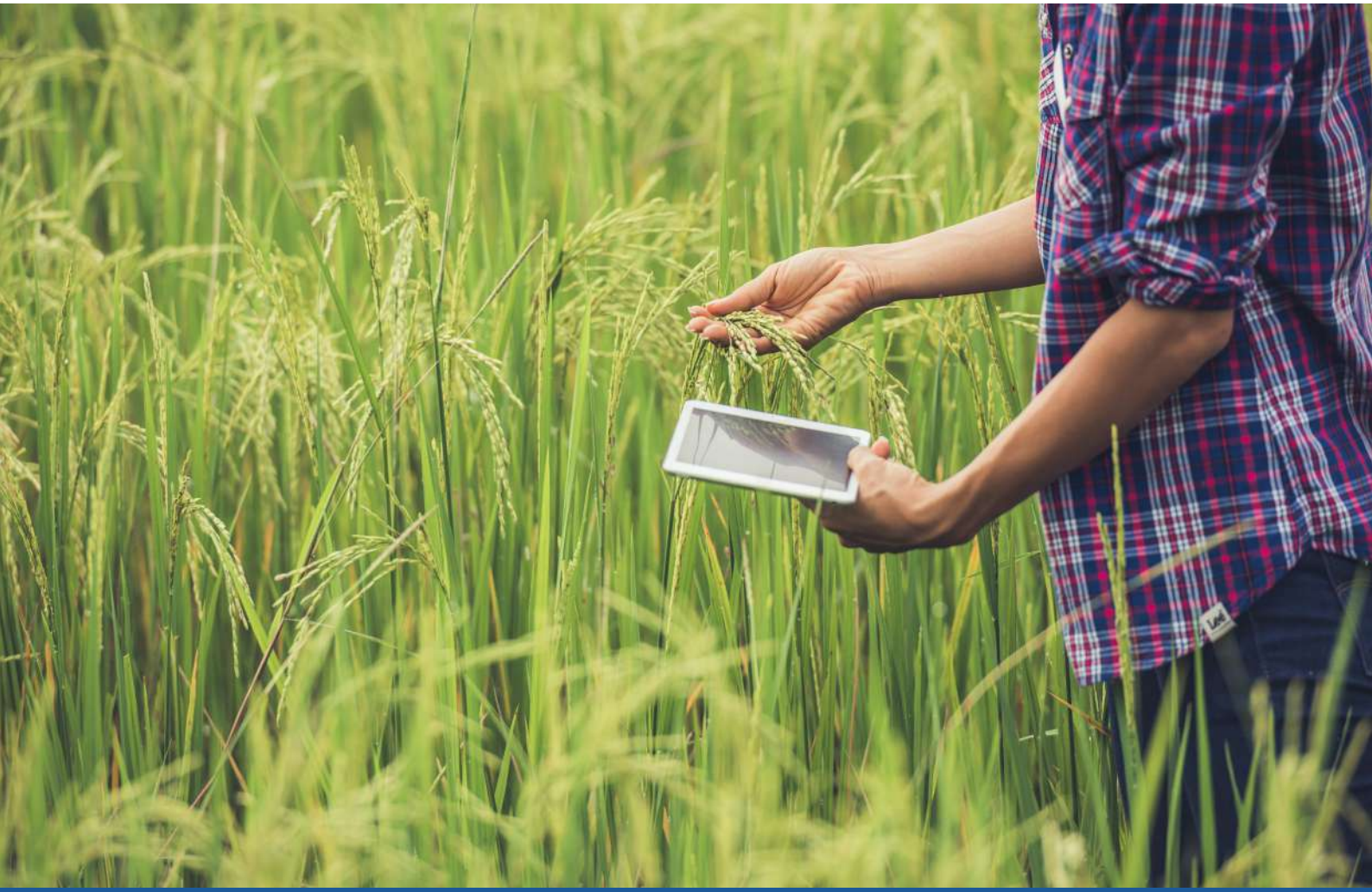
inovine
Scientific Meetings

2nd International Conference on

Agriculture & Natural Resources

17-18 NOVEMBER 2025

ROME, ITALY



Venue: Hotel Occidental Aurelia
Via di Torre Rossa 80, Roma, Italia

Scientific Program

Day 1

Scientific Program

November 17, 2025 | Rome, Italy

Conference Hall : Sala Aurelia

09:00 –09:15: Registrations

09:15 – 09:30: Opening Ceremony

Keynote Presentations

09:30–10:10

Title: Development of a functional juice from Hasawi lemon sweetened with date syrup and enriched with inulin: A study on the stability of the bioactive components and the promotion of probiotics

Nashi Khalid Alqahtani

King Faisal University, Saudi Arabia

10:10–10:50

Title: Root Angle Variation in the Ozbarley Population is Driven by Genetic Variation in Key Expansin Genes

Maxwell Asiedu

University of Nottingham, United Kingdom

Group Photo | Coffee Break 10:50-11:10@ Foyer

Session Introduction

Tracks

Food Science and Technology | Food and Beverages Innovation | Food Processing and Packaging | Food Safety and Quality Control | Nutrition and Functional Foods | Dairy and Fermentation Technology | Sustainable Food Production | Food Chemistry and Microbiology | Agricultural Biotechnology | Plant Biotechnology for Agriculture | Plant Pathology and Disease Resistance | Agronomy and Crop Sciences | Sustainable Agriculture Technologies | Organic Farming | Food Security and Nutrition

Session Chair: Nashi Khalid Alqahtani, King Faisal University, Saudi Arabia

Session Co-Chair: Maxwell Asiedu, University of Nottingham, United Kingdom

Oral Presentations

11:10–11:35	**Title: When advice becomes regulation: assessing evidence integration and regulatory quality in EU food safety** **Naseembanu Kroegel** National Academy of Science and Engineering, Germany
11:35–12:00	**Title: Pesticide Residues in Barley and free Hop APA Style Beer: Impact on Food Safety and By-products** **Silvina Murialdo** **Ana Ins Diaz Caceres** Technological University (UTEC), Paysandu, Uruguay
12:00–12:25	**Title: High Temperature-Induced Modulation of Metabolic and Antioxidant Profiles in Broccoli (Brassica oleracea var. cymosa) Across Developmental Stages** **Ivana Sola** University of Zagreb, Croatia
12:25–12:50	**Title: From EFSA Opinions to EU Decisions: Tracing Advice Uptake in the Better Regulation Cycle** **Naseembanu Kroegel** National Academy of Science and Engineering, Germany

Lunch Break 12:50-13:50

13:50–14:15	**Title: Acoustic Vibrations Modulate Morphology, Physiology and Stress Responses in Olea europaea cv. Leccino** **Diego Comparini** Universita degli Studi di Firenze, Italy
14:15–14:40	**Title: Comparative Bioaccessibility and Bioactivity of Matcha and Sencha Green Tea During Simulated Digestion** **Gordana Rusak** University of Zagreb, Croatia
14:40–15:05	**Title: Functional food Nutraceuticals, Fermentation, Composite Victuals, Lichens, Soft Corals** **Claudia Evelina Budu** Researcher and Innovator, Romaina
15:05–15:30	**Title: Innovative Approaches in Animal Feed Trade and Sustainable Livestock Management** **Ayman Ahmed** Mansoura University, Egypt

Coffee Break 15:30-15:40@ Foyer

15:40–16:05	**Title: Advancing Halal Compliance in the Food Industry Through AI and Digital Innovation** **Reem Al Shamsi** Ministry of Agriculture, Fisheries and Water Resources Oman
16:05–16:30	**Title: The impact of climate change on the winter feeding status of livestock in Afghanistan** **AbdulmominAzimi** Badghis University Afghanistan, Afghanistan
16:30–16:55	**Title: Effect Of Dietary Zinc On The Growth Of Juveniles Common Carp (Cyprinus Carpio)** **Shokri Omar Mustafa** Ministry Of Agriculture And Water Resources In Iraqi Kurdistan, Iraq

Panel Discussion & Certificate Falicitation

Day –1 Ends

Day 2

Scientific Program

November 18, 2025 | Virtual

Virtual Mode Zoom Meeting
(GMT+1) Time in Italy

Oral Presentations

09:00–09:20	**Title: Unveiling the Population Genetic Structure of European Hornbeams in the Hainault Forest: Determining the Extent of Clonality, Genetic Diversity and Spatiality** **Yuqing Liu** University College London, United Kingdom
09:20–09:40	**Title: Effect of Freeze-Concentration on total phenols content in pomegranate skin extracts** **Maryam Mohammed Al-Ghazali** Sultan Qaboos University, Oman
09:40–10:00	**Title: Kanchannagar D N Das High School (HS), West Bengal, India** **Mudassar SanaUllah** Harbin Institute of Technology, China
10:00–10:20	**Title: Nutraceutical Pastes, Food Safety** **Ysabel Ramos Lalupu** Universidad Católica Sedes Sapientiae. Lima, Peru
10:20–10:40	**Title: Chemical and Sensory Properties of Probiotic Yogurt Enriched with Elaeagnus angustifolia Fruit Flour and Purple Fruit Powders** **Shima Asgarzadeh** Istanbul Aydin University, Istanbul, Turkey
10:40–11:00	**Title: Food And Nutrition Security: Twin Pillars Of Health For Construction Workforce** **Somya Gupta** Banasthali Vidyapith, Research Scholar, India
11:00–11:20	**Title: Food Group Variability and Child Nutrition: Insights from a Food Science Approach in Mumbai, India** **Namrata Nitin Bagle** UvRoh, India
11:20–11:40	**Title: Insect Meal as a Sustainable Alternative Protein in Rainbow Fish (Melanotaenia spp.) Diets** **Albana Uka** University St. Kliment Ohridski, Germany
11:40–12:00	**Title: Eat Right Initiative** **Pritee Chaudhary** Regional Director, Food Safety and Standards Authority of India, Govt of India

12:00–12:20	**Title: Agriculture high quality development and quality beverages plant** **Zhongsheng Guo** Northwestern A & F University, Yangling, China
12:20–12:40	**Title: Ginger-Biomedicines May be Popular as a 'Household-Vaccine' Against Future Pathogens in Advanced Research and Trends in Food Sciences** **Subhas Chandra Datta** Kanchannagar D N Das High School (HS), West Bengal, India

Panel Discussion

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HYBRID EVENT

KEYNOTE PRESENTATIONS

DAY 1

Nashi Khalid alqahtani
King Faisal University, Saudi Arabia

Development of a functional juice from Hasawi lemon sweetened with date syrup and enriched with inulin: A study on the stability of the bioactive components and the promotion of probiotics

There is a growing demand for new value-added functional foods containing natural bioactives especially prebiotics and natural sweeteners. Inulin as a prebiotic and date syrup (dibs) as natural sweeteners are well known natural bioactives and have been incorporated in many functional foods due to their reported health benefits. However, they are not well valorized as they mostly added to dairy products and there are no applications in juice. Additionally, there are many challenges of incorporating inulin and dibs in juice manufacturing. Examples are the low stability of inulin in acidic condition and high temperature, and the influence of dibs on the color and rheological properties of juice. Therefore, the main objective of the study is to develop a highly accepted functional lemon juice enriched with inulin and dibs with high probiotic-promoting effect and high storage stability. In this study, Hasawi lemon will be exploited as a promising carrier of these bioactives due its high nutritional and sensory properties. The study aims to optimize the concentration of inulin and dibs to achieve best balance between the health benefits and sensory attributes of lemon juice, and to investigate the interaction between dibs phenolic content and inulin in increase the stability of inulin during juice processing. To achieve that, inulin (2, 3%) and dibs (5, 10%) and mixture of them will be added to lemon juice with and without pasteurization (85°C/3min). The effect of this addition on the physicochemical properties including acidity, pH, TSS, total phenolic content, antioxidant activity, ascorbic acid, sugar estimation, color parameters and viscosity will be studied. The sensory evaluation, in addition to the microbial quality and the storage stability will be also conducted. The stability of inulin and phenolic compounds in pasteurized and unpasteurized juice will be studied. In addition, the effect of treatments on viability of Lactobacillus rhamnosus as a probiotic will be performed. It is expected that inulin and dibs will interact synergistically to enhance the probiotic-promoting effect of juice. It is also expected that the interaction between inulin and the phenolic compounds in dibs will increase the stability of both of them. The preliminary data of the study suggests that the incorporation of 10% dibs and 2% of inulin in lemon juice achieved the best physicochemical and sensory attributes that meet consumer expectations. This study is novel as it is, to the best of my knowledge, the first to consider the combination of prebiotics and natural sweeteners, the first to investigate the stability of inulin in food matrix, and among the few that utilize juice as medium of prebiotic-enriched food. The research will provide a deeper understanding of the interaction between inulin and dibs which will contribute to improving future food applications.

Biography:

Dr. Nashi Khalid Alqahtani is an Associate Professor of Food Science and Technology at King Faisal University, Saudi Arabia. Currently, he is the Director of the Date Palm Research Center of Excellence at King Faisal University. He received his MSc. and PhD degrees from RMIT University in Australia. He has published more than 80 papers in reputed journals and has been serving as an editorial board member of repute.

Maxwell Asiedua

[1]The Plant Accelerator, Australian Plant Phenomics Facility, School of Agriculture, Food & Wine, University of Adelaide
[2]School of Biosciences, University of Nottingham, LE12 5RD, Sutton Bonington, UK

Root angle variation in the OzBarley population is driven by genetic variation in key expansin genes

Roots are essential for water and nutrient uptake and carbon sequestration. Steep root angles enhance access to deep soil water and nitrogen, while shallow angles favour topsoil resource capture. Root angle regulation involves several genes (Kirschner et al., 2024). In barley, ENHANCED GRAVITROPISM1(EGT1) and ENHANCED GRAVITROPISM2 (EGT2) have been linked to root-angle control via cell wall mechanics (Fusi et al., 2022; Kirschner et al., n.d.), though their downstream targets remain unknown. To explore this pathway, we used high-throughput phenotyping and genome-wide association studies (GWAS) on 214 diverse OzBarley lines. Haplotype analysis revealed no variants for EGT2 and eight EGT1 variants forming four haplotypes, none significantly associated with root angle phenotype ($p > 0.1$). However, GWAS identified a significant SNP ($-\log_{10}p = 6.16$) on chromosome 1 within a gene encoding Expansin, a key cell wall-loosening protein (Cosgrove, 2000). Two protein-coding variants for this expansin were found: a missense mutation and a stop-gained mutation. Both alleles were significantly associated with shallow root angles compared to wild type ($p < 0.05$), consistent with haplotype data ($p < 0.05$). The stop-gained allele truncates the N-terminal domain of the Expansin protein, while AlphaFold modelling predicts the missense variant also disrupts protein function. These findings suggest that natural variation in Expansin contributes to root angle variation in the OzBarley panel and support the model in which EGT1 (and EGT2) regulate wall extensibility by modulating enzymes like Expansin. Functional validation through CRISPR knockouts and TILLING mutant screens in barley and other species could help validate the functional impact of Expansin.

Biography:

Maxwell Asiedu is a joint PhD student between the University of Adelaide, Australia, and the University of Nottingham, UK. Maxwell completed his BSc in Agricultural Biotechnology at the Kwame Nkrumah University of Science and Technology (KNUST), Ghana. Subsequently, he pursued his MSc in Biotechnology (Plant Biotechnology pathway) at the University of Nottingham, funded by the prestigious Developing Solutions Masters Scholarship. His PhD research focuses on the genetic control of root angle variation in Australian barley germplasm, employing high-throughput phenotyping and genome-wide association studies (GWAS) to identify natural allelic variation contributing to the root system architecture. His work has uncovered novel expansin gene variants associated with shallow root angles, providing new insights into the molecular mechanisms underlying root development. Maxwell is passionate about plant genetics, crop improvement, and sustainable agriculture, with the long-term goal of contributing to the development of resilient crop varieties for global food security.

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HYBRID EVENT

SPEAKER PRESENTATIONS

DAY 1

Naseembanu Kroegel
Acatech-National Academy of Science and Engineering, Germany

When advice becomes regulation: assessing evidence integration and regulatory quality in EU food safety

The food safety policy increasingly relies on effectively gathering, assessing, and translating scientific advice into credible regulations for industry and the public. This study presents a practical framework for assessing how scientific advice is integrated into food safety governance, exemplified through two European Union case studies: genetically modified organisms (GMOs) and antimicrobial resistance in livestock (AMR). A 5×3×3 rubric was developed, with five sub-questions and three indicators scored from 1 to 3. This rubric assesses evidence usage, procedural transparency, stakeholder involvement, and follow-up actions. The scores are weighted equally and tested for robustness via two sensitivity analyses: a local ±0.5 score perturbation and a Monte Carlo-based weight variation.

The findings are asymmetric. AMR demonstrates a "high-integration, high-performance" approach: joint evaluations by the EU food-safety authority, medicines agency, and disease-control centre, combined with routine systems monitoring, directly inform follow-up actions. Results and response times are better, trust indicators more stable, and procedural legitimacy is higher. In GMO, formal advice is strong, with systematic opinions and better data access, but the translation into decisions is weaker due to deadlocks, fragmented implementation, and limited feedback. The most influential lever is the effective use of science advice (decision-tracing, reply duties, and timeliness), not the report volume.

The implications for food-safety quality systems are clear: document "what changed and why," publish a consistent set of indicators regularly, record minority views, and support risk analysis with justified costs and efforts. These steps improve traceability, shorten advice-to-action cycles, and enhance transparency and fairness.

Keywords: Food safety governance; evidence integration; regulatory quality; GMOs; antimicrobial resistance; transparency and accountability

Biography:

The author completed a Master's degree at TU Berlin and has been a senior project manager for several years, specialising in EU-funded projects at acatech - National Academy of Science and Engineering, Germany. In addition, she is enrolled as an external student at the Alexandru Ioan Cuza University of Iaşi, Doctoral School, Faculty of Philosophy and Social- Political Sciences.

Ana Diaz, Silvina Murialdo
Technological University (UTEC), Paysandu, Uruguay

Pesticide Residues in Barley and free Hop APA Style Beer: Impact on Food Safety and By-products

Barley is a key winter crop in Uruguay, primarily cultivated for malting to supply growing demands by the brewing industry. As one of the world's leading malt exporters, Uruguay plays a crucial role in the global supply chain. However, pesticide use in barley cultivation raises concerns about potential residues that may persist through malting and brewing processes, potentially affecting the safety and quality of the final product.

This study explores pesticide residues in barley, malt, and throughout the beer production process. Commercial barley samples (CB) were collected from producers in the Paysandú region, along with a control (without chemical managment-WC) sample. A fortified sample (FB) spiked with triflumuron, epoxiconazole, pyraclostrobin, propiconazole, isopyrazam, fluxapyroxad, and florasulam was also obtained. The brewing process, including malting, mashing, boiling, fermentation, and maturation, was

conducted under controlled conditions for the three barley samples (CB, WC and FB). QuEChERS methodology and direct injection were used for the analysis of solid and liquids, respectively, using liquid chromatography-tandem mass spectrometry (HPLC-MS/MS)1,2.

Results showed that no pesticide residues were detected in commercial samples at any stage of the brewing process. Except for triflumuron, which showed an increase in concentration after the malting process, but during mashing, when exposed to high temperatures, it decomposed. For the fortified samples (FB), pesticide residues were reduced during boiling, but fluxapyroxad and epoxiconazole persisted in the final beer. Most pesticides were retained in the brewer's spent grain (BSG) during the mashing. Pesticide levels in barley complied with Codex Alimentarius standards and National Food Regulations.

This study emphasizes the importance of monitoring pesticide residues throughout malting and brewing production and their potential impact on both the final product and by-products used in animal feed.

Keywords: barley, free Hop APA Style Beer, pesticide residues, mass spectrometry, food safety.

Biography:

Ana Ines Diaz I am a Chemical Technologist and a Bachelor's degree student in Food Analysis at the Technological University of Uruguay. I have experience in research and quality control in food laboratories, with a focus on microbiology, food safety, and physicochemical analysis. Currently, I work as a laboratory analyst, collaborating with faculty on the preparation of practical sessions and the analysis of results. My professional focus is on continuous improvement, regulatory compliance, and ensuring the safety and quality of food products. I look forward to contributing to the global dialogue on food safety at this congress.

Biography:

Silvina Murialdo I am a chemical technologist and an advanced student in the Bachelor's Degree in Food Analysis. With a solid background in food chemistry, that has oriented her career toward researching pesticides in products of high national importance. My work focuses on the development and validation of analytical methodologies to ensure food safety and regulatory compliance. The interest in innovation and quality control motivates me to contribute to the advancement of the agri-food sector through studies that promote safer and more sustainable practices.

Ivana Sola, Daria Gmizic, Gordana Rusak
Department of Biology, Faculty of Science, University of Zagreb,
Horvatovac 102a, 10000 Zagreb, Croatia

High Temperature-Induced Modulation of Metabolic and Antioxidant Profiles in Broccoli (Brassica oleracea var. cymosa) Across Developmental Stages

Climate-induced heat stress poses a growing challenge to crop quality and nutritional value. This study investigates the impact of high temperature (HT) on the metabolic composition, oxidative stress parameters, and antioxidant capacity of broccoli at key developmental stages - microgreens, seedlings, and mature organs (leaves and heads). A combination of spectrophotometric and chromatographic techniques was used to quantify phenolic compounds, L-ascorbic acid, glucosinolates, soluble sugars, proteins, nitrates, pigments, and antioxidant activity. Developmental stage emerged as the dominant factor shaping the broccoli metabolome, explaining on average 75% of total variance, while HT contributed 39%. Nonetheless, temperature significantly influenced specific metabolites. Proline increased by 587% in seedlings and 168% in heads, accounting for 92% of its variance. Other strongly HT-responsive compounds included kaempferol (80%), chlorophyll a/b ratio (76%), soluble sugars (73%), and total flavonoids (65%). HT explained more variance than developmental stage for soluble sugars, hydroxycinnamic acids, and tannins, suggesting a pivotal role in thermotolerance. Importantly, interaction effects between temperature and developmental stage contributed more to the variance of proanthocyanidins, hydroxycinnamic acids, and phenolic acids than either factor alone. These findings underscore the complexity of metabolic regulation in broccoli and highlight the need to consider both developmental timing and environmental stress when evaluating the nutritional and functional quality of vegetables. Such insights are critical for future strategies in crop improvement and food system resilience under climate change.

Biography:

Dr. Ivana Šola, Associate Professor, works in the Laboratory for Phytochemistry at the Department of Biology, Faculty of Science, University of Zagreb. Her primary research focuses on how environmental conditions influence the chemical composition of plants and the resulting impacts on their biological activity. She has published 52 scientific papers, led several research projects, and teaches courses including Fundamentals of Phytochemistry, Plant Anatomy, Plant Bioactive Substances, Plants in Phytotherapy, and Molecular Biology of Plants.

Naseembanu Kroegel
Acatech - National Academy of Science and Engineering, Germany

From EFSA Opinions to EU Decisions: Tracing Advice Uptake in the Better Regulation Cycle

Food safety standards derive their authority not only from solid science but also from how that science is translated into authorisations, specifications, and enforceable requirements. This study offers a practical framework for transforming scientific advice into standards and authorisations within the European Union's food safety system. It links three components: (1) the production of advice by the European Food Safety Authority (EFSA), (2) its integration and review through the European Commission's Better Regulation toolbox (impact assessments, consultations, evaluations), and (3) subsequent standard-setting and authorisation decisions.

Using two contrasting dossiers, namely genetically modified organisms and antimicrobial resistance in livestock, the framework evaluates four controllable features that influence whether advice travels into standards: evidence intake and appraisal, decision traceability ("what changed and why"), structured management of stakeholder challenges (including minority scientific views), and follow-up through a small, stable set of public indicators and scheduled reviews. The analysis shows that where these features are present, the time from advice to decision shortens, authorisation criteria are clearer, and alignment with external standards systems (such as Codex, ISO 22000, HACCP) is easier to demonstrate during audits and market controls. Conversely, where these features are weak, delays and perceptions of unfairness undermine acceptance, even when the scientific basis remains strong.

The paper concludes by outlining actionable checkpoints for standard-setters: can advice be traced, are indicators published on a fixed schedule, are reasons for divergence explicit, and are minority views documented? These checkpoints aim to guide iterative improvement and external evaluation, not to impose fixed formats.

Keywords: EFSA; Better Regulation; food safety standards; authorisation; decision traceability; indicators; HACCP; ISO 22000.

Biography:

The author completed a Master's degree at TU Berlin and has been a senior project manager for several years, specialising in EU-funded projects acatech - National Academy of Science and Engineering, Germany. In addition, she is enrolled as an external student at the Alexandru Ioan Cuza University of Iaşi, Doctoral School, Faculty of Philosophy and Social-Political Sciences.

Diego Comparini

Department of Agriculture, Food, Environment and Forestry (DAGRI), Universita degli Studi di Firenze, Viale delle Idee 30, Sesto Fiorentino (FI), Italy

Acoustic Vibrations Modulate Morphology, Physiology and Stress Responses in Olea europaea cv. "Leccino"

Acoustic vibrations have been shown to trigger various morphological, physiological, and genetic responses in plants, but the application of sound-based technology in agriculture is still very limited. On the other hand, the number of studies on the effects of acoustic treatments in plants has recently increased, confirming that plants are sensitive to both natural and artificial acoustic stimuli, such as leaf vibrations induced by insect feeding or underground water movement. In this context, we evaluated the effects of long-term exposure to low- frequency acoustic vibrations on Olea europaea L. cv. "Leccino." After several months of treatment, plants displayed significant changes in morphology, physiology, and stress-related traits. In treated plants, photosynthetic activity and stomatal conductance were reduced compared to controls. Structural microscopic analyses revealed notable modifications in leaf anatomy, in particular the thickening of both the upper and lower cuticles, the distortion of palisade cells, and a reduction in chlorophyll content within mesophyll tissues.

Interestingly, plants prior subjected to vibration demonstrated higher water-use efficiency under repeated drought periods, showing greater tolerance than untreated plants. Although the molecular basis of plant acoustic perception remains to be clarified, our findings confirm that mechanical stimulation can influence structural and physiological processes in olive trees. These results indicate that acoustic vibrations have the potential to be employed to modulate plant responses to stress, potentially enhancing resilience to environmental constraints and challenges. The application of such non- chemical treatments in agriculture could promote more sustainable practices, reducing reliance on external inputs and improving crop resilience in a changing climate.

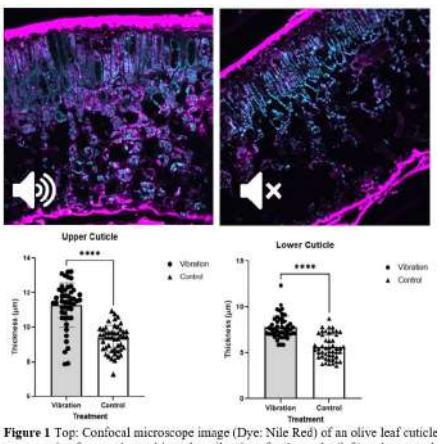

Figure 1 Top: Confocal microscope image (Dye: Nile Red) of an olive leaf cuticle cross-section from a plant subjected to vibrations for 6 months (left) and a control plant (right). Bottom: Graph showing the thickness of the cuticle in treated and untreated leaves (8 plants, 6 sections per plant, n=48; SD; T-test).

Biography:

I'm a Plant scientist with broad experience in plant physiology, biotechnology, and innovative approaches for sustainable agriculture. After a BSc and MSc at the University of Florence, I completed a PhD in Agro-biotechnology focusing on plant responses to gravity under micro- and hypergravity conditions in space-related research. As postdoctoral researcher in Japan (University of Kitakyushu), I investigated plant responses to light spectra and acoustic stimuli, coordinating the Linv@Kitakyushu Research Center. Back in Italy, my research has focused on plant-environment interactions, including VOC analysis, air-purifying abilities of plants, electrophysiology, and stress physiology. I was Marie Skłodowska-Curie fellow with the project SUNDROPS on self-driving hydroponics, and I am currently PI of the EU-funded project EVOLUTE, studying mechanical vibrations and light spectra as sustainable tools for crop protection and quality. I have authored over 20 international publications and contributed to several EU and ESA projects on plant signaling, stress adaptation, and bio-inspired technologies.

Gordana Rusak[1], Ivana Sola[1], Valerija Vujcic Bok[1]

[1]Department of Biology, Faculty of Science, University of Zagreb, Horvatovac 102a, 10000 Zagreb, Croatia

Comparative Bioaccessibility and Bioactivity of Matcha and Sencha Green Tea During Simulated Digestion

Green tea is widely recognized for its health-promoting polyphenols, but the impact of tea type and preparation on their bioaccessibility and functionality remains underexplored. This study compared the polyphenol content, antioxidant capacity, and antidiabetic potential of powdered Matcha and bagged Sencha tea during in vitro digestion. Across all phases of digestion, Matcha consistently exhibited significantly higher levels of total phenols (TP), flavonoids (TF), flavanols (TFLA), antioxidant activity (ABTS, FRAP), and α-glucosidase inhibition compared to Sencha. Following the gastric phase, Matcha showed TP, TF, and TFLA levels that were 2.6-, 1.4-, and 1.2-fold higher ($p < 0.05$), respectively. Concentrations of key phenolics, including gallic acid, gallocatechin, epigallocatechin, quercetin, and kaempferol, were also significantly elevated in Matcha (1.2–1.8×). Antioxidant potential was 3.2× higher (ABTS) and 1.1× higher (FRAP), while α-glucosidase inhibition was 1.8× stronger. After the intestinal phase, Matcha retained significantly higher TP (3.4×), TFLA (1.7×), antioxidant activity (2.4× ABTS, 2.0× FRAP), and α-glucosidase inhibition (1.7×), though differences in individual phenolics (except gallic acid) diminished. This study is the first to demonstrate that co-digestion of Matcha powder with its water extract enhances the bioaccessibility of polyphenols and results in superior antioxidant and antidiabetic properties compared to Sencha. These findings support the functional superiority of Matcha tea and inform its use in dietary strategies targeting metabolic health.

Biography:

Gordana Rusak obtained her graduate and doctoral degrees at the Faculty of Science, University of Zagreb. She subsequently held a research associate position at the University of Dresden as part of her postdoctoral specialization. She is currently a Full Professor at the Department of Biology, Faculty of Science, University of Zagreb, where she also serves as Head of the Laboratory of Phytochemistry. Her research focuses on biologically active natural compounds derived from plants with particular emphasis on phenolic substances. She has authored 60 scientific articles in internationally recognized journals within this field.

Claudia Evelina Budu
Researcher and Innovator, Romaina

Functional food Nutraceuticals, Fermentation, Composite Victuals, Lichens, Soft Corals

Introduction.From The Discovery Of Myo-Inositol In 1872 By Pheffer, Thousand Of Articles Have Been Published To Resolve One Important Issue For Humanity :Famine, Due To Both : Absence Of Food And Not Enough Nutritive, Lacking Two Important Minerals: Iron And Zinc. Which Cannot Be Released Properly From The Phytic Acid Obtained By Metabolization Of Myo Inositol And Its Chiral Component D Chiro Inositol Ratio: 90:1 Respectively.

In Contrast, It Was Found All The Minerals Found Through The Diets, In The Bodily Waste (Urine And Fesce), And In The Agricultural Soil At The Rhizosphere Level. The Aim Of This Poster Is To Make A Difference Through The Accumulation Of The Data Through Literature, Adding New Compelling Information .

Selected Knowledge Through Literature And AI Information.

The Enzyme Which Can Brake Phytic Acid, Releasing P, As An Important Source Of Energy, Into The Cell, ATP, GTP Is Phytase.

Microbial Phytase Is By Far The Best Source Of Phytase, Rich Source Of Cellular And Extracellular Phytase, From Bacillus Sp And Fungi (Aspergillus). Our Approach Of Fermented Food As The Best Option For A Healthy Diet, Acknowledge That.

In Addition, A New Way Of A Nutraceutical Suppliment, Based Of A Gradient Elution Technique By Desorbtion Directly From Nano Composite Alginate- Nanoclay. This Hypothesis Is Based On Searching Many Experimental Articles, And Personal Intuitive Gain.

Biography:

EVCO Scientific Inc. is a start-up non-profit laboratory based in Pennsylvania dedicated to research the causes of Multiple sclerosis and other degenerative disorders. Its founder and Executive Director, Dr. Evelina Cohn has conducted influential research into Biochemistry, Cell Biology and Microbiology in Romania, Israel, USA and Canada, specializing in Lectinology and Pharmacology. Dr Cohn is a research scientist with experience and contributions in Biochemistry, Cell Biology and Microbiology, with major accomplishments in biochemical separation and novel glycoproteins in serum modulation and their role in diagnostic of a certain diseases; as well as, methods for determination of apoptosis in cancer cells, by using new penetrable peptides. Dr. Cohn is a new type of idea leader in medical research, trying to combine her valuable expertise with new approaches in neurodegenerative field. She finished her Ph.D. in Life Sciences at Bar Ilan University, Ramat Gan Israel and Received B.S. in Biochemistry from University of Bucharest, Bucharest, Romania. Dr Cohn is co-inventor of a patent and inventor of a provisional patent on apoptosis methods using penetrable peptides and new methods of separation of novel glycoproteins in serum respectively. Dr. Cohn was the CEO of TelBari Inc, a Therapeutic Skin Care Company, where she developed her managing and marketing skills.

Ayman Saadeldin Mohamed Ahmed Elmowafi
Mansoura University, Egypt

Innovative Approaches in Animal Feed Trade and Sustainable Livestock Management

The global livestock sector is facing increasing challenges related to feed availability, cost efficiency, and sustainability. This study examines innovative approaches in the trade and distribution of animal feed within emerging markets, with a special focus on the role of merchants in ensuring food security and supporting rural economies. Using a descriptive and analytical framework, the research highlights how modern technologies—such as digital platforms, precision agriculture, and smart supply chain systems—can optimize feed trade operations and improve livestock productivity. Case studies from Egypt and the Mediterranean region illustrate the importance of integrating sustainable practices, including climate-smart feed management, waste reduction, and renewable energy applications in feed production. The findings suggest that strengthening the animal feed trade not only enhances livestock health and productivity but also contributes to rural development, poverty alleviation, and resilience against climate change. This paper aligns with the conference theme of promoting innovation for a sustainable future and calls for collaborative efforts between policymakers, researchers, and private sector stakeholders to advance feed sustainability in global agriculture.

Keywords: Animal feed trade, livestock management, sustainable agriculture, food security, rural development, climate-smart practices

Reem Al Shamsi
Ministry of Agriculture, Fisheries and Water Resources Oman

Advancing Halal Compliance in the Food Industry Through AI and Digital Innovation

The demand for halal food products is rapidly increasing worldwide, driven not only by Muslim consumers but also by non-Muslims who appreciate the purity, safety, and ethical standards associated with halal-certified products. However, traditional halal certification processes face challenges related to efficiency, transparency, and fraud prevention. This study explores the integration of artificial intelligence (AI), blockchain, and digital technology into halal certification, focusing on their role in enhancing accuracy, security, and regulatory compliance.

Methods: This study adopts a quantitative research approach, including a thorough literature review and an analysis of AI and blockchain implementation in halal certification. Data is collected through interviews with key industry stakeholders and surveys assessing the effectiveness and potential impact of these technologies.

Results: Findings indicate that AI, blockchain, and digital technology significantly enhance the halal certification process:

- **AI** automates error detection, improves accuracy, and streamlines compliance procedures.
- **Blockchain** prevents fraud through immutable records, ensuring transparency in supply chains.
- **Digital technology** facilitates real-time tracking, strengthening regulatory oversight.

The integration of these technologies has the potential to revolutionize halal certification by increasing trust, reducing fraud, and improving efficiency. Additionally, this digital transformation, if adopted, positions the Gulf Cooperation Council (GCC) as a global leader in halal certification, reinforcing its influence in shaping international halal compliance frameworks.

Conclusion: The adoption of AI, blockchain, and digital technology is reshaping halal compliance by improving accuracy, transparency, and operational efficiency. As global demand for halal products continues to rise, leveraging these innovations will be essential for maintaining trust, ensuring regulatory compliance, and strengthening the integrity of halal certification in the food industry.

2nd International Conference on
Agriculture & Natural Resources
November 17-18, 2025 | Rome, Italy

Abdul Momin Azimi[1], Habibullah Faizy[2], Naqibullah Dowlati[3]
Ministry Of Agriculture And Water Resources In Iraqi Kurdistan, Iraq

The impact of climate change on the winter feeding status of livestock in Afghanistan

Livestock farming is considered one of the main sources of livelihood for the people of Afghanistan, given the country's topography. However, successive droughts, climate change, insecurity and armed conflicts, and widespread poverty have posed serious challenges to the adequate winter feeding of livestock. The main objective of this research is to assess the winter feeding status of livestock, its associated challenges, and to propose solutions for improving the current situation. The statistical population for this study includes 277 local livestock owners, staff from the Ministry of Agriculture and Livestock, university professors, and environmental workers, selected through stratified random sampling. Data were collected via questionnaires and analyzed using Graph Pad Prism Version 7 (Trial) statistical software. The results indicate that the winter feeding status of livestock in Afghanistan is alarming. The primary reasons include climate change, which has led to a severe reduction in fodder production for livestock; insecurity and armed conflicts; widespread poverty and a lack of financial resources to procure fodder and maintain livestock during the winter; and a shortage of support programs to meet the needs of herders in this region. These conditions have led to emaciation, disease, and even death of livestock in many areas of Afghanistan. To save their remaining livestock, herders are sometimes forced to sell their animals at very low prices, which exacerbates the cycle of poverty. It is necessary to provide humanitarian aid, implement support programs, and make efforts to secure fodder, treat livestock, and empower herders in this region.

Keywords: Afghanistan, climate change, drought, feeding, livestock, poverty, winter.

Shokri Omar Mustafa
Ministry Of Agriculture And Water Resources In Iraqi Kurdistan, Iraq

Effect Of Dietary Zinc On The Growth Of Juveniles Common Carp (Cyprinus Carpio)

The common carp (Cyprinus carpio) is an important and high value food, and carp species are from the family of freshwater fish, widely cultivated around the world. Carp food represents the highest proportion of the total cost of the fish farm. Therefore, appropriate mineral supplementation in early developmental stages and at an early age is very important to support carp. The current research was organized to study the effectiveness of supplemented diet of different Zn level on the weight gain, proportional growth in weight, specific growth rate, and feed conversion rate and condition factor in the common carp juveniles. Four iso- nitrogenous (35% crude protein) practical diets were produced with graded levels of dietary zinc sulphate was included as the dietary zinc source to the basal diet supplemented with increasing zinc levels (T1, control, 85 mg Zn kg-1; T2, 105 mg Zn kg-1; T3, 125 mg Zn kg-1 and T4, 145 mg Zn kg-1). The results showed that dietary zinc supplementation had a positive effect on the specific growth weight, fish body weight, weight gain, feed conversion rate, proportional growth in weight and condition factor of juvenile carp. For all parameters studied, the best results were found in the juveniles fed T2, but the significantly lowest growth ($P < 0.05$) was obtained in juveniles fed the basal diet containing 85 mg Zn/kg-1. The findings showed that 105 and 125 mg Zn/kg-1 diet caused significantly higher FCR, SGR and ADG in comparison to those fed with diets containing 85 and 145 mg Zn/kg-1. In addition, feed intake was raised with increasing dietary zinc amounts up to 105 mg/kg-1 diet. In conclusion, this study confirms the positive effects of the use of 105 mg of zinc sources in diet to enhance growth performance of carp juveniles. The findings of the present study will help scientists, fish feed producers and fish farmers.

Keywords: Condition factor, feed conversion rate, mineral, nutrition, proportional growth, weight gain

Biography:

Dr. Shokri Omar Mustafa research interests are Department of Fish Resources, Nutrition, fishery and Poultry Department i.e Feed Formula, Farm Management, Cage fish culture, RAS, Trout Salmon fish farm, Fish and poultry Nutrition and Nutritional and biotechnology and their business.

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VIRTUAL KEYNOTE PRESENTATIONS

DAY 2

Yuqing Liu
Bachelor, University College London, United Kingdom

Analysing the effects of nutrition on reproductive performance of male fruit flies

Understanding how nutrition and genetic background interact to shape male reproductive performance is essential to dissect the evolutionary and physiological mechanisms of dietary adaptation. In this study, we examined the effects of varying protein-to-carbohydrate (P:C) dietary ratios on food consumption behavior and fitness outcomes in male Drosophila melanogaster across three genotypes. Males were exposed to four diets (P:C = 1:1, 1:2, 1:4, and 1:8), and both food intake and body energy—used as a proxy for reproductive fitness—were measured. While genotype alone did not significantly influence overall consumption or fitness, significant genotype-by-diet interactions emerged. Specifically, food intake differed between genotypes at P:C ratios of 1:1 and 1:8, and diet-specific fitness differences were observed at the 1:2 ratio. Across genotypes, flies consumed the most on the carbohydrate-rich 1:8 diet, but achieved highest fitness on the balanced 1:1 diet, indicating a potential mismatch between intake preference and optimal physiological performance. Variance decomposition analysis revealed that diet type accounted for the largest proportion of fitness variation (20.6%), followed by behavioral intake response (6.8%), while genotype contributed minimally (1.1%). These findings suggest that behavioral plasticity in food intake may be a stronger determinant of male fitness than intrinsic genetic differences under controlled conditions. However, the presence of genotype-specific responses to certain diets points to the need for further molecular investigations.

Together, these results underscore the nuanced relationship between nutrition, genotype, and reproductive success, and provide new insight into the nutritional ecology of male fruit flies.

Biography:

Yuqing Liu has completed the bachelor degree on 2024 from University College London

Maryam Mohammed Al-Ghazali
Food Science specialist /Sultan Qaboos University, Oman

Effect of Freeze-Concentration on total phenols content in pomegranate skin extracts

Pomegranates are round, red fruits. They feature a white inner flesh that's packed with crunchy, juicy edible seeds called arils. Overall, pomegranates are low in calories and fat but high in fiber, vitamins, and minerals. And its rich in antioxidant . Pomegranate peels are high in antioxidants and polyphenols, and they've been shown to treat hyperpigmentation, a condition characterized by dark patches of skin. The aim of this study is To determine the effect of different insulations of Freeze-Concentrated on total phenols of pomegranate skin extracts. To study the effect of adding sugar and ethanol on the total phenols content of freeze-concentrated pomegranate skin extracts, samples were Pomegranates were purchased from local farms from Al-Jabal Al-Ahkdar, Sultanate of Oman. Result showed that Total phenols content was determined for fresh pomegranate skin extract and it was 16.55 mg GAE/L

Key words: Skin Pomegranate , freeze-concentrate, phenol.

Biography:

Maryam has completed her Professional and honorary doctorate (PHD) in food safety and health from the Oxford College of International Studies, United Kingdom, 23.12 2024.(2021-2024) and Master Degree at the age of 26 years from Sultan Qaboos University, Oman. she is the head of Microbiology lab at Al Joudah Food Tech Lab, Oman and asset manager at TopOne Spashe has over 5 publications that have been cited over 2000 times, she has been participated in many conference, journal and others workshops 2013-2025

Mudassar SanaUllah
School of Science, Shenzhen Key Laboratory of Advanced Functional Carbon Materials Research and Comprehensive Application, Harbin Institute of Technology, Shenzhen, China

Contamination of trace, non-essential/heavy metals in nutraceuticals supplements

Nutraceuticals and dietary supplements are widely consumed worldwide, often without professional guidance, under the assumption that they are safe. However, these products can sometimes carry trace metals (TMs) and non-essential or heavy metals (nHMs) at concentrations exceeding recommended daily allowances (RDA), raising potential health concerns. This study evaluated the presence of essential TMs (Mn, Cu, Zn) and toxic nHMs (Al, Cr, Ni, Cd, Pb) in commercially available supplements to assess their safety. Metal quantification was performed using inductively coupled plasma–optical emission spectrometry (ICP-OES), and data were further analyzed using multivariate and bivariate statistical methods including principal component analysis (PCA), hierarchical cluster analysis (HCA), and Pearson correlation coefficient (PCC) to explore inter-metal relationships and potential contamination sources. The concentrations of TMs ranged between 0.2–4.3 mg/kg for Mn, 0.11–2.54 mg/kg for Cu, and 0.1–22.66 mg/kg for Zn, whereas nHMs were detected within 0.046–3.336 mg/kg for Al, 0.11–1.63 mg/kg for Cr, 0.18–0.72 mg/kg for Ni, 0.04–0.92 mg/kg for Cd, and 0.18–1.08 mg/kg for Pb. Notably, intake levels of Cr, Ni, and Cd surpassed the tolerable limits established by the World Health Organization (WHO) and the European Food Safety Authority (EFSA). Nonetheless, risk assessment based on target hazard quotient (THQ < 1), hazard index (HI < 1), and cumulative cancer risk (CCR < 1×10^{-4}) suggested no significant carcinogenic or non-carcinogenic risks from consumption. The findings emphasize the importance of monitoring supplement safety and highlight the need for consumption under the guidance of qualified dietitians.

Biography:

Mudassar Sanaullah, MSc Chemistry, Harbin Institute of Technology, specializes in analytical chemistry and organic synthesis for diagnostics and therapeutics. With expertise in heavy metal analysis, advanced extraction techniques, and analytical instrumentation, he has published in reputed journals and presented internationally. His research focuses on green chemistry, drug delivery, and toxicology.

Ysabel Ramos Lalupu
Sedes Sapientiae, University Catholic,Lima, Peru

Nutraceutical Pastes, Food Safety

The purpose of this research was to understand the relationship between the production of nutraceutical pastes and the promotion of food safety among the student population, as a commitment to social responsibility in response to the incidence of diseases caused by high consumption of ultra-processed foods.

The student population tends to eat what the market offers, and university cafeterias typically offer ultra-processed foods with refined flours high in hydrogenated fats, sodium, additive flavorings, and sugar. These foods cause dysbiosis in the gut microbiota, lowering immune defenses and exposing us to many diseases and reducing cognitive ability.

The purpose of the research was to understand the relationship between the production of nutraceutical pastes and food safety among the student population. It was verified that nutraceutical pastes can be produced with oca flour, mashua, nostoc, turmeric, and Andean grains to promote food safety among the student population. The results of the survey analysis using the SPSS version 29 statistical package validated a high positive correlation between the production of nutraceutical pastes as a food security alternative for the student population.

Keywords: Production, nutraceutical pastes, food safety

Biography:

Ysabel Ramos Lalupu, 65, completed her PhD from Peru University and completed postdoctoral studies in Nutrition at the National Agrarian University of La Molina. She is the director of the Jorge Lazo Arrasco Postdoctoral Scientific Institute in Peru. She works at UCSS as a research professor in agroindustry. A nutraceutical production laboratory was implemented, which is why we want to present it at the congress.

Shima Asgarzadeh
Istanbul Aydin University Istanbul, Turkey

Chemical and Sensory Properties of Probiotic Yogurt Enriched with Elaeagnus angustifolia Fruit Flour and Purple Fruit Powders

Probiotic yogurt is a popular functional food containing live microorganisms that promote host health by improving gut microbial balance. In this study, probiotic yogurts were formulated with varying levels of purple fruit powders (pomegranate, blueberry, and ...) combined with Elaeagnus angustifolia (EA) flour) to enhance their nutritional and functional properties. The results showed that ash content ranged from 0.45% to 0.91%, with higher values observed in samples containing greater proportions of EA flour and fruit powders. Antioxidant activity significantly increased with higher levels of purple fruits, while titratable acidity decreased to approximately 0.51. The incorporation of EA pulp flour contributed to an increase in fat content, and pH values of samples containing 7–15% EA flour remained relatively stable at around 3.95. Sensory and textural evaluations indicated that the combination of EA flour and purple fruit powders with probiotic yogurt was well accepted by consumers. Overall, the enrichment of probiotic yogurt with EA flour and antioxidant-rich purple fruits improved its nutritional composition, antioxidant capacity, and consumer acceptability, suggesting its potential as a novel functional dairy product.

Biography:

I am Shima Asgarzadeh, graduated from Istanbul Aydin University of Food engineering, Faculty of Engineering, Istanbul, Turkey and received my MS degree in 2024. I worked as a Food Laboratory assistant. I am working on Food Biotechnology, Cancer Disease, Antioxidant and Fenolic compounds. I have participated in International Grain and Pulses Congress (IGPC), İstanbul-Türkiye (2024) and 7th Edition of Euro-Global Conference on Food Science and Technology (FAT), 2025 at Valencia, Spain

Somya Gupta
Banasthali Vidyapith, Research Scholar, India

Food And Nutrition Security: Twin Pillars Of Health For Construction Workforce

Food and nutrition security are recognized as twin pillars of health, particularly for vulnerable populations such as the construction workforce. Construction workers often experience precarious employment, long working hours, irregular incomes, and migration, which collectively limit their access to adequate, safe, and nutritious food. Construction workers often face poor living conditions, low wages, migratory status, and irregular employment, all of which compromise their access to adequate and nutritious food. Food security ensures the availability, accessibility, and affordability of food, while nutrition security emphasizes dietary diversity, nutrient adequacy, and proper biological utilization. Together, they form the twin pillars essential for sustaining health. Due to the physically demanding nature of construction work, nutritional requirements are high; however, studies indicate that workers frequently rely on calorie-rich but nutrient-deficient foods owing to financial and environmental constraints. This imbalance increases the risk of undernutrition, micronutrient deficiencies, fatigue, impaired immunity, and reduced work efficiency. Simultaneously, urban lifestyles and unhealthy dietary practices contribute to a dual burden, where malnutrition coexists with overweight and diet-related non-communicable diseases. Addressing these challenges requires an integrated approach that combines workplace-based nutrition programs, subsidized and hygienic canteens, access to social protection schemes, and targeted nutrition education. Ensuring these workers have reliable access to safe and nutritious diets contributes not only to individual health but also enhances workforce efficiency, safety, and overall quality of life. Recognizing food and nutrition security as interdependent components underscores their importance as foundational determinants of health and well-being. For the construction workforce, addressing these twin challenges is essential to achieve sustainable labor productivity and social equity.

Keywords: Food security, Nutrition security, Construction workers, Vulnerable populations, Migrant labour, Occupational health, Dietary diversity, Micronutrient deficiencies, Malnutrition

Biography:

Somya Gupta, 26, is a research scholar at Banasthali Vidyapith, Rajasthan, currently pursuing her Ph.D. and expected to complete it this year. Her research focuses on nutrition, food security, and public health with special emphasis on the nutritional status of construction workers and family health. She has published two book chapters and six research papers in reputed journals, contributing valuable insights to her field. Through her scholarly work, she aims to bridge the gap between scientific research and community-based nutritional practices.

Namrata Nitin Bagle
UvRoh, India

Food Group Variability and Child Nutrition: Insights from a Food Science Approach in Mumbai, India

This study explores the relationship between food group variability and the nutritional status of children aged 12-36 months in Mumbai, India, using a food science perspective to analyze dietary patterns. Using dietary diversity scores derived from seven key food groups, the research highlights significant disparities in food intake, with widespread consumption of grains and dairy but low inclusion of legumes, nuts, and protein-rich foods. Findings reveal that increased food group variability correlates positively with growth indicators such as height and weight, underscoring the importance of dietary diversity for optimal nutrition. Notably, socioeconomic and gender-based differences influence food choices, impacting overall nutritional outcomes. Despite the city's diverse food environment, many children experience inadequate dietary variety, posing risks of micronutrient deficiencies and growth faltering. The insights from this approach emphasize the need for targeted interventions focusing on enhancing food group variability to improve child health and development. This research offers valuable implications for public health strategies, nutrition education, and food policy aimed at fostering balanced diets among young children in urban India.

Biography:

Dr. Namrata Nitin Bagle, who holds a PhD in Food Science and Nutrition from SNDT Women's University, has extensive experience working with multiple corporates and the public health sector. She has engaged with diverse groups such as RTO, elderly communities, schools, and more. She is the founder of UvRoh, an organization dedicated to promoting nutritional awareness and sustainable food practices. Currently, she serves as the Lead Nutritionist at Samya India, a prominent NGO committed to improving child and community health. Her work seamlessly integrates scientific expertise with community outreach.

Albana Uka
University St. Kliment Ohridski Faculty of Biotechnical Science, Bitola, Germany

Insect Meal as a Sustainable Alternative Protein in Rainbow Fish (Melanotaenia spp.) Diets

As the demand for sustainable aquaculture practices grows, researchers are actively exploring alternatives to traditional fishmeal in fish diets. Insect-based protein has emerged as a promising option. This study investigated the impact of replacing fishmeal with insect meal in the diets of rainbow fish (*Melanotaenia spp*.) over a period of eight weeks. The insect meals, derived from black soldier fly (*Hermetia illucens*) and mealworm (*Tenebrio molitor*), were included at varying levels in the feed formulations. Throughout the study period, the fish were monitored for growth, feed conversion efficiency, survival rates, and general health. The results indicated that a substantial portion of fishmeal could be substituted with insect meal without any negative effects on performance or health. These findings highlight the potential of insect-based proteins to contribute to more sustainable and efficient aquaculture feed practices.

Biography:

Albana Uka is currently pursuing a PhD at University St. Kliment Ohridski in Bitola (North Macedonia). She holds a Master of Science degree in Food Engineering and Technology from the University of Mitrovica “Isa Boletini” and a Bachelor of Technology in Food Engineering from the University of Prishtina “Hasan Prishtina”. Her academic and professional experience includes teaching roles at the University of Prishtina, food safety management in the private sector, and research in microbiological analysis and food quality control. Her work focuses on sustainable food systems, food safety, and the development of innovative protein sources for aquaculture.

Pritee Chaudhary, IRS
Regional Director, Food Safety and Standards Authority of India, Govt of India

Eat Right Initiative

Eat Right India Initiative, launched in the year 2018 is a flagship campaign of Govt of India to promote safe, healthy and sustainable eating habits amongst the citizens. It serves the objective of a healthier India by combining regulatory actions and consumer empowerment. This Vision uses a multidisciplinary approach to build a sustainable future for improved nutrition and well-being of individuals

At the heart of the initiative is the Eat Right India movement, which is based on three key pillars: Eat Safe, Eat Healthy, and Eat Sustainable. "Eat Safe" promotes hygiene and food safety standards; "Eat Healthy" encourages reduced intake of sugar, salt, and unhealthy fats, and increased consumption of fruits, vegetables, and whole grains; and "Eat Sustainable" focuses on reducing food waste, avoiding plastic packaging, and adopting eco-friendly food choices.

On supply side, the initiative paves its way through the variety of models suitable for each place, such as Eat Right Schools, Eat Right Campuses for workplaces, BHOG (Blissful Hygienically-prepared Offerings to God) for the places of worships and Eat Right Stations for Railway Platforms. The fundamental synopsis for all these programs remains identifying the rooms for improvement and pugging the loopholes through a robust system of pre-audits, thereby training and awareness building for the staff and the users and finally certifying the place through a stringent post-audit. The whole process is strongly woven through five Es of pedagogy- examine, engage, educate, evaluate and empower.

On demand side, FSSAI takes center stage in creating awareness on eating healthy through Eat Right awareness events, promoting food fortification, encouraging low SSF (low sugar, salt and fats) and enabling healthy choices. The initiative also takes care of sustainability drive by 'Save Food, Share Food' initiative, sustainable packaging drive and repurposing used cooking oil (RUCO).

Overall, the Eat Right Initiative reflects a progressive step towards preventive healthcare and environmental stewardship. It encourages people to make informed food choices and adopt a lifestyle that supports personal well-being as well as the health of the planet.

Biography:

Pritee Chaudhary, IRS is an Official of Govt of India with a career span of 19 years. She held various senior positions in Govt for variety of portfolios, ranging from Tax Administration, Customs, Anti-profiteering to Food Safety. She is a Science Graduate from Indore University and stood first in merit, being a Gold Medalist. She has pursued her MBA in International Business from IMT, Ghaziabad. She has been sponsored by WCO to pursue her Fellowship from the University of Victoria, BC, Canada. At present she is heading West Region of Food Safety and Standards Authority of India. She has also delivered her TEDx talk on the subject 'mitigating Global Hunger: stemming the tide of food waste'.

Zhongsheng Guo
Northwestern A & F University, Yangling, China

Agriculture high quality development and quality beverages plant

Agricultural development had entered the new stage of high-quality Agriculture development since 2017. The high-quality agriculture development is to take some effective measures and method to make land to produce more quality beverage and meet the need of peoples need for a better life and beverage. Its theory foundation is the resources use limit by plants, vegetation carrying capacity and critical period of plant resources relationship regulation. The methods of Agriculture high quality development is to select excellent beverage plant species or varieties based on site condition and need of market need before planting plant and sowing seed, adopt appropriate initial planting density, which are more than or equal to vegetation carrying capacity when planting crop young plant and sowing seed, and regulate plant resources relation in the process of crop production in a timely and appropriate amount to obtain high quality beverage produce , maximum yield and benefits to realize the sustainable utilization of natural resources and Agriculture high quality development.

Keywords: Clime change; sustainable utilization; natural resources; chemical fertilizer; resources use limit by plants; vegetation carrying capacity; critical period of plant resources relationship regulation; Agriculture high quality development.

Biography:

Zhongsheng Guo got his doctor degree in the Northwest Agriculture and Forestry University, now, he is a professor in Northwest Agriculture and Forestry University, China.

He put forward the theory of resources use limit by plants, the theory of vegetation carrying capacity, the theory of critical period of regulation of plant resource relations and the new theory of soil and water conservation. This is the theoretical basis for high-quality development of forest, grass, agriculture and soil and water conservation. Since June 2022, he is Head of “innovation China" Agricultural high-quality production and industry Service Group.

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