

THE SECOND NORTH AND EAST EUROPEAN CONGRESS ON FOOD

# NEEFood - 2013 Kyiv

May 26-29, 2013

Organized by:



National University  
of Food Technologies

and



Association  
«Higher Educational Institutions and  
Enterprises of Food Industry  
UkrUFoST»

## BOOK OF ABSTRACTS

In cooperation with:



NUFT, Kyiv, Ukraine

UDC 664

**The Second** North and East European Congress on Food (NEEFood-2013): Book of Abstracts. — 26-29 May 2013. — K.: NUFT, 2013. — 267 p.

ISBN 978-966-612-141-0

Collection of abstracts by leading scientists, specialists and young researchers in the field of food science, technology, chemistry, economics and management presented to the Congress

The congress addressed the following topics:  
Food expertise and safety

Novel Systems for Food Chain  
Natural Bioactive Compounds, Functional and Traditional Food Products  
Global challenges and competitiveness

Recommended for teaching staff, engineering and technological personnel, managers of food industry

**Published in authors' edition**

*Recommended by the Academic Council of National University of Food Technologies*

*Minutes № 9, 24.04.2013*

ISBN 978-966-612-141-0

UDK 664

© NUFT, 2013

УДК 664

**Другий** північно- та східно-європейський конгрес з харчової науки (NEEFood-2013): Збірник тез доповідей. — 26-29 травня 2013 р. — К.: НУХТ, 2013. — 267 с.

ISBN 978-966-612-141-0

Видання містить тези доповідей провідних вчених, спеціалістів та молодих науковців у галузі харчової науки, техніки, технології, хімії та економіки і управління - учасників Другого північно- та східно-європейського конгресу з харчової науки (NEEFood-2013).

Проблематика конгресу:  
Експертиза та безпека харчових продуктів і виробництв  
Новітні системи в харчовому ланцюзі  
Натуральні біоактивні сполуки, функціональні та традиційні харчові продукти  
Глобальні виклики та конкурентоспроможність

Для викладачів, наукових працівників, інженерно-технічного складу та керівників підприємств харчової промисловості

**Видано в авторській редакції**

*Рекомендовано Вченою радою Національного університету харчових технологій*

*Протокол № 9 від 24.04.2013 р.*

ISBN 978-966-612-141-0

УДК 664

© НУХТ, 2013

## POSTER PRESENTATIONS

### Section FOOD EXPERTISE AND SAFETY

<b>Levandovsky L., Oliynichuk A., Chalova T.</b> DIRECTIONS OF ECOLOGICAL SAFETY INCREASING OF ALCOHOL BIOTECHNOLOGY.....	109
<b>Bessarab A., Shutyuk V.</b> THE FORMATION OF CARCINOGENIC COMPOUNDS IN PRODUCTION OF FOODSTUFFS.....	109
<b>Nychyk O., Salavor O.</b> YELLOW SUGARS FROM BEETS AND ENVIRONMENTAL SAFETY.....	110
<b>Shylofost T., Semenova O., Bubliko N., Smirnova J.</b> BIOCHEMICAL PURIFICATION OF WASTEWATER OIL PROCESSING PRODUCTS.....	110
<b>Lupyna T., Gregirchak N.</b> MINIMAL BACTERICIDAL CONCENTRATIONS OF DISINFECTANTS BASED ON SALTS OF POLYHEXAMETHYLENEGUANIDINE.....	111
<b>Rushai O., Gregirchak N.</b> YEAST SURVIVING IN WHEAT BREAD.....	111
<b>Ischenko V., Polumbryk O., Panchuk T.</b> DEVELOPING METHODOLOGY FOR ATOMIC ABSORPTION DETERMINATION OF METALLIC ELEMENTS IN NATURAL WATER.....	112
<b>Goots V., Koval O.</b> MATHEMATICAL MODELING OF FOOD QUALITY.....	112
<b>Koval O., Goots V.</b> FOOD PRODUCTS ASSESSMENT OF QUALITY.....	113
<b>Koval O., Reznikov S.</b> DEFINING THE TERM OF LIFE OF FOOD PRODUCTS.....	113
<b>Bovkun A., Naumenko O.</b> THE INFLUENCE OF BACTERIOPHAGE CONTAMINATION ON QUALITY OF DAIRY PRODUCTS.....	114
<b>Saliuk A., Kotinskiy A., Zhadan S.</b> ACIDOGENIC TRASFORMATION OF FOOD-PROCESSING WASTES FOR BIOPLASTIC PRODUCTION.....	114
<b>Arsenieva L., Zolotoverh K., Antoniuk M.</b> SUBSTANTIATION OF THE FEASIBILITY OF USING DRY STARTER CULTURES VIVO PRODUCTION OF DAIRY PRODUCTS WITH PROBIOTIC PROPERTIES IN PUBLIC CATERING ESTABLISHMENTS.....	115
<b>Arkhipova G., Kvasha O., Keller A.</b> VALUE OF GLUTEN - FREE DIET FOR THE TREATMENT OF CELIAC DISEASE WITH CHILDREN.....	115
<b>Vorontsov O.</b> APPLICABILITY OF ANAEROBIC FERMENTATION FOR FOOD PROCESSING WASTEWATER TREATMENT IN UKRAINE.....	116
<b>Meletev A., Deriy E., Litvynchuk S., Nosenko V.</b> THE RESEARCH OF METHODS OF THE ANALYSIS OF SUGARS IN THE PRODUCTION OF BEER.....	116
<b>Litvynchuk S., Nosenko V., Meletev A., Hutsalo I.</b> A NEW METHOD OF ANALYSIS OF GRANULATED HOPS .....	117
<b>Semenova O., Bubliko N., Smirnova J., Tkachenko T.</b> INNOVATIVE WASTEWATER DAIRY.....	117
<b>Slobodyan O., Zaets V., Neshchadim L.</b> WARNING OF ORIGIN OF FIRE IS ON THE ENTERPRISES OF FOOD INDUSTRY .....	118
<b>Kovalenko S.</b> ENSURING FIRE SAFETY.....	118
<b>Sydorchenko O., Zakharchenko T.</b> THE ORGANIZATION OF MEDICAL AND PREVENTIVE NUTRITION IS ONE OF THE WAYS TO PROTECT THE LIVES AND HEALTH OF WORKERS.....	119
<b>Gavva O., Tokarchuk S.</b> DEVELOPMENT OF SMART-PACKING SYSTEM WITH ACTIVE OXYGEN UPTAKE.....	119

<b>Iakymchuk M., Bepalko A.</b> METHOD OF FORMING PACKAGING EQUIPMENT BASED ON MECHATRONIC SYSTEMS MODULES.....	171
<b>Palchik O., Levchenko O.</b> AUTOMATED CONTROL OF BOILER PLANT USING ENERGY-SAVING TECHNOLOGIES.....	171
<b>Ryabtsev V., Sidletskyi V.</b> VALIDATION OF FOOD INDUSTRY ENTERPRISES CONTROL SYSTEMS.....	172
<b>Yarova T.</b> APPLICATION THE DYNAMICAL SYSTEM THEORY (DST).....	172
<b>Myronchuk V., Pidhornyi V.</b> THE INFLUENCE OF SUCROSE CRYSTALLIZATION ON CENTRED JOINTING PROPERTIES OF SUGAR MASSECUITES.....	173
<b>Tarasenko S., Kolomiets D., Shulika V., Galushko M.</b> CURRENT ONGOING MONITORING AND PROSPECTS OF PREDICTION OF THE CONFECTIONARY PRODUCTS STATE WITH NEW CAPACITIVE TRANSDUCERS.....	173

Section <b>NATURAL BIOACTIVE COMPOUNDS, FUNCTIONAL AND TRADITIONAL FOOD PRODUCTS</b> <b>Sector A</b>
---

<b>Guimarães R., Barros L., S. Reis F., Dueñas M., Carvalho Ana M.a, Santos-Buelga C., João R.P. Queiroz M., C.F.R. Ferreira I.</b> PHENOLIC PROFILE OF WILD FRUITS OF ROSA CANINA SL. FROM NORTHEAST PORTUGAL .....	174
<b>Heleno A., Stojkovi D., Barros L., S. Reis F., Glamočlija J., Soković M., Martins A., Maria João R.P. Queiroz, C.F.R. Ferreira I.</b> A COMPARATIVE STUDY OF CHEMICAL COMPOSITION OF MORCHELLA ESCULENTA (L.) PERS. FROM PORTUGAL AND SERBIA SANDRINA .....	175
<b>Kolesnikov B., Klochkova N., Shamtsyan M.</b> OBTAINING HYDROPHOBINS FROM SUBMERGED CULTURES OF THE FUNGUS.....	175
<b>Stetsenko N., Krayevska S.</b> THE USE OF FLAX SEEDS IN HEALTHY PRODUCTS TECHNOLOGIES.....	176
<b>Zinchenko N., Simurova N.</b> BIOORGANIC COMPLEX DERIVED FROM JERUSALEM ARTICHOKE PUREE.....	176
<b>Popova I., Sliva J.</b> OBTAINING FRUCTOSE – OLIGOSACCHARIDE MIXTURES BY APPLYING ELECTRIC PULSE TECHNOLOGIES.....	177
<b>Kryzhova Yu.</b> ENRICHMENT OF MEAT PRODUCTS BY IODINE THROUGH THE USE OF SEAWEED.....	177
<b>Khariton T.</b> USE OF EXTRUDATE GRAIN CROPS TO ENRICH TRADITIONAL FOOD ENVIRONMENTS.....	178
<b>Steshenko O., Aresenieva L.</b> PERSPECTIVES OF PRODUCTS CREATION WITH ADAPTATION EFFECT FOR SPORTSMEN.....	178
<b>Drokov V., Nosenko T., Olishevskiy V., Marynin A.</b> REMOVAL OF PHOSPHOLIPIDS FROM VEGETABLE OILS USING OF ALUMINUM OXIDE NANOPARTICLES .....	179
<b>Kotinskyi A., Saliuk A.</b> THE EFFECT OF GLYCINE ON THE GROWTH OF THE MICROALGAE SPIRULINA PLATENSIS.....	179
<b>Frolova N., Chepel N., Naumenko K., Usatiuk O.</b> INVESTIGATION OF SEPARATION METHOD FOR AROMATIC SUBSTANCES OUT OF ESSENTIAL OILS .....	180
<b>Ostrovskya O., Yuryk I.</b> ON NONLINEAR MATHEMATICAL MODELS IN TECHNOLOGICAL PROCESSES.....	180
<b>Polumbryk M., Kravchenko V., Kirkova M.</b> EFFICIENCY OF FOOD FORTIFICATION PRODUCTS WITH ZINC REQUIRED TO CONTROL ZINC DEFICIENCY DISORDERS.....	181
<b>Yemelyanova N., Mukoid R.</b> IMPROVING OF OAT MALT TECHNOLOGY .....	181

<b>Poster Presentations</b>
-----------------------------

Section <b>NATURAL BIOACTIVE COMPOUNDS, FUNCTIONAL AND TRADITIONAL FOOD PRODUCTS</b>	<b>Sector A</b>
--	-----------------

<b>PHENOLIC PROFILE OF WILD FRUITS OF <i>ROSA CANINA</i> SL. FROM NORTHEAST PORTUGAL</b>
--

Rafaela Guimarães <sup>1,2</sup> , Lillian Barros <sup>1,3</sup> , Filipa S. Reis <sup>1</sup> , Montserrat Duecas <sup>3</sup> , Ana Maria Carvalho <sup>1</sup> , Celestino Santos-Buelga <sup>3</sup> , Maria Joro R.P. Queiroz <sup>2</sup> , Isabel C.F.R. Ferreira <sup>1</sup>
--

<sup>1</sup>*Centro de Investigação de Montanha, Escola Superior Agrária, Campus de Santa Apolónia, apartado 1172, 5301-854 Bragança, Portugal*

<sup>2</sup>*Centro de Química, Universidade do Minho, Campus de Gualtar 4710-057 Braga, Portugal*

<sup>3</sup>*GIP-USAL, Facultad de Farmacia, Universidad de Salamanca, Campus Miguel de Unamuno, 37007 Salamanca, Spain, iferreira@ipb.pt*

Plant polyphenols are a wide group of secondary metabolites and are a common component of our diet. Flavonoids represent the most common and widely distributed group of plant phenolics, and can be further broken into classes including flavones, flavonols, flavanones, flavanols, anthocyanins and isoflavonoids. Different classes of bioactive constituents are present in *Rosa canina*, including phenolic compounds. *Rosa canina* fruits can be eaten raw as snacks and possess prophylactic and therapeutic activities against a wide range of ailments, including the inflammatory disorders arthritis, rheumatism, gout, colds and gastrointestinal disorders, which might be related with their phenolic composition. This study aimed to characterize the phenolic compounds present in the above mentioned wild fruits. The analysis of phenolic compounds was carried out by reversed-phase HPLC-DAD and the major phenolic compounds were identified by ESI-MS, in order to establish the specific phenolic profile. *Rosa canina* presented different classes of flavonoids. Flavones, flavonols and dihydroflavonols represented 5.50 mg/100 g dry weight, among which taxifolin, a dihydroflavonol, was prominent (1.18 mg/100 g). Flavan-3-ols (i.e., catechins and proanthocyanidins) were other relevant flavonoids found. (+)-Catechin was the most abundant flavan-3-ol found in the fruits (3.59 mg/100 g), whereas cyanidin 3-O-glucoside was the only anthocyanin detected (0.68 µg/100 g). The studied fruits may have great potential for food industries as a source of colors and flavors, as well as bioactive molecules such as phenolic compounds for dietary supplements or functional foods.

Acknowledgements: FCT (Portugal) and FEDER-COMPETE/QREN/EU (strategic projects PEst-OE/AGR/UI0690/2011 and PEst-C/QUI/UI0686/2011 to CIMO and CQ-UM research centres, respectively). Consolider-Ingenio 2010 Programme (FUN-C-FOOD, CSD2007-00063) to GIP-USAL. R. Guimarães and L. Barros (grants SFRH/BD/78307/2011 and SFRH/BPD/4609/2008, respectively) also thank FCT, POPH-QREN and FSE. M. Dueñas thanks the Spanish «Ramón y Cajal» Programme for a contract.

**KEY WORDS:** *Rosa canina*, Flavonols; Flavan-3-ols; Anthocyanins; HPLC-DAD-ESI/MS