

The 2nd International Conference on Life Sciences



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Președinția României la Consiliul Uniunii Europene

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The 2nd International Conference on Life Sciences
Section: Food Chemistry, Engineering & Technology



Timișoara, 2019

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**Per- & Polyfluoroalkyl Substances (PFAS) in Soil, Water,
Animal Feed and Food**

NAGEL Thomas G.^{1*}, MECHLER Melanie¹, ZOSKA Melanie¹, BREUER Jörn¹

¹*The Center for Agricultural Technology Augustenberg (LTZ), Nesslerstrasse 25, 76227 Karlsruhe, Germany*

E-mail: thomas.nagel@ltz.bwl.de(*)

Due to findings of short-chain perfluoroalkyl substances (PFAS) in ground water in the area of Rastatt/Baden-Baden (Germany) by a local water supplier the agricultural and environmental authorities of Baden-Württemberg state started a research project to find the source of contamination and solutions/strategies for the agricultural practice in this area. The possible source of contamination seems to be waste materials from paper industry which were illegally added to organic fertilizers. Nowadays soil as well as ground and surface water are widely contaminated in this area with PFAS. To ensure food and animal feed safety a monitoring program was initiated. In this program samples of prospective food and feed products are taken and analyzed a few days before harvest to decide whether they are safe for human respectively animal consumption or have to be destroyed

Keywords: PFAS, PFC, PFOA, PFOS, soil, ground water, food, feed, maize, LC-MS/MS, Rastatt, Baden-Baden

Influence of the added fat type on some nutritional characteristics of an innovative seafood pâté

DUMBRAVĂ Delia-Gabriela^{1*}, HĂDĂRUGĂ Nicoleta Gabriela¹, DOGARU Diana Veronica¹, RABA Diana-Nicoleta¹, POPA Viorica-Mirela¹, MIȘCĂ Corina Dana¹, DRUGĂ Mărioara¹, MOLDOVAN Camelia^{1*}

¹*Faculty of Food Engineering, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timișoara (ROMANIA)*

E-mails: delia_dumbrava@yahoo.com (*), kmimol@gmail.com (*)

The purpose of the present paper was to obtain some innovative seafood pâté assortments and to determine comparatively the total polyphenol content (Folin–Ciocâlțeu method), antioxidant activity (CUPRAC assay), nutritional and energy value of those. Were achieved three assortments of seafood pâté using mussels and calamari: first with cow butter as fat, second with unrefined sunflower oil and third with coconut oil. The highest concentration of total polyphenols was found in the seafood pâté with unrefined sunflower oil (5.08 ± 0.20 mg gallic acid/g) and the variant with cow butter had the lowest content (2.24 ± 0.15 mg gallic acid/g). Antioxidant activity also had the highest value in the case of seafood pâté with unrefined sunflower oil (17.26 ± 0.12 mg Trolox/g), and the smallest in the case of cow butter variant (15.35 ± 0.09 mg Trolox/g). The product with cow butter was the poorest in kcal (262 kcal/100g) and the richest in protein (9.78 g/100g). Assortments with sunflower oil and coconut oil had very close energetic values (299.11 kcal/100g, respectively 300.88 kcal/100g) and the same protein, total carbohydrates and total lipids content. Saturated fats were found in the smallest amount in the seafood pâté with sunflower oil (2.44 g/100g) and in the largest one, in the pâté with coconut oil (18.83 g/100g). For the product with cow butter the cholesterol content was over 3 times higher (67.0 mg/100g) than in the other two assortments (20.00 mg/100g).

Keywords: seafood pâté, antioxidant activity, polyphenols, nutritional value.

Acknowledgments:

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 1.

Microencapsulation of biologically active compounds from cornelian cherry fruits with whey proteins isolate and accacia gum

ENACHE Iuliana-Maria^{1*}, STĂNCIUC Nicoleta¹, VIZIREANU Camelia¹

¹*“Dunarea de Jos” University of Galati - Faculty of Food Science and Engineering, Str Domnească 111, 800201 Galati, Romania*

E-mails: enacheiulianamaria@gmail.com (*)

Cornelian cherry (*Cornus mas*) is a very important source of ascorbic acid, minerals, vitamins, fatty acids, carotenoids, iridoids, anthocyanins and flavonoids. Fresh or processed, this fruits can be used in various fields, such as human health and food industry.

The aim of this study was to obtain two functional ingredients by microencapsulation anthocyanins and flavonoids extracted from cornelian cherry fruits with whey proteins isolate and acacia gum. The powders obtained were characterized in terms of encapsulation efficiency and phytochemicals content and can be considered valuable candidates for the successful replacement of artificial pigments from different foods, from the perspective of developing value-added food products.

Keywords: cornelian cherry, biologically active compounds, accacia gum, whey proteins isolate, functional products

Rheological and Nutritional Properties of Sugar-Free Roulade with Pumpkin Pulp

IOAN Monica¹, MOCANU Gabriel-Dănuț¹, ANDRONOIU Georgeta Doina¹, DIMA (GHEONEA) Ionica¹, PĂTRAȘCU Livia², MIHALCEA Liliana^{1*}

¹Integrated Center for Research, Expertise and Technological Transfer in Food Industry, Faculty of Food Science and Engineering Faculty, Dunarea de Jos University of Galati, Romania

²Integrated Center for Research, Expertise and Technological Transfer in Food Industry, Cross-border Faculty, Dunarea de Jos University of Galati, Domneasca str.47, Romania.

E-mails: Liliana.Gitin@ugal.ro (*)

New product formulation that provides nutritional value and beneficial effects in health it's a challenge for the food industry specialists. This paper presents a new sugar-free sweet product formulation on the basis of oatmeal and wheat flours and pumpkin pulp. Oatmeal flour is a major component of infant solid foods due to lack of allergen reaction, good flavor compatibility, high nutritive value, excellent shelf life and stability. The rheological behavior of tested dough's during low amplitude oscillatory measurements showed a rather good resistance to the applied strain with the oat flour based one presenting an earlier G'/G'' intersection point in comparison to the wheat flour based one. During oscillatory temperature ramp test, both samples presented a rather similar behavior. Texture Profile Analysis was used to measure the textural parameters of both fresh and baked dough's. Firmness, adhesiveness, resilience, gumminess and chewiness were determined from the stress-displacement curve. Textural analysis revealed firmer texture for dough's with added oatmeal flour, before and after baking as well. Oscillatory tests indicated the low amplitude that revealed a stiffer structure and a high resistance to the applied strain for the wheat flour dough. After macromolecules denaturation and gel formation the G' values for the oatmeal based sample was significantly lower in comparison to wheat flour dough. Also during the same test it was observed a higher dough extension (gap increase) in the gelatinization temperature range. The antioxidant activity and the total carotenoids content indicated that the combination between wheat flour and pumpkin pulp it is a good approach for the new sweet product formulation.

Keywords: gluten free flours, pumpkin, rheological and textural properties

Studies regarding the use of unconventional ingredients to obtain halva with high nutritional value and improved sensory properties

CATARGIU Andrei Dorel¹, BORDEAN Despina-Maria^{1*}, RAICAN Dan-Dorin¹, GHIGULESCU Loredana Alexandra¹, POIANA Mariana-Atena¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Food Engineering, 119 Calea Aradului, 300645, Timisoara, Romania.

E-mails: andreidorel@yahoo.com despina.bordean@gmail.com (*); atenapoiana@yahoo.com

Sunflower halva is a widespread confectionery product specific to Eastern European countries. The purpose of this study was to identify and analyze new ingredients such as pumpkin seeds, soybeans, pumpkin pulp and apples processing waste in order to obtain new value-added halva formulas. In order to stimulate the interest for nutraceutical value of the halva, this study was designed to investigate the moisture and micro and macroelement content of some new proposed halva ingredients with the desire to optimise the halva product formulation. Based on the moisture analysis it was shown that pumpkin pulp and apple wastes can be used separately or mixed to optimize halva. Soybeans present similar dehydration curves with sunflower seeds which recommends them to be used idependently or mixed for halva production.

Keywords: biominerals, innovative product, pumpkin, soybeans, apple waste

Nutraceutical quality evaluation of tomatoes, bell peppers and their processing wastes

**Andreea ILAS (CADARIU)^{1*}, NEGREA Monica¹, COCAN Ileana¹, ALEXA Ersilia¹,
MOIGRADEAN Diana¹, POIANA Mariana-Atena¹**

¹Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Food Engineering, 119 Calea Aradului, 300645, Timisoara, Romania.

E-mails: andreeailas@yahoo.com, negrea_monica2000@yahoo.com (*), atenapoiana@yahoo.com

In most developed countries, an increased attention is paid to the recovery of vegetable wastes and their uses as a valuable source of bioactive compounds in various food applications. This issue is also related with the fight against environmental pollution. The aim of this research was to characterize in terms of nutraceutical properties fresh cherry and large tomatoes, red and yellow bell peppers, their processing by-products as well as to evaluate the impact of conditioning by convective drying at 60°C the resulted wastes. Thus, moisture content, ash and total phenolic content were evaluated. Additionally, the lycopene content was assessed for fresh tomatoes and their processing by-products, raw and in response to drying. As regards the total phenolic content in tomatoes and red and yellow bell pepper, there were recorded values in the range 10.33-23.89 mg GAE/g d.s. Tomatoes and bell pepper by-products show a significant level of phenolic compounds, with 36-43% lower than the values of corresponding vegetables. In addition, cherry and large tomatoes samples have a high content of lycopene. Also, their processing by-products showed significant levels of lycopene, with 16, respectively 21% lower than the values of fresh samples. The losses in investigated bioactive compounds recorded in response to conditioning by drying of tomatoes and bell pepper processing by-products were below 27% reported to the initial values. Our data highlighted that the processing wastes of tomatoes and bell pepper represent a valuable source of bioactive compounds that can be used as value-added ingredients in various food applications.

Keywords: tomatoes, bell pepper, processing wastes, bioactive compounds, nutraceutical value

Quality Characteristics of Fresh and Reconstituted Probiotic Potatoes Purée with Sea Buckthorn Supercritical CO₂ Extract

**MOCANU Gabriel – Dănuț¹, NISTOR Oana – Viorela¹, ANDRONOIU Doina Georgeta¹,
CONSTANTIN Oana Emilia¹, BARBU Viorica Vasilica¹, DIMA (GHEONEA) Ionica¹,
PĂTRAȘCU Livia², CECLU Liliana³, MIHALCEA Liliana^{1*}, BOTEZ Elisabeta¹**

¹"Dunarea de Jos., University of Galati, Faculty of Food Science and Engineering, 111 Domneasca Street, 800201, Galati, Romania

²"Dunarea de Jos., University of Galati, Cross – Border Faculty of Humanities, Economics and Engineering, 47 Domneasca Street, 800008, Galati, Romania

³"B.P. Hasdeu., Cahul State University, Faculty of Economics, Engineering and Applied Sciences, 1 Piata Independentei Street, 3909, Cahul, Republic of Moldova

E-mails: Danut.Mocanu@ugal.ro, Oana.Nistor@ugal.ro, Georgeta.Andronoiu@ugal.ro,
Emilia.Constantin@ugal.ro, Vasilica.Barbu@ugal.ro, Ionica.Dima@ugal.ro,
livia.patrascu@ugal.ro, ulik003@yahoo.com, Liliana.Gitin@ugal.ro, Elisabeta.Botez@ugal.ro,
Liliana.Gitin@ugal.ro (*)

The aim of this study was to obtain a non-dairy solid probiotic product based on potato (*Solanum tuberosum* L.) puree and sea buckthorn oil obtained by supercritical carbon dioxide extraction. The potatoes purée was used as fermentation substrate for the potentially probiotic *Lactobacillus delbrueckii* Lb 12 strain. This work investigated the rheological behaviour and texture of fresh and reconstituted vegetable purée using flow, thixotropy, oscillatory rheological measurement and Texture Profile Analysis. All potatoes purée samples had a pseudoplastic behaviour characterized by two models: Herschel – Bulkley and Power law. Other investigation was the purées microstructure by laser confocal microscopy. Rheological characteristics of fresh potatoes purée varied between 34.78 – 437.7 Pa, in the case of shear stress and 348 – 4377 Pa·s, in the case of apparent viscosity. All the samples of potatoes purée showed a higher values of storage modulus (G') compared to the loss modulus (G'') in the entire studied frequency (ω) (0.1 – 100 Hz). Texture measurements revealed lower firmness of reconstituted samples comparing with the fresh ones. The results of confocal microscopy are in accordance with the rheological and texture findings showing a weakening of the puree structure. The results showed differences between the structure of fresh potatoes purée compared with the reconstituted samples. Colour parameters have not changed significantly. Probiotic potential was analyzed on the basis of viability of *Lactobacillus delbrueckii* Lb 12 during 28 days of cold storage. After 14 days at 4°C this new possible functional food contains a viable cell concentration of 8.0 log CFU/g. The antioxidant activity of fresh potatoes purée was 0.07 ± 0.0043 µg Trolox/mL of sample. The total carotenoids content 17.749 ± 0.418 µg/g of sample revealed that potatoes purée with sea buckthorn supercritical CO₂ extract is a good approach for non-dairy probiotic product with health benefits.

Keywords: Potatoes purée, *Lactobacillus delbrueckii*, baby food, probiotic non – dairy product, rheological properties, microstructure, colour

Could probiotics be useful in patients with functional dyspepsia?

IONITA Mihai¹, BASA Norina¹

¹*First Department of Internal Medicine, University of Medicine and Pharmacy, "V Babes", Timisoara, Romania*

E-mails: ionitamihai79@yahoo.com (*)

Functional dyspepsia (FD) and other gastro-intestinal (GI) functional conditions share a particular configuration of GI microbiota. This is why the aim of study was to investigate probiotics and their influence upon symptoms associated to FD. 34 patients (29 females, 5 males), age ranging from 18 to 59 years, with confirmed FD (Rome IV) joined this prospective open label nonrandomized study consisting in assessment of FD symptoms: nausea, bloating and epigastric burning, as well as life quality, before and after 4 weeks of treatment with the same over the counter mixture of beneficial microorganisms. Results Study population was characterized by high incidence of female gender with urban location ($p < 0,0001$) and clinical particularities with mood disorders, alcohol and smoking issues, as well as frequent alimentary allergies. Response to probiotics was satisfactory, all complaints being improved, some of them in significant range (epigastric pyrosis, bloating and life quality, $p < 0,05$), by opposite to others such as nausea were $p = 0,07$. In conclusion, participants with FD displayed demographic and clinical particularities, satisfactory results being obtained as response to probiotics. All studied symptoms were alleviated but only bloating, epigastric distress and life quality significantly improved.

Keywords: probiotics, GI microbiota, functional dyspepsia

Synbiotics in irritable bowel syndrome: is this the good choice?

IONITA Mihai¹, MUNTEAN Mihaela¹

¹*First Department of Internal Medicine, University of Medicine and Pharmacy, "V Babes", Timisoara, Romania*

E-mails: ionitamihai79@yahoo.com (*)

Irritable bowel syndrome (IBS), a functional condition with obscure underlying pathways seems to be linked to gut microbiota imbalance, which consecutively introduced new therapeutical options. Aim of the study was to assess whether synbiotics work in alleviating complaints in IBS patients. 30 patients (Men=8. Women=22), age range 31-59 years, with diarrhea or constipation forms of IBS, equal divided in two groups received synbiotics 4 weeks. They undertook a detailed clinical examination, laboratory tests, and gastro-intestinal exams (ultrasound and endoscopies). Life quality, abdominal pain, bloating and bowel habit disturbances were assessed prior and after finishing the course of treatment. Results Synbiotics significantly influenced bloating ($p=0,001$ in C-IBS, and $p=0,006$ in D-IBS) and bowel habit disorders ($p=0,03$ in C-IBS and $p=0,04$ in D-IBS). Only C-IBS group reached a satisfactory alleviation of pain score, which diminished significantly from $3,40\pm 1,40$ to $2,13\pm 0,99$, $p=0,008$. Life quality didn't significantly improve after receiving synbiotics alone in both C-IBS: $p=0,09$ and D-IBS: $p=0,19$. Conclusions Satisfactory mitigation of bloating and bowel habit disturbances was observed in both IBS forms, while abdominal pain was alleviated only in patients with C-IBS, but life quality didn't seem to be significantly influenced by synbiotics alone in none of the studied groups.

Keywords: gut microbiota, synbiotics, irritable bowel syndrome

Assessing the bioactive compounds and antioxidant activity of blueberry and their processing byproducts

**METZNER Cristina-Ramona^{1*}, LUPITU Andreea Ioana², MOISA Cristian²,
COPOLOVICI Dana-Maria², COPOLOVICI Lucian Octav², POP Georgeta³,
POIANA Mariana-Atena¹**

¹*Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Food Engineering, Calea Aradului 119, Timisoara, 300645, Romania.*

²*"Aurel Vlaicu" University of Arad, Faculty of Food Engineering, Tourism and Environmental Protection, Elena Dragoi Street no. 2, Arad, 310330, Romania.*

³*Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Agriculture, Calea Aradului 119, Timisoara, 300645, Romania.*

E-mails: cristinau222@yahoo.com; atenapoiana@yahoo.com (*)

The purpose of this study is to assess the antioxidant characteristics in terms of total phenolic content, antioxidant activity and phenolic compounds profile of fresh blueberry (*Vaccinium myrtillus* L.) and their processing fractions, juice and byproducts (husks and seeds). In this regard, blueberries from spontaneous flora were collected from two different site of Romania: Arieseni (Alba County) and Paltinis (Sibiu County). The impact of the origin area on the studied features was also tracked. Moreover, the effect of raw byproduct conditioning by convective drying on the antioxidant properties was evaluated. Our results showed that the total phenolic content was consistent with antioxidant activity, expressed as the stable radical 1,1-diphenyl-2-picrylhydrazyl scavenging capacity in the presence of antioxidants (DPPH). As a result, there were no significant differences in the investigated properties by the origin place. However, there is a slight decrease in the antioxidant potential in fruits from the region with a higher precipitation regime and lower temperatures, antioxidant properties being slightly higher in the fruits and fractions corresponding to the Arieseni site than those from the Paltinis site. The raw byproducts conditioning by convective drying at a moderate temperature of 60°C for 12 hours resulted in a loss of about 15-29% of the antioxidant properties. The recorded data are useful in selecting blueberries to obtain valuable bioactive compounds for designing of value-added food products. Thus, byproducts obtained from blueberries processing can be a stable source for the recovery of high-quality polyphenolic compounds.

Keywords: blueberry, processing byproducts, antioxidant properties, polyphenolic compounds profile, DPPH radical scavenging activity

The Fipronil Egg Scandal – New Challenges in Preventing Carry-Over from Agricultural Products to Food

BAUER Johannes Moritz^{1*}, NAGEL Thomas G.¹

¹*The Center for Agricultural Technology Augustenberg (LTZ), Department 21 - Organic Analyses, Nesslerstrasse 25, 76227 Karlsruhe, Germany*

E-mails: moritz.bauer@ltz.bwl.de (*)

The compound fipronil is effective against different pathogens and ectoparasites like the poultry red mite [1]. Its application on animals destined for consumption is not allowed in the European Union (EU). In 2017 contaminated eggs were found in many EU member states. In context of preventive consumer protection a method for the analysis of fipronil and its metabolite fipronil sulfone in liquid agricultural samples was developed and validated for the control of applications. Furthermore a modified variation of method VDLUFA methods book VII 3.3.7.1 [2] was successfully validated for the analysis of solid agricultural samples like feed and other special commodities.

Keywords: fipronil, pesticide analysis, special commodities

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New ingredient-Sericin influence on rheological and biscuit's sensory properties

DINU Monica Gabriela^{1*}, MĂTRAN Irina Mihaela²

^{1*} Viilor Economic College, 38th Viilor Street, 050151, Bucharest, Romania,

²Iuliu Hatieganu University of Medicine and Pharmacy, Victor Babes 8, 40012, Cluj – Napoca, Romania,

E-mails: gabi_dinu2005@yahoo.com (*), irina.matran@yahoo.com

The processing of silk fibers produced by *Bombyx mori* (silkworm) entails large amounts of residue high in sericin – a glycoprotein that protects the silk fibers from the destructive environmental and mechanical factors.

The aim of this study was to determine the effect of sericin on the rheological properties of dough and on the sensory properties of biscuits.

White flour, with 0.65% ash, was analyzed through Alveographic curves and by Mixograph method based on Chopin protocol, in order to determinate rheological properties. Biscuit samples were prepared based on the recipe for 100 kg flour and baking samples were made for controls (M), for 0.5% sericin (P1) and for 3ppm ascorbic acid (P3) added.

The results showed that sericin added in flour improves the rheological properties and led to better shaped and well contoured biscuits.

Keywords: Sericin, flour, rheology, biscuit, sensorial analyze

Increasing the Shelf Life of Alimentary Poultry Fat by β -Carotene and Ascorbic Acid Addition

POP Flavia^{1*}, VOȘGAN Zorica¹

¹*Technical University of Cluj-Napoca, North University Center of Baia Mare, Chemistry and Biology Department, 76A Victoriei Str., 430122, Baia Mare, Romania*

E-mails: flavia_maries@yahoo.com (*)

The shelf life of poultry fat was enhanced by adding natural and synthetic antioxidants β -carotene and ascorbic acid at 0.1 and 0.5% level. For monitoring the deterioration during storage and evaluation of stability, methods as peroxide index, iodine index, acid value, refractive index, fatty acid composition and microscopic examination were used. Chemical parameters were significantly influenced by the type of fat and storage time, except refractive index value. The total content of polyunsaturated (PUFA) and monounsaturated (MUFA) fatty acids decreased significantly ($p < 0.05$) after 210 days of storage at +2°C in samples without antioxidants, while the total fatty acid content was not significantly affected by storage time. Peroxide index values and acidity index in poultry fat with added antioxidants were significantly correlated with the storage time ($r = 0.91$ and $r = 0.93$, respectively; $p < 0.01$). The highest peroxide index value was observed in the control samples, followed by 0.1% ascorbic acid and 0.1% β -carotene additivated fat. Antioxidant application had a statistically significant ($p < 0.01$) effect on the chemical parameters of the poultry fat samples. With respect to storage time, the oxidative rancidity of the fat samples increased during the storage period. β -Carotene and ascorbic acid significantly inhibited lipid oxidation in poultry fat as indicated by peroxide value. Microscopic examination may constitute a new method for assessing the intensity of the oxidation process and appreciation of animal fats quality. Lipid oxidation in poultry fat varies with antioxidant concentration and the length of storage, a higher antioxidant concentration had a greater retardation effect on rancidity during storage time.

Keywords: Poultry fat, antioxidants, oxidation, fatty acid composition, peroxide index

Linear relations of the physico-chemical parameters for some natural green plant juices

COZMA Antoanela¹, VELCIOV Ariana¹, CREȚESCU Iuliana², POPESCU Sofia¹, ALDA Liana¹, LALESCU Dacian¹, PETCU Mihaela^{1*}

¹*Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Food Engineering, Calea Aradului 119, Timisoara, 300645, Romania*

²*"Victor Babes" University of Medicine and Pharmacy from Timisoara, Romania*

E-mails: mihaela_petcu@usab-tm.ro (*)

Green herbal juices have an important status in the modern diet due to their exceptional nutritional, functional qualities. Due to their biological and therapeutic values, natural plant juices are foods with substantial benefits for the health and body balance. Juice therapy is one of the ways to improve the body's health, both our physical, mental and emotional state. Natural juice of green plants obtained from apples (*Malus domestica*) cucumber (*Cucumis Sativus*) spinach (*Spinacia oleracea*) and parsley (*Petroselinum crispum*) offers the nutritional benefits of components in a concentrated form easily absorbed by the human body, in a very short time. The objective of this study was to evaluate and compare some physicochemical parameters as pH, electrical conductivity, dynamic viscosity, refractive index, superficial tension and density in case of the green juice samples obtained from apples, spinach, cucumbers, parsley and lime each taken separated and both in blends. All the data was statistically analyzed using Statistica10. The results showed that there is statistically correlation between the physicochemical characteristics in case of analyzed types of juices samples. Based on these linear correlations we determined the linear dependency between the above biophysical parameters.

Keywords: physicochemical parameters, green plant juices, linear correlations

Cow's milk as mineralizing food

**IVANA Ana-Maria¹, BORDEAN Despina Maria¹, ALDA Liana Maria¹, RADA Maria²,
ALDA Simion¹, RADU Lucian¹, ADAMESCU Mihai^{1*}**

¹*Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Food Engineering, Calea Aradului 119, Timisoara, 300645, Romania*

²*University of Medicine and Pharmacy "Victor Babes" Timisoara*

E-mails: adamescumihai94@gmail.com (*)

This study aims to determine the mineral profile of cow's milk from domestic producers and assessing its mineral input. The analysis results of the pasteurized milk assortments with a 3.5% fat content reveal that this food contains high amounts of K, Ca, Na, Mg, appreciable contents of: Zn, Fe, Cu and very low contents of Mn, Ni, Cr and Co. The distribution of mineral elements is uneven, depending on the nature of the mineral and type of milk. The average concentrations of essential minerals vary within the range 0.005 mg/L (Co) - 1434 mg/L (K). The concentration of the analyzed essential minerals shows the following decreasing trend: K > Ca > Na > Mg >> Zn > Fe > Cu > Mn \cong Ni \cong Cr >> Co.

No significant amounts of Pb and Cd have been identified, the concentrations of these heavy metals being below the detection limits but also below the maximum permitted toxicity limits: <0,015 mg/L (Pb), respectively <0,002 mg/L (Cd).

The results obtained in assessing the mineral intake reveal that a daily consumption of 500 ml of milk covers a significant percentage of Ca, Zn, Mg, K: 65.80% of the required Ca, for men and women; 21.25% of Mg, for women, and 17.00% of Mg, for men; 20.94% of Zn requirements for women and 15.23% of Zn requirements for men; 16.11% of the K, for men and women.

Therefore, it can be argued that cow's milk can be considered as a mineralizing food, especially from the point of view of Ca, Zn, Mg and K contents.

Keywords: essential elements, cow's milk, mineral intake

Possibilities of use and characterization of purple potatoes for creams and dessert fillings

**MOLDOVAN Camelia¹, OPRINESCU Claudia¹, POPA Mirela^{1*}, RABA Diana¹,
DRUGĂ Mărioara¹, BOROZAN Aurica¹, DUMBRAVĂ Delia¹**

¹Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Food Engineering, Calea Aradului 119, Timisoara, 300645, Romania

E-mails: mirevio_gh@yahoo.com (*)

The goal of this paper was to find some possibilities to use purple potatoes as desert, and to compare of some parameters after termic treatment. Thus, we prepare a cream and a filling mix for cake. We were optimized the receipt and then we analysed the purple potatoes cream and mix by sensorial (with the scoring scale of 1-5) and physico-chemical point of view. The senzorial parameters (appearance, smell, colour, taste) were highly appreciated. The acidity of these products was situated in range of 1.52-1.68 acidity degree. Antioxidant capacity of potatoes cream and desert mix was 402.005, respectively 463.11 mg trolox/100 g. Total polyphenols found in our products were 1.217 – 1.186 mg/g sample. The highest content of antocyanans was in the purple potatoes cream. All the studied parameters recorded lower values for thermally treated samples than for crude ones (thermally untreated), confirming once again that the high temperatures cause the destruction of some antioxidant principles

Keywords: purple potatoes, cream, mix, acidity, antioxidant activity, polyphenols, antocyanans

The amygdalin content in kernel oils of several *Rosacea* Family cultivars grown in Romania

**POPA Viorica-Mirela¹, SOCACIU Carmen¹, RANGA Florica¹, FETEA Florinela¹,
RABA Diana Nicoleta¹, MOLDOVAN Camelia¹, DUMBRAVĂ Delia-Gabriela¹**

¹*Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Food Engineering, Calea Aradului 119, Timisoara, 300645, Romania*

E-mails: mirevio_gh@yahoo.com (*)

In this study was investigated the amygdalin content of some kernel oils: apricot (*Prunus armeniaca* L.), peach (*Prunus persica* L.), plum (*Prunus domestica* L.) and kernel plums separated by-product resulted from plums processing for natural distilled romanian spirits. The oil samples were extracted using the Soxhlet apparatus from fruit kernels *Rosaceae* Family, fruits harvested from several areas of Romania: Banat, Muntenia, Maramures, Transilvania, Oltenia and Moldova. Determinations were performed by HPLC on a C18 Supelcosil 250 x 4.5 x 5µm column with methanol/water (15/85) as the mobile phase at (1 ml/min) flow rate and detection at the length wavelength of 215 nm. The experimental results showed the linearity range of 0 - 0.6 mg/ml amygdaline with a correlation coefficient of 0.9949. Retention time specific for amygdalin is tR = 12.45 min. The amygdalin content detected in the oil samples analyzed ranged from 51.61-398.45 µg / ml of oil.

Keywords: amygdaline, apricot, peach, plum oils, extraction Soxhlet, HPLC

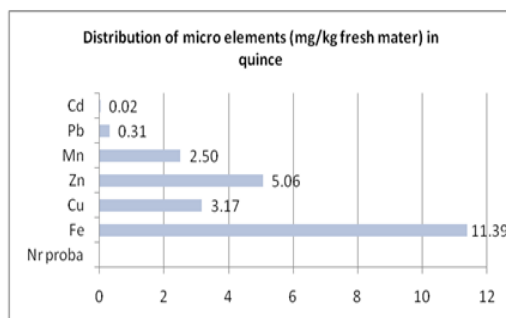
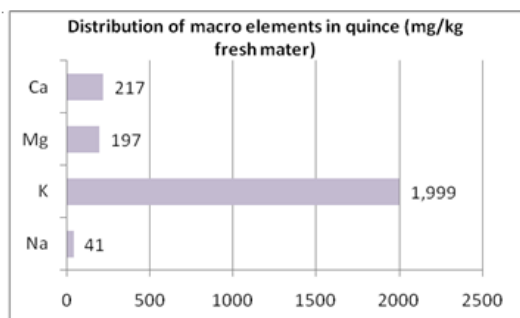
Determination of the mineral profile of some bio-accessible elements of the fruit (Quince)

SEMCICI Cristian Andrei¹, ALDA Liana¹, RINOVETZ Alexandru¹, RADU Lucian¹, DAVID Ioan^{1*}, ȘTEF Ducu-Sandu¹, BUJANĂ Gabriel¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Food Engineering, Calea Aradului 119, Timisoara, 300645, Romania

E-mails: neda_university@yahoo.com (*)

The aim of this study is to enrich the knowledge of the nutritional and toxicological mineral composition of some domestic fruits such as quince (*Cydonia oblonga*) by determining the concentrations of both useful and toxic macro and micro-elements. Among the macroelements, the highest concentration was found for potassium (≈ 2000 ppm), well above the other minerals, followed by calcium and magnesium in almost equal concentrations (≈ 200 ppm). Sodium was found in low concentrations. Among the trace elements, the average value, is highlighted Fe (≈ 12 ppm), followed by Zn (≈ 5 ppm), Cu (≈ 3 ppm), Mn ($\approx 2,5$ ppm). Toxic heavy metals Pb and Cd have been identified in small quantities for locations without intensive industrial activities and supermarkets.



In the Oțelu Roșu and Rusca Montană areas, areas with mining and metallurgical industrial activities, significant amounts of Pb and Cd have been identified in the native quinces close to the maximum admissible limit. Also in these locations, the Cu content in native quinces reaches higher concentrations, which may sometimes exceed the maximum admissible limit. The analysis of metals by atomic absorption spectrometry and atomic absorption is a suitable method for analyzing the essential and toxic microelements of fruits, such as quince. The results obtained with respect to the concentrations are consistent with the literature data. Due to possible accumulations of toxic metals, it is imperative to control them in order to prevent possible harmful effects

Keywords: quince, composition, macroelements, microelements, FAAS

Evaluation of the similarity/dissimilarity of poultry lipid profiles by Fourier transform infrared spectroscopy

**CHIRILĂ Cosmina Andrea¹, VLĂDUȚESCU Tamara Daniela¹, GURAN Anamaria¹,
RADU Lucian¹, MITROI Cristina Liliana¹, HĂDĂRUGĂ Daniel Ioan^{2*},
HĂDĂRUGĂ Nicoleta Gabriela^{1*}, RIVIȘ Adrian¹**

¹*Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timișoara, Timișoara, Romania*

²*Polytechnic University of Timișoara, Timișoara, Romania*

E-mails: nico_hadaruga@yahoo.com(*)

Poultry are important source of saturated and especially unsaturated fatty acid glycerides. Unsaturated fatty acids in poultry have relative concentrations higher than 60%, which includes omega-3 fatty acids. Among them, oleic and linoleic acids are the most concentrated, but the omega-3 α -linolenic acid can also be identified in poultry lipids [1,2]. However, various concentrations of such polyunsaturated fatty acids can be identified according to the diet [2,3].

The determination fatty acid profile of poultry lipids needs complex and time-consuming methods such as derivatization and gas chromatographic analysis coupled with specific detectors. The goal of the study was to develop a rapid and non-destructive method for classifying poultry lipids based on attenuated total reflectance - Fourier transform infrared spectroscopy (ATR-FTIR) [4,5]. Lipid fractions from various parts of chicken, turkey, and duck were separated by semi-continuous Soxhlet extraction. The lipid fractions were analyzed by ATR-FTIR in the range of 4000-400 cm^{-1} and the main IR bands (wavenumber and intensity) were selected for discrimination between samples. The Principal Component Analysis (PCA) multivariate approach was applied for evaluating the similarity/dissimilarity of lipid fractions. Chicken lipid fractions were separately grouped against the other poultry lipid fractions according to IR bands of C-H (from CH_3 and CH_2 groups) symmetrical and asymmetrical stretch in the range of 2850-3010 cm^{-1} , ν (C=O) (of ester functional groups) stretching vibration at ~ 1744 cm^{-1} , $\delta^{as}(\text{CH}_2)$ bending vibration from methylene groups at ~ 1463 cm^{-1} , γ (CH_2) of lipids at ~ 1156 cm^{-1} , or ν^s (C-O-C) of triglycerides at ~ 1098 cm^{-1} .

The ATR-FTIR-PCA coupled technique can rapidly provide valuable information related to the source of poultry lipids (and even the level of degradation) used in food industry. However, a comprehensive database consisting of representative FTIR data are needed for further calibration and validation of such approach.

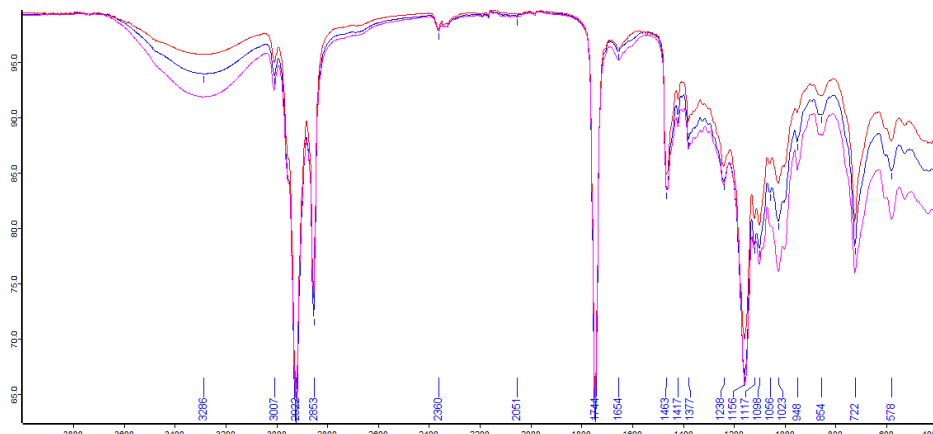


Figure 1. Representative FTIR spectra for chicken, turkey and duck lipid fractions

Keywords: lipid profiles, Fourier transform infrared spectroscopy, poultry lipids

Acknowledgments:

PNC DI 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 1.

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Applications of mild temperatures on a natural lipid model

**RINOVETZ Alexandru¹, BUJANCĂ Gabriel¹, MIȘCĂ Corina Dana¹, VELCIOV Ariana¹,
DAVID Ioan¹, RĂDOI Bogdan¹, TRĂȘCĂ Teodor-Ioan¹**

¹*Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timișoara, Timișoara, Romania*

E-mails: c9misca@yahoo.com (*)

The new globalization context resulted in food technologies field the development of some **structurally and functionally modified** products, with real benefits for health consumer, beign the result of accepting the idea that: the diet has determiant role for prevention and therapy of some diseases. Lipids **modification techniques** (simple mixing, hydrogenation, interesterification, **fractionation**) are not a news, they beign continuously optimized through scientific understanding of physico-chemical processes and the new equipments and technologies development. In generally the „**mild temeprature**” describe the *fractional crystallisation* and *mechanical separation processes* of **triglycerides** from a lipid mixture. The process is direct influenced by different melting and solidification ranges. *Stricto sensu*, *fractionation* is the process through the natural and also modified oils and fats are separated into **solid/liquid (olein/stearin)** fractions, different from the point of view of their composition, with the new technological and nutritional functions, lipids substitutes.

Keywords: mild temperature, fractionation, fractional crystallisation, modified lipids, olein, staerin.