International Scientifical Symposium
"Young researchers and scientifical research in life sciences" *for bachelor, master and Ph.D. students*
28nd of November 2019

romania2019.eu

Section: "Young researchers in food engineering"

28-29 November 2019

ORGANIZING COMMITTEE

Prof. Dr. Ing. Teodor Ioan Traşcă
Prof. Dr. Ing. Adrian Riviş
Prof. Dr. Ing. Nicoleta G. Hădărugă
Prof. Dr. Ing. Ing. Călin Jianu
Conf..Dr. Ariana Velciov
Conf. Dr.Ing. Gabriel Hegheduş - Mîndru

ORGANIZING COMMITTEE SECRETARIAT

Conf. Dr. Ing. Ramona Cristina Hegheduş - Mîndru
Conf. Dr. Ing. Gabriel Hegheduş - Mîndru
Conf. Dr. Ing. Corina Megyesi
Conf. .Dr. Ing. Diana Dogaru
Conf. .Dr. Mărioara Drugă
Conf. Dr. Ing. Camelia Cioban
Conf..Dr. Ing. Despina Bordean
S.l..Dr. Ing. Ileana Cocan
S.l..Dr. Ing. Delia Dumbravă
Ş.L.Dr. Ing. Alexandru Rinovetz
Ş.L.Dr. Ing. Bogdan Petru Rădoi
Ş.L.Dr. Ing. Gabriel Bujancă
Ş.L.Dr. Ing. Mihaela Cazacu
Ş.L.Dr. Antoanela Cozma; Ş.L.Dr. Dacian Lalescu
S.l. Dr. Ing. Camelia Moldovan
S.l. Dr. Ing. Diana Moigradean
Sl. Dr. Ing. Liana Alda; Sl. Dr. Ing. Mirela Popa
Sl. Dr. Ing. Sofia Popescu; As. Dr. Ing. Negrea Monica
As. Dr. Ing. Laura Rădulescu

SCIENTIFIC COMMITTEE

Prof. Dr. Ing. Ionel Jianu
Prof. Dr. Ing. Teodor Traşcă
Prof. Dr. Ing. Adrian Riviş
Prof. Dr. Ing. Nicoleta G. Hădărugă
Prof. Dr. Ing. Ersilia Alexa
Prof. Dr. Ing. Mariana Poiană
Prof. Dr. Ing. Ducu Ştef
Prof. Dr. Ing. Călin Jianu
Conf. Dr. Ing. Daniela Stoin
Conf..Dr. Corina Mişcă
Conf..Dr. Ing. Ioan David
Conf..Dr. Ariana Velciov
Conf. Dr. Ing. Florina Radu

General Programme

Thursday, November 28, 2019

$09^{30} – 10^{00}$ **Registration at the Aula "Iulian Drăcea"**

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

$10^{00} – 10^{15}$ Opening of the Symposium

$10^{15} – 10^{30}$ Plenary Lecture PL_1

$10^{30} – 10^{45}$ Plenary Lecture PL_2

$10^{45} – 11^{00}$ Plenary Lecture PL_3

$11^{00} – 12^{00}$ European Rural Parliament

Aula "Iulian Drăcea"

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

$12^{00} – 14^{00}$ **Lunch**

RESTAURANT

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

$14^{00} – 14^{30}$ **Registration at the Hall of Faculty of Food Engineering**

$14^{30} – 14^{45}$ **Opening of the Symposium section**

$14^{45} – 15^{00}$ Oral Communication OC_1

$15^{00} – 15^{15}$ Oral Communication OC_2

$15^{15} – 15^{45}$ **Coffee break**

$15^{45} – 16^{00}$ Oral Communication OC_3

$16^{00} – 16^{15}$ Oral Communication OC_4

$16^{15} – 16^{30}$ Oral Communication OC_5

$16^{30} – 17^{00}$ Oral Communication OC_6

$17^{00} – 17^{30}$ Coffee break and posters

„Seminar Class S1"- Faculty of Food Engineering

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

$17^{30} – 18^{00}$ ***Research Papers Award – 2019***

$18^{00} – 20^{00}$ Dinner

Hall of Faculty of Food Engineering

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Friday, November 29, 2019

„Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

$10^{00} – 11^{00}$ **Short Presentation:** Labor market analysis in the Western Development Region of Romania

$11^{00} – 12^{00}$ **WORKSHOP**: *Reducing food waste throughout the supply chain through social innovation* (**Acknowledgement:** Active measures to increase the participation in the tertiary entrepreneurial education of students from disadvantaged regions Antre_S", Contract code: POCU/379/6/21/124388 (SA.2.6. - Developing an action for social innovation through attractive training / development courses in digital skills in order to increase entrepreneurship and employability)

$12^{00} – 13^{00}$ **Visit:** Interdisciplinary Research Platform *"Organic, Sustainable Agriculture and Food Safety*" and „*Research Center - Food Science*"

$13^{00} – 14^{00}$ Lunch

RESTAURANT

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Programme

09^{30} – 10^{00} Registration at the Aula "*Iulian Drăcea*"

10^{00} – 10^{15} Opening of the Symposium

Prof. dr. Cosmin Alin Popescu

Rector of the Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Prof. dr. Isidora Radulov

Vicerector of the Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Plenary Lecture

10^{15} – 10^{30} PL1: Olive and potato fertilization in Kalomata Region, Greece

Kottaridis Panagiotis, Isidora Radulov

Faculty of Agriculture, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

10^{30} – 10^{45} PL_2: Touristic places in Turkey

Enes Çevik, Andrea Feher

Faculty of Management and Rural Tourism, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

10^{45} – 11^{00} PL3: Pasta - between tradition and innovation

Simelda E. Zippenfening, Jelena Milutinovic, Marius D. Simandi, Florinela Beucă, Andreea Mureşan, Rodica Dumitrelea, Georgiana Nistor, Nicoleta G. Hădărugă

Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

11^{00} – 12^{00} European Rural Parliament

Iuxel Vijiac

Project Management Unit, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

12^{00} – 14^{00} **Lunch**

RESTAURANT

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Section: "Young researchers in food engineering"

„Seminar Class S1" - Faculty of Food Engineering

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Chaired by: As. Dr. Laura Rădulescu

14^{00}–14^{30} Registration at the Faculty of Food Engineering
Hall of Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

14^{30}–14^{45} Opening of the *Symposium* section
Adrian Riviş
Dean of the Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

14^{45}–15^{00} **OC1:** Valorisation of oils from some invasive fish species from Danube River by cyclodextrin nanoencapsulation
Cristina Mitroi (Birău), Anamaria Guran, Lucian Radu, Iulia Gălan, Gabriel Bujancă, Nicoleta G. Hădărugă, *Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara, 300645-Timişoara, Calea Aradului 119, Romania*

15^{00}–15^{15} **OC2:** Antioxidant activity of some extracts from *Rumex* species
Marius I. Cugerean, Claudia I. Oprinescu, Anamaria Guran, Lucian Radu, Cristina Mitroi (Birău), Delia G. Dumbravă, Camelia Moldovan, Nicoleta G. Hădărugă, Adrian Riviş, *Faculty of Food Processing Technology, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

15^{15}–15^{45} **Coffee break**

15^{45}–16^{00} **OC3:** Obtaining and Characterization of Mascarpone Mousse from Goat Milk
Ţelita Szilagyi, Florina Radu, Diana Dogaru - *Faculty of Food Processing Technology, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

16^{00}–16^{15} **OC4:** Antioxidant activity of extracts from various honey samples
Anamaria Guran, Lucian Radu, Iulia Gălan, Simelda Zippenfening, Marius Simandi, Gabriel Bujanca, Tamara D. Vlăduţescu, Nicoleta Hadaruga, Adrian Riviş- *Faculty of Food Processing Technology, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

16^{15}–16^{30} **OC5:** Determination of water content and drying kinetics in leaf cake samples by halogen drying technique
Giulia Mădălina Golea, Ciprian Mocan, Ionela Diana Puiu, Mădălina – Ioana Stîngă, Mădălina Roşu, Alexandru Nicolae, Nicoleta G. Hădărugă - *Faculty of Food Processing Technology, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

16^{30}–17^{00} **OC6:** Analysis of the existing university education offers at the Banat's University of Agricultural Sciences and Veterinary Medicine „*King Michael I of Romania*" from Timişoara, Romania
Nicoleta Gabriela Hădărugă, Ciprian Rujescu, Simona Cristina Constantinescu, Iuxel Vijiac, Dora Manuela Orboi - *Faculty of Food Processing Technology, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

$17^{30} – 18^{00}$ ***Research Papers Award – 2019***

$18^{00} – 19^{00}$ **Dinner**

Hall of Faculty of Food Engineering

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Friday, November 29, 2019

„Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

$10^{00} – 11^{00}$ **Short Presentation:** Labor market analysis in the Western Development Region of Romania
Ciprian Ioan Rujescu, Dora Manuela Orboi, Iuxel Vijiac, Simona Cristina Constantinescu, **Nicoleta Gabriela Hădărugă**
Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

$11^{00} – 12^{00}$ **WORKSHOP**: *Reducing food waste throughout the supply chain through social innovation* (**Acknowledgement:** Active measures to increase the participation in the tertiary entrepreneurial education of students from disadvantaged regions Antre_S", Contract code: POCU/379/6/21/124388 (SA.2.6. - Developing an action for social innovation through attractive training / development courses in digital skills in order to increase entrepreneurship and employability)

$12^{00} – 13^{00}$ **Visit:** Interdisciplinary Research Platform *"Organic, Sustainable Agriculture and Food Safety*" and „*Research Center - Food Science*"

$13^{00} – 14^{00}$ **Lunch**

RESTAURANT

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Posters

P1 Assessment of the chlorophylls, carotene and xanthophylls content from two innovative assortments of vegan creams

A.O. Coacă, I.D. Vasiliu, A.G. Parnea, R. Tulpan, C. Moldovan, D.G. Dumbravă

Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania

P2 Study opportunities on using the natural lipid substitutes resulted by dry fractionation in obtaining bakery products (bread)

Georgiana Felicia Bustan, Oana Maria Costar, Adela Nistorescu-Mihalca, C.G. Fora, A. Riviș, P. B. Rădoi, A. Rinovetz

Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania

P3 Integration of a vegetable protein by-product in the bakery-pastry technology

Anca Morega, Mădălina Rămnanțu, Ileana Cocan, Monica Ruxanda, Cerasela Petolescu, A.E. Rinovetz, A. Riviș

Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania

P4 Fractionation in natural oil production tehnology. Characterization and recommendations

Ramona Bănescu, Andreea Ispas, I. Ștefan, Lelia Angi Serpe, C.G. Fora, A. Riviș, A. Rinovetz

Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania

P5 Blueberries - Pleading for health

Patricia Cristina Tarkanyi, Despina Maria Bordean, Andrei Catargiu, Poiana Mariana Atena

Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania

P6 Biophysical and nutritional characterization of some natural fruit and vegetable juices

Paula - Roxana Moț, Dorothea Gurbină, Daniela Stoin, Antoanela Cozma

Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania

P7 Nutritional and sensory quality evaluation of gluten free cake with pecan nuts

Dorothea Gurbina, Nicoleta Fruja, Paula-Roxana Mot, Antoanela Cozma, Daniela Stoin

Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania

P8 Study on the use of horseradish as a natural source of antioxidants in the technology of obtaining liver sausage.

A.C. Drăguți, M.V. Negrea, I. Cocan

Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania

P9 Sensory and chemical characterization of some types of pork sausage
G.I.R. Ciortan, G.S. Pintilie, A.B Velciov
Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania

P10 Determination of the physical-chemical characteristics of certain assortments of bread with seed mixture
Laura Rădulescu, Corina Iuliana Megyesi, Bianca Daniela Naherneac, *Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

P11 Determination of the physical-chemical characteristics of a home smoked sausage with the addition of red wine
Laura Rădulescu, Corina Iuliana Megyesi, Oana Elena Moldovan, Ștefan Constantin Sitariu, *Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

P12 Preliminary research on the proximate composition of blackberry fruits (*Rubus fructicosus*)
A-I. Birtea, A-B. Velciov, G-S Popescu, *Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

P13 Cake pops with spirulina – physico-chemical aspects
G-F. Bustan, V. Murgoi, A-B Velciov, G-S Popescu, *Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

P14 Evolution of the dairy market in Romania
Isabela Firuț, Viorica – Mirela Popa, Corina Mișcă, *Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

P15 Marketing research on the consumption and production of meat products
Isabela Firuț, Viorica – Mirela Popa, Corina Mișcă, *Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

P16 Analysys of bakery products improved with malted barley flour
Maria-Gianina Ocneanu, Corina Mișcă, *Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

P17 The influence of fungus load concerning the quality of bakery and pastry products
Ciprian Mocanu, Corina Dana Misca, *Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

SH Labor market analysis in the Western Development Region of Romania
Ciprian Ioan Rujescu, Dora Manuela Orboi, Iuxel Vijiac,Simona Cristina Constantinescu, **Nicoleta Gabriela Hădărugă**, *Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania*

PL1

Pasta - between tradition and innovation

Simelda E. Zippenfening[1], Jelena Milutinovic[1], Marius D. Simandi[1], Florinela Beucă[1], Andreea Mureşan[1], Rodica Dumitrelea[1], Georgiana Nistor[1], Ariana Bianca Velciov[1*], Nicoleta G. Hadaruga[1]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: ariana.velciov@yahoo.com

Pasta is one of the most consumed food product, having many ways of preparation and serving. The goal of the study is related to the connection between the tradition of preparing pasta, especially in Europe, and the modern aspects of innovative food products based on pasta. Discussion on the technological transfer, market integration, nutritional balance and SWOT analysis on various pasta products were emphasized in this study.

Acknowledgments: The present paper was funded by the Research Project "Research on the use of biologically active substances in order to obtain high-nutrition foods", No 1545/28.02.2019.

Keywords: Pasta, tradition, innovation

OC1

Valorisation of oils from some invasive fish species from Danube River by cyclodextrin nanoencapsulation

Cristina Mitroi (Birău)[1], Anamaria Guran[1], Lucian Radu[1], Iulia Gălan[1], Gabriel Bujancă[1*], Nicoleta G. Hadaruga[1*]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: gabrielbujanca@yahoo.com

Invasive species from Danube River such as *Carassius gibelio* Bloch (Prussian carp) have been investigated for the possibility to valorise the fish oil by nanoencapsulation in cyclodextrins. The fatty acid profile of the Prussian carp oil was determined by gas chromatography-mass spectrometry analysis of the derivatized oil to the fatty acid methyl esters. Oleic and palmitoleic acids were the most concentrated FAs (as glycerides), but EPA and DHA omega-3 fatty acids were also identified. Crude fish oil was nanoencapsulated with β-cyclodextrin at 1:1 and 1:3 by kneading technique. The efficiency of nanoencapsulation was evaluated by thermogravimetry and differential scanning calorimetry, proving the partial replacing of hydration water from cyclodextrin hydrate by fatty acid triglycerides from the Prussian carp oil.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Keywords: Valorisation, oils, invasive fish, Danube River

OC2

Antioxidant activity of some extracts from *Rumex* species

Marius I. Cugerean[1], Claudia I. Oprinescu[1], Anamaria Guran,[1] Lucian Radu[1], Cristina Mitroi (Birău)[1], Delia G. Dumbravă[1], Camelia Moldovan[1], Nicoleta G. Hădărugă[1*], Adrian Riviş[1]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: delia_dumbrava@yahoo.com

Rumex species such as garden patience or monk's rhubarb have been investigated for their antioxidant capacity using the DPPH· method (2,2-diphenyl-1-pycryl-hydrazyl). They contain compounds from anthraquinone class (rein and derivatives) having radical scavenging capacities. Extracts of various *Rumex* parts in hydrophilic solvents (ethanol, water) have been spectrophotometrically evaluated for their antioxidant activity (for 300 s at 517 nm). The best results were obtained for ethanolic extracts from *Rumex* leaves, the relative antioxidant activity being 85.2% at the end of monitoring. The maximum effect was observed in the first 40 s time interval, according to the DPPH· reaction kinetics.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Keywords: Pasta, tradition, innovation

OC3

Obtaining and Characterization of Mascarpone Mousse from Goat Milk

Ţelita Szilagyi[1], Florina Radu[1*], Diana Dogaru[1*]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: florinaradu2001@yahoo.com, diana25_dv@yahoo.com

The studies that are the subject of this paper work focused on the development of a product with a foamy texture called"mousse" based on raw materials from the dairy foods (mascarpone cheese, whipped cream, etc.). The manufacture of a goat mascarpone mousse is advantageous for the food producers belongs to the dessert category because it can be an alternative to ice cream. or various cakes, due to the high content of volatile fatty acids with antioxidant character, nutritional quality and special sensory properties. Our secondary research objective was to obtain the goat's milk mascarpone cheese and use it as a basis for the manufacture of a dessert with an energy value lower than those currently available on the market. The raw material for obtaining Mascarpone cheese was the goat's milk purchased from the local market. The milking of goat milk was carried out at temperatures of 55-65ºC, speed of 6500 rpm. The fat content of the sweet cream obtained after the operation was 35%, the titrable acidity was 21 [ºT]. At the same time, the influence of different organic acids (lactic acid, acetic acid, citric acid and natural lemon juice) on the quality of the mascarpone cheese obtained from goat's milk was studied. For this purpose, the main indicators characterizing the physical, chemical and microbiological properties of the assortment of cheese obtained in the laboratory were determined. Based on the analysis of these experimental results, it was concluded that lemon juice and citric acid performed their best role as coagulants in the process of forming a homogeneous, fine, unctuous taste and characteristic odor that can be used further. as a basic raw material for the manufacture of mousse.

Keywords: mascarpone, mousse, milk

OC4

Antioxidant activity of extracts from various honey samples

Anamaria Guran[1], Lucian Radu[1], Simelda Zippenfening[1], Marius Simandi[1], Tamara D. Vlăduţescu[1], Gabriel Bujanca[1], Nicoleta G..Hadaruga[1*], Adrian Riviş[1]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: nico_hadaruga@yahoo.com

The aim of the study was to evaluate the antioxidant activity of various honey samples using the 2,2-diphenyl-1-pycryl-hydrazil (DPPH·) technique. Ethanolic extracts have been obtained using different extraction parameters for an optimum separation of antioxidant compounds such as flavonoids. The DPPH· reaction in the presence of honey extracts at various dilutions was monitored for 5 minutes at 517 nm. The reaction kinetics was used for evaluation of the similarities/dissimilarities between samples, the best results being obtained for tilia honey.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Keywords: Antioxidant activity, extracts, honey samples

OC5

Determination of water content and drying kinetics in leaf cake samples by halogen drying technique

Giulia Mădălina Golea[1], Ciprian Mocan[1], Ionela Diana Puiu[1], Mădălina – Ioana Stîngă[1], Mădălina Roşu[1], Alexandru Nicolae[1], Nicoleta G. Hădărugă[1*]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: nico_hadaruga@yahoo.com

Leaf cakes are very important for the quality, stability and consumer acceptability of these food products. Water content and the strength of water molecules inside the food matrices (mainly containing starch, sugars, proteins and fats) are some of the parameters that significantly influence these properties. Various leaf cake samples were purchased from the Romanian market and evaluated for their water content and water molecules behaviour during heating. The halogen drying technique working at 120 °C, with a "StrobeE" time of 20 s and drying time range of 8-23 min have been used. The drying kinetics by means of drying rates (*v*, %/s) on pseudo linear time ranges have been used for discriminating between samples. The water content (moisture) was in the range of 14.4-17.7 %, the lower values being obtained for classical and vanilla based products (14.3-14.4 %) and the highest for cocoa based leaf cakes (17.7 %). On the other hand, the drying rates were in almost the same for the first time range (0.07-0.09 %/s up to 120 s), while the drying rate for the range corresponding to the release of "strongly retained" water molecules was significantly lower (0.019-0.024 %/s). The differences between both water content and drying kinetics have been discussed in this study.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Keywords: water content, leaf cake, halogen drying technique

OC6

Analysis of the existing university education offers at the Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timişoara, Romania

Nicoleta Gabriela Hădărugă[1], Ciprian Rujescu[2], Simona Cristina Constantinescu[2], Iuxel Vijiac[3], Dora Manuela Orboi[2*]

[1]Faculty of Food Processing Technology, Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timisoara, Romania
[2]Faculty of Management and Rural Tourism, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara
[3]Project Management Unit, Banat's University of Agricultural Sciences and Veterinary Medicin "King Michael I of Romania" from Timişoara
Corresponding author: *e-mail*: manuela_dora@yahoo.com

In the Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara, students are enrolled in two domains of study, namely:
- Engineering Sciences
- Biological and Biomedical Sciences

Out of the total students from the two domains of education, 78% are in the bachelor's degree and 22% in the master's cycle.

The distribution of students from both cycles of education in the two directions considered - "Engineering Sciences" (L & M-Eng) and "Biological and Biomedical Sciences" (L & M-Bio) is over three quarters for the first cycle (79% for the field of "Engineering Sciences" and 21% for the second field, respectively).

Depending on the bachelor's and master's degrees, 75% of the students in the bachelor's degree are enrolled in the direction of "Engineering Sciences" and 25% on that of "Biological and Biomedical Sciences".

In the case of students from the master's cycle, this distribution is significantly modified, with a percent of 96% for “Engineering Sciences”. This is because the direction of "Veterinary Medicine" does not enroll in the master's cycle.

Acknowledgement: „Active measures to increase the participation in the tertiary entrepreneurial education of students from disadvantaged regions Antre_S”, Contract code: POCU/379/6/21/124388 (SA.2.2 Analysis of the offers of university education existing at universities from 3 university centers and the relevance of the competences of the graduates / beneficiaries for the labor market and the entrepreneurial spirit)

Keywords: education offers, Engineering Sciences

P1

Assessment of the chlorophylls, carotene and xanthophylls content from two innovative assortments of vegan creams

A.O. Coacă[1], I.D. Vasiliu[1], A.G. Parnea1, R. Tulpan[1], C. Moldovan[1], D.G. Dumbravă[1*]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: delia_dumbrava@yahoo.com

The purpose of this paper was to obtain two innovative assortments of vegan creams (one with green lentils, spinach, broccoli, basil - VC1- and the second, with green lentils, avocado, basil – VC2) and to determine the content of chlorophylls, carotene and xanthophylls from the finished products obtained as well as from the raw materials used. After the spectrophotometric analysis it was found that between the two assortments of vegan creams obtained, the VC1 variant had a much higher chlorophyll (chlorophyll a: 282.48±1.36 µg/g, chlorophyll b: 20.34±0.07 µg/g) and carotenoids (55.46±0.42 µg/g) content than the VC2 variant. (chlorophyll a: 51.22±0.29 µg/g, chlorophyll b: 17.11±0.06 µg/g, carotenoids: 21.72±0.20 µg/g). This is because VC1 contains, besides the green lentil, spinach and broccoli, vegetables with a much higher content of chlorophylls and carotenoids than avocado. For green lentils, spinach and broccoli, after boiling 8-10 minutes for use in recipes, there was a decrease in both the concentration of chlorophylls and carotenoids compared to the raw products.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Keywords: green lentils, vegetables, chlorophyll, carotene, xanthophylls.

P2

Study opportunities on using the natural lipid substitutes resulted by dry fractionation in obtaining bakery products (bread)

Georgiana Felicia Bustan[1], Oana Maria Costar[1], Adela Nistorescu-Mihalca[2], C.G. Fora[1], A. Riviș[1], P. B. Rădoi[1], A. Rinovetz[1*]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

[2]SC Prospero SRL, Str. Luncani 24, Timisoara, Romania, Phone: +40 256 219 644

Corresponding author: *e-mail*: alexandrurino@yahoo.com

The elaboration of lipid products with colloidal properties, ***structurally and functionally*** modified, other than the starting base, with structural role in the integrated product and by micellar carriers in ensuring the health status, is relatively recent, being the result of accepting the idea that: the food has determinant role in the prophylaxis and therapy of certain conditions. The paper addresses two aspects: 1- ***methods of lipid modification*** (simple mixing, hydrogenation, inter-esterification, ***fractionation***), continuously optimized, by scientific understanding of the physico-chemical-colloidal processes. In general terms "***fractionation***" describes the processes of ***fractional crystallization of triglycerides*** (with the major influence parameters represented by duration and temperature), from a lipid mixture, in order to eliminate structures with high melting range and their ***mechanical separation***; 2- ***integration of some lipid fractions (oleins)*** in the manufacturing process of bakery products (bread) on a classical technology. In a narrow sense, ***dry fractionation*** is the process by which natural or already modified oils and fats are separated into ***solid/liquid*** (stearine/olein) fractions. The main qualitative-sensorial and physico-chemical aspects of the oils were evaluated as integrated axillary material, with collidal properties and the finished product (bread), which allows the final conclusions to be drawn favorable or not, to the variants of the analyzed samples, based on a selective specialized study, and finally proposed technological flow.

The bibliographic study allowed the synthesis of new conclusions and the elaboration of new ideas that fit in the area of food engineering concerns.

Acknowledgement: This work was supported by Project co-financed from the European Social Fund through the Human Operational Capital Program 2014-2019, Priority axis 6/ Education and skills, Specific objective 6.13, with title: „STAGIAR - Internships in the area of Agriculture", project number POCU/90/6/19/109170 (Cod MySMIS: 109170), beneficiary *Banat's University of Agricultural Sciences and Veterinary Medicine* "King Michael I of Romania" from *Timișoara and associate member SC Prospero SRL* from *Timișoara.*

Keywords: natural lipid, unit operation, lipid modification, fractional crystallization, dry fractionation, bakery products.

P3

Integration of a vegetable protein by-product in the bakery-pastry technology

Anca Morega[1], Mădălina Rămnanțu[1], Ileana Cocan[1], Monica Ruxanda[2], Cerasela Petolescu[1], A.E. Rinovetz[1*], A. Riviș[1]

[1]*Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara*

[2]*SC Prospero SRL, Str. Luncani 24, Timisoara, Romania, Phone: +40 256 219 644*

Corresponding author: *e-mail*: alexandrurino@yahoo.com

The qualitative and quantitative demand for food implies either increasing the bioavailability of the protein or improving its functional properties. Accessing the ***operations of physical separation*** of the natural vegetable oils industry, makes it possible to obtain "unconventional protein wastes" with food-nutritional potential through the functional properties specific to the proteins, but also of their interactions with the other components. Starting from the study of technology of obtaining the oils by ***physical fractionation (cold pressing)***, the opportunity to reintegrate the tarts resulting from pumpkin seeds, into the flour obtaining circuit, and subsequently characterized physico-chemically (***proteins, 52.06 g /100g product; minerals, 8.74 g / 100g product, lipids, 19.41 g / 100g product, total carbohydrates 17.99 g / 100g product, nutritional value, 454.89 kcal / 100g product***) and the possibility of their use in the bakery technology. Two directions were accessed: ***1. bread: protein, 17.66 g / 100g product; minerals, 3.56 g / 100g product, lipids, 2.94 g / 100g product, total carbohydrates 35.87 g / 100g product, nutritional value, 240.58 kcal / 100g product; 2. yeast: protein, 8.57 g / 100g product; minerals, 1.81 g / 100g product, lipids, 33.86 g / 100g product, total carbohydrates 46.58 g / 100g product, nutritional value, 525.34 kcal / 100g product***. If for the protein derivative the energy supply is conditioned by the mass of protein (***52.06 g / 100g product***), for the resulting products, it is determined by the working formula accessed.

The paper also brings to mind an economic aspect of sustainable development, of ***small family businesses***, ***subsistence***, by forming associates between processors of oil-based raw materials on ***physical principles*** (***pressing, dry fractionation***) and artisan and / or professional processors in the field of food industry.

Acknowledgement: This work was supported by Project co-financed from the European Social Fund through the Human Operational Capital Program 2014-2019, Priority axis 6/ Education and skills, Specific objective 6.13, with title: „STAGIAR - Internships in the area of Agriculture", project number POCU/90/6/19/109170 (Cod MySMIS: 109170), beneficiary *Banat's University of Agricultural Sciences and Veterinary Medicine* "King Michael I of Romania" from *Timișoara and associate member SC Prospero SRL* from *Timișoara.*

Keywords: unit operation, physical fractionation, vegetable proteins by-product, functional properties, bakery-pastry technology.

P4

Fractionation in natural oil production tehnology. Characterization and recommendations

Ramona Bănescu[1], Andreea Ispas[1], I. Ștefan[1], Lelia Angi Serpe[2], C.G. Fora[1], A. Riviș[1], A. Rinovetz[1]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

[2]SC Prospero SRL, Str. Luncani 24, Timisoara, Romania, Phone: +40 256 219 644

Corresponding author: *e-mail*: alexandrurino@yahoo.com

The approach from *"the natural"* perspective of food contributes to providing qualitative food products which satisfy the requests of the living cell homeostasis. In this area the *vegetable oils* are considered responsable, and that they can be, at a certain point of their existence, raw material, as well as finite product; important sources of *essential fatty acids*, that through various ways of separation which form the *"skeleton"* of the technologies of oil industry *(cold pressing, extracting)* are brought to an easily assimilated form by the human body. In the last years, the vegetable oils industry became highly attractive through the development of the newest technologies and/or through the rediscovery of the minimum processing technologies (environmently friendly, *green* technologies) through which some more "*humane*" products are obtained, easily assimilated by the human body and with increased biological activity potential. The consumer, through these information, is heading towards the consumption of vegetable oils resulted from cold pressing, persuaded by the beneficial aspects generated by the unsaturated compounds and especially of those polyunsaturated, resulted without the intervention of the chemical compounds. This constitutes an important element that characterises nutritional, structural, sensorial and functional performances of a food.

The access of these "*green*" technologies (*cold pressing*) even if the extraction efficiency are poorer (absent from the technological flux of implication of exhaustive chemical reactions, that have high energy consumption and that emit effluents into the environment), but through the beneficial nature of the obtained products, contributes to a higher consumption. Also the resulted material has applications and diverse uses (pharmacy, cosmetics, medicine, food supplements etc.).

Acknowledgement: This work was supported by Project co-financed from the European Social Fund through the Human Operational Capital Program 2014-2019, Priority axis 6/ Education and skills, Specific objective 6.13, with title: „STAGIAR - Internships in the area of Agriculture", project number POCU/90/6/19/109170 (Cod MySMIS: 109170), beneficiary *Banat's University of Agricultural Sciences and Veterinary Medicine* "King Michael I of Romania" from *Timişoara and associate member SC Prospero SRL* from *Timişoara.*

Keywords: vegetable oils, essential fatty acids, "*green*" technologies, unit operation, cold pressing.

P5

Blueberries - Pleading for health

Patricia Cristina Tarkanyi[1], Despina Maria Bordean[1*], Andrei Catargiu[1], Poiana Mariana Atena[1]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: despina.bordean@gmail.com

Blueberries are regarded as "superfruits", which are thought to provide many health benefits beyond nutrition. Polyphenolic compounds are thought to be the major health-promoting compounds in plant foods, because they are potent in vitro antioxidants and more recently, many other potential health benefits have been found that are unrelated to antioxidant capacity. These benefits include reduced incidence of the major modern diseases cardiovascular disease, diabetes and cancer, as well as mechanistic properties that contribute to the epidemiological benefits, such as management of inflammation, stimulation of antioxidant and xenobiotic metabolizing enzyme and augmentation of the effects of exercise. Anthocyanins are the major polyphenols in blueberries and this group of phytochemicals is thought to be responsible for many of the health benefits of berry consumption.

The aim of the scientific paper is to answer to the following questions: are *blueberries* really *"superfood". Might the consumption of berries* be *associated with an increased risk of contamination?* In addition, which is *the best form of consuming blueberries fresh or dry?*

As today's health-conscious society is focusing on the nutritional quality of foods and wants good-quality processed foods with all the required elemental factors of satisfaction, blueberry can play an important role. It is deep-rooted in terms of traditional use and folk knowledge about beneficial effects, which invites further research in this field while it will remain a popular consumer product in its fresh form.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Keywords: bioactive components, anthocyan, polyphenols, antioxidants, pesticides

P6

Biophysical and nutritional characterization of some natural fruit and vegetable juices

Paula - Roxana Moț[1], Dorothea Gurbină[1], Daniela Stoin[1], Antoanela Cozma[1*]

[1]*Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara*

Corresponding author: *e-mail*: antoanelacozma@yahoo.com

Due to its nutritional and therapeutic qualities, natural juices of fruits and vegetables have attained an important place in the daily diet of people of different ages. Being appreciable sources of vitamins, minerals and fiber, natural juices from fruits and vegetables are increasingly appreciated and recommended being considered as functional foods. Fresh juices mixture made from celery (*Apium graveolens*), carrot (*Daccus carota*), red beet (*Beta vulgaris*), apple (*Malus domestica*) and oranges (*Citrus sinensis*) is considered nutritional juice on a commercial scale, being able be used both, as a source of antioxidants and as functional drinks. In the experimental part, six types of natural juices made by fresh fruits and vegetables were analyzed in terms of physicochemical and nutritional characteristics. The aim of this paper was to analyze and compare some biophysical characteristics from fresh and clearly juice prepared using a press robot: pH, electrical conductivity, dynamic viscosity, refractive index, surface tension and density, in case of natural juice samples obtained from celery, carrot, red beet, apples, and oranges each taken separately and in the mixture. From their analysis, for the natural juices considered (celery, carrot, red beet, apples, oranges and mixed one) it can be noticed that their values differ from one category to another, but results are comparable to the data from the literature.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Key words: fresh juices of fruits and vegetables, biophysical characteristics

P7

Nutritional and sensory quality evaluation of gluten free cake with Pecan nuts

Dorothea Gurbina[1], Nicoleta Fruja[1], Paula-Roxana Mot[1], Antoanela Cozma[1], Daniela Stoin[1*]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: danielastoin@yahoo.com

The present study was based on the development and sensory and chemical evaluation of gluten free cake, specially designed for people with celiac disease or for diabetic ones, made with millet flour (MF), rice flour (RF) and Pecan nuts (PN). Stevia extract was used as a sweetener. Three cake samples were prepared with MF and RF, added in different proportion (20%, 40%, 60% MF), mixed with other ingredients and compared with control sample (100% RF).

According to the results obtained, the flour blends: 20% RF: 80% MF, 40% RF: 60% MF and 60% RF: 40% MF are suitable to be incorporated in the gluten free cake, obtaining products with improved sensory and nutritional characteristics than those obtained solely from RF. The results showed that the addition of 40% MF to the dough has improved the sensory and chemical characteristics of the samples of the cake obtained, and consequently increased their nutritional value.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Keywords: gluten free cake, Pecan nuts, sensory evaluation, nutritional quality.

.

P8

Study on the use of horseradish as a natural source of antioxidants in the technology of obtaining liver sausage

A.C. Drăguți[1], M.V. Negrea[1], I. Cocan[1*]

Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: ileana.cocan@usab-tm.ro

The paper aims as main objective the study of benefits characteristics of natural antioxidants in the meat industry. Also, the physico-chemical characteristics of horseradish, a natural product, which is founded in Romania market were highlighted. The meat product chosen for the main was liver sausage.
Sensory examination was performed by analysing the taste, appearance, smell and content of the product.
The studied processed samples were analysed in terms of physical-chemical parameters: moisture content, fat, sodium chloride, protein, ash, carbohydrates, nitrites, energy value, Kreiss reaction and oxidative capacity.

Acknowledgements: The chemical experimental research was performed in the Interdisciplinary Research Platform (PCI) belonging to the Banat University of Agricultural Sciences and Veterinary Medicine King Michael I of Romania in Timisoara, Romania.

Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program

Keywords: natural antioxidants, horseradish, liver sausage.

P9

Sensory and chemical characterization of some types of pork sausage

G.I.R. Ciortan[1], G.S. Pintilie[1*], A.B. Velciov[1]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: sofia.pintilie@gmail.com

Human-food relationship is the oldest of the supply of nutrients necessary for human body, for a balanced life. A proper diet depends on certain prerequisites such as food without harmful agents, biotic or abiotic, exceeding the limits of legality. The research carried out in this work is to provide an innovative meat product through the use of cranberry fruit rich in bioactive compounds.

Sausages are the oldest prepared processed in human history.

The aim of this study was to evaluate the physico-chemical properties of pork sausage with and without dry fruit addition.

Analyzes were performed on dry fruit and on the finished product in order to find out the biochemical characteristics of a new functional product and to show how this product can improve the performance and quality of the consumer's life**.**

The analyzes were performed using standardized analytical methods (determination of dry matter and water content using the oven, determination of total mineral substances (ash), total fat content).

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program

Keywords: Pasta, tradition, innovation

P10

Determination of the physical-chemical characteristics of certain assortments of bread with seed mixture

Laura Rădulescu[1], Bianca Daniela Naherneac[1], Corina Iuliana Megyesi[1*]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: cor_costescu@yahoo.com

The diet of every people is usually directed to a basic food that provides the daily requirement for carbohydrates.

The field of bread and bakery products was one of the oldest occupations in our country, constituting one of the major components of food production. In the past, the raw material used for bread, especially rye, oat, barley, rice and corn, were used either mixed or separately, and then the basic raw material becomes wheat.

Over the years, the favorite bread of the aristocrats was white bread, while poorer people ate black bread. Since the 20th century, black bread has become a favorite due to its superior nutritional value.

The present paper aimed at assessing the quality characteristics of bread with seed mixture through organoleptic and physical-chemical analyzes.

As concluding data, we can assume that all the values obtained for the analyzed bread samples are within the standard values. Thus, from the point of view of the NaCl content, the analytical results ranged from 0,8% to 1,3%, in terms of humidity, the results of the analyzes were in the range of 38,8% -45,7%.

The porosity analysis indicated values between 62,5% to 67,7%, and in case of acidity analysis, the values obtained ranged between 2,7º and 5,4°.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Keywords: bread, seed, mixture

P11

Determination of the physical-chemical characteristics of a home smoked sausage with the addition of red wine

Laura Rădulescu[1], Oana Elena Moldovan[1], Ștefan Constantin Sitariu[1], Corina Iuliana Megyesi[1*]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: cor_costescu@yahoo.com

Of all time, the major problem of the population was food security. A concise intervention of industry and agriculture all over the world to solve food problems was helpful. The meat processing sector is a significant part of the structure of the food industry and presents a set of particularities of the used equipment and the raw material.

The quality of the raw material is that which gives us a healthy diet because it transfers the finished product, calories and various substances, which guarantees a good development of the biological processes that take place in human nutrition.

This paper aimed assessing the quality characteristics of an assortment of homemade sausage with the addition of red wine as well as its physical-chemical evaluation.

As concluding data, we can assume that all the values obtained for the analyzed sausage samples were within the standard values. After analyzing the sausage samples from the point of view of the sodium chloride content, moisture, ash and fat content, the following main conclusions can be drawn:

- the percentage of salt in the analyzed samples ranged between 1.93% and 2.69%;
- humidity values ranged from 38.07% to 41.66%;
- ash values ranged between 1.21% and 2.15%;
- the fats in the analyzed sausage samples recorded values ranging from 28.11% to 32.55%.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Keywords: smoked, sausage, red wine

P12

Preliminary research on the proximate composition of blackberry fruits (*Rubus fructicosus*)

A-I. Birtea[1], A-B Velciov[1*], G-S Popescu[1]

[1]*Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara*

Corresponding author: *e-mail*: ariana.velciov@yahoo.com

This study aims to determine the proximal composition of local blackberries variety (*Rubus fruticosus*), marketed in different agri-food markets in Timisoara (Romania) and highly appreciated due to its flavor and taste, but also for the outstanding nutritional and curative qualities.These fruits are consumed by the local population either as a fresh fruit or in the form of jams, syrups or pastry, etc. The high content of antioxidants, minerals, vitamins, carbohydrates (especially simple sugars) suggests that these fruits could be considered as functional foods.

The blackberry fruits have been analyzed for their proximal composition: fruit weight, dry matter, total mineral content (ash), total soluble substances (TSS), and titratable acidity through recommended standard procedures.

The preliminary results show that the analyzed fruits had weight (6.01 g – 7.23 g), dry matter (11.24 - 12.63%), total minerals (0.34 – 0.44%), total soluble solids (11.6-12.7 °Brix), pH (3.1–3.5), total treatable acidity (0.9– 1.2 % citric acid) and TSS/TTA Ratio (9.66 – 14.11).

Acknowledgments: This work was supported by proving the equipment's of the Faculty of Bioengineering of Animal Resources Timişoara - Industrial Biotechnologies laboratory. The present paper was funded by the Research Project "Research on the use of biologically active substances in order to obtain high-nutrition foods", No 1545/28.02.2019.

Key words: blackberry, physico-chemical properties, proximate composition

P13

Cake pops with spirulina – physico-chemical aspects

G-F. Bustan[1], V. Murgoi[1], A-B Velciov[1*], G-S Popescu[1]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: ariana.velciov@yahoo.com

The aim of this study was to evaluate the physico-chemical properties of a raw vegan dessert with high nutritional values. The products used for analyses are called Cake Pops with Spirulina, delicious raw cookies, obtained from cashew, almonds, spirulina, coconut butter, lime for flavor, hemp seeds and acacia honey used as a natural sweetener.

Analyzes were performed on each ingredient and implicit on the finished product in order to find out some physico-chemical characteristics of a functional product made from super ingredients and also to show how this product can improve the performance and quality of the consumer's life.

The analyzes were performed on representative samples using standardized analytical methods, namely: determination of dry matter and water content (moisture%), determination of total mineral substances (ash), and titratable acidity.

The preliminary results show that the Cake pops with spirulina had 85.87% Dry matter, 14.12% moisture (by drying in the oven), 2.49% total minerals and 2.33° acidity degrees.

Acknowledgments: The present paper was funded by the Research Project "Research on the use of biologically active substances in order to obtain high-nutrition foods", No 1545/28.02.2019.

Key words: Cake Pops, raw vegan dessert, acidity, dry matter

P14

Evolution of the dairy market in Romania

Isabela Firuț[1], Popa Viorica – Mirela Popa[1], Corina Mișcă[1]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: mirevio_gh@yahoo.com

Romania imported 17,083 tons of raw milk in January 2018, up 17.2 percent over the same period in 2017 and 10.5 percent more than in December, according to INS data.

Regarding the situation of the quantity of milk collected by the processing units, an increase of 12.4% was observed in January 2018, up to 81,840 tonnes, compared to the same month of 2017, and by 4.4% compared to December 2017 Consumption milk production registered a slight advance in January 2018 compared to January 2017, respectively by 1.4 percent, but decreased by 3.2 percent compared to December 2017, totaling at the end of the first month of 2018, an amount of 26,781 tons.

According to INS data, in January 2018 compared to the previous month, the quantity of cow's milk collected by the processing units increased by 3,459 tonnes (+4.4%). Also, increases in production in January 2018 compared to December 2017 were registered for acidified milk (yogurt, drinking yogurt, milk and other similar dairy products) with 3,926 tonnes (+ 24.7%) and cheeses with 782 tonnes (+ 11.9%).

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Key words: dairy market, milk, consumption

P15

Marketing research on the consumption and production of meat products

Isabela Firuț[1], Popa Viorica – Mirela Popa[1], Corina Mișcă[1]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: mirevio_gh@yahoo.com

The issue of consumption of meat products is a topic of complex marketing research, which is why we set out to emphasize the original and topical approaches regarding the consumption and production of meat and meat preparations, as a result of the way consumers satisfy their preferences. food.

The poultry sector is the only segment of the European meat industry in which both production and consumption are expected to experience an expansion during the period 2015-2025 (+ 3.8% and 3.4% respectively).

According to the data presented by the representative of the processors, citing the statistics of the National Institute of Statistics (INS), the industrial production of pork in Romania increased from 435 834 tonnes in 2016, to 461 149 tonnes in 2018, and in the first semester of this 206 468 tons were recorded this year.

The value of industrial pork production in 2016 was two billion lei, and in 2017 and 2018 it remained around three billion lei. In the first semester of this year, the value of industrial pork production is somewhere around 1 billion lei.

From the point of view of the industrial production of pork products, it increased in 2017 to 356 043 tonnes, compared to 345 000 tonnes in 2016, but decreased to 324 175 tonnes last year, an amount that could be also obtains this year, when 175 946 tons were obtained in the first semester, the ARC representative said.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Key words: marketing research, consumption, production, meat, poultry

P16

Analysys of bakery products improved with malted barley flour

Maria-Gianina Ocneanu[1], Corina Mișcă[1*]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: miscacorina@gmail.com

Malted barley flour is made from barley which is steam-dried, hulled, then ground and strained. It contains a small quantity of gluten, and a substantial amount of good fibers. Being malted, its enzyme activity is increased. It is usually used as a dough conditioner in bread, pizza crusts, crackers, rolls, pretzels, muffins, pancakes. Due to its lower gluten, it makes the dough softer and more relaxed. There are several main uses of malted barley flour in the bakery. Firstly, it adds to their nutritive value, because it is rich in vitamins and essential amino acids. Secondly, it increases the shelf life of the products by its ability to attract moisture. It helps fermentation by strengthening the gluten and feeding the yeast, making products more attractive through the browning of their crust. Last but not least, it adds a special flavour to products when a suitable quantity is used.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Keywords: barley, flour, bakery, gluten

P17

The influence of fungus load concerning the quality of bakery and pastry products

Ciprian Mocanu[1], Corina Dana Misca[1*]

[1]Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

Corresponding author: *e-mail*: miscacorina@gmail.com

Funguses, aerobic microorganisms, are constantly contaminating raw materials used in bakery and pastry industry and they can influence beyond recall the organoleptic, physico-chemical and microbiological properties of finished products.

Our study's ascertainment is that prevalence funguses existing in the raw materials and final products are represented by species belonging the generes *Aspergillus, Fusarium* and *Mucor*.

Acknowledgement: Authors wants to thank to PNCDI III 2015-2020 – ID 368 institutional development project "Ensuring excellence in R&D within USAMVBT", from the institutional performance subprogram 1.2, development of the R&D national system program.

Key words: fungus, flour, *Aspergillus, Mucor, Fusarium*

Short Presentation

Labor market analysis in the Western Development Region of Romania

Ciprian Ioan Rujescu, Dora Manuela Orboi, Iuxel Vijiac,Simona Cristina Constantinescu, **Nicoleta Gabriela Hădărugă**
Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara

In the context of technological changes, the growth of information and the development of knowledgeintensive industries is very difficult to identify the new demands of the labor market. Continuous training is no longer a necessity, but it becomes an obligation to cope with these technological changes and artificial intelligence in any field.

Acknowledgement: Active measures to increase the participation in the tertiary entrepreneurial education of students from disadvantaged regions Antre_S", Contract code: POCU/379/6/21/124388 (SA.2.1. Methodological design and carrying out practical studies of labor market analysis in the Western Development Region of Romania for the identification and analysis of the sectors with entrepreneurial competitive potential in the University Center – Timisoara)

List of participants

1. Bănescu Ramona
2. Beucă Florinela
3. Birtea A-I.
4. Bordean Despina Maria
5. Bujanca Gabriel
6. Bustan Georgiana Felicia
7. Catargiu Andrei
8. Çevik Enes
9. Ciortan G.I.R.
10. Coacă A.O.
11. Cocan Ileana
12. Constantinescu Simona Cristina
13. Costar Oana Maria
14. Cozma Antoanela
15. Cugerean Marius I.
16. Dogaru Diana
17. Drăguți A.C.
18. Dumbravă Delia G.
19. Dumitrelea Rodica
20. Feher Andrea
21. Firuț Isabela
22. Fora C.G.
23. Fruja Nicoleta
24. Gălan Iulia
25. Golea Giulia Mădălina
26. Guran Anamaria
27. Gurbina Dorothea
28. Hădărugă Nicoleta Gabriela
29. Ispas Andreea
30. Megyesi Corina Iuliana
31. Milutinovic Jelena
32. Misca Corina Dana
33. Mitroi (Birău) Cristina
34. Mocan Ciprian
35. Moldovan C.
36. Moldovan Oana Elena
37. Morega Anca
38. Moț Paula - Roxana
39. Mureșan Andreea
40. Murgoi V.
41. Naherneac Bianca Daniela
42. Negrea M.V.
43. Nicolae Alexandru
44. Nistor Georgiana
45. Nistorescu-Mihalca Adela
46. Ocneanu Maria-Gianina
47. Oprinescu Claudia I.
48. Orboi Dora Manuela
49. Panagiotis Kottaridis
50. Parnea A.G.
51. Petolescu Cerasela
52. Pintilie G.S.
53. Poiana Mariana Atena
54. Popa Viorica – Mirela
55. Popescu G-S
56. Puiu Ionela Diana
57. Rădoi P. B.
58. Radu Florina

59. Rădulescu Laura
60. Radulov Isidora
61. Ramneanțu Mădălina
62. Rinovetz A.E.
63. Riviș Adrian
64. Roșu Mădălina
65. Rujescu Ciprian
66. Ruxanda Monica
67. Serpe Lelia Angi
68. Simandi Marius D.
69. Sitariu Ștefan Constantin
70. Ștefan I.
71. Stînga Mădălina – Ioana
72. Stoin Daniela
73. Szilagyi Ţelita
74. Tarkanyi Patricia Cristina
75. Tulpan R.
76. Vasiliu I.D.
77. Velciov A.B
78. Vijiac Iuxel
79. Vlăduţescu Tamara D.
80. Zippenfening Simelda