



# BIOSYSFOODENG 2025

6<sup>TH</sup> INTERNATIONAL CONFERENCE ON

## BIOSYSTEMS AND FOOD ENGINEERING

6<sup>th</sup> of June, 2025

BUDAPEST, HUNGARY

### ORGANIZERS:

DEPARTMENT OF FOOD MEASUREMENT AND PROCESS CONTROL and DEPARTMENT OF FOOD PROCESS ENGINEERING OF THE HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES, INSTITUTE OF FOOD SCIENCE AND TECHNOLOGY

in collaboration with the

AGRO- AND BIOSYSTEMS ENGINEERING RESEARCH COMMITTEE OF HUNGARIAN ACADEMY OF SCIENCES

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NATIONAL RESEARCH, DEVELOPMENT  
AND INNOVATION OFFICE  
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**BiosysFoodEng 2025**

6<sup>th</sup> June, 2025. LURDY CONFERENCE AND EVENT CENTRE, BUDAPEST, HUNGARY



## Conference programme

**9:00-9:05** *Friedrich László: Conference opening*

### Session I Chariperson: Zoltán Kókai

**9:05-9:25** *Hermanova Sona: A Versatile Journey: From Plastic Prototyping to Food Printing*

**9:25-9:45** *Damir Magdić: Climate Change Patterns and Their Influence on Wheat Quality in Eastern Croatia*

**9:45-10:05** *Efaishe Tweuhanga Angaleni Kavela: The Impact of Drying Technologies on the Polyphenols and Antioxidant Capacity in Chokeberry Pomace Tea Infusion*

**10:05-10:25** *Pramod Mahajan: Sensors, modelling and digital twin applied to fruit packaging and storage*

**10:25-10:55** **Poster session – Coffee break**

### Session II Chariperson: Patrick Siegfried

**10:55-11:15** *Bernard Maringgal: Temperature-Based Classification of Pork Meat During Storage Using Thermal Imaging and Machine Learning*

**11:15-11:35** *Myriam Catalá Rodríguez: Lichen-symbiont microalgae potential for food and feed applications*

**11:35-11:55** *Kewei Chen: Inhibitory effects of chlorophyll pigments on the bioaccessibility of beta-carotene, but what are the benefits of chlorophyll?*

**11:55-12:15** *Ákos Bartha: Development and Consumer Acceptance of Functional Instant Coffee Enriched with Dietary Supplements*

**12:15-12:35** *Zinabu Hailu Siyum: Non-destructive Evaluation of Bruised Plum Quality Changes During Storage Using Line-based Laser Light Backscattering Imaging*

**12:35-13:35** **Lunch break**

### Session III Chariperson: Francesco Marra

**13:35-13:55** *Damijan Kelc: Frost Prevention in Vineyards Powered by Renewable Energy*

**13:55-14:15** *Rafat Al Afif: Challenges and Solutions in Biogas Production from Food Processing Waste: A Case Study*

**14:15-14:35** *Balázs Boncsarovszki: From subconscious reactions to consumer preferences: a multimodal sensory study investigating taste perception using galvanic skin response and facial expression analysis*

**14:35-14:55** *Hynek Roubík: From Waste to Wealth: Circular Bioeconomy Pathways in Agri-Food Systems for Sustainable Global Development*



**14:55-15:15** *Jing Wang*: Control of the oil content of fried dough sticks through modulating structure change by reconstituted gluten fractions

**15:15-15:45** **Poster session – Coffee break**

#### **Session IV Chariperson: Vũ Ngọc Hà Vi**

**15:45-16:05** *John-Lewis Zinia Zaukuu*: Recent Approaches for Detecting Complex Food Adulteration with Machine Learning and VIS/NIR Maize, Wine, Melon seed, foam and Calcium carbide

**16:05-16:25** *Walftor Dumin*: Primary Screening and Characterization of Disease Causal Agent Affecting Pineapple Plant in Northwestern Region Sarawak

**16:25-16:45** *Abdul Hannan Bin Zulkarnain*: Seeing Green: Comparing Screen-Based Eye Tracking and Virtual Reality Eye Tracking on Sustainable Labels

**16:45-17:05** *Tamás Zsom*: Conference Quiz (join with Kahoot)

**17:05-17:10** *Zoltan Kovacs*: **Announcement of the Best Poster Presentation Award, Best Oral Presentation Award and Conference Quiz, Conference closing**



## Posters presentations

**E622:** Rédey, Á., Zsom-Muha, V., Stefaniga, T. Bánvölgyi, Sz.: Recovery of valuable components from carrot peel as vegetable waste using microwave-assisted extraction

**E623:** Marđokić Ana, Máté Molnár, Bánvölgyi Szilvia: Microwave-Assisted vs. Traditional Extraction of Polyphenols from Olive Pomace: A Comparative Study

**E624:** Andrija Vukov, Matyas Lukacs, Zoltan Kovacs, Milan Vranes: Rapid detection of caffeine self-aggregation in aqueous solutions using near infrared spectroscopy and chemometrics

**E625:** Anna Mária Nagy, Éva Stefanovits-Bányai, Mónika Máté: Effect of carrier materials on the properties of vacuum-dried fruit powder mixtures

**E626:** Attila Csighy, Kenbon Beyene Abdisa, Moh Moh Zin, Adrienn Tóth, András Koris, Krisztina Takács, Feiyue Ren, Hongzi Liu, Arijit Nath, Szilvia Bánvölgyi: Enrichment of the Antioxidant Capacity of Stirred Type Yoghurt with Beetroot Juice

**E627:** Attila Csighy, Arijit Nath, Emőke Szerdahelyi, Sintayehu Tamirat, Boglárka Varga-Boda, Kinga Ujfalusi, András Koris: Screening of ceramic membranes for MBR based production of separated whey and casein derived peptides

**E628:** Azin Omid Jeivan, Mónika Máté and Beatrix Szabó-Nótin: Sustainable Packaging: Application of Response Surface Methodology in the Optimization of Chitosan-Based Edible Coatings with Soy Protein and Rice Bran Oil

**E629:** Bálint Góczán, Ágnes Szemerédi, Karina Hidas, Beatrix Szabó-Nótin, Judit Friedrich-Ivanics, Mónika Máté: Monitoring the quality characteristics of canned vegetables stabilized with rosemary extracts during storage

**E630:** BÁZÁR György, FÉBEL Hedvig: Electronic nose detects off-odor of pork caused by lucerne protein concentrate feeding

**E631:** Mahmuti B., Kovacs Z., Outaira M., Tormasi. J., Varga-Tóth, A.: The examination of the digestibility and sensory properties of high protein cream

**E632:** Boros, A., Friedrich, F. L., Sallainé Bajkai, A., De Groot, S., Novák, A., Vargáné Tóth, A.: Assessing chicken breast fillet quality: a sensory-instrumental approach

**E633:** V. Breznyán, L. Makay, G. Szurovecz, T. Papp, H. Ilyefalvi: Exploring the Role of Protein in Student Nutrition: A Workshop Overview

**E634:** Carlo Cusatelli, Debora Cazzetta, Filomena Corbo, Andrea Troisi: Dietary Habits and Use of Nutritional Supplements Among Amateur Athletes in Southern Italy

**E635:** Chaimae El Hathat, Judit Kosztik, Zsolt Zalán, Ildikó Bata-Vidács: Lactic Acid Bacteria from Animal Microbiota as Natural Inhibitors of Mycotoxin-Producing Fungi

**E636:** Tao, C., Zulkarnian, H.B., Boncsarovszki, B., Hoti, E., Beselica, E., Gere, A: Taste perception in VR and microgravity



**E637:** Chen Wang, Dianxuan Wang, Fangfang Zeng, Liang Chen: Oviposition Behavior of *Plodia interpunctella* (Hübner) on Nuts and Dried Fruits and the Identification of Key Volatile Compounds

**E638:** Dalma Radványi, Zsófia Fekete-Frojimovics: Unveiling the potential of the electronic nose in the determination of *E. coli* indicator compounds

**E639:** J., Beyene, I., Dalmadi, Gy., Kenesei: Effect of raw material quality on the properties of sous-vide cooked chicken breasts

**E6400:** Iserliyska, D., R., Chochkov, G. Zsivanovits: Utilization of wine industries' spent grain in wheat bread enrichment

**E641:** Szakál, D., Fehér, O., Gere, A.: The difference between imagination and reality - Testing Nutri-Score label using emotion recognition software

**E642:** Duy H. Truong, Chuong Viet Pham, Vuong Thuy Duong, Ly Thanh Nguyen, Tien Thuy Thi Pham, Thuyen Van Huynh, Ky Khac Lam: Development of sprouted soybean powder combined with brown rice powder and black sesame powder

**E643:** Duy H. Truong, Chi Hao Nguyen, Lan Anh Vu, Quoc Khai Vuong, Van Quan Truong: Development of the matcha cereal milk product

**E644:** Efaishe Kavela, Mónika Máté, Lilla Szalóki-Dorkó: The Impact of Drying Technologies and Market Tea Integration on the Polyphenols and Antioxidant Capacity of Chokeberry Pomace Tea Infusion

**E645:** Manjola Kuliçi, Elena Kokthi, Fatmir Guri: From Hive to Policy: The Sustainable Beekeeping Practices Index (SBPI) as a Decision-Making Tool

**E646:** Elena Kokthi, Debora Cazzetta, Enkeleda Berberi, Fatjon Hoxha: Modelling Food Waste: A Recursive Partitioning Approach to Food Behaviour Segmentation

**E647:** John-Lewis Zinia Zaukuu, Eric Tetteh Mensah, Abena Achiaa Boakye, Eric Kuuna Dery: Varietal discrimination of cocnut using deep learning algorithms: a UV-VIS spectrophotometry approach

**E648:** Ernestine Fabiola Djouche, Lukács Mátyás Krisztián, Dr. Mukaddes Kiliç Bayraktar, Dr. Kovács Zoltán: Saffron Adulteration: Innovative Detection Techniques

**E649:** Fatma Elzhraa, Gabriella Kiskó, Ágnes Belák: Prevalence, Antibiotic Resistance, and Virulence Traits of *Escherichia coli* in Fermented Dairy Products During Ramadan in Dakahliya, Egypt: A Public Health Concern

**E650:** S. Fekete, G. Jónás, J. Felföldi, Z. Kovács, L. Friedrich: Fitting and evaluating diffusion models for dry salting, wet curing and ultrasonic curing

**E651:** Firas Alarawi, Erika Bujna, Botond Süli, Quang D. Nguyen: Enhancement of Antioxidant Activity in Milk Protein Concentrate Hydrolysates via Enzymatic Hydrolysis Using *Streptomyces griseus* Protease



**E652:** G. Bitó, B. Lemmer, Z. Jákói, S. Beszédes: Dielectric parameters of vegetable oils during storage

**E653:** Nga Thi Thanh Ha, Hoa Xuan Mac, Tung Thanh Pham, Lien Le Phuong Nguyen, László Baranyai, László Ferenc Friedrich, Adrienn Tóth, Csaba Németh and Quang Duc Nguyen: Quick fraud detection in shell egg freshness declaration using a handheld NIR spectrometer combined with random forest algorithm

**E654:** Hannah Moncon Farr, Béla Urbányi, Koppány Majzinger, Balázs Csorbai, Tamás Bartucz, IldikóNyulas-Zeke: Comparison of raw and fried African catfish meat supplemented with black soldier fly meal

**E655:** Hristovski, K., Bujna, E., Nguyen, D.Q.: Isolation, Partial Purification, and Characterisation of  $\beta$ -Galactosidase from *Limosilactobacillus fermentum* LF08

**E656:** Hunor Gyurcsok, Viktoria Zsom-Muha, Timea Kaszab: Possible uses of coffee by-products

**E657:** H. Ilyefalvi, L. Makay, G. Szurovecz, T. Papp, V. Breznyán: Does your education have an impact on your protein-mindfulness? – a case study among E<sup>3</sup>UDRES<sup>2</sup> students

**E658:** Muncan, J.: Next-Generation Water Spectroscopy: Mapping Water Absorbance Bands for Biosystems and Food Engineering

**E659:** Dias Jessica, Barkó György: Investigation of space soil simulants

**E660:** John-Lewis Zinia Zaukuu, Nelson Quarshie Attipoe, Patricia Bourba Korneh, Eric Tetteh Mensah, Donald Bimpong, Lois Adofowaa Amponsah: Detection of bissap calyces and bissap juices adulteration with sorghum leaves using NIR spectroscopy and VIS/NIR spectroscopy

**E661:** William Appaw, John-Lewis Zinia Zaukuu, Balkis Aouadi, Eric Tetteh Mensah, Ibok Nsa Oduro and Zoltan Kovacs: Predicting Aflatoxin contamination in white and yellow maize using Vis/NIR spectroscopy combined with PCA-LDA and PLSR Models through Aquaphotomics Approaches

**E662:** John Lewis Zinia Zaukuu, Philomena Ataa Amponsah, Donald Bimpong, Lois Amponsah and Eric Tetteh Mensah: Detection of foam adulteration in honey using ultraviolet-visible spectroscopy (UV-VIS)

**E663:** Dan Li, Yuyu Du , Liya Su, Yaqiu Lin, Jiong Zheng, Fidel Toldrá, Chenglin Zhu, Muying Du, Yuan Liu, Juan Chen: Effects of *Staphylococcus cohnii* 129 on lipid hydrolysis and oxidation of fermented sausage

**E664:** Mazár, J., Albert, K., Pelhrimovszky, Zs., Bánvölgyi, Sz.: Investigation of the extraction of peppermint (*Menthae piperitae folium*) active ingredients using microwave-assisted extraction

**E665:** Lajos Annamária Lilla, Szabó István, Csenki-Bakos Zsolt Imre, Griffitts Jeffrey Daniel: Toxicological Profiles of Polyethylene Terephthalate (PET) and Its Additives: A Systematic Review Across Ecosystems and Human Health

**E666:** L. Makay, H. Ilyefalvi, V. Breznyán, T. Papp, G. Szurovecz: Protein Consumption in Sports: Enhancing Strength and Endurance

**E667:** Mac Xuan Hoa, Ha Thi Thanh Nga, Nguyen Le Phuong Lien, Baranyai Laszlo: Enhancing sugar adulteration detection in clear apple juice using laser light backscattering imaging: Comparing transmission and transfection modes



**E668:** Majd Elayan, Csaba Németh, Munkhnasan Enkhbold, László Friedrich, Adrienn Varga-Tóth: Effect of acid's different parentages on egg white properties

**E669:** K. L. Majzinger, V. Lehota, H. M. Farr, G. Jónás, L. F. Friedrich: Comparison of the hemoglobin of the content of fattened goose livers affected and non-affected by greening

**E670:** A. D., Méhes, Gy., Kenesei, I., Dalmadi: Quality parameters of beef patties substituted with oyster mushroom

**E671:** Chang, M. W., Zhu, G. S., Liu, K. L.: Structural characterization and hypoglycaemic effects on type 2 diabetic mice of *Spirulina platensis* polysaccharides and Se-modified polysaccharides

**E672:** Li, M. Y., S., Ma.: Effects of bran dietary fiber-gluten protein interactions on dough structure and properties

**E673:** Meriem Serine Hamaidia, Lilla Szalóki-Dorkó, Mónika Máté: Impact Of Clarifying Agents on The Bioactive Compounds, Antioxidant Levels and Color properties Of Aronia Juice

**E674:** Mónika Göb, Zsuzsanna Horváth-Mezőfi, Zoltán Árpád Sasvár, Naji Alwani, Lien Le Phuong Nguyen, Tamás Zsom, Géza Hitka: Improving the food safety of fresh-cut salad products during the production process

**E675:** Munkhnasan Enkhbold, Attila Lőrincz, Márk Hajnal István, Majd Elayan, László Friedrich, Adrienn Varga-Tóth: Effect of Age on Meat Quality Attributes in Wild Red (*Cervus elaphus*) and Fallow Deer (*Dama dama*)

**E676:** Weizhong Hu, Shuxin Zhou, Amel Ibrahim, Guannan Li, Sameh Awad, José Ramos-Vivas, Jianquan Kan and Muying Du: Whole Genome Analysis of *Pediococcus acidilactici* XJ-24 and Its Role in Preventing *Listeria monocytogenes* ATCC® 19115TM Infection in C57BL/6 Mice

**E677:** My Ban Thi, Géza Hitka, Alwani Naji, Quang D. Nguyen: Discrimination of Hungarian Paprika Growing Regions Using Multi-Element Profiling Combined with Chemometric Techniques

**E678:** Nguyen Ba Thanh: Factors effect sensory properties of apricot

**E679:** Duong Hanh Hoa, Nguyen Le Phuong Lien: Egg preservation techniques: A review of conventional and emerging methods

**E680:** N., Nguyen, T., Nguyen, T., Doan, Q., Hong and T., Do, V., Vu: Synthesis of silver nanoparticles from *Syzygium Samagense* flower extract

**E681:** Nóra de Jonge, Katalin Badak-Kerti, Balázs Rimóczi, Tímea Kaszab: Physical and Chemical Properties of Fructo-Oligosaccharide Enriched Walnut Creams

**E682:** Papp T., Ijefalvi H. K., Breznyán V. V., Szurovecz G., Makay L. M.: Are you getting enough protein? – the truth behind young adult's protein intake - a review

**E683:** Patrícia Erdei-Tombor, Gabriella Kiskó, Andrea Taczmánné Brückner: Antibiotic resistance analysis of bacteria isolated from drinking water distribution systems

**E684:** Bodor-Pesti, P. , Váradi Gy. , Hüvely, A., Pető, J., Nyitrainé Sárdy, D., Deák, T., Varga, Zs., Masiero, L., Németh, L.: Spectral response of grapevine (*Vitis vinifera* L.) cultivar Riesling to foliar applications



**E685:** Tuan Minh Pham, Tien Nhut Tran, Duy Nhut Nguyen: Optimizing the extraction of bioactive compounds from *Gynostemma pentaphyllum* using Response Surface Methodology (RSM)

**E686:** Tuan Minh Pham, Tu Thi Nguyen, Hang Thi Thu Le: Optimization of microwave-assisted extraction of bioactive compounds from male flowers (*Carica papaya L.*) using Response Surface Methodology

**E687:** Felix Y.H. Kutsanedzie: Free-labeled PH-optimized GO-Au@Ag fabricated SERS-nanosensor rapid prediction of Pb and Hg traces

**E688:** Qian Xu, Caiyun Cheng, Qingyun Li, Guangsu Zhu, Yunshan Wei, Kunlun Liu: Concentration-Regulated Fibrillation of Peanut Protein: formation, structural characteristics, and emulsifying properties

**E689:** Liebl, R., Nguyen, Q. D., Bujna, E.: Effect of trehalose as substrate and inactivation methods on antimicrobial activity of probiotic-based parabiotics

**E690:** Revoly A, Tarr, B., Szabó, I., Tőzsér, J.: Data-Driven System for Vertical Farming and Milk Quality Prediction: A Framework for Investigating the Impact of Microgreens in Dairy Nutrition

**E691:** Mahmuti, B., RM. Gecaj, RM.: Food waste management strategies: A systematic literature review

**E692:** Z. Jákói, B. Lemmer, Á. Fazekas, T. Baló, S. Beszédes: Characterization of wastewater and sludge based on dielectric parameters and monitoring of organic matter removal

**E693:** S. Fekete, Zs. Csóka, F. Horváth, J. Felföldi, Z. Kovács, L. Friedrich: Non-measurement estimation of salami water activity based on water content and dry matter-to-fat ratio

**E694:** Zoltán Sasvár, Zsuzsanna Horváth-Mezőfi, Mónika Göb, Lien Le Phuong Nguyen, Tamás Zsom, Géza Hitka: The Impact of Pre-Harvest 1-MCP Treatment on Apple Quality and Harvest Management

**E695:** Siniša Bikić, Milivoj Radojčin, Ivan Pavkov, Milan Vraneš, Snežana Papović, Amra Hasečić, Rafat Al Afif: Biomethane and natural gas odor control using gas detection tubes – reduction to reference conditions

**E696:** Sofia Radja Ziane, Erika Bujna, Quang D. Nguyen: Effect of nitrogen supplementation on the fermentation of commercial apple juice with different *Bifidobacterium* strains.

**E697:** S. S. Micevic, E. Bujna, Q. D. Nguyen: Characterization of a commercial fungal L-asparaginase for acrylamide mitigation in thermally processed starchy food

**E698:** Szabolcs Homolyaa, Tímea Kaszabb, Katalin Badakné Kertia, Eszter Vozáry: Rheological Properties of Oleogels from Sunflower Oil Containing Beeswax and Monoglyceride

**E699:** Sz., Bánvölgyi, D., Battyányi, M. A., Molnár: Determination of Bioactive Compounds in Rosemary Extracts Obtained by Microwave-Assisted Extraction

**E700:** Csurka, T.: Review on the utilisation of animal by-products in rearing of *Hermetia illucens*: Opportunity for food industry, feed industry or waste management?

**E701:** Thanh Tung Pham, Lien Le Phuong Nguyen, Adrienn Tóth, Csaba Németh, László Baranyai, László Ferenc Friedrich: Evaluation of Different Edible Coatings for Egg Quality Preservation using Near Infrared Spectroscopy



**E702:** Tran, D. Thien: Applications of endopeptidases in food industry

**E703:** Thong Le Ba, László Baranyai, Tímea Kaszab: Laser backscattering as a non-destructive method for monitoring cheese ripening

**E704:** B.,Tran, V.,Le: Synthesis of Fe3O4/Graphene Oxide nanocomposites on Sugarcane Bagasse-derived Activated Carbon for Cr(VI) removal from aqueous solutions

**E705:** V., Vu, L., Pham, V., Nguyen: Encapsulation of phenolic-rich *Houttuynia cordata* extract using Lyotropic Liquid Crystals based on palm oils-based monoacylglycerols

**E706:** T. Pham, H. Nguyen, V. Vu: Study the effect of agro-waste starch on the physical properties of biodegradable composite films

**E707:** Vilmos Lehota, Koppány László Majzinger, Gábor Jónás, László Friedrich, Judit Tormási, László Abrankó: Determination of the protein nutritional value of meat products and study of the effect of protein supplementation

**E708:** Yakubu, Sheriff, , Amoanu,: Innovations in Sustainable Farming and Food Processing: Enhancing Productivity and Reducing Waste

**E710:** Zita Šereš, Jelena Šurlan, Nikola Maravić, Igor Antić, Jelena Živančev, Nataša Đurišić-Mladenović: Evaluation of nanofiltration membrane material impact on the removal of pesticides from water

**E711:** Csilla ALBERT, Csaba-Dezső András, László Gyenge, Éva Laslo, Rozália Veronika Salamon: Whey Valorization for Alcoholic Fermentation

**E712:** András Csaba Dezső, Mátyás László, Salamon Rozália Veronika, Molnos Éva, Szép Alexandru: Distillation process shortcut modeling based on vapour-liquid equilibria (VLE) fitting

**E713:** Anikó Orosz, Viktória Zsom-Muha and Tamás Zsom: Non-destructive postharvest monitoring of artificial illumination induced potato greening phenomena

**E714:** Gabriella Szurovecz, Flora Vitalis, Matyas Lukacs, Vanessa Moll, Justyna Grabska, Krzysztof Bec, Christian Huck, Zoltan Gillay, Zoltan Kovacs \*: Application of handheld near infrared spectroscopy to assess fruit extract enrichment in sour cherry juice



**E692**

## **Characterization of wastewater and sludge based on dielectric parameters and monitoring of organic matter removal**

Z. Jákói, B. Lemmer, Á. Fazekas, T. Baló, S. Beszédes

University of Szeged Faculty of Engineering

Dielectric measurements are considered as rapid and non-destructive method and do not require special sample preparation and specific reagents. If the material under test (MUT) or its components react differently to the electromagnetic field, differences in composition or certain biological, chemical or physical changes can be detected and monitored by dielectric measurements.

In our research work, the dielectric constant and loss factor of different types and origins, and from different stages of wastewater treatment processes, were investigated using an open-ended coaxial dielectric sensor (DAK 3.5, Speag) in the frequency range of 200-2400 MHz (ZVL-3 VNA, Rohde&Schwarz). Changes in conventional analytical parameters (COD, BOD, TOC/TC, TN, TP) were also determined using biological and physico-chemical wastewater and sludge treatment processes.

It was found that based on the dielectric loss factor and the dielectric constant to loss factor ratio there can be detected difference between the sewage and sludge types. Furthermore, our results are also verified that the change of organic pollutant concentrations correlated well with dielectric parameters in the 400-700 MHz frequency range.

Acknowledgement: The research was financed by National Research, Development and Innovation Office (NKFI) FK 146344 project.

**E693**

## **Non-measurement estimation of salami water activity based on water content and dry matter-to-fat ratio**

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Salami production is a typical example of preservation by complex treatment, in which the principles of the barrier theory are widely applied. The shelf life of the product is served by the appropriate water activity, the sufficiently low pH, the presence of a starter culture that displaces competing bacteria, the salt content, etc. Accordingly, the Hungarian Food Code sets strict limits for the chemical and physical characteristics of salami. In industrial practice, these parameters are measured mainly by destructive methods, and the determination of water activity is also a time-consuming activity.

An important goal for the meat industry is to determine as precisely as possible the end of the salami ripening process, i.e. the moment when the product meets the prescribed limits. During our research, the water content, fat content and water activity of the dried paprika salami were examined. The answer to the question was sought: if the water content of the tested product reaches the 34% limit, can it be assumed that its water activity also meets the 0.95 limit?

Water activity can be estimated by the chemical composition of the paste before filling and the current water content during maturation. According to our results, all the three examined regression models confirm that if the water content limit value is met, the water activity is also adequate. Therefore, monitoring the development of the water content during maturation is sufficient to determine the end of maturation.

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