



**“ANGEL KANCHEV” UNIVERSITY OF RUSE
UNION OF SCIENTISTS – RUSE**

**РУСЕНСКИ УНИВЕРСИТЕТ “АНГЕЛ КЪНЧЕВ”
СЪЮЗ НА УЧЕНИТЕ – РУСЕ**

Sessions Schedule & Abstracts

Програма & Резюмета

57th Annual Science Conference of Ruse University

**NEW INDUSTRIES, DIGITAL ECONOMY, SOCIETY -
PROJECTIONS OF THE FUTURE**

57^{ma} Годишна конференция на Русенския университет

**НОВИ ИНДУСТРИИ, ДИГИТАЛНА ИКОНОМИКА, ОБЩЕСТВО –
ПРОЕКЦИИ НА БЪДЕЩЕТО**

2018 – Ruse, Razgrad, Silistra

- SAT-LB-P-1-BFT(R)-02: Environmental Impact Assessments of Co2 Emissions of Pollutants Produced Using Different Transportation Fleets for “Green” Dairy Supply Chain Desing
Elisaveta Kirilova, Natasha Vaklieva-Bancheva, Rayka Vladova
- SAT-LB-P-1-BFT(R)-03: Determination of Rheological Properties with Farinograf and Extensigraf of Bio-Fortified Flour
Marija Menkinoska, Tatjana Blazhevska, Viktorija Stamatovska, Vinko Stanoev
- SAT-LB-P-1-BFT(R)-04: Preparation of Hydrophobins from the Fruit Body of Pleurotus Ostreatus by Extraction with Formic Acid
Nikita Khrapatov, Artyom Khludin, Boris Kolesnikov, Mark Shamtsyan
- SAT-LB-P-1-BFT(R)-05: Syntesis of Mechatronic Function Modules Drives of Flow Technological Lines in Food Production
Liudmyla Kryvoplias-Volodina, Alexander Gavva, Taras Hnativ
- SAT-LB-P-1-BFT(R)-06: Quality Characteristics of Honey: a Review
Tatjana Pavlova, Viktorija Stamatovska, Tatjana Kalevska, Ivan Dimov, Gjore Nakov
- SAT-LB-P-1-BFT(R)-07: Basic Physico-Chemical Studies of Orange-Colored Snow (Razgrad, Bulgaria)
Sevdalina Todorova, Maria Stefanova, Maya Petkova, Emel Djevdetova
- SAT-LB-P-1-BFT(R)-08: Comparison of Alexa 488, DR110 and Fitc Conjugated to Antibody for Microscopic Assays
Zlatina Becheva, Yavor Ivanov, Tzonka Godjevargova
- SAT-LB-P-1-BFT(R)-09: Use of Essential Oils in Dairy Products 4. Essential Oil of Oregano (Origanum Vulgare L.)
Iliana Kostova, Stanka Damyanova, Nastya Ivanova, Albena Stoyanova
- SAT-LB-P-1-BFT(R)-10: The Influence of Industrial and Facial Water on the Fifth Channel Situation in the City of Bitola
Tatjana Blazhevska, Marija Menkinoska, Gjore Nakov, Nastya Ivanova, Vinko Stanoev
- SAT-LB-P-1-BFT(R)-11: Painting with Yeasts on Chromogenic Differential Culture Media
Sevdalina Todorova, Neli Atanasova, Mirela Atanasova
- SAT-LB-P-1-BFT(R)-12: Determination of Fatty Acids Profile of Sunflower Oil Samples by Nmr 1h Spectroscopy
Svitlana Kovaleva, Larysa Mazur, Inna Hutsalo
- SAT-LB-P-1-BFT(R)-13: Studying the Borrowing Structure of Bakery Products
Vitalii Rachok, Ivanna Telychkun, Volodymyr Telychkun
- SAT-LB-P-1-BFT(R)-14: Influence of Electrophysical Water Treatment on the Process of Beverages Saturation
Oleksiy Nescuba, Olena Chepeliuk
- SAT-LB-P-1-BFT(R)-15: Residues of Organophosphorus Pesticides in Apples
Vezirka Jankuloska, Ilija Karov, Gorica Pavlovska, Gjore Nakov
- SAT-LB-P-1-BFT(R)-16: Investigation of the Uniformity of Distribution of Different Test Components After Following Discharge
Vitalii Rachok, Ivanna Telychkun, Yuliya Telychkun
- SAT-LB-P-1-BFT(R)-17: Justification of the Production Lines Arrangement Based on Quantitative and Graphic Methods for Assessing the Level of Equipment Excellence
Volodymyr Vasylykov, Oleksander Chepeliuk, Olena Chepeliuk

SAT-LB-P-1-BFT(R)-14

INFLUENCE OF ELECTROPHYSICAL WATER TREATMENT ON THE PROCESS OF BEVERAGES SATURATION

Oleksiy Nescuba, master's degree

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***Abstract:** The content of carbon dioxide, which is actively used by producers of carbonated beverages as a preservative, acidity regulator and antioxidant, significantly affects the quality of finished products.*

The possibility of changing the pH value, which affects the balance between carbon dioxide, bicarbonate and carbonate during saturation, by electrophysical treatment of water was considered. Industry produces various variants of electrolyzers, but they are not suitable for saturation of drinks. Therefore, the development of an appropriate design is an urgent task.

It is expedient to carry out the process of saturation simultaneously with the electrophysical treatment of pre-prepared (cooled and deaerated) water. The parameters that influence the efficiency of electrophysical treatment and the quality of finished products are the voltage, the voltage-ampere characteristic, the mutual placement of the electrodes, the duration of activation, the degree of mineralization of the solution. The influence of material of equipment, including electrodes, on the content of metals in the carbonated beverages is also taken into account. Electrodes in the process of operation should not experience electrochemical destruction. It is expedient to make an anode from a titanium, a cathode - from a corrosion resistant steel AISI 321.

***Keywords:** Saturation, Beverage, Electrophysical treatment, pH value.*

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