics, microbiome research, and digital health tracking are enabling food technologists to design products with targeted health benefits, such as improved gut health, enhanced immunity, or optimized energy metabolism. This trend challenges the industry to move beyond "one-size-fits-all" formulations toward more precise and adaptable nutritional solutions.

INSTAGRAMMABLE PRODUCTS

In this digital era, visual appeal has become a critical factor in food acceptance, particularly among Gen Z consumers who frequently share their food experiences on social media platforms. This has given rise to the demand for "Instagrammable" products which means foods that are visually striking, colorful, and aesthetically unique. From a product development perspective,



This trend intersects with food chemistry and material science, as developers explore natural colorants, novel textures, and innovative presentation formats. However, the challenge lies in achieving visual impact without compromising nutritional value or relying on artificial additives, thereby requiring careful formulation and processing strategies.

SUSTAINABLE EATING

Sustainability has become a central consideration in Gen Z's food choices, influencing not only what they eat but how those foods are produced and distributed. This has significant implications for food science, particularly in the development of alternative proteins, waste reduction technologies, and environmentally friendly processing methods. Plant-based formulations, upcycled ingredients, and low-impact packaging systems are gaining prominence as the industry responds to concerns about climate change and resource depletion.



For food technologists, this trend necessitates a balance between sustainability and product quality, ensuring that environmentally responsible innovations also meet sensory, nutritional, and safety standards.

WRITTEN BY
D.M. SACHINI DISSANAYAKE

AURORA EVE
CHRISTMAS NIGHT 2025







The Society of Food Science and Technology at Wayamba University of Sri Lanka brought the festive spirit to campus with its **AURORA EVE – CHRISTMAS NIGHT 2025**, a vibrant evening filled with joy, music, creativity, and Christmas cheer. Held on 22nd December 2025, the event was organized for students from all batches of the Faculty, creating a wonderful opportunity for everyone to come together and celebrate the magic of Christmas. The evening began with a variety of fun games, exciting activities, and beautiful Christmas carols, keeping the participants entertained and engaged. The venue was transformed into a magical Christmas wonderland, beautifully decorated with a Christmas tree, sparkling lights, Santa Claus, gifts, and festive decorations, creating a warm and cheerful atmosphere throughout the night.



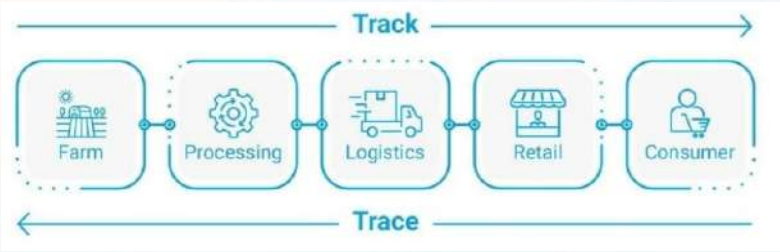


One of the most anticipated highlights of the evening was the Best Costume Competition, where students showcased their boldest, brightest, and most jaw-dropping Christmas-inspired outfits. With creativity and confidence on full display, the competition brought an extra touch of glamour and excitement to the celebration. The evening proudly crowned Mr. and Miss Best Costume, recognizing the most outstanding festive looks. No Christmas celebration is complete without delicious treats, and Aurora Eve certainly did not disappoint. The food stalls offered a delightful variety of sweets, snacks, seasonal treats, and refreshing beverages, allowing everyone to enjoy delicious food while embracing the festive spirit. Adding to the electrifying atmosphere was an energetic DJ performance, which kept the crowd entertained with lively beats and encouraged students to dance and celebrate together. The combination of music, lights, decorations, and enthusiastic participation created an unforgettable Christmas atmosphere.





The night was further enriched by interactive games and entertaining activities, allowing students from different batches to connect, participate in friendly competitions, and create lasting memories together. From cheerful carols and exciting games to delicious treats and energetic dancing, every moment contributed to the success of the celebration. The AURORA EVE – CHRISTMAS NIGHT 2025 was a memorable success, made possible through the dedication of the organizing team and the enthusiastic participation of students. More than just a Christmas celebration, the event reflected the Society's commitment to building a vibrant, united, and joyful student community through creativity, entertainment, and shared experiences.





Food Traceability

In today's global food system, consumers are more concerned than ever about the safety, quality, and origin of the food they eat. Food traceability has emerged as a critical tool in ensuring transparency and trust throughout the food supply chain. It refers to the ability to track food products through all stages of production, processing, and distribution—from farm to fork.

Food traceability systems allow stakeholders to identify where food comes from, how it is handled, and where it goes after production. This is especially important in the event of food safety issues, such as contamination or foodborne illness outbreaks. With proper traceability, unsafe products can be quickly identified and removed from the market, minimizing health risks and economic losses.



One of the key components of food traceability is proper record-keeping. Each stage of the supply chain must maintain accurate data, including information about raw materials, processing conditions, transportation, and storage. Technologies such as barcodes, QR codes, RFID (Radio Frequency Identification), and blockchain are increasingly used to enhance traceability systems. These tools allow real-time tracking and provide consumers with easy access to product information.

In countries like Sri Lanka, food traceability plays a vital role in ensuring the quality of local products such as tea, spices, coconut oil, and seafood. For example, traceability systems can help prevent food adulteration—such as mixing low-quality substances into products like chili powder or turmeric—by identifying the source of contamination or fraud.

Moreover, traceability supports regulatory compliance and international trade. Many global markets require strict traceability standards to ensure food safety and quality. By adopting these systems, local producers can gain better access to export markets and improve consumer confidence.

However, implementing food traceability is not without challenges. It requires investment in technology, training, and coordination among different stakeholders in the supply chain. Small-scale producers may find it difficult to adopt advanced systems due to cost and lack of awareness.

Despite these challenges, the benefits of food traceability far outweigh the limitations. It enhances food safety, improves quality control, reduces fraud, and builds trust between producers and consumers. As technology continues to advance, traceability systems will become more efficient and accessible, making it easier for everyone to know exactly where their food comes from.



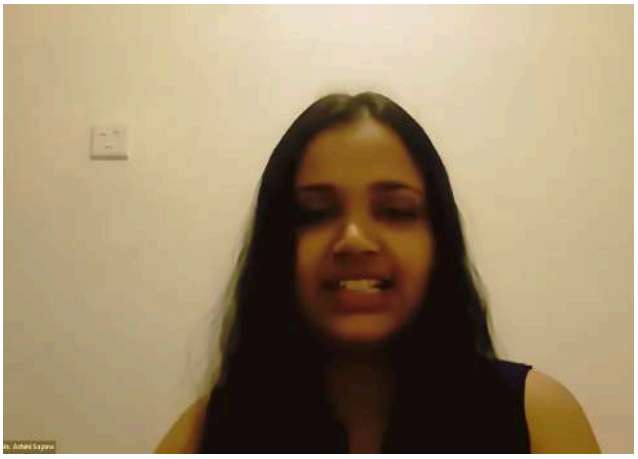
In conclusion, food traceability is a fundamental aspect of modern food systems. It not only protects public health but also promotes transparency and accountability. As consumers become more conscious of what they eat, the importance of traceability will continue to grow, shaping the future of the food industry.

Written by : C.Dinuththara Wijewardhana

Building Food Safety Excellence

HACCP Implementation Online Workshop

The Society of Food Science and Technology, Wayamba University of Sri Lanka, in collaboration with the Asian Institute of Technology and Business Management (AITBM), organized an insightful HACCP Implementation Online Workshop aimed at enhancing participants' knowledge and practical understanding of food safety management. The workshop provided an excellent platform for students and food industry enthusiasts to gain a deeper understanding of how HACCP systems are developed and implemented to ensure the production of safe and high-quality food.



Building knowledge today for safer food tomorrow



The workshop covered several important areas, including the fundamental principles of HACCP, hazard identification, hazard analysis, control measures, and practical approaches to HACCP implementation. Special attention was also given to documentation and real-world applications, helping participants understand how HACCP principles can be effectively applied within different food processing and hospitality environments. The sessions offered valuable insights into the responsibilities involved in maintaining food safety throughout the production process.

Conducted by Ms. Achini Sajana Munasinghe, the workshop connected theoretical knowledge with practical industry experience. Her expertise in food hygiene, quality assurance, HACCP, FSSC 22000, ISO standards, and auditing provided participants with valuable industry-oriented perspectives. Overall, the workshop was a meaningful learning experience that strengthened our understanding of food safety systems and highlighted the importance of preventive approaches in protecting consumers and maintaining food quality..

CRYOGENIC PRESERVATION

FREEZING FOODS WITHOUT LOSING NUTRITION

The Deep Chill
Unlocking the Future with Cryogenic Preservation

While your kitchen freezer does a fine job of keeping peas edible for a few months, there is a frontier of science that goes far beyond the ice cube stage.
Welcome to the world of cryogenic preservation which is the a high-tech, ultra-cold realm where temperatures below -150°C (-238°F).In this state of suspended animation, the goal isn't just to keep things cold; it’s to stop time itself at a molecular level.





The Science of the "Snap Freeze"

The greatest enemy of preservation is water. In standard freezing, water molecules move slowly, eventually hooking together to form complex, hexagonal ice crystals. These crystals act like tiny daggers, piercing cell membranes and shredding the delicate internal structures of whatever is being frozen.
Cryogenic preservation changes the game by using flash freezing agents, typically liquid nitrogen or carbon dioxide. Because the temperature drop is so violent and immediate, water molecules don't have time to organize into destructive crystals. Instead, they enter a state called vitrification, turning into a glass-like solid that holds every cell, protein, and organelle in its exact original position.

Bond the Grocery Aisle Where Cryogenics Rules

While the food industry uses cryogenics to lock in the "fresh-picked" texture of premium seafood and berries, the most profound applications are happening in medicine and biotechnology.

1. The Biological Save Button

Cryopreservation is the backbone of modern reproductive medicine. Human cells, specifically embryos, eggs, and sperm, are incredibly fragile. Cryogenic storage in specialized "dewars" (vacuum-sealed flasks) allows these biological blueprints to remain viable for decades.

2. Seed Banks and Biodiversity

Deep in the Arctic Circle lies the Svalbard Global Seed Vault. Here, the "Doomsday Vault" uses the principles of cryogenics (aided by natural permafrost) to ensure that if a plant species goes extinct in the wild, its genetic code is preserved in a frozen time capsule.

3. Regenerative Medicine

Scientists are currently perfecting the cryopreservation of complex tissues and even entire organs. If we can master the art of thawing a heart or kidney without "ice-shatter" damage, the organ donor shortage could be solved overnight by creating long-term "organ banks."

The magic happens at the Glass Transition Temperature. When a substance drops below its, it isn't technically a solid, but a liquid with such high viscosity that it behaves like a solid. In this glassy state, all chemical activity effectively stops.

The Physics of the Chill: At these temperatures, the kinetic energy of molecules is so low that the chemical reactions responsible for decay simply cannot occur. Even the most aggressive enzymes are rendered motionless.



The Challenges: The Great Thaw

Freezing is only half the battle, thawing is where the real danger lies. As a sample warms up, it must pass back through the danger zone where ice crystals can recrystallize and grow. Current research is focusing on nano warming, using magnetic nanoparticles to heat the frozen sample evenly from the inside out, preventing the structural cracks that occur with uneven heating.

The Future: A World on Pause

As we look toward the future, cryogenic preservation is the key to long-term space travel. While human hibernation remains in the realm of science fiction, the ability to cryopreserve biological supplies, medicines, and emergency tissues is what will allow us to venture further from Earth than ever before.

By mastering the Deep Chill, we aren't just storing materials, we are building a bridge across time, ensuring that the biological wonders of today remain precious for the generations of tomorrow.

Written by : Wishmi Raweesha Roopasinghe

Celebrating Tradition SFST Avurudu Celebration

The Society of Food Science & Technology celebrated the Sinhala & Tamil New Year with a vibrant blend of tradition, culture, joy, and togetherness. The celebration brought students and members together to welcome the New Year while cherishing the customs and values that make this season truly special.





Through traditional rituals, cultural activities, and shared moments of happiness, the celebration created a warm and memorable atmosphere within the Department of Food Science & Technology. It was a beautiful opportunity to strengthen friendships, embrace our cultural heritage, and celebrate the spirit of unity as one community.

The event beautifully reflected the essence of the New Year coming together, sharing happiness, respecting traditions, and creating lasting memories. From the traditional hearth to the joyful gathering, every moment added meaning to this special celebration.



Celebrating tradition, embracing togetherness, and welcoming a year filled with new beginnings.

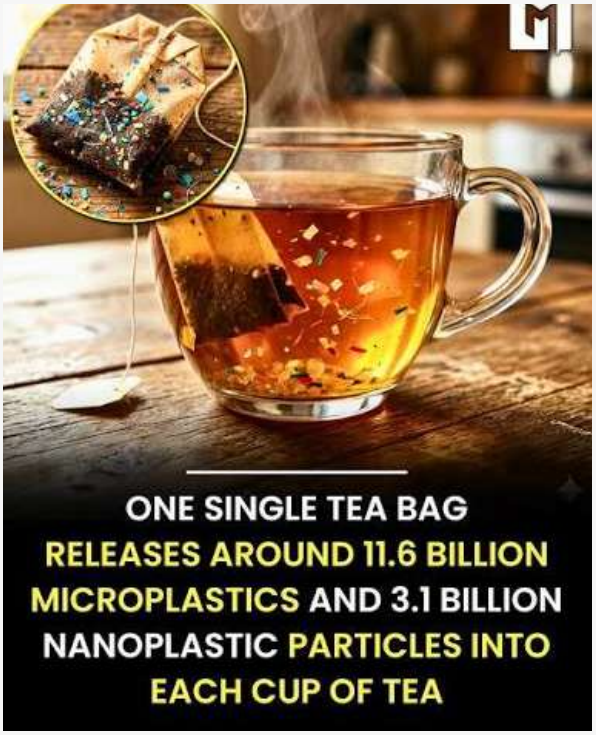
Tea Bags and Microplastics

TEA BAGS AS A POTENTIAL SOURCE OF MICROPLASTIC EXPOSURE

Tea is one of the most widely consumed beverages in the world and is often associated with comfort, relaxation, and health. However, recent research has raised concerns about a less visible issue associated with some tea bags: the release of microplastics and nanoplastics into tea during brewing.



Your Tea Bag May Be Brewing More Than Tea

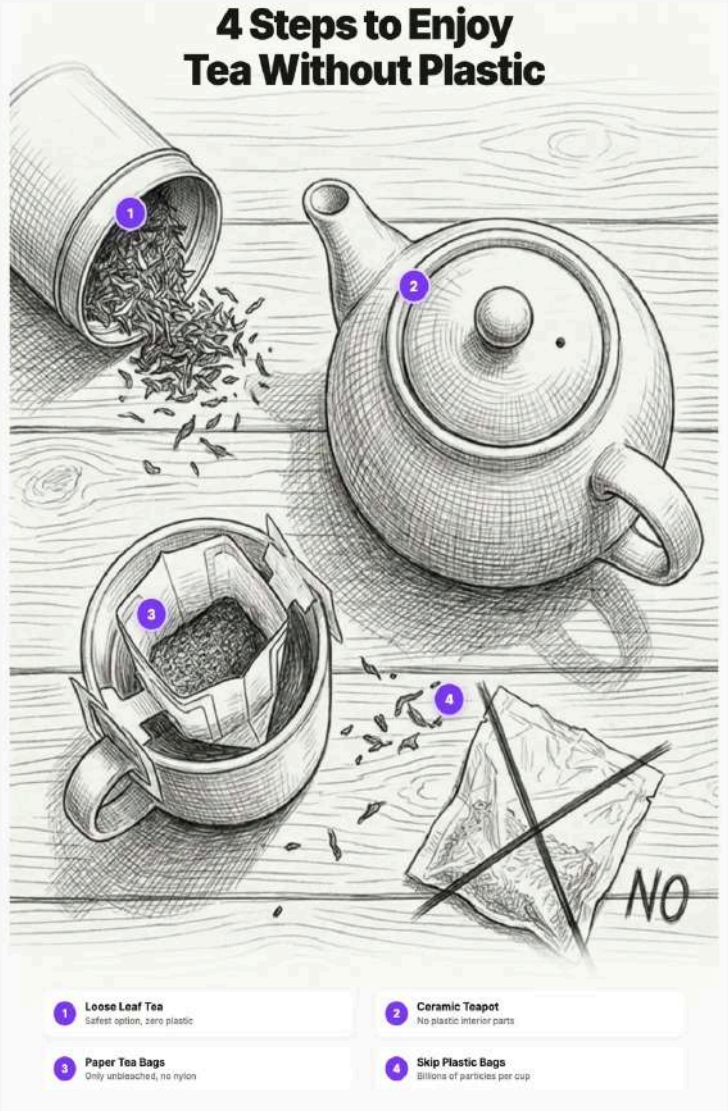


Modern tea bags may contain plastic materials such as polypropylene and nylon. These materials are used to improve the strength, durability, and heat resistance of the bags. However, when exposed to hot water, particularly at brewing temperatures, plastic components may release microscopic particles into the beverage. One study reported that a single plastic tea bag steeped at 95°C could release approximately 11.6 billion microplastic particles and 3.1 billion nanoplastic particles into one cup of tea.

The possible health effects of consuming microplastics are an increasing area of scientific research. Microplastics may carry or interact with potentially harmful substances, including certain heavy metals and other contaminants. Research has also suggested that exposure to microplastics may contribute to inflammation and oxidative stress. Animal studies have further indicated that these particles may affect the gut microbiota and intestinal barrier. However, more research is still needed to fully understand the effects of long-term exposure to microplastics in humans.

The issue also extends beyond human health. Plastic-containing tea bags can contribute to long-term environmental pollution because plastic materials degrade very slowly. Over time, they can break down into smaller particles that enter soil and aquatic environments. These microplastics can persist in ecosystems, potentially affecting wildlife and entering food chains.





Fortunately, there are simple ways to reduce potential exposure. Choosing loose-leaf tea is one option, as it eliminates the need for a tea bag. Consumers can also look for tea bags made from paper or verified plastic-free, plant-based materials. Another alternative is to use a reusable stainless-steel tea infuser.

Consumers can also reduce unnecessary plastic exposure by checking the packaging information before purchasing tea products. Manufacturers have an important role to play by developing tea bags made from safer and more environmentally friendly materials and by clearly communicating the materials used in their products. Increased awareness among consumers, together with improved packaging practices, can help reduce the release of plastic particles into beverages and the environment.

The presence of microplastics in tea does not mean that drinking tea is unsafe. However, it highlights the importance of understanding the materials used in food packaging and their potential effects on health and the environment. Making informed choices about tea products can help reduce unnecessary plastic exposure while supporting more sustainable consumption.

Written by : Rashmi Amandya Dissanayake

WORLD FOOD SAFETY DAY 2026: ADVANCING FOOD SAFETY THROUGH KNOWLEDGE AND ACTION



The Society of Food Science & Technology, Wayamba University of Sri Lanka, organized an insightful online webinar in celebration of World Food Safety Day 2026, under the theme "From Burden to Solutions – Safe Food Everywhere." The event provided an engaging platform to highlight the importance of food safety and its role in protecting public health.

The session was conducted by Mr. Sachith Muthukumarana, Associate Director – Food Safety & Quality, Health, Safety & Wellbeing, and Nutrition at Lactalis Lanka (Pvt) Ltd. With his extensive industry experience, the session provided valuable insights into practical food safety challenges, innovative solutions, and the collective responsibility required to ensure safe food throughout the food chain.

The webinar encouraged participants to look beyond food safety as a challenge and focus on practical, sustainable solutions that can create safer food systems. It was a valuable learning experience that strengthened our awareness of the responsibility of food science professionals in building a safer and healthier future.



From challenges to solutions, together we make food safer



Role of Biotechnology in the Advancement of Food Packaging Systems

Food packaging is an essential protection for food from physical damage, chemical reactions, and microbial contamination while ensuring quality and extending shelf life. It takes the product to its ultimate consumer in a sustainable manner. Traditional packaging materials such as plastics, glass, metals, and paper have been widely used due to their durability and convenience. But the excessive use of synthetic plastics has caused serious environmental concerns. Advancement of biotechnology has addressed this challenge with emerging as a powerful and sustainable approach to revolutionize food packaging systems by introducing eco-friendly, efficient, and innovative solutions.

Development of biodegradable packaging materials derived from renewable biological sources is one of most important contribution of biotechnology. These materials, known as biopolymers, including polysaccharides such as cellulose, starch, and chitosan, proteins such as collagen and gelatin and other natural compounds. With the advanced biotechnological processes like fermentation and metabolic engineering of microorganisms, these polymers can be produced efficiently. For instance, PLA which is polylactic acid is used widely as a biodegradable polymer. It is synthesized from lactic acid produced by microbial fermentation. These biopolymers are not only biodegradable but also possess desirable properties such as flexibility, strength, and the film forming ability showing that they are qualified as alternatives to conventional plastic packaging.



In addition to producing biodegradable materials, biotechnology also empowers packaging systems with enhancing their functional properties. Normally natural polymers often have some limitations like poor mechanical strength and low resistance to moisture and gases. With the emergence of techniques like genetic engineering, polymer blending, and chemical modifications, these limitations can be significantly overcome and functions can be improved. This allows biopolymer based packaging systems to protect food from oxygen, moisture, and microbial contamination effectively and lead to maintain quality and extend shelf life of the produce. Furthermore, biotechnology has paved the way for incorporating functional additives into packaging materials, thereby transforming them into active systems that interact with food and its environment.

Another notable advancement in biotechnology is the development of bacterial cellulose (BC). Bacterial cellulose is a biopolymer produced by certain microorganisms and exhibits good characteristics such as high mechanical strength, excellent water retention, biodegradability, and biocompatibility. Therefore, it has been successfully used as a packaging material for various food products, including fruits, bread, dairy items, and fish, where it helps in reducing microbial growth, preventing oxidation by preserving sensory qualities. More importantly, its rapid degradation in natural environments makes it an environmentally sustainable alternative to synthetic plastics. So it is already eco-friendly. With biotechnological innovations, structure of the bacterial cellulose can be modified to enhance its performance and suitability for diverse packaging applications.



The application of biotechnology in food packaging offers environmental and economic benefits. These advancements contribute to develop sustainable packaging systems by reducing reliance on fossil fuel-based plastics and utilizing renewable resources. Biodegradable materials can be easily decomposed in the eco-systems, reducing landfill waste and environmental pollution. Moreover, the use of agricultural and industrial byproducts as raw materials of packaging systems can support the economy, where waste is converted into valuable products with starting a new circle.

Therefore, biotechnology has greatly improved food packaging systems by making it more sustainable and useful. It helps to create eco-friendly materials, better preservation methods, and smarter packaging systems. Biotechnology involves in making food packaging systems safer and better for the environment with more efficiency.



Written by : U.H. Jananie Thilakshi

A Glimpse into Local and Global Food Regulatory Frameworks and Challenges

In today's competitive food industry, taking a product beyond national borders requires more than quality and good taste. It requires compliance, consistency, and confidence. Recognizing the importance of understanding food export requirements, the Food Science and Technology Society of Wayamba University of Sri Lanka organized a Certificate Program on Food Export Regulations and Compliance, bringing valuable industry knowledge closer to students, entrepreneurs, and food professionals.



The session provided a practical glimpse into the local and global regulatory framework that governs food exports. Participants explored key areas including food safety guidelines, food safety certifications, Good Manufacturing Practices (GMP), and export compliance procedures. These elements form the foundation for ensuring that Sri Lankan food products meet the expectations of both local authorities and international markets.

The program was enriched by the expertise of J.N. Ruwan Kumara, Associate Director – Corporate & Regulatory Affairs, who shared industry-oriented insights into the realities of regulatory compliance. Rather than viewing regulations simply as requirements to be fulfilled, the session highlighted how proper compliance can become a gateway to international market world.

For Sri Lankan food exporters, however, the journey is not without challenges. Meeting different destination-country requirements, maintaining consistent food safety standards, obtaining recognized certifications, managing documentation, and adapting to changing international regulations can be demanding—particularly for small and medium-scale businesses. A product may be locally successful, yet entering the global market requires it to satisfy a much wider regulatory framework.

Ultimately, the program highlighted an important message: global food trade begins with local compliance. By strengthening knowledge of regulations, quality systems, and export requirements, Sri Lankan food businesses can overcome regulatory barriers, build international trust, and transform local food products into globally competitive opportunities.



GREENER PACKAGING
Innovations Shaping a Sustainable Food Industry

The food industry is an integral part of the world. Though society runs in search of technology, the need for greenery is increasing drastically. To achieve both together, intellectuals are working on innovative, sustainable sectors. Considering the food industry, packaging is one of the key aspects in determining the standard of the food. What if the packaging incorporates Greenery and sustainability? This question leads the path to innovate packaging that is friendly to both the consumer and the environment.
Sustainability of the greener packaging depends on the 3 Rs, Life cycle assessment, circular economy concept, and eco-friendliness. To earn ticks on all these points, the biodegradable, recyclable, and compostable packaging methods are the frontrunners. On the other hand, the greener packaging also focuses on edible packaging. All these categories have several products made of the proven sources that already exist.

Agricultural residues are the first source that spark at the mind. It includes the primary residues, such as wheat straw, rice husks, and corn stalks, secondary residues, such as sugarcane bagasse, oilseed cakes, and energy crops like switchgrass and miscanthus. However, these are still influenced by regional agricultural practices, crop types, and residue recovery rates.
The edible packaging includes coatings such as seaweed, beeswax, Chitosan, plant oils, and alginate, which are common examples. Other than that, edible pouches, capsules, and molded structures are also considered edible packages. Such innovations not only reduce packaging waste but also enhance the sustainability of food systems.



The strength of the packaging is ensured by the composition of cellulose, hemicellulose, lignin, and lignocellulose, which are comm0only used in the conversion of bio-based products like bioplastics. These sources are the stronger candidates, due to the significantly lower carbon footprint compared to petroleum-based plastics. Recent LCA analyses report that polylactic acid (PLA) films have a carbon footprint of approximately 0.5–0.8 kg CO_2-eq/kg, compared to 2.7–3.5 kg CO_2-eq/kg for conventional polyethylene (PE) and polypropylene (PP) films. Also, these are underutilised sources that provide a reliable supply to ensure the continuous production, along with film-forming ability, fibre integrity, water resistance, moisture resistance, UV shielding, flexibility based on the need, and allow custom formulation.



The advanced approach of greener packaging utilises several techniques to make the final product more efficient. In the production of bioplastics, extrusion, molding, and casting are employed. Spinning methods are used for fibre production. A notable breakthrough in 2023 showed that solvent casting combined with electrospinning yields films with superior uniformity and strength. 3D printing technologies used in creating custom packaging using biomass-derived polymers. The incorporation of nanocellulose during film production improves the mechanical and barrier properties of biomass-based packaging materials.

A landmark study introduced a one-pot biphasic lignocellulose fractionation process, enabling simultaneous extraction of high-purity cellulose and lignin nanomaterials under mild, two-phase solvent conditions. This method achieved purity exceeding 90%, with energy use reduction of over 30% compared to traditional sequential pulping. By this, the hybrid material usage started in package production.

Cradle-to-cradle is most commonly used in combination with the circular economy and is designed to go through reuse or recycling. This also highlights the use of bio-based plasticizers, such as glycerol and sorbitol, to increase flexibility and reduce brittleness in biomass-derived films. Incorporating additives such as graphene oxide (GO) and nano clays into biomass-based films can significantly improve mechanical strength, barrier performance, and antimicrobial activity. However, these enhancements are under evaluation against the technology readiness level, cost, and regulatory approval hurdles. With the current trend, the active packaging and smart packaging, the communicating packaging methods are owning the research fields.

The year 2026 is now moving towards AI for further advancement. AI models can predict material properties, optimize material usage, and improve recyclability. This leads to more efficient packaging systems with reduced waste and enhanced performance. In addition, robotics-enabled packaging lines, automation systems, and advanced inspection technologies are improving production efficiency and consistency.



In conclusion, greener packaging in the food industry has evolved from simple biodegradable materials to advanced, technology-driven systems. The integration of agricultural residues, bio-based materials, nanotechnology, and artificial intelligence is transforming the way packaging is designed and utilized. While challenges such as cost, scalability, and regulatory approval remain, continuous innovation is driving the industry toward more sustainable solutions. The future of food packaging will be unimaginably advanced combining environmental responsibility with technological advancement to create systems that are efficient, safe, and eco-friendly.

Written by: Anjalla Ponnambalam

PROFOOD PROPACK AGBIZ 2026

SHOWCASING INNOVATION IN FOOD & PACKAGING



We proudly presented a wide range of novel food products, innovative packaging concepts, post-harvest technologies, and value-added food innovations. Each product represented the hard work, creativity, and teamwork behind our journey. The response from visitors was incredibly encouraging. Many stopped by to explore our products, ask questions, share their ideas, and appreciate the effort we had put into bringing our concepts to life



From Innovation to Impact: Our Journey at ProFood ProPack 2026

Three unforgettable days. One vibrant stall. Countless ideas, connections, and opportunities.

On 21st, 22nd, and 23rd August, our team proudly participated in ProFood ProPack 2026 at BMICH, Colombo, transforming our stall into one of the most colourful, creative, and engaging spaces at the exhibition. More than just a display, our stall became a platform where innovation met industry, creativity met opportunity, and university ideas stepped into the real world.



One of the most valuable aspects of the experience was the opportunity to interact directly with industry professionals, exporters, and experienced individuals in the food and packaging sectors. Their questions, feedback, and conversations gave us a completely different perspective on product development and the realities of entering the market. Some visitors even showed interest in purchasing our products and asked about their market potential, commercialisation, and future availability.



The competition and product evaluations added another exciting dimension to the journey. While we eagerly look forward to the results, the experience itself has already become a valuable achievement for us. Every question we answered, every piece of feedback we received, and every conversation we had added something to our learning.





Beyond the competition and product evaluation, the event gave us something even more meaningful — real-world exposure. Presenting our ideas to professionals and consumers taught us how innovation needs to go beyond the laboratory. A good product must not only be scientifically sound; it must also be attractive, practical, marketable, and capable of meeting consumer needs.



Most importantly, ProFood ProPack 2026 allowed us to step outside the university environment and experience the real food industry and marketplace. It challenged us to communicate our innovations, defend our ideas, understand consumer expectations, and recognise the possibilities that lie beyond our classrooms and laboratories.
What began as a university project became an unforgettable industry experience — filled with colour, creativity, innovation, teamwork, connections, and possibilities



Profood Propack Ag-Biz Knowledge Hub 2026
SRI LANKA FOOD PROCESSORS ASSOCIATION (SLFPA)

A Moment of Excellence



Heartiest congratulations to

Ms. Anne Rishini Minodya

on securing **1st Place at the 3-Minute Flash Talk Competition** organized by the Institute of Food Science and Technology Sri Lanka (IFSTSL).

In just three minutes, Anne showcased her knowledge, confidence, and passion through an outstanding presentation that earned her the top position. Her remarkable achievement reflects the talent, dedication, and excellence of our students.

This victory marks another proud moment for our university community and celebrates the power of young voices to communicate ideas with confidence and impact. We extend our warmest congratulations to Anne Rishini Minodya and wish her continued success in her future endeavors.

OUR PRODUCTS

EXTRACTIONS AND DAIRY WHERE NOVELTY COMES FOOD IN DIFFERENT FLAVORS

Spice Extracts are concentrated natural extracts obtained from selected spices, capturing their characteristic flavours, aromas, and bioactive compounds. They offer a convenient way to incorporate the functional and sensory properties of spices into food products.

Cheese is a value-added dairy product made by coagulating milk and separating the curd from the whey. It provides a rich source of protein and calcium with a variety of flavours and textures.







01 | NOVEL FOOD PRODUCT DEVELOPMENT TRANSFORMING IDEAS INTO INNOVATIVE FOOD PRODUCTS

PoppySoy Breakfast Cereal

PoppySoy Breakfast Cereal is a crunchy, chocolate-flavored vegan cereal made with soy and poppy seeds. It is lactose-free and gluten-free, providing a convenient and enjoyable breakfast option.



Kochchi Cola

Kochchi Cola is a refreshing carbonated beverage combining sweet tropical pineapple with the distinctive spicy kick of Sri Lankan kochchi. It offers a unique and fizzy twist on conventional soft drinks.



Trevo - Instant Tea Tablet

Instant Tea Tablet is a convenient tea product made from instant tea powder, gum arabic, maltodextrin, and sugar. Available in cinnamon and vanilla flavours, it allows quick and easy tea preparation.



RIVOTA – Germinated Mung Bean Drink

RIVOTA is a nutritious plant-based beverage made from germinated mung beans. It offers a smooth, refreshing, and sustainable alternative to conventional milk-based drinks.



RIZORA – Plant-Based Rice Milk Paneer

RIZORA is a dairy-free paneer made from rice milk, chickpea flour, and jackfruit seed powder. It offers a soft texture, mild taste, and sustainable alternative to conventional paneer.



FUELA Smoothie Cube

FUELA Smoothie Cube is a plant-based functional food made with natural ingredients and essential nutrients. It provides a convenient source of fiber, protein, omega-3s, carbohydrates, and vitamin C.



Chocolate-Coated Frozen Yogurt

Chocolate-Coated Frozen Yogurt combines creamy frozen yogurt with a rich chocolate coating. It offers a refreshing, delicious, and value-added alternative to conventional ice cream.



Kithul Pearl Tea Mix

Kithul Pearl Tea Mix is a convenient combination of kithul pearls, kithul honey, tea mix, and straws. It allows consumers to easily prepare an innovative bubble tea inspired by traditional Sri Lankan flavours.



ColourBite Nature Bread Series

ColourBite Nature Bread Series features naturally coloured, soy-enriched breads made with beetroot, carrot, and moringa. They provide fibre, antioxidants, vitamins, minerals, and added protein in nutritious and colourful servings.



FROM POST-HARVEST LOSS TO VALUE TURNING OVERLOOKED RESOURCES INTO VALUABLE FOOD SOLUTIONS



Spice Bloom - Fermented Banana Blossom
Fermented Banana Blossom is a functional food developed from locally available banana blossoms through sustainable fermentation. It enhances digestibility and offers potential gut-health benefits while adding value to an underutilized resource.



Mango-Chilli Fruit Leather
Mango-Chilli Fruit Leather is a chewy snack made from ripe local mangoes with a balance of sweetness and mild chilli spice. It is convenient, shelf-stable, portable, and offers a value-added way to enjoy mangoes.



BananaBake – Instant Cake Mix
BananaBake is an instant cake mix made from dehydrated partially ripe bananas. It reduces post-harvest losses while enabling quick and convenient cake preparation.



Instant Beetroot Powder Juice
A convenient, shelf-stable drink made from dehydrated beetroot powder, sugar, and citric acid. It provides quick preparation while helping utilize surplus beetroot and reduce post-harvest losses.



AloeGuard
AloeGuard is a natural post-harvest coating made from aloe vera and turmeric for protecting mangoes. It helps reduce moisture loss and microbial growth, delaying stem-end rot and extending shelf life.



Banana Crunch Cookies
Banana Crunch Cookies are nutritious, fiber-enriched cookies made with Ambul banana pulp and banana peel flour. They transform banana by-products into a crunchy, value-added, zero-waste snack.



Pumpkin Cookies
Pumpkin Crunch Cookies are nutritious cookies made with pumpkin pulp. They transform pumpkin by-products into a crunchy, value-added, zero-waste snack.



Tesaine Fruit Tea Cube
Tesaine Fruit Tea Cube is a convenient dissolvable beverage cube made from natural fruit powders, herbs, spices, and sweeteners. It offers refreshing flavours without the need for traditional tea bags.

INVENTING FOOD PACKAGING
SMART PACKAGING IDEAS FOR EVERYDAY FOOD CHALLENGES

Vertical Slice Carrier
Vertical Slice Carrier is an eco-friendly, space-saving package designed for convenient takeaway food transportation. It features adjustable dividers, vertical protection, a built-in handle, and a sauce holder for secure, spill-free carrying.





Multi-Slice Cake Pack
Multi-Slice Cake Pack is a compact packaging system designed to hold four cake slices in separate compartments. Its paperboard structure prevents damage and flavor mixing while providing convenient carrying and attractive presentation.



Cereal Handy Pack
Cereal Handy Pack contains seven individually sealed 30 g cereal portions for convenient weekly consumption. Its compact, recyclable design supports portion control, freshness, reduced food waste, and easy use anywhere.



MealMate Cup
MealMate Cup is an all-in-one sustainable takeaway package combining a meal bowl and beverage cup with a built-in handle. It provides convenient carrying while reducing the need for separate containers and bags.



Dual Nut Pack
A smart dual-compartment pack for storing cashews and collecting shells. It offers convenient, hygienic, and eco-friendly snacking on the go.



GRAB & GO
GRAB & GO is a 2-in-1 food package with integrated finger covers for hygienic handling of snacks. It provides a convenient, mess-free way to enjoy food anytime, anywhere.

Folded Oil Pocket Base
A biodegradable paper package designed for serving fried foods. It absorbs excess oil, reduces leakage, and minimizes plastic use



INVENTING FOOD PACKAGING
SMART PACKAGING IDEAS FOR EVERYDAY FOOD CHALLENGES

Replantable Spice Package
An eco-friendly spice container that transforms into a biodegradable plant pot after use. It features a removable barrier, coconut coir base, and seed paper to reduce packaging waste.



GoCrisp Bucket
A multifunctional fried-chicken package designed for convenient and hygienic takeaway. Its detachable handle, convertible lid-plate, sauce holder, and grease-proof body offer added functionality.



TWIST'D
TWIST'D is a modular snack package with four detachable compartments and a resealable lid. It allows users to mix, match, share, and store different snacks with ease.



Push-to-Mix Dual Chamber Cup
A convenient cup that keeps curd and honey separate until ready to mix. Pressing the lid releases the honey into the curd for hygienic, mess-free mixing.



Sustainable Takeaway Ice Cream Cup
A biodegradable double-wall cup designed to provide better insulation for takeaway ice cream. Reusable gel-pack compartments help slow melting and maintain product quality.



Three-Portion Frozen Sausage Pack
A frozen sausage package featuring three separate, peelable portions, designed to prevent sausages from sticking together. It provides convenient portioning while supporting hygienic and sustainable frozen storage.



Butter Stick
Butter Stick is a recyclable package with a twist-up dispenser for controlled, mess-free butter application. Its ergonomic and leak-resistant design provides convenient storage and reduced waste



Edible Insects

Can They Become a Sustainable Protein Source for the Future?

As global demand for protein continues to rise, the search for sustainable and efficient alternatives has become increasingly urgent. While humans have long enjoyed crustaceans as delicacies, the idea of incorporating insects into mainstream diets is only now gaining wider attention. Edible insects are emerging as a promising solution in the quest for sustainable protein sources. The practice of consuming insects, known as entomophagy, is not new; however, it is being rediscovered as a viable approach to addressing global food security challenges. Although social and cultural perceptions still present barriers, growing awareness suggests that insects could play a key role in the future of human nutrition.

Insects such as crickets, mealworms, and grasshoppers have been part of traditional diets in regions of Asia, Africa, and among Indigenous communities in the Americas for centuries. Modern scientific research now supports what these cultures have long understood: insects are highly nutritious. They are rich in protein, typically comprising 30–85% of their dry weight, and contain essential amino acids necessary for human health. In addition, insects provide beneficial fats and bioavailable micronutrients such as iron, zinc, and B vitamins, making them a valuable dietary component.





Nutritionally, insects can be considered a powerhouse. For example, crickets provide protein quality comparable to that of chicken, while mealworm larvae are known for their healthy fat content and antioxidant properties. Given their nutritional richness and species diversity, insects hold strong potential as an alternative and sustainable protein source for the future.



Beyond their nutritional benefits, insect farming offers significant environmental advantages compared to conventional livestock production. It requires substantially less land, water, and feed, and produces fewer greenhouse gas emissions. Advances in farming technologies—including vertical farming systems, automation, and optimized feeding strategies—are further improving the efficiency and scalability of insect production. Insects are also highly efficient at converting organic waste into high-quality protein, contributing to more sustainable and circular food systems.

From an economic perspective, edible insects present an affordable and scalable protein source. Their rapid growth rates and high reproductive capacity make them suitable for large-scale production, particularly in developing countries where food insecurity remains a major concern. To date, more than 2,000 edible insect species have been identified, highlighting the vast and largely untapped potential of this resource. As a result, food industries are increasingly exploring insect-based ingredients for use in food products, animal feed, and nutritional supplements.

Despite these advantages, challenges remain. Consumer acceptance continues to be a significant barrier, especially in cultures where entomophagy is not traditionally practiced. Additionally, concerns related to food safety, allergenicity, and regulatory standards must be addressed through continued research and policy development. However, as awareness grows and regulatory frameworks evolve, edible insects are likely to become more widely accepted.

In conclusion, edible insects offer a compelling solution to the growing global demand for sustainable protein. Their high nutritional value, environmental efficiency, and economic feasibility position them as a strong alternative to conventional protein sources. With continued innovation, research, and increased consumer acceptance, insects have the potential to become an integral part of future food systems.



Written by: Shavindya Rathnayake

Food frame 2025

WHERE FOOD MEETS THE LENS

PHOTOGRAPHY COMPETITION

Food has a story of its own—and sometimes, a single photograph is enough to tell it. As part of the World Food Day celebrations, the Society of Food Science and Technology (SFST), Wayamba University of Sri Lanka, brought together food and photography through Food Frame 2025, a creative platform for students and food enthusiasts to showcase their perspectives through the lens.

More than a photography competition, Food Frame 2025 celebrated the connection between food, creativity, and visual storytelling. It provided students with an opportunity to express themselves beyond the classroom while highlighting the many ways food can inspire art, emotion, and imagination.

The competition encouraged participants to explore the beauty, character, and visual appeal of food while expressing their creativity through photography. Each frame offered a different perspective, turning everyday food moments into engaging visual stories.

Adding to the excitement, the submitted photographs were opened for public voting, allowing the university community and food lovers to support their favourite captures. The Top 3 photographs with the highest number of votes were recognized with exciting rewards, making the competition both creative and interactive.















Have you ever wondered whether the food you buy is always what it claims to be?

Food products on the market can sometimes be adulterated by adding or replacing ingredients with unauthorized substances, potentially affecting their quality, nutritional value, and safety.

Food Adulteration

The main purpose of food adulteration is to maximize economic profit by increasing the volume, weight or apparent quality of food products.

Most commonly, milk and dairy products are adulterated with water, starch and urea. Spices like turmeric is adulterated with lead chromate to enhance the colour and increase the bulk. Tea and coffee can be adulterated by lead chromate and tamarind seed powder respectively. In addition to that, fish and meat are most commonly adulterated by chemicals like preservatives and synthetic colouring. In some cases, wheat flour is mixed with chalk powder (calcium carbonate in excess), which can lead to kidney damage and digestive issues.These are the most common adulterated foods available in the market, and remember that many of these adulterants are harmful and long-term consumption can lead to serious illnesses.

Modern Spectroscopic Approaches for Ensuring Food Authenticity and Safety

Food adulterants are detected by identifying changes in the chemical composition of foods through spectroscopic techniques like FTIR, NIR, Raman, Hyperspectral imaging, UV–visible and fluorescence spectroscopy. In edible oils, adulteration with cheaper oils is detected by variations in fatty acid profiles and characteristic spectral fingerprints. In honey, added sugar syrups like glucose or corn syrup are identified through differences in carbohydrate-related spectral signals. Milk and dairy adulterants such as water, urea, starch are detected by changes in protein and nitrogen content, along with the appearance of abnormal spectral peaks.In beverages, adulteration through dilution or synthetic additives is revealed by changes in absorption and fluorescence patterns.

Spectroscopic techniques enable rapid, non-destructive and reliable identification of adulteration by detecting subtle changes in the chemical composition and spectral signals of food products. These modern techniques offer a powerful and efficient solution for ensuring food authenticity and safety.



Written by :
Kaushalya Hashani Hemarathna

FST Food Corner – A Taste of Trust

The FST Food Corner was introduced as a student-friendly initiative to provide convenient access to refreshments within the Department of Food Science & Technology. Utilizing the available bottle cooler, the Food Corner offers students a simple and accessible way to purchase snacks and beverages during their busy academic schedules.

More than just a place to grab a snack, the initiative was established with the values of trust, honesty, responsibility, and mutual respect. Students are encouraged to take only what they need and make the relevant payment, creating a self-managed system based on trust rather than strict supervision.

The Food Corner also promotes a sense of ownership and responsibility among students, while contributing to a more comfortable and welcoming departmental environment. Through this small but meaningful initiative, the Society aims to demonstrate that when a community is built on trust, everyone can play a role in maintaining and improving it.



Preservation Lab Equipment Donation – Supporting Practical Learning

As part of our commitment to supporting practical education and laboratory-based learning, the Society of Food Science & Technology donated a range of essential equipment to the Preservation Laboratory of the Department. The donation included cooking and food-processing equipment, packaging materials and equipment, and food safety-related equipment required for practical activities.

This initiative was aimed at strengthening the laboratory facilities and providing students with better opportunities to gain hands-on experience in food preservation, processing, packaging, and safety practices. We believe that providing the necessary resources for practical learning will contribute to developing students' technical skills and preparing them for future careers in the food industry.

The Society is proud to contribute to the continuous improvement of our department's learning environment through initiatives that benefit both current and future students.



Celebrating Excellence

Asia Star 2024 – Student Category Winner

The Dual Compartment French Fries Box was recognized as a Student Category Winner at Asia Star 2024, celebrating its creativity, functionality, and sustainable approach to food packaging. This international recognition marked a proud achievement for Wayamba University and highlighted the potential of student-led innovation in food packaging.







Lanka Star 2025 – Bronze Award

The Slice Pack Pizza Box won a Bronze Award in the Student Category at Lanka Star 2025. The achievement recognized its innovative, sustainable, and functional approach to food packaging design.

Lanka Star 2025 – Silver Award

The Smart Spaghetti Serving Box proudly secured a Silver Award in the Student Category at Lanka Star 2025. Its creative design and practical functionality demonstrated the innovative spirit of students in Food Science and Technology.



Profood Propak & AgBiz Exhibition 2025 – Best Stall

The Food Science and Technology community proudly secured 1st Runner-Up for Best Stall at the Profood Propak & AgBiz Exhibition 2025. The achievement showcased the creativity, innovation, and dedication of students in presenting food science and technology solutions.

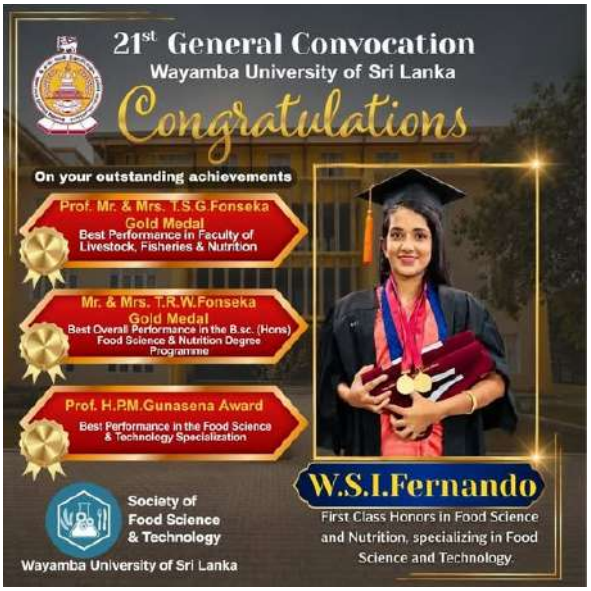
Profood Propak & AgBiz Exhibition 2025 – Most Innovative Process

The Peanut Shell Liquid Smoke Producer earned 1st Runner-Up for the Most Innovative Process Award at the Profood Propak & AgBiz Exhibition 2025. The project highlighted the potential of converting an agricultural by-product into a value-added product through innovative and sustainable food processing.



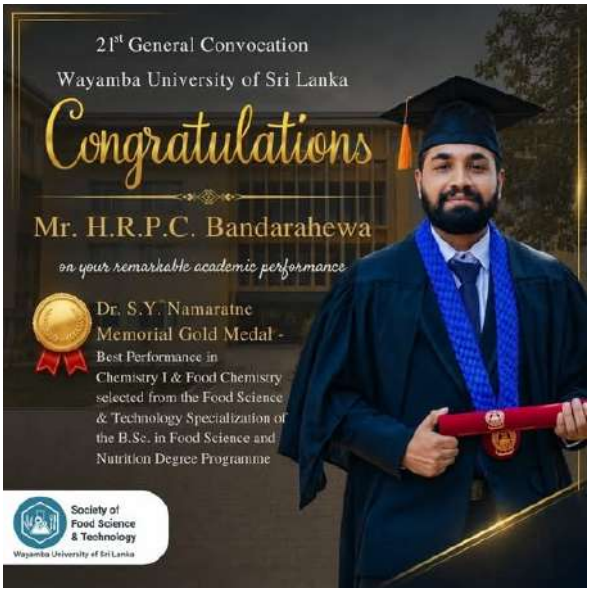
Academic Excellence – W.S.I. Fernando

Ms. W.S.I. Fernando achieved an exceptional milestone by receiving three prestigious awards: the Prof. and Mrs. T.S.G. Fonseka Gold Medal, Mr. & Mrs. T.R.W. Fonseka Gold Medal, and Prof. H.P.M. Gunasena Award. Her remarkable performance across the Faculty and the Food Science & Technology specialization stands as a testament to her dedication and academic excellence.



Dr. S.Y. Namaratne Memorial Gold Medal

Mr. H.R.P.C. Bandarahewa received the Dr. S.Y. Namaratne Memorial Gold Medal for Best Performance in Chemistry I & Food Chemistry in the Food Science and Nutrition Degree Programme. This recognition celebrates his exceptional academic performance and commitment to excellence in Food Science and Technology.





Best Presenter – UReS 2025 | Technical Session 1

Ms. R.M.W.P. Ranathunga was recognized as the Best Presenter in Technical Session 1 at the 12th Undergraduate Research Symposium (UReS 2025) of the Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka. Her achievement reflects her confidence, dedication, and excellence in undergraduate research.



Best Presenter – UReS 2025 | Technical Session 2

Ms. S.M.P.R. Samarakkoon secured the title of Best Presenter in Technical Session 2 at UReS 2025. Her outstanding presentation demonstrated strong research communication skills and earned her well-deserved recognition among the undergraduate researchers.

Acknowledgement

We are honored to present this edition of "FoodNotes," the official magazine of the Society of Food Science and Technology (2025/2026) of the Department of Food Science and Technology.

We extend our sincere gratitude to Professor K.D.P.P. Gunathilaka, Head of the Department, for the continuous guidance, encouragement, and support extended towards the Society and its activities throughout the year.

Our heartfelt appreciation is also conveyed to Senior Professor Chamila Jayasinghe, Chair Professor of the Department and Former Dean of the Faculty, for her invaluable guidance, encouragement, and inspiring mentorship.

We gratefully acknowledge Dr. Malinda Madhusankha, Lecturer in Food Science and Technology, for his valuable advice, guidance, and continuous encouragement, which have greatly contributed to the growth of the Society.

We also express our sincere appreciation to the senior treasurer of the society, Dr. R.A.C.H. Seneviratne, for the dedicated support, commitment, and guidance provided throughout the year.
Our sincere thanks are extended to all academic staff, demonstrators, and non-academic staff of the Department for their cooperation, encouragement, and assistance in successfully conducting the activities of the Society.

We warmly appreciate the commitment and tireless efforts of the Executive Board and all members of the Society. Their teamwork, enthusiasm, and dedication have been instrumental in making the events and initiatives of the society successful.

Finally, we acknowledge everyone who contributed, directly or indirectly, to the preparation of this magazine. May "FoodNotes" continue to be a platform that celebrates knowledge, creativity, achievements, and unity within our food science and technology community.

President
Sachintha Lakmina
(24/25 academic year)

Food Notes

Volume 05 | 2026























