

BOOK OF ABSTRACTS

The 1st Student Conference on Food Science and Engineering

*Faculty of Food Processing Technology
24 - 26 June 2010, Timișoara*

Organized by



Scientific Committee

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General Programme

Thursday, 24 June 2010

Session I: Food control and safety

8⁰⁰ – 12⁰⁰ – Oral Communication OC₁ – OC₁₈

Friday, 25 June 2010

Session II: Food chemistry

8⁰⁰ – 12⁰⁰ – Oral Communication OC₁₉ – OC₃₃

Saturday, 26 June 2010

Session III: Food technology, biotechnology and processing.

8⁰⁰ – 16⁰⁰ – Oral Communication OC₃₄ – OC₁₄₀

16³⁰ – Concluding Remarks

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*OC2: Specierea fingerprinting and certification to ensure quality materials and leafy vegetable, **Raluca Eleonora Bold**, Despina-Maria Bordean*

*OC3: Evaluation of nitrogen content in hot dogs kept in refrigeration in different packages, **Sergiu Andrei Balog**, Camelia Moldovan, Mihai Drugă*

*OC4: Microwave effects degradation of corn oil, **Loredana Maria Filote**, Nicoleta Gabriela Hădărugă*

*OC5: Implementation of quality chocolate manufacturing technology, **Mara – Andreea Fărcăşanu**, Gergen Iosif*

*OC6: Fingerprinting and speciation of diary products for quality insurance and certification, **Ana Gurgu**, Despina-Maria Bordean*

*OC7: Microwave effects degradation of palm oil, **Ana Iocsa**, Nicoleta Gabriela Hădărugă*

*OC8: Meat quality control as raw material and monitoring the meat alteration by using piezoelectric sensor, **Cristian Rus**, Iosif Gergen*

*OC9: Films protective lipid systems, **Corina Maria Văcariu**, Ionel Jianu*

*OC10: The level of toxic metals (Cu, Cd and Pb) in fresh fish from the Danube, Moldova Noua area (Caras-Severin county), **Dalibor Alexandru Ştefanovici**, Ionel Gogoasă*

*OC11: Monitoring spoilage of fish and fish products with piezoelectric sensor, **Gheorghe Boboi**, Iosif Gergen*

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*OC13: Antioxidant activity of the sour cream with fruit juices, **Ana-Maria Gabor**, Mărioara Drugă, Mihai Drugă, Camelia Moldovan*

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OC15: Determination of nitrite in conventional and unconventional heat-treated meat, Silvia-Mariana Matei, Camelia Moldovan, Mihai Drugă

OC16: The quality control of the integral consumption milk - establish a correlation between the total aerobic plate count of milk and microbial flora mezofili, Aurora Pereș, Camelia Moldovan, Mihai Drugă

OC17: The control of fresh cow cheese's quality – antioxidant activity of fresh cow cheese with dill and barley germ addition, Petrașcu Stana-Nicoleta, Drugă Mihai, Moldovan Camelia

OC18: Enzymes use for bread processing, Bakos Cristian, Constantin Mateescu

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OC21: Studies on qualitative assessment opportunities tomatoes and tomato products purchased on market in Romania, Ruxandra Maria Bălănescu, Ramona Cristina Biron, Gabriel Hegheduș-Mîndru

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OC24: Qualitative assessment study opportunities pollen from different geographical areas of Romania, Elena-Laura Gruescu, Ramona Cristina Biron, Gabriel Hegheduș-Mîndru

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OC28: *Determination of β -carotene and total carotenoids in some plant materials*, **Oana Raica**, Delia Dumbravă, Camelia Moldovan

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OC30: *Opportunities for qualitative assessment of coffees purchased on Romanian market*, **Dana-Simona Seliman**, Ramona Cristina Biron, Gabriel Hegheduş-Mîndru

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OC32: *Comparative analysis of the different active contents of some principles from basil, rosemary and dill extracts*, **Roxana Simionescu**, Delia Dumbravă, Camelia Moldovan

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OC35: *The antioxidant activity of berry extracts (raspberries, blackberries, strawberries and blueberries)*, **Carmen Negrea**, Nicoleta Gabriela Hădărugă

OC36: *Obtaining of Pasta varieties (blueberries, carrot, spinach, parsley) with benefic health properties*, **Nicoleta Vaida**, Nicoleta Gabriela Hădărugă

OC37: *Obtaining, physico-chemical characterization and evaluation of crude oil oxidative stability obtained from pumpkin seeds*, **Anca Alexandra Ioana**, Mariana Atena Poiană

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OC41: *Possibility of obtaining functional foods - Honey bee*, **Cristina-Andrea Boboc**, Mirela Ahmadi

OC42: *Studies on the influence of technological parameters (addition of stabilizer) on the quality flavored ice cream*, **Daniela Bocicai**, Florina Radu

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OC44: *Characterization of natural juice with pulp types (nectar)*, **Ramona Ciubotariu**, Bianca Ariana Velciov

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OC56: *Study of influence about technological parameters on acidophyl milk „Sana”*, **Lorena Maria Răduleş**, Florina Radu

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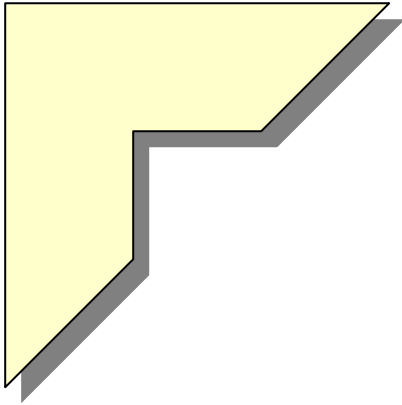
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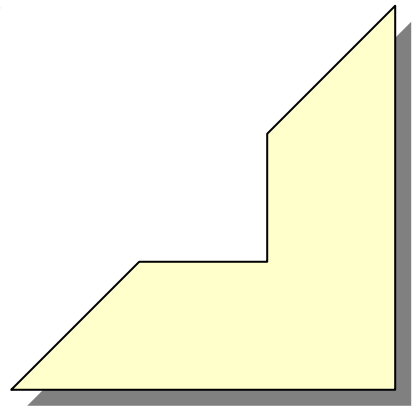
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Session I: Food control and safety



Microwave effects degradation of sunflower oil

Alina Ardelean, Adrian Riviş, Nicoleta Gabriela Hădărugă

Banat's University of Agricultural Sciences and Veterinary Medicine, Faculty of Food Processing Technology, 300645-Timişoara, C. Aradului 119, Romania

Sunflower oil, along with other vegetable oils have a wide range of advantages compared with animal fats, which give priority in its consumption. Sunflower oil contains vitamin groups A, D and E. Vitamin E (tocopherol) stimulates muscle activity, protects cells and other structures of the body against free radicals, prevent thrombus formation, development of atherosclerosis, enhances intracellular respiration, showing anticancer action. Vitamins are substances with the group's role in regulating the function of reproductive organs. Vitamin D (calciferol) influences mineral metabolism, need this vitamin feeling acute during adolescence, when there is intensive body. Lack of vitamin D or its failure may cause rahitismul. Vitamina A (Retinol) - Vitamin growth, provide eye adaptation to different light intensity.

In this paper we studied the degradation of sunflower oil under microwave treatment time of 5, 10, 15, 20 and 25 minutes and we determine the quality indicators: refractive index, saponification index, iodine index, density and water content. Refractive index increases after 5 minutes of microwave treatment of sunflower oil, significantly enough then remains almost constant at 25 minutes after treatment (microwave). Saponification index ranges decreases from 196 (mg KOH / g oil) to 158 (mg KOH / g oil), this is undeniable evidence that degradation of sunflower oil treated in a microwave for 25 minutes is quite significant. Acid value increases for sample 2 (held 10 minutes in the microwave) exceeds the maximum permissible acidity 0.165% in 0.207 peaking after 20 minutes of microwave treatment (compared with 0.1% maximum allowed). Density variation is negligible and fits within the permissible limits. Water content decreases significantly from 0.35% to 0.04% in the control sample was maintained after 20 minutes in the microwave.

OC2

Specierea fingerprinting and certification to ensure quality materials and leafy vegetable

Raluca Eleonora Bold, Despina-Maria Bordean

Banat's University of Agricultural Sciences and Veterinary Medicine, Faculty of Food Processing Technology, 300645-Timișoara, C. Aradului 119, Romania

This paper deals with some of the most popular leafy vegetable plants: parsley, dill, lovage, spinach, orach (butter leaves), nettle and wild garlic. Their chemical composition is presented and their benefits on the basis of mineral substances, bio- micro- elements and many vitamins, with beneficial effects on the body.

The technological part exposes the scheme for obtaining dried parsley and the material balance. The experimental part includes the determination of dry matter at 105 ° C and the determination of heavy metals by atomic absorption spectrometry for all seven plants.

OC3

Evaluation of nitrogen content in hot dogs kept in refrigeration in different packages

Sergiu Andrei Balog, Camelia Moldovan, Mihai Drugă

Banat's University of Agricultural Sciences and Veterinary Medicine, Faculty of Food Processing Technology, 300645-Timișoara, C. Aradului 119, Romania

Meat, raw material for food industry comes after slaughter, the muscle and other tissues. The proportion of these tissues in meat is different depending on its quality, which in turn is determined by species, breed, age, gender, state of fattening and anatomical region considered. This paper aims at treating meat of animal origin intended for food, which is of great interest both scientifically - for nutrition, and practical - for consumers.

Given the Romanian tradition of meat consumption in the range with fresh membrane in the present study we determined the nitrogen content of pork hot dogs under refrigeration in different packages. There were two groups for analysis: one in which samples of hot dogs were kept in paper packaging and other samples were kept in PE bags. Evidence were chilled (0-4 ° C). From 2 to 2 days to determine the nitrogen content of samples by spectrophotometric method with Griess reagent, in relation to the dry matter content. Thus, moisture was determined and samples with termobalance.

OC4

Microwave effects degradation of corn oil

Loredana Maria Filote, Nicoleta Gabriela Hădărugă

Banat's University of Agricultural Sciences and Veterinary Medicine, Faculty of Food Processing Technology, 300645-Timișoara, C. Aradului 119, Romania

Corn oil is a source of essentially fatty acids omega 3 and omega 6. Corn oil contains vitamins group B, C, D, E, phosphatides, trace elements (iron, manganese, copper, chromium, aluminum); this oil has a high content of vitamin E, about 2 times more than traditional sunflower oil. Very high temperatures destroy vitamins and alter most proteins. Temperatures up to 200 degrees C, especially when oil are subjected to microwave treatment (as happens in fast food restaurants), polyunsaturated molecules decompose and release free radicals. These are some fragments that have combined with oxygen to produce poisonous peroxides. Peroxides are toxic due to their strong oxidizing ability as it affects and destroys cells.

In this paper we studied the degradation of corn oil under microwave treatment time of 5, 10, 15, 20 and 25 minutes and we determined the quality indicators: refractive index, saponification index, iodine index, density and water content. Refractive index remains within the legally range, saponification index decreases and for the third sample (treated 10 minutes in the microwave) the value of the saponification no longer fall within acceptable limits. Acid value increases if the sample is treated 5 minutes in microwave, exceeds the maximum permissible acidity reached 0.52% after 25 minutes of microwave treatment to a value of 0.67 (compared with 0.2% maximum allowed).

OC5

Implementation of quality chocolate manufacturing technology

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The preparation of chocolate began actually in Italy. A confectioner in Florence realized the many qualities that cocoa possesses. Cocoa dissolved in milk or water helped him to prepare for the first time chocolate. Adding vanilla and sugar to cocoa powder and boiling the mixture, he obtained a product that quickly captured everyone. Spanish even now prefers to drink hot cocoa with milk, as a variant of the cold liqueur drunk by Aztec Indians. Moreover, the Spanish offers to their lovers so-called “serenades cocoa”.

Chocolate is a sugar product, is likely to melt in the mouth, without being able to detect the presence of solid particles, with aroma and taste. These qualities - degree of dispersion, lubricity and smell - are the result of physical and biochemical processes that occur during the processing of key raw materials: cocoa mass, cocoa butter, some additives (milk, fatty seeds, flavoring, etc.). Masses of chocolate has properties thixotropy. At room temperature they are solid dispersed, by heating, they are fluid systems. In such a system, the dispersion phase is the melt cocoa butter and the dispersed phase is solid particles from cocoa beans and powdered sugar. To achieve a feeling that the solid components are not separating, they must be smaller than 20 to 25 μ which is the olfactory organ detection threshold.

OC6

Fingerprinting and speciation of diary products for quality insurance and certification

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This study aimed to highlight the possible use of micro and macro content to identify specific fingerprints according to the kind consideration. Have highlighted the following macro: Ca, P, Mg, Na and the trace elements Zn, Cu, Fe, Mn. It was noted that there are variations between the content of microelements of cow and sheep cheese which allows identification of forgery resulting from mixtures of cow's milk with sheep milk and nedecarării this mixture. In Zn and Fe content is a characteristic zonal and allow fingerprinting in terms of area of origin of cheese

It notes variations in content of magnesium and calcium, which allow different fingerprinting of cheeses made from cow's milk and those obtained from sheep. Fingerprint variation is characterized by proper values in magnesium and calcium content and is confirmed by high diversity index. Study on six kinds of cheese, cow and sheep allowed highlighting of possible fingerprints, which facilitates quality control of raw material (cow and sheep milk).

Microwave effects degradation of palm oil

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Originally from Africa, and now there are wild palm plantations, and used for over 5000 years for food, palm oil ranks third in world consumption of oils and fats, animal fats and oil after soy. Palm oil is obtained from the fleshy part surrounding stone, the crushing and pressing. Palm oil contain a mixture of fatty acids on these proportions: 44% oleic acid, linoleic acid 10%, 40% palmitic, and 5% stearic acid. This composition is similar to that of adipose tissue of persons who have a regular diet. Palm oil contains no cholesterol. Palm oil contains much beta-carotene, which is important in adapting to the dark eye, healthy mucous membranes, membranes and skin, bone growth. The main role of vitamin E is the antioxidant activity. It prevents oxidation of unsaturated fatty acids and phospholipids and vitamin A. It also helps maintain cell membrane stability and is essential for maintaining normal neurological functions.

In this paper we studied the degradation of palm oil under microwave treatment time of 5, 10, 15, 20 and 25 minutes and we determined the quality indicators: refractive index, saponification index, iodine index, density and concentration of malondialdehyde. Refractive index increases after 5 minutes of microwave treatment of palm oil, significantly enough then remains almost constant at 25 minutes after treatment (microwave). Saponification index decreased from 190 (mg KOH / g oil) to 158 (mg KOH / g oil), this is undeniable evidence that degradation of palm oil treated in a microwave for 25 minutes is quite significant. Acid value increase for sample 2 (held 10 minutes in the microwave) exceeds the maximum permissible acidity 0.15% in 0.76% peaking after 20 minutes of microwave treatment (compared with 0.1% maximum allowed). Density variation is negligible and fits within the permissible limits. For malonaldehyde concentration of palm oil samples treated over 15 minutes in the microwave, concentration increases quite significantly 25 minutes after treatment.

OC8

Meat quality control as raw material and monitoring the meat alteration by using piezoelectric sensor

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The piezoelectric effect was discovered until 17th century. Up to 10 crystal classes have piezoelectric effect; due to the assimetric distribution of charges in the crystal, this revealed the spotaneous polarization phenomenon. In normal atmosphere, the normal polarization is not significant due to the presence of free ions in the environment, which neutralize the surface charges. With the increasing of temperature, the free ions from the environment are removed and the crystal „seems” to be electrically charged in the worming process.

The paper presents the applicability of the piezoelectric sensor for evaluation of pork meat alteration; the following samples were analyzed: pork meat – the sample was achieved from the local market and stored to the refrigerator (50 g sample was subjected to the alteration process), and pork neck meat (also 50 g sample was subjected to alteration).

The following conclusions can be drawn: the pork neck meat alter faster than the pork meat (without fat), the quantity of degradation compounds being higher for the first case. The degradation rate is slower in the first part (4-6 hours) for the pork meat, increasing exponentially after that. For the pork neck meat the degradation is important until from starting of the degradation process. This experimental data can be used for establishing the storing time and conditions for the pork meat used as raw material. Thus, the usefull of piezoelectric sesnsor is demonstred for the study of the pork meat degradation.

OC9

Films protective lipid systems

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Major motivation who founded the projection (sizing) technological theme mentioned was determined that the importance of natural and synthetic waxes in preservation, storage medium and short term of horticultural products and legumes. Known importance of superficial films, (pellicule) in regulating (reducing) gas transfer through cell membranes and respiratory process determined as commodities, *“galantar life”* of food. In the paper presented, beeswax was the central objective of the projection (sizing) technological theme, to diversify the assortment of organic coating additive systems, natural.

Interpretation of experimental data presented can be formulated comparatively the following observations subsequent consequences in food processing of food receptors, accessing beeswax emulsions as emulsifier in the system: at the same temperature, emulsifier concentration in demineralized water, stability of emulsions with beeswax decreases while; at the same temperature, evaluation period, in demineralized water, same emulsion stability increases with emulsifier concentration; assessment at the same time, emulsifier concentration in demineralized water, emulsion stability decreases with increasing temperature; at the same temperature, emulsifier concentration, evaluation period, emulsion stability decreases with increase of permanent hardness (expressed in german degrees as magnesium salt).

OC10

**The level of toxic metals (Cu, Cd and Pb) in fresh fish
from the Danube, Moldova Noua area
(Caras-Severin county)**

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The paper addressed issues of great current interest, integrated production, engineering and technology research, promoting the application of analytical technologies leading respectively atomic absorption spectrometry method for understanding quality of fishery products, superior turning them into line with food safety and security.

In the original experiment of this graduation project was highlighted the quantitative variations of toxic metal content (Cu, Cd and Pb) in two fish species (caras and pike) caught in the Danube extensively collected both in the Moldova Nouă, Caras Severin area known for heavy metal pollution problems, particularly with and upstream of this locality, the area unpolluted by heavy metals from mining residues from former mining holding, Moldova Noua.

Experimental objectives were pursued: Qualitative and quantitative identification by modern analytical methods, atomic absorption spectrometry, the main toxic metals (Cu, Pb and Cd) in fish from the Danube, the Moldova Noua area, Caras-Severin county; Comparison of levels of toxic metal found in two of the many fish caught and consumed species (caras and pike) collected from both polluted area and upstream of said zone to determine levels of heavy metal pollution.

Outcomes obtained show evidence of pollution by toxic metals in both fish species harvested from the area polluted by mining waste Moldova Noua and even exceeded the national limits allowed for Cu and Pb, in the predator fish species pike. This imperative permanent control of all species of fish harvested in the area to create a climate of food safety and security of the Moldova Nouă population of all consumers as well as fish from this area. Also imposed stringent environmental regulations to limit leaks of toxic metals in the Danube, which can affect both the environment and population in the area.

OC11

**Monitoring spoilage of fish and fish products with
piezoelectric sensor**
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Piezoelectric sensor is a device sensibility table centerpiece is an AT-cut *quartz crystal* placed between a pair of Au-Cu elctrods. To make the experimental part was working with *quartz crystal microbalance - QCM*, an ultra-tiny changes in mass of the order μg . QCM working principle is based on *Sauerbrey's equation*, which shows that *the resonance frequency increases in direct proportion to the mass deposited on the sensor*. Altering gases are deposited on the piezoelectric sensor, which changes it's resonant frequency and mass, microbalance gas automatically records data. This signal is sent to a computer through a *software process* data and displays them on its interface. Computer table shows changes in time and frequency of the piezoelectric sensor. The data obtained is processed as achieving some *graphs showing temporal variation of alteration compounds formed from fish flesh*. Samples were consisted of frozen fish fillets and chilled fresh fish on ice from trade. The experimental part was carried out in laboratory analysis of the Department of Alimentary Products, from Facutly of Food Processing Technology.

OC12

Assessment sensory characteristics and antioxidant capacity of yogurt with different additives

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Milk and dairy are important sourced for human nutrition due the calcium and enzymes content. The yogurt is one of the most preferred dairy. It is light and it has a good taste. Coffee and chocolate are the most consumed products by adults; these are known good antioxidants. Grains are healthy foods for breakfast because of their dietary fiber content.

The combination of yogurt with coffee (hazelnut, cappuccino and nesscafe), chocolate and cereals are studied in term of sensorial characteristics and antioxidant capacity.

Sensory analysis of records shows that most appreciated samples were the yogurt with chocolate. Discontent among tasters noted that our samples were not sweet enough (not sweetener adding).

As a general statement, some tasters samples expected from our products, some desserts rather than a probiotic product. Our intention was to bring value to yogurt - consumer having multiple benefits by taking it: to serve a healthy snack (yogurt), to serve coffee (incentive) and eat high-fiber grain foods, according to advertising "3 in 1". In part, consumers have appreciated the yogurts with added, especially because it known the benefits of nutritional additives used - tasters sample was composed exclusively of students and academics from the Faculty of Food Technology Products from Timișoara. Best antioxidant activity was observed in samples with chocolate added. It noted an improvement of antioxidant activity with increasing percentage of chocolate added.

OC13

Antioxidant activity of the sour cream with fruit juices

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Whipped cream is probably in the top choices of many consumers of confectionery. Addition of additives gives it great taste properties. Flavors and colors used are usually the healthiest additions. Fruits and fruit extracts (juice) cream added to both to improve taste, odor and flavor and content of antioxidants in them, providing many benefits for human health.

In the present study we evaluated the antioxidant activity of cream with added natural fruit juices (strawberry, raspberry, apple, mandarin, grapefruit and orange) by DPPH method. Fruit juices obtained were added in cream at a rate of 10, 20 and 40%.

The best antioxidant activity presented a sample of cream with added raspberry juice 40%, while the opposite pole was the sample of cream with added 10% strawberry juice. Antioxidant capacity was also noted good in the cream samples with added mandarin 40% and grapefruit 40%. Except for the addition of strawberry juice, all other additions have increased the antioxidant capacity directly proportional to the dose of added juice.

OC14

Implementation of the HACCP plan in a processing unit of preserved meat in own juice and finished products quality control

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Food safety can be a real fact just if it is a responsibility of all those involved in food activity, from professionals to consumers. Along the food chain, are implemented various procedures and control mechanisms that ensure that food reaching at consumer is edible and the contamination risk is low to a minimum, so that people are healthier after benefits safe and healthy food.

OC15

Determination of nitrite in conventional and unconventional heat-treated meat

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Sodium or potassium nitrite are commonly used in meat technology due to their ability to combine with mioglobina, meat characteristic pigment which forms a red complex which is stabilized by heat.

Nitrites are recognized as harmful in the free state can cross gastrointestinal barrier, reaching the circulating blood where it blocks a proportional amount of hemoglobin. In a systematic consideration of free nitrites can cause varying degrees of anemia and a high intake (more than 0.6 g of the circulating blood suddenly entered an adult) the effect can be fatal. Also nitrites is combined with some amines, results during the technological maturity of the meat or the gastrointestinal digestion process, which form nitrosamines, known for their carcinogenic effect.

The aim of this work was to evaluate the nitrite content in boiled sausages undergo heat classic treatment and microwave treatment for 5, 10, 15, 20, 25 minutes. It was determined in parallel the water content of samples to be reported to the nitrite content of dry substance. To spectrophotometric determination of nitrite was reading the absorbance at 520 nm. Comparing samples heat treated by two methods, we observed a slight reduction of nitrite content in the samples treated with microwaves. This is partly's delay (cca. 5 minutes) observed in the microwave until it reaches boiling temperature compared to clasical boiling. Meanwhile, water entering in samples lead to removal of part of nitrite in boiling water. Another explanation for this could be lower rate to water evaporation by unconventional heat treatment than clasical treatment. By increased time of boiling sausage samples resulted in increased nitrite content in boiling water, both by classical heat treatment and by the unconventional (microwave).

Boiling sausage samples by both treatments led to reduced content nitrite in water samples and their grow in boiling water. Thus, to reduce the nitrite content of samples is recommended cooking sausages and boiling water removal, not its use cooking. It also recommends cooking with microwaves, whereas the rate of evaporation of boiling water is less than with conventional boiling and nitrites removal is better.

OC16

The quality control of the integral consumption milk - establish a correlation between the total aerobic plate count of milk and microbial flora mezofili

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In this paper, we were determined total number of aerobic plate mesophilic counts from milk with the classical procedure and the spectrophotometrical procedure (methylene blue and resazurine tests).

In conclusion, was observed an opposed correlation between germ load and samples absorbances, both methylene blue and resazurine tests. Operation time to load of germ determination was significant reduced (maximum 2 hours) by spectrophotometrical technique in comparison with classical methods (72 hours).

OC17

The control of fresh cow cheese's quality – antioxidant activity of fresh cow cheese with dill and barley germ addition

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This paper presents a new product, obtained in Faculty of Agrofood Technology Products, namely fresh cow cheese with dill and barley germ additions. The dill content was constant and barley content was progressive grown. Thus, here are presented the materials and methods used for obtaining the wanted product, following the organoleptic analysis of fresh cheese with dill and barley germs additions and the determination of the antioxidant capacity and acidity of the samples obtained. Following sensory analysis, the results were favourable for all types of cheese produced, dill and barley having a great positive influence on the taste and smell, especially the final product. Dill presence was more obvious in terms of taste and smell, but the colour was more influential by barley presence sprouts. Thus the cheese samples with 2 or 2.5 grams germs showed a slight yellowish hue. The consistency was not influenced by the presence of dill or barley sprouts. According to the results, acidity increasing was influenced both of cheese and whey by dill content but also the concentration of barley sprouts. Thus, it appears that dill and barley have a particular influence on acidity, driving the growth of lactic bacteria.

Antioxidant capacity of aqueous extracts from cheese samples analyzed presented a substantial reduction in samples which barley was added. However, the sample with dill added presented a same antioxidant capacity that control samples. Addition of barley in cheese samples lead to an increase of antioxidant capacity with the growing amount of barley, but well below blank. A possible explanation could be that antioxidants present in barley is not well in the water extract or casein forming compounds that are able to seize part antioxidants. Increasing the dose of barley, seizing antioxidants in cheese could not be so effective, while were partially released in aqueous extracts. Because qualities taste and the chemical constituents of dill and germinated barley, fresh cheese enriched with these are presented as a functional food, dietary probiotic and recommended to all categories of consumers. Although the addition of dill and barley sprouts have brought major changes on the antioxidant activity of the cheese, they have a great positive influence in terms of vitamins, chlorophyll, minerals and all nutritional products characters. Increased of antioxidant capacity was observed in samples derived from cheese whey added, a fact unnoticed in aqueous extracts, this may lead to the conclusion that antioxidants present in cheese is not extracted in water, but most of them are eliminated in the whey. Highest antioxidant activity observed in the samples of cheese whey, and then used to obtain products such as protein concentrate, soft cow cheese, cream, whey, whey concentrate, whey powder, some beverages, or animal feeding, increased antioxidant activity will be significant and by-products mentioned. Addition of dill and barley germ major influences on growth and acid cheese whey obtained, leading to its growth. Increased acidity of the cheese with the addition of barley and fennel gives great taste qualities but requires more attention in terms of keeping the product and its storage as a storage failure involves altering the product faster.

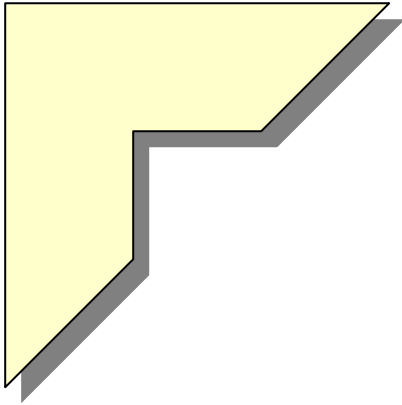
OC18

Enzymes usee for bread processing

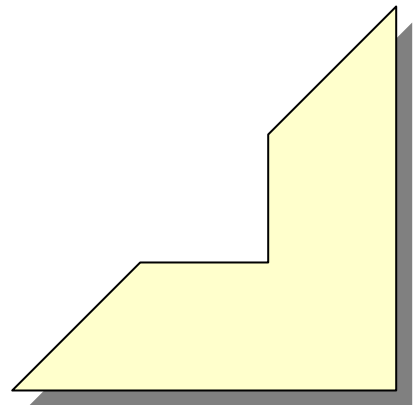
Bakos Cristian, Constantin Mateescu

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The aim of this paper was to studying compression and relaxation bread with different enzymes. It is noted that the addition of hemicelulase improves crumb elastic properties as Young's modulus values are reduced by 4.7 to 5.8 kPa in hemicelulase presence. Clearly hemicelulase good influence on the elasticity and texture of bread and improved gluten network and gas retention in the core network gluten bread. The hemicelulase has an important influence on the viscoelastic properties bread. Values relaxation time first one, λ_1 11.17 to 16.22 suggests higher values for initial rate of decrease of force relaxation and therefore more pronounced elastic properties. The second relaxation λ_2 corresponding area cost curve is the relaxation, time Maxwell rate of glutamate to crumb structure. The parameters K1 and K2 are calculated from linear regression equation of Peleg. Lowest values for K1 are covered in this mixture of α -amylase and hemicelulase. Probably, hemicelulase presence induces a weakening effect of glutamate structure of the dough. The ratio of relaxation of the initial force is the K2. The best values of K2's showing the greatest "stability" in the presence of hemicelulase, being an index for the best elastic crumb.



Session II: Chemical engineering



OC19

Correlation between vitamin C content and antioxidant activity of fruit varieties

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The present study followed the antioxidant activity determination of some fruits (plum, kiwi, orange) by the DPPH free radical method and their correlation with C vitamin content of these fruits. The experimental part has focused on determining the concentration of ascorbic acid in fruits of orange, kiwi and plums and aqueous extracts, alcohol and acetone produced from them, while determining the antioxidant activity of these extracts to establish a correlation. All the analysed samples were established a direct correlation between C vitamin content and antioxidant activity. The higher ascorbic acid content and the best antioxidant activity were determined in the case of kiwi acetonetic extract and the smallest values were for the orange alcoholic extract.

OC20

**Thermal degradation of β -carotene from blueberries
(*Vaccinium myrtillus* L.)**

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Carotenes and carotenoids are non-nitrogen containing pigments with polyisoprenic structure; they are widely spread even in vegetable or animals tissues. Two main types of carotenoidic pigments exists: *hydrocarbonated class* or *carotens* and *oxygated class* or *xanthophylls*. These compounds furnish the yellow, red, or orange color of the tissues where they exists; this color is due to the great number of conjugated double bonds from the carotenoid and xanthophyll structures. Carotenoidic pigments are synthesized only in vegetables. Animals, even vertebrates or non-vertebrates, and humans don't have the capacity to synthesize carotenoids; these compounds must be intake by such organisms with the food.

The paper presents the identification and quantification of β -carotene from blackberries (fruits) subjected to the thermal treatment at various temperatures, by using spectrophotometric techniques. Four types of fruit blackberries carotenoidic extracts were obtained: 1 – carotenoidic extract from raw fruit blackberries, 2 – extract from fruit blackberries treated one hour at 50°C, 3 – extract from fruit blackberries treated one hour at

70°C, and 4 – extract from fruit blackberries treated one hour at 100°C (to boiling point). The β -carotene content (by UV-Vis spectrometry) was evaluated and identified in all samples. The highest content of β -carotene was observed in the extract No 1 (from raw fruits), the concentration being 30.8 mg/100 g sample; the extract No 2 (fruits thermally treated at 50°C) has a β -carotene content of 29.8 mg/100 g sample, and for the last samples (No 3 and 4) these concentrations were lower (28.4 mg/100 g and 26.8 mg/100 g sample, respectively).

OC21

Studies on qualitative assessment of tomatoes and tomato products from the Romanian market

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Today tomatoes are the most cultivated vegetable species in the world, although their cultivation began only a century ago, extending especially around the two world wars. Tomatoes are the most consumed vegetable in the world, occupying large areas of culture with representative areas in the Americas, Middle East and Europe.

Tomatoes are the most common species in cultivation, due to the economic relevance of fruit and food, not so much by their energy value as the content of vitamins, minerals and organic acids. The energy value of fruit is smaller compared to other foods and even with other vegetables (90-150 cal/100 g sp). Food value is given by the high content of vitamins A, B₂, B₆, C (15-30 mg%), phosphorus, potassium, iron, calcium, iodine, magnesium, carbohydrates (2.9 to 7%), organic acids (0.5 to 1, 5%).

Determination of water activity by type thermobalance RADWAG - 210 S. Following the analyses performed on water activity in tomato broth, tomato paste and ketchup were the following conclusions: evidence of tomatoes, broth and tomato paste has very small variations, all analysis in terms of their water content values in the range 81-83%; ketchup sample had the lowest percentage of 72.26% moisture.

Determination of pH using pH meter type multiparameter Inolab pH/COND 340. Following tests carried out to determine the pH value for samples of tomatoes, tomato broth, tomato paste and the following conclusions: pH value when the sample was 4.7 tomato value in the range prescribed by the standard in force; small differences in pH value were recorded for tomato paste product, its value is 4; products, tomato ketchup with tomato paste that at pH 3.64 pH 4.14 falls within the normal set of standards;

Determination of mineral elements (Na, K, Ca, Mg, Fe, Pb and Cu) in tomatoes, tomato broth, tomato paste and ketchup by atomic absorption. Following nutrient determinations

(Na, K, Ca, Mg, Fe, Pb and Cu) in tomatoes, broth pets, tomato paste and ketchup by atomic absorption to be drawn the following conclusions: highest content of Fe element was in the tomato paste (0.85 ppm) and lowest in tomato (0.62 ppm); element with the maximum concentration was recorded in tomato samples (0.18 ppm) and the minimum cash in broth (0.12 ppm); element Pb peaks were in the house broth (0.58 ppm) and lowest in tomato (0.10 ppm).

OC22

Studies on the possibilities of qualitative assessment of different kinds of honey in geographical areas of Romania

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This paper presents the determination of water activity in different kinds of honey with type termobalanței RADWAG-210 S, pH determination using multiparameter Inolab type pH meter pH/COND 340, measuring water content–method refractometer, and by determining the acidity can see clearly that all samples analyzed correspond to regulations which means that honey is not subject acetic fermentation process and is not adulterated with artificial invert sugar syrup, it does not neutralize enough acid or if excessive use of neutralizing the reaction can proceed in alkaline.

OC23

Comparative studies in obtaining and physico-chemical characterization of linseed oil and rapeseed

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The experimental part presented is obtained from linseed oil and rapeseed in laboratory conditions, by Soxhlet extraction with petroleum ether, describes in detail the physico-chemical methods of analysis used in this paper and include interpretation of results.

**Qualitative assessment study on the
pollen from different geographical areas of Romania**

**Elena-Laura Gruescu, Ramona Cristina Biron,
Gabriel Heghedűş-Mîndru**

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Pollen collected by bees from the wild is an important source of plastic-forming substances. As bee products, bee pollen is in the form of microscopic granules accumulated bee pollen as a mop, with a diameter of 2-3 mm. The bees collect pollen from flower anthers by shaking or by crushing them with mandibles. A pollen load weighed 5-7 mg. Return harvest of pollen is influenced by humidity and atmospheric temperature, the internal needs of the colony and attractive factors (flavor, containing the pollen, nectar presence). Minerals have multiple roles. The regulators of osmotic pressure and acid-base balance, maintaining normal physico-chemical coloidelor the body, enter into the composition of biocatalysts (hormones, vitamins, enzymes) and have a key role in enzyme activity. In the experimental determinations were three types of pollen collected from different counties of Romania (Timis, Salaj and Gorj).

Determination of water activity by type thermobalance RADWAG - 210 S. Following the analyses performed on water activity in the three samples of bee pollen have the following conclusions: sample of pollen collected in Timis County recorded the highest percentage of water in the samples analyzed (4.68%); lowest water rates were determined for samples of Gorj (2.37%) and Salaj (2.73%);

Determination of mineral elements (Na, K, Ca, Mg, Cu, Zn, Mn, and Fe) of bee pollen by atomic absorption. The analzsas following made on nutrient determination in three samples of bee pollen have the following conclusions: highest K content was recorded for samples in Timis County and the lowest in the county; As for the maximum concentration was recorded in the county and the county of minimum; for Mg peaks were recorded in the county of, and lowest in the county; National item values were not recorded in any sample of three analyzed: highest element content in samples was recorded with the county and the lowest in the county of; element Zn maximum concentration was recorded in Timis county and county of the minimum; Mn element peaks were recorded in Timis county and the lowest in the county of; Fe element peaks were recorded in Timis county and the lowest in the off-county.

OC25

**Manufacturing process of canned beans.
The study of the influence of moisture content on some
geometrical features of grains bean**

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This paper presents a study of the influence of moisture content on some geometrical features of beans.

OC26

**Incidence of microorganisms in Enterobacteriaceae
family in meat**

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This paper presents a study on the incidence of Enterobacteriaceae family in meat: we determined the microbiological load of two cheese samples of cattle, goats that from private households. Microbiological parameters determined by us are: UFG (colony forming units), total coliforms and total plate count of coagulase-positive staphylococci. After the tests I passed the tests of apparent confirmation for both coliforms and staphylococci. Genera that were confirmed were: *Escherichia coli*, *Proteus* and *Hemolytic staphylococcus*.

OC27

**Comparative analysis of different active principles content
of extracts from different varieties of paprika**

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In this paper we wanted to determine the concentration of ascorbic acid in extracts of different varieties of paprika (red pepper California, Kapia pepper, paprika) analyzed. Parallel antioxidant activity of juices was determined to carry out a comparative study.

OC28

Determination of β -carotene and total carotenoids in some plant materials

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The present study was to determine the content of carotenoid compounds in fruits of peach and of corn by high performance liquid chromatography with reversed phase (RP-HPLC) and spectrophotometric method. This paper presents the experimental part of this work. In the experimental part of this work was intended extraction and purification of carotenoid compounds in fruits of peach and corn, the determination of β -carotene and total carotenoids by high performance liquid chromatography with reversed phase (RP-HPLC) method and spectrophotometrically. The content of β -carotene and total carotenoids of hybrid corn is considered high in comparison with literature data on other types of maize hybrids. Had great influence on the results and method of extraction of carotenoid compounds, which method resulted in complete discoloration of corn flour.

OC29

**Thermal degradation of beta-carotene from carrot
(*Daucus carota var. sativa*)**

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Carrot juice is the most important source of Vitamin A and especially of provitamin A (carotene famous, with benefits to the skin and eyes), besides a number of other vitamins B, C, D, E, G, K. The juice provides a rich content of sugars (levulose and dextrose), and minerals (bromine, calcium, copper, phosphorus, magnesium, manganese, potassium, sulfur, etc..) asparagine and daucarine. Morning drinking in combination with other vegetables, this juice will be consumed on an empty stomach (400-600 ml). Experts recommend carrots or carrot juice as a food that you should not miss the daily diet, but the quantity of juice can be consumed daily, opinions are divided - many experts believe the amount should not exceed 50-60 ml per day (obviously talking about a constant consumption and long term and not cure carrot juice).

This article has sought to identify and determination of beta - carotene in carrots, heat-treated at different temperatures and deepen the study of natural provitamins

spectrophotometric methods. We were obtained four kinds of extracts carotenoids from carrot: 1 carotenoidic extract from carrot fresh, 2 - extract of carrots treated at 50°C, 3 - carrots extract treated at 70°C, 4 - extract from carrot treated at 100°C. It was determined the content of β -carotene (by UV-Vis) of all four types of carotenoids obtained extracts, β -carotene was shown in all extracts analyzed. Highest β -carotene content was determined in the extract concentration of carotenoids 1:01 188.2 mg/100g carrot, the carotenoids extract 2 (treated at 50°C) at a concentration of 143.6 mg/100g carrot, the carotenoids extract 3 (treated at 70°C) has led to a concentration of 108.3 mg/100 g carrot, and the carotenoid extract 4 (100°C) was measured at a concentration of 86.3 mg/100 g carrot.

OC30

Opportunities for qualitative assessment of coffees purchased on Romanian market

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Coffee is a popular drink in the world and is assumed to be a healthy alternative to alcoholic beverages in social meetings. Over the years, brewed coffee specialties have multiplied. Chains, specializing in coffee, coffee supplies not only to attract consumers to coffee, but also the environment with products and products offered. Coffee was categorized (stereotypical) as an adult drink. In the experimental determinations have been selected three types of coffee on the Romanian market as follows: Doncafe selected, and Jacobs Lavazza Krönung with alintaroma Mattino.

Determination of water activity by type termobalanței RADWAG - 210 S. Following anlizelor performed on water activity in the three samples of coffee, Lavazza Mattino, Jacobs Doncafe Krönung with alintaroma and have selected the following conclusions: the highest percentage of moisture was determined if the sample type coffee, Jacobs Krönung with alintaroma (3.59%), coffee sample type selected Doncafe registered 2.85 percentage and the smallest amount of water was determined if the sample type Lavazza coffee Mattino; according to data presented in chapter bibliographical documentation moisture percentage value should not exceed 12% for coffee; coffee samples analyzed in this paper is well below the maximum permissible percentage moisture standards.

Determination of pH using pH meter type multiparameter Inolab pH / COND 340. Following tests carried out to determine the pH value of samples of Lavazza coffee Mattino, Jacobs Krönung with selected Doncafe alintaroma and processed pot and filter were drawn the following conclusions: to data presented earlier in chapter bibliographic documentation, the pH value when processed coffee maker, kettle, etc. is within the range 5.2 to 6.9; pH value for coffees studied depends on the type of processing used, the coffee pot when the pH value was lower than in the coffee filter.

Findings sensory properties of coffee: after assessing sensory points method, the result is that the best coffee Jacobs averaging 9.17 points, followed by Lavazza with an average of 8.95 and an average Doncafe 8.48 points; differences in sensory assessment of the types of coffee according to sex, ie if the filter brewing girls gave a higher score than boys for all three types of Jacobs coffee, Lavazza and Doncafe. This remains unchanged and the preparation given to the pot when girls scored higher than boys for Jacobs and Lavazza coffee; if the kettle for coffee brewing Doncafe boys given a score higher than girls; in most cases, the coffee was assessed Jacobs; method of brewing can affect its sensory quality; in all three samples studied in filter coffee brewed (8.80 points) obtained a higher average than the pot (8.12 points) for girls and boys.

OC31

Comparative study of the antioxidant activity of fruit and vegetable juices

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The aim of this paper was to comparing antioxidant activity (using the DPPH free radical) of some juices, fresh fruit and vegetables. Knowing that vitamin C is one of the most powerful natural antioxidants to try to establish a correlation between antioxidant activity and vitamin C content of juices analyzed. Between fruits and vegetables examined, the highest content vitamina C presents pink grapefruit, followed by beetroot and red cabbage and the lowest vitamin C content found in apple. Vitamin C concentration is higher in juice than the material; the richest in ascorbic acid being pink grapefruit juice, followed by beetroot juice. the lowes value of vitamin C concentration was registered in the case of apple juice. Correlating results with the antioxidant activity of vitamin C content can be seen that the samples analyzed, antioxidant activity varies in direct proportion to the amount of vitamin C concentration.

OC32

Comparative analysis of the different active contents of some principles from basil, rosemary and dill extracts

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In this work, it was determined C vitamin, chlorophyll, carotenes and xanthophyll content from basil, rosemary and dill extracts. The major conclusions are: the highest content of C vitamin was registered in dill leaves, followed by rosemary, basil leaves much more poor in C vitamin; the highest content of C vitamin was reported in the aqueous extract of fennel, followed by acetone extract of basil. Alcoholic extract of dill is the poorest in C vitamin. In the case of dill, water extract best C vitamin, and for basil and rosemary, acetone extracts are rich in C vitamin; the highest content of chlorophyll "a" basil is found in the alcohol extract, followed by the basil extract in acetone. Lowest content of chlorophyll "a" was reported in the acetone extract of rosemary; Chlorophyll "b" is the largest amount in acetone extract of basil, followed by alcoholic extract of basil. Acetone extract of rosemary is the poorest in terms of content of chlorophyll "b".

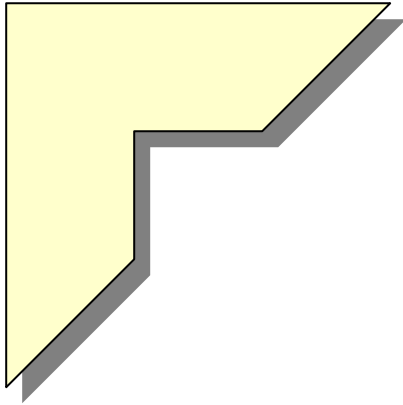
OC33

Comparative analysis of different active principles content of extracts from different varieties of paprika

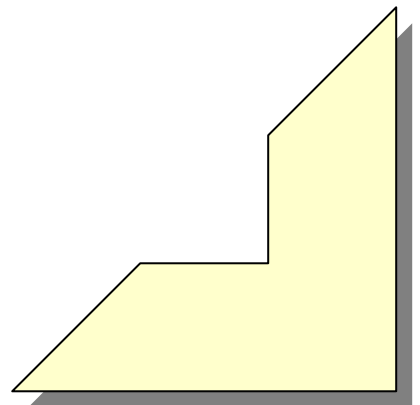
Andreea-Veronica Onesim, Delia Dumbravă, Camelia Moldovan

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In this paper we wanted to determine the concentration of ascorbic acid in extracts of different varieties of paprika (red pepper California, Kapia pepper, paprika) analyzed. Parallel antioxidant activity of juices was determined to carry out a comparative study. The richest in ascorbic acid was peppers Atris F1, followed by California red bell paprika. All three samples studied, acetonic extracts had the highest concentration of vitamin C and then followed by alcoholic extracts and then the aqueous extract. Therefore the most efficient acetone extract ascorbic acid from the plant material. The richest in vitamin C acetone extract obtained from red paprika Atris F1, followed by alcoholic extract of the same acetone extract of paprika and red bell paprika California. The chlorophyll pigments (chlorophyll "a" and "b") concentrations are highest in alcoholic extract of green pepper Impala F1 and acetone extract of the same hybrid. Carotenoid pigments are better represented in all extracts than chlorophyll pigments. Both carotenoids and chlorophyll, it is remarked that these compounds were efficient by alcohol better than acetone.



Session III: Food technology, biotechnology and processing



OC34

**Study on Vitamin C content of citrus
(lemon, orange, grapefruit, lime, and pomelo)**

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In this study we aimed vitamin C content of citrus (lemon, orange, grapefruit, lime and pomelo). Vitamin C analysis was performed by HPLC using calibration method for measuring detector response; a calibration curve by using vitamin C standard solutions was obtained.

Extraction of organic acids (vitamin C): a macerate (5 g samples) was mixed with 50 ml 2% metaphosphoric acid and transferred into a conical vessel. After mechanical stirring for 15 minutes the mixture was filtered on filter paper to obtain a clear extract, which may be maintained at -20 ° C until analysis. After the analysis and quantification of results in studied citrus samples the following concentrations of Vitamin C were obtained: lemon 138.9 mg/100 g sample, 36.9 mg/100 g sample for orange, grapefruit 108.7 mg/100 g sample, 122.8 mg/100 g sample for lime, and 65.9 mg/100 g sample for pomelo.

OC35

**The antioxidant activity of berry extracts (raspberries,
blackberries, strawberries and blueberries)**

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The paper presents the antioxidant activity evaluation of berry extracts (raspberries, blackberries, strawberries and blueberries) and the time-dependent antioxidant capacity by calculating the free radical 2,2-diphenyl-1-picryl-hydrazyl (DPPH) reaction rate. If berry extracts, the best results were obtained in ethanol 60% extract, with a relative residual absorbance of 7% to 10% for raspberries and blackberries, followed by case in EtOH 96% extract. Poorer results, but close enough, have been obtained for water extracts and EtOH20%. This behavior is correlated with the concentration of bioactive flavonoid compounds contained in fruits of the forest.

OC36

Obtaining of Pasta varieties (blueberries, carrot, spinach, parsley) with benefic health properties

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Pasta is a staple food consumed throughout the country in traditional soups and broths and pasty with cheese, dessert sauces and sweet dishes, especially in Transylvania - Banat. With the approaching implementation of the Romanian culinary civilization of Western Europe countries, pasta consumption in Romania is constantly growing. Have the best Easter full content of fiber, vitamins - B1, B2, B3, B5, K and E - and minerals such as calcium, iron, magnesium, phosphorus, zinc and manganese. Fibers form a gel that helps the stomach and absorption of glucose. Therefore normal spaghetti have a glycemic load of 37, while the full 23.

OC37

Obtaining, physico-chemical characterization and evaluation of crude oil oxidative stability obtained from pumpkin seeds

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The aim of this paper was to obtain crude oil by Soxhlet extraction using plant pumpkin seeds, physico-chemical characterization and evaluation of its oxidative stability in different storage conditions. Factor that promotes the utmost oxidative degradation of fatty acids in pumpkin oil during storage is the sunlight. Thus, there is the recommendation not to store oil directly exposed to sunlight. By the oil storage in the dark throughout the four months, at the atmosphere temperature and 10°C the value peroxide index has not been alarming, not exceeded 20 milliequivalents O₂/kg higher. By analyzing the evolution of polyphenolic compounds and antioxidant capacity during storage in the four cases it observed a decrease of these characteristics, by the extends storage time. By report with time and storage conditions, the total antioxidant capacity and polyphenol content for pumpkin oil fell. After four months, the best antioxidant properties were recorded for oil stored in the dark and at a temperature of 10 ° C. These results are due to bioactive compounds with antioxidant action from the oil pumpkin that deteriorates over time, leading to loss of their antioxidant properties, and a weaker protection against oxidative

degradation phenomenon, whose advancement is evidenced by increasing the peroxide index.

OC38

Technology manufacturing canned snail meat pate - rheological studies

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This work has studied the effect of temperature on rheological behavior of some types of snail meat pate. Uniaxial compression tests were gathering information that enabled tracing graphic (by ORIGIN program) of tension dependence of compressive deformation at three specific temperatures: 8°C, 14°C and 21°C. Expressed either as specific deformation Hencky strain or Cauchy. From compression curves was calculated Young's modulus, stiffness and critical tension at the three temperatures studied.

OC39

Studies on influence of technological parameters on milk quality beaten skimmed

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Fat buttermilk is a dietary product obtained by cream, whole milk and culture FARGO 404. Curd is present as fine, with pleasant tasting, refreshing tart and is appreciated by consumers. Research study conducted in the laboratory to obtain a beat skimmed milk, using tools as simple. In the last chapter of general conclusions have been specified.

This paper will provide a useful means of technical staff, especially in practical work where such work and operations of treatment of milk is one of the determinants for increasing the quantity and quality of dairy country.

OC40

**Sanitation efficiency control in a bakery
company from Timisoara**

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This paper is presented sanitation efficiency control before and after sanitation. The presence of microbial contamination after cleaning in all examined objectives indicates inadequate sanitation. For improving the efficiency of disinfection in the baking unit is recommended: empower workers to achieve and maintain good personal hygiene (protective equipment, hands); alternative use of at least two types of disinfectant to prevent microbial resistance; increasing the concentration of disinfectant used and contact time with surfaces that are applied.

OC41

**Possibility of obtaining functional foods
Honey bee**

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This research followed to achieve some natural-fortified food, based on honey and confiated fruits. First, the samples were prepared and then were stored in Laboratory of Food Biochemistry and Principles of Human Nutrition, from Faculty of Food Processes Technology. Thus, we obtained functional foods with honey, nuts, peanuts, migdale, and dry pums.

The honey samples were constituent from different types of honey – bought directly from the producer, with various quantities of oleaginous fruits and/or plums. We obtained 9 different sortimens of fortified honey. From these samples, into the Laboratory of Food Biochemistry and Human Nutrition were made 36 analitical tests, as free acicity, ascorbic acid, and also humidity and dry matter based on the refraction index.

OC42

**Studies on the influence of technological parameters
(addition of stabilizer) on the quality flavored ice cream**

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This papers studied the influence of calcium caseinate on the characteristics of ice cream with strawberry fruit leading to increased emulsion stability and sensory properties of sensitive changes.

OC43

**Evaluating of the content of antioxidants and some physico-
chemical parameters in fruit nectars**

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Fruits play an important role in the daily diet of humans. They are necessary because the human body assimilate vitamins, minerals, enzymes easily Through their consumption they provides an detoxification of the body. Fruit represent the raw material to obtain fruit juice.

Fruit juice are those drinks obtained from different species of fruits, ripe and healthy, through a mechanical process (pressing, centrifugation) or diffusion and are preserved by different methods (concentration, chemical preservation and pasteurization). In this paper is analyzed the antioxidant content and some physiochemical parameters at some sort of fruit nectar.

OC44

Characterization of natural juice with pulp (nectar)

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Fruits are part of the most important food for humans, being necessary to maintain life and health. They are a precious, a source of vitamins, mineral substances, carbohydrates (sucrose, fructose, glucose) and other substances to be completed food (some proteins contain essential amino acids, etc.).

Fruit juice drinks are those obtained from different species of fruit, ripe and healthy, through a mechanical process (pressing, centrifugation) or diffusion and are preserved by different methods (concentration, chemical preservation and pasteurization).

This paper a way of obtaining some sort of technological fruit nectars and their characterization by highlighting the nutritional properties and their food.

OC45

Native cellulose (E-460) in food processing

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This paper, aims to assess the native cellulose, isolated from hardwood timber (beech) towards new generations of additives with highly ecological.

Theme launched has proposed the major objectives: complete and complex characterization of large raw material base of the food system studied; synthetic structure of product sheet (*MSDS 2010*) respectively phytochemical and ethnobotanical data specifically to technological solution chosen. From comparative evaluation of experimental data recorded can make the following findings: at the same temperature, emulsifier concentration in demineralized water, stability of emulsions with native cellulose decreases while; at the same temperature, term evaluation, in demineralized water, same emulsion stability increases with emulsifier concentration; assessment at the same time, emulsifier concentration in demineralized water, emulsion stability decreases with increasing temperature; at the same temperature, emulsifier concentration, term evaluation, emulsion stability decreases with increase of permanent hardness (expressed in german degrees as magnesium salt).

OC46

Ethoxylated polyglucides (starch), additives in food technology

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This paper aims to assess the expansion and diversification opportunities of food assortment of organic caloric sweeteners from category sugar. Theme launched has proposed the major objectives: complete and complex characterization of large raw material base of the food system studied; synthetic structure of product sheet (*MSDS 2010*) respectively phytochemical and ethnobotanical data specifically to technological solution chosen. Interpretation of experimental data presented can be formulated comparatively the following observations subsequent consequences in food processing of food receptors, accessing polyethoxylated starch [*Starch(EO)_nH*] as emulsifier in the system: at the same temperature, emulsifier concentration in demineralized water, stability of emulsions with polyethoxylated starch [*Starch(EO)_nH*] decreases while; at the same temperature, evaluation period, in demineralized water, same emulsion stability increases with emulsifier concentration; assessment at the same time, emulsifier concentration in demineralized water, emulsion stability decreases with increasing temperature; at the same temperature, emulsifier concentration, evaluation period, emulsion stability decreases with increase of permanent hardness (expressed in german degrees as magnesium salt).

OC47

**The technology of the Carpathians salami.
Physical-chemical properties of the finished product**

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This paper is presented the technological process of Carpathian salami obtaining and using standardized methods of analysis we characterized the physico-chemical properties of Carpathian salami, the experimental values obtained for the main parameters fits within permitted standards.

OC48

Biochemical and nutritional characterization of apple juice

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The paper had as main target the characterization of some juices obtained from three apple varieties and carrot juice from Romanian market. The experimental work refers to some physico-chemical analysis for fresh juice obtained from three sortiments of apples and fresh carrot juice, such as pH test, acidity test, quantitative analyse for ascorbic acid and zaharose.

OC49

Obtaining and characterization of a few rosé wines from Recas wine center

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This paper presents theoretical and practical aspects related to obtaining and characterization of two sortiments of rosé wine from black Merlot and Burgund grapes harvested from the Recas vineyard (2009). The experimental study realized in the Laboratory of Fermentation and Extraction Technology from the Faculty of Food Processing Technology was divided into the next parts: characterization of grapes as raw material (varieties presentation); presenting the obtaining process of rosé wines; used methods of analysis; the characterization of the obtained wine varieties; conclusions drawn from the study. In the experimental part, the two varieties of rosé wine obtained in the Recas vinery were physical and chemical characterized. It was also realized an extensive description of the methods used to determine the chromatic, physical and chemical features of the analyzed wine varieties.

OC50

**Studies on obtaining and characterization
of bread fortified with vitamin A**

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This paper was aimed at obtaining and characterization (organoleptic and physico-chemical) bread fortified with vitamin A. Thus, this study has established prescription-specific manufacturing and technological parameters of production technology of bread fortified with vitamin A in the laboratory conditions „Technology of the milling and bakery” within the Technology Faculty of food products.

To determine the recipe and manufacturing process parameters specific technology of bread, in laboratory conditions „milling and bakery technology”, have varied manufacturing of bread recipes using different amounts of pulp from carrots and grated carrots.

OC51

**Studies on obtaining and characterization
of bread for the elderly**

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This papers was aimed at obtaining and characterization (organoleptic and physico-chemical) of bread for the elderly.

So, this study has established prescription-specific manufacturing and technological parameters of production technology of bread for the elderly in laboratory conditions "milling and bakery technology" of the faculty of technology food products. In order to determine the recipe and process parameters specific technology manufacturing bread in laboratory conditions "milling and bakery technology, have varied methods of obtaining bread for the elderly, using various models of baking.

OC52

**The study on influence of technological parameters
on extra yoghurt**

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Experimental study aimed primarily undertaken to obtain a yogurt with added fruit through a particular process, using simple equipment at present and can be purchased by factories with small capacity production profile. Since yogurt with fruits added is the chemically colloidal system to optimize its texture and consistency, it is necessary to use stabilizers. Addition of these - pectin, carboxymethylcellulose respectively, separately and/or in combination at different concentrations leads to following conclusions:

- use pectin as low molecular weight esters led to obtain a viscous yogurt with creamy texture, with intense fruit flavor and almost devoid of sediment,
- these types of yogurt taste proved to be slightly sour, specifically, what is in agreement with experimental data on pH and titratable acidity obtained;
- gel stability where yogurt with added fruit and pectin as a stabilizer, shows practically an important parameter in assessing the acceptability by the consumer products;
- yoghurts with fruit and pectin have a much higher protein content, which increases their nutritional quality, but the addition of carboxymethylcellulose;
- only carboxymethylcellulose adding proven to be proved completely unacceptable to the consumer if yogurt.

OC53

**The study of influence of technological parameters on
acidophilous milk**

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The experimental study was divided into the next parts: characterization of milk as raw material; presenting the obtaining process of acidophilous milk; used methods of analysis; the characterization of the obtained product; conclusions drawn from the study. In the experimental part, the obtained acidophilous milk was physical and chemical characterized.

The acidophilous milk samples obtained with the addition of starter cultures producing exopolysaccharide / hydrolyzed starch added normal and those derived by using the same types of crops, but with added caseinate, led to a very firm texture acceptable to the former produced a feeling of slight sediment which is accentuated when using sodium caseinate as a stabilizer respectively Fargo 414 starter.

Both the taste and aroma were especially influenced by the type of stabilization and less on the type of crops. Addition of starter type Fargo 404 in acidophilous milk causes significant color improvement over the other type of crop. Regarding physicochemical properties, should be noted that both pH and titratable acidity were generally falling quality standards set for this product. There was a slight overshoot of pH for milk samples with added starter acidophilous Fargo 414. Tendency to whey separation was observed only when sodium caseinate added. Data shows that there are some significant influences of these parameters between type of starter and stabilizers compounds, which must be considered when an engineering technician.

OC54

Comparative assessment of microbiological parameters goats milk, respectively cattle, harvested from private households

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This paper presented the results obtained from experiments; we determined the microbiological load of milk samples from two cattle, goats that from private households. Microbiological parameters determined by us are: UFG (colony forming units), total coliform and total plate count of coagulase-positive staphylococci. After the tests I passed the tests of apparent confirmation for both coliforms and staphylococci. Genera that were confirmed were: *Escherichia coli*, *Salmonella* and *Hemolytic staphylococcus*. The experimental part was performed in the microbiology laboratory of the Faculty of Technology of Food Products.

OC55

**The obtaining and characterization of the
Burgundian red wine in resort staff conditions of
USAMVB Timisoara - km 6**

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This paper presents the obtaining process of the red wine produced in the wine cellar of USAMVB Timisoara and the laboratory of the Faculty of Technology Alimentary Products from Burgundian red wine grapes couple and to which were applied specific conditioning methods. The product obtained was characterized with the physico-chemical analysis using standardized methods. Based on the results it can be said that Burgundian grapes used for wine production along with the biological potential and the applied composition corrections can provide the basis for obtaining a high quality red wine.

According to the values of physico-chemical parameters and organoleptic characteristics this wine is balanced in relation to colour and has very much appreciated sensorial properties.

OC56

**Study of influence about technological parameters on
acidophil milk „Sana”**

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The experimental study was divided into the following main parts: the characterization of raw milk, milk submission process for obtaining beat Sana, analytical methods used, results achieved and lessons learned from the study.

OC57

Assessment of microbiological parameters standardised commercial pasta's

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This paper presented the results we obtained from experiments: we determined the microbiological load of egg pasta with spinach and broth. Culture media used are: Muller Hinton agar for determining NTG, Sabouraud agar to determine the presence and number of fungi, selective media - ADCL agar and EMB (eosine - methylene blue agar - Levine) to determine the presence and number of Enterobacteriaceae, Chapman agar for staphylococci, agar for isolation of germs belonging to the genus *Bacillus cereus*. For confirmation was used for blood agar-hemolytic staphylococci, IST, MIU and Simmons citrate for gender identification of coliforms.

OC58

Obtaining and characterization of flavored wines type Vermouth

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This paper presents the recipe for obtaining two kinds of wine Vermouth Aromatizers types have been developed, then we characterized the physico-chemical of the two varieties of the wine using standardized analytical methods (conducted in *Laboratory of Fermentation and Extraction Technology* of Faculty of Food Processing Technology). Flavored wines Vermouth are special wines made from base wine, sugar and medicinal and aromatic herbs extracts. Depending on the plants chosen for obtaining, the length of maceration there can be obtained a wide variety of flavored wines.

The nutritional value of meat products

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In the industrialization of the meat food industry sector is a significant weight and presents a set of features for both raw materials and machinery used. For a healthy diet, raw material quality is crucial, because it does not transfer food finally just calories but also various substances - from proteins to vitamins, ensuring the smooth running of all biological processes taking place in human nutrition. Victoria is a foodstuff Salami classic, traditional, universally held in Romania and worldwide. Product development, nutritional analysis and its improvement is the goal of this graduation project.

For each product was determined in the laboratory, according to the methods outlined above: water content, fat content, protein, salt content, nitrate content, easily hydrolyzable nitrogen and report collagen / protein. valuation of the quality and freshness of food of animal origin is based on sensory examination results, the physico-chemical and bacteriological. organoleptic examination: appearance, color, texture, smell, appearance of fat. Physico-chemical examination: water content, fat, salt, easily hydrolyzable nitrogen, protein substances, NO₂.

Microbiological examination: *Listeria monocytogenes*, *Salmonella*, *E. coli*, *staphylococcus coagulase - positive*, *Bacillus cereus*, *Clostridii*. following the addition of sodium caseinate in salami Victoria, 1% and 2%, there is the following: there is a capacity increase of hydration product, test results show a significant increase in water content for samples with added Na caseinate. Growth is 6.03 percentage point to 1% added version and version 6.29 percentage points to 2% added casein; other experimental evidence provides a slight increase in collagen-protein ratio value; both experimental variants may note an improvement in the nutritional value of the product, because amino acids with high biological value placed upon Na caseinates.

OC60

Ricotta Cheese - nutritional and dietetic characterization

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This paper had as main target the characterization of some Ricotta cheese found in Romanian market. The experimental work refers to some physico-chemical analysis for three types of Ricotta cheese, such as pH test, humidity and dry matter analysis, quantitative test for lipid and salt content, and also the ratio between fat and dry matter.

Analyzing the results for samples of Ricotta cheese we observe that the pH for all samples was acid (pH=6.0). Also, Solo Ricotta cheese had the highest humidity – 72.58% and Galbani Ricotta cheese had the highest dry matter – 31.50% and lipid content – 13%. Solo Ricotta cheese had 11.0% lipids and Granarolo Ricotta cheese had 11.5% lipid content. The NaCl content for analyzed samples was very low: Solo Ricotta – 0.11%; Galbani Ricotta – 0.18% and Granarolo Ricotta had 0.15% salt, that characterized the dietetic cheese. Nutritionally, samples of Ricotta cheese have very low salt (NaCl) content, being concordant with the nutritional recommendations the total intake of salt from diet had to be maximum 3-4 grams daily.

OC61

Studies on the use of enzymes in bread processing technology

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This study presents the influence of three enzyme preparations based by amylase, hemicelulaze and lipases on the bread dough. There were four samples of dough made from wheat flour type 650, salt, yeast, water and enzyme preparations. Blank sample was considered first and it does not contain any enzyme, the remaining samples having composition of one enzymatic based amylase, and lipase hemicelulaze.

OC62

Vegetal systems preservation through acetic fermentation

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This the paper investigates vegetal systems preservation from a physical-chemical and organoleptic point of view. In order to do that we obtained apple vinegar using a traditional method. Although the vinegar is known from ancient times and used as well as food and medicine, because of its multiple qualities, it melt old and new the same time. This study try to establish optimal recipes and technological parameters of obtaining apple vinegar in our faculty laboratory conditions. One of our contribution through this project implicates the elaboration of some possibilities of optimization of fermentation process by using yeasts, black bread, sugar or honey as substrate corrector or precursors of the process. Because of the complexity of biochemical transformation during fermentation process, we can say that obtained results depend of the work conditions and vegetal material used as raw material. The fermentation process can be driven to obtain a certain composition of final product working on technological parameters as well (humidity, temperature, pH, etc.). On the other hand every type of fruits has its chemical and biochemical properties and this fact relies on final products quality and properties.

OC63

**The quality control of fresh meat products in membrane:
mosaic liver sausage**

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In this work is given physico-chemical and organoleptic quality of the product "Leber mosaic" product unit "X" from Timis County. "sensory examination was intended: as product appearance and the section, consistency, taste and smell, which did not reveal changes lawfully admitted to the provisions. Physico-chemical examination sought to determine moisture, fat, total protein substances, sodium chloride, nitrite and easily hydrolyzable nitrogen. Moisture content was 2.28% over a maximum of 64% fat content was 36.47%, falling within the legally permissible values, protein content was 1.07% above the limit imposed by 9 % sodium chloride content was 0.46% below the imposed limit of 3% for nitrite content was 4.14 ppm above the limit imposed by 7 ppm readily hydrolyzable nitrogen was 5.56% mg NH₃/100 g product lower than the maximum permissible 30.

OC64

Influence of packaging and storage of leafy vegetables preservation

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In this article we determined the C vitamin content of vegetables and water content from these. According to data obtained in the experiments, the highest content of C vitamin was found in the parsley leaves; in the celery leaves was lower. On the analysis data experimental was noted a decrease of ascorbic acid amount at all frozen vegetables, comparing of fresh vegetables. The lost concentration of C vitamin can be observed in all vegetables but the most reducing content was in parsley leaf until in celery – lowest.

The moisture percentage, the highest water content in lettuce is met, and the lowest - leaf parsley. Weight loss in storage vegetables so taken (for 24 h) is up to 2.5%

OC65

Comparative studies concerning organoleptic and physical-chemical feature of vegetable oils types: walnut oil, apple seed oil, pumpkin seed oil

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Oils extracted from plants are consumed directly or used as ingredients in food. In this paper it was rated the main organoleptic and physical-chemical feature of vegetable oils types: walnut oil, apple seed oil, pumpkin seed oil extracted in conditioned laboratory from Soxhlet extraction.

OC66

The calculus of the capacity of installation's production used in the manufacture of sausages

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The present paper contains the projection of smoked sausages manufacture section with a capacity of 400kg/day, the calculus of the capacity of the installations' production, their description, the raw materials, auxiliary materials and the final product.

OC67

Heavy metals as a means of assessing the quality of lettuce

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Vegetables and fruits are food products with a wide use in healthy and sick human nutrition, providing an important input of nutrients (simple sugars, minerals and vitamins especially). Food quality of vegetables is given by their mineral content and nature in macroelement form (Na, K, Ca, Mg, N, P, S, etc.) and micronutrient form (Fe, Zn, Cu, Mn, Co, Ni, Mo, Se, I, F, Si, etc.) contained in them.

This paper presents a study on the determination of heavy metals in two types of lettuce (iceberg lettuce and indigenous lettuce) from direct consumption. The heavy metals were determined with spectrometry (iron, cobalt, nickel, manganese, copper, zinc, etc.). The results reveal an uneven distribution of metallic elements analyzed. The importance of lettuce in alimentation, as its food value is determined by the nature and concentration of the main constituents. The main constituents involved in setting the alimentation and therapeutic values are: water, carbohydrates, vitamins, minerals, organic acids, tannins, enzymes, pigments, etc.

The complexities of its mineral composition, and given the important role that they have in nutrition, these products should represent a high percentage in daily nutrition. After the chemical analysis of indigenous and iceberg lettuce, I found that they are characterized by a considerable high content of heavy metals in the form of essential micronutrients and an insignificant amount of toxic or potentially toxic heavy metals. The correlation between total antioxidant capacity values and the microelement contents highlights nickel as the characteristic component (PCA). After all tests carried out is highly recommended to use indigenous or imported lettuce (Iceberg lettuce).

OC68

Technology of hot dogs. Comparative assessment of the nutritional value of hot dogs made of pork and poultry meat

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In this article, it made a market study (over three years period) and were simultaneously sampled for quality control. It was also observed for each product, how it was packaged, labeled and displayed for sale. One can say that in most cases traders have complied with animal - health, giving products in refrigerated glass cases and the corresponding temperature.

All samples examined in terms of organoleptic properties (appearance in section, taste, smell, color, texture), were found appropriate in this regard. It can be seen that none of the big stores were not exposed rated products with questionable freshness. Samples were microbiologically checked. All samples corresponded to the laws in force in microbiologically.

OC69

Technical and economic contributions to the preservation by sodium chloride peas (*Pisum sativum* L.)

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Sodium chloride product-classic, traditional and topical recent food accompanying native, and artificial (added) all categories of agricultural products due its multiple role in plant physiology, human and animal feed and its processing for preservation of food. Ingredient or aditif, raw material or processing intermediate of sodium chloride („salt in food”) remains theoretical and practical interest in food processing.

In the present study was proposed to resume the concepts of preservation vegetables technology by salting to pave the way for future specific types, defined as benefits to consumer health.

OC70

Nutritional characteristics of some types of traditional Romanian salami

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Salami are products rich in proteins and fats, and fat soluble and water soluble vitamins and mineral substances. However because of the relatively high salt and fat, these products must be consumed occasionally and in small quantities. For the present study have been some experimental own research that have led some physicochemical characteristics of sausage and Banatean Semenik sausage. We determined salt content, moisture and dry matter, lipids, and Kreiss reaction - as an assessment of the state of oxidation of fats in the samples. From our results salami Semenik is quite salty (NaCl 5.9%) and contains a larger quantity of salt than Banatean Salami - 5.07% NaCl. If we look in terms of nutritional products within the category of salted salami and sausages consumed 100 g without excessive intake of salt for the human body. From the experimental data it appears that Banatean salami is dry and has a higher content of dry matter (60.16%) compared with salami Semenik which has a lower percentage of dry matter - 54.48%. By fat content point of view, these two samples Semenik salami had more fat (31.54%) than Banatean salami which had a fat content of 24.84%. These two products are considered - in terms of food - food with medium fat content. The experimental results on the oxidation state of lipids in samples of salami highlighted by Kreiss reaction was negative, showing that no Semenik salami and Banatean salami did not show any features of oxidized fats.

OC71

Researches regarding breeding properties for wheat romanian varieties

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This paper has set and achieved the following goals: Have been made a bibliographical study on the importance of culture in our country and worldwide; Were presented technology issues to the preparatory process for milling wheat; Was calculate a material balance for the process of preparing wheat for milling; Were sized equipment (TRIOR and vacuum - separator) in the preparation chart for milling wheat; Experimentally, the main indices were determined for five varieties of breeding wheat: Alex, Ciprian, Romulus, Dropia, Lovrin 34 and results were interpreted; Was made an economic calculation, and was set up a profit rate of 60.56%; Were advised sanitary standards for work safety equipment, fire fighting, which has to be followed in the milling process, in accordance with the law.

OC72

Study on the importance of water, water activity and phase transitions in the process of refrigeration/freezing, simple food materials

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The paper presents a study on the mechanisms of specialized synthetic water interaction, structural components of biopolymer materials of simple food (dough from wheat flour) in the process of refrigeration/freezing and develop a technical and economical dimension based on a traditional manufacturing technology, approaching a more detailed understanding of the interactions of the alimentary components at low temperatures throughout the route, with a large manufacturing technology. The understanding of the action of the water on the components of the alimentary matrix (biopolymer product) in the refrigeration/freezing process, provides information on which predictions can be emitted (equations, assumptions) which allow the leading of technological processes in obtaining salubrious and stable products from all points of view which finally satisfy the tastes of the consumer (aroma, taste, texture etc.), being influenced directly by the physiological state of each individual.

OC73

Studies on tea bread obtaining and characterization

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In this paper was aimed at obtaining and characterization (organoleptic and physico-chemical) bread served with tea. Thus, this study has established ***the manufacturing recipe and technological parameters for obtaining tea bread specific technology***, in "Milling and bakery technology" laboratory conditions belonging to the faculty of "Food products technology". In order to determine these parameters, bread manufacturing recipes were varied using various amounts of bread rye flour and malt flour. Thus, upon the addition of malt flour and coriander, the bread mineral and vitamin content increased, which increases its nutritional value. In addition to improving the processing properties, the addition of malt flour advantages as an adjunct in bread, are: increased bread volume, improved core structure and extension of the product warranty period. Also, the addition of 15% rye flour and 4% malt flour has the best influence on physicochemical characteristics of dough, improving crumb elastic properties. Experimental data obtained suggest that the addition of rye flour, malt flour and coriander can be successfully used in the baking industry.

OC74

The organoleptic and physico-chemical quality control of beef frankfurters produced by „V” unit from Timisoara

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In the bibliographic study part are presented: meat composition and characteristics, the manufacturing technology of sausage in general and for beef frankfurters, technological process control and of final product, smoking-boiling cell rating, residual waters and the purification of sewage, material balance for producing of 500kg frankfurters and heat balance of smoking-boiling cell. The organoleptic examination highlighted: product shape, exterior and in section aspect, consistency, taste and flavor and there were no changes compared to admitted parameters. The physico-chemical examination highlighted the moisture, fat, total proteins, sodium chloride, nitrites and easy hydrolyzed nitrogen. Excepting water and protein proportions, which registered slightly higher values than the maximum admitted limits, the other parameters were lower than the maximum admitted limits. Conclusion: unit „V” from Timisoara produces beef frankfurters situated among organoleptic and physico-chemical limits imposed by legal standards.

OC75

Acid hydrolysis of starch (E – 1400 / 1401) from root vegetable resources

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The paper aims to assess the expansion and diversification opportunities of food assortment of organic caloric sweeteners from category sugar. From comparative evaluation of experimental data recorded can make the following findings: at the same temperature, acid hydrolysis yield of starch increase over time; at the same temperature, evaluation period in demineralized water, acid hydrolysis yield of starch increases with temperature; at the same evaluation period and temperature, acid hydrolysis yield of starch increases with mass ratio H_2SO_4 /_native starch; at the same temperature, evaluation period, acid hydrolysis yield of starch increases with mass ratio H_2O /_native starch.

OC76

Technology for obtaining the cheese and raisins pie

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Research study conducted for the preparation of this diploma project sought to determine *a manufacturing prescription and to establish technological specific parameters of the cheese and raisins pie technology*, in laboratory conditions of “Milling and bakery technology” laboratory, from “Food Products Technology”. It also aimed to optimize substantiated scientific principles and methods of manufacturing cheese and raisin pie, improved quality, including increased nutritional value, and developing methods to prevent the risk of deterioration after technological treatment. This study revealed the following: obtaining a pastry and layering sheets involves using high quality raw materials and keeping the sequence of technological phases; the optimal amount of fat added to dough is 3.2% of the flour, the optimal amount of yeast added to dough is 2% of the flour; the application of minimum twice rolling operation, leads to a tender and loose finite product; the dough puffs type during the I and II resting operations shall be maintained refrigerated and not at room temperature, thus avoiding reduction of its moisture on the surface; the compliance recipe and process parameters established upon this study, leads to a finite product quality in terms of sensory, chemical and rheological.

OC77

Technical and economic aspects of preservation of vegetable mixtures in oil

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Vegetables are natural therapy factors, universally popular classic traditional foods and appreciated worldwide. In modern scientific news, the latest functional food, vegetarian food rich in active principles is highly nutritious vegetables and exceptional not only upon the attention of food processors and consumers. Conservation, storage and processing form the major objective of this article according to their maximum level during the growing season, the plant body but also postrecoltare parameters.

OC78

Study regarding the influence of freezing process on the sensorial and physico-chemicals quality of fruits and vegetables

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The analyze of vegetal material consisted in 3 vegetables types: carrot, cauliflower, onion and 3 fruits types: blueberry, blackberry and strawberry. The organoleptic exam revealed that the sensory characteristics of all the fruits analyzed were proper in terms of quality, both in fresh and after freezing. They kept their specific properties after application of the conservation process. The defects amount determined for samples frozen revealed that predominantly it was reported the presence of the cracks and fragments in fruits mass and of the agglomeration in vegetables and also fruits mass (with exception of the cauliflower bouquets). The determination results of the chemical characteristics of the fruits and vegetables revealed for the three parameters that was analyzed the appearance of sensitive changes after freezing within the meaning of their values decrease.

The conclusions wich results from diploma project appreciate that the freezing is the most nondestructive preservation process currently used, because the vegetables and fruits keep their sensorial characteristics, physical-chemical and nutritional qualities after freezing.

OC79

Technical and economic aspects of preservation hydrocolloid apples (*Malus domestica Borkh*)

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Hidrocoloids as generally, natural macromolecular polymers, linear and/or branched through the three major functions: energetic source for plants, food importance (determines shape, texture, water binding capacity of specific colloidal composition), depending on diet (fiber) have a speciallz role in food processing. Simple or different esterifies pectin (plant extracts) water-soluble form gels (colloidal systems) with applicative value in preservation of fruit (jam, jelly), milk processing, sugar product. Their practical knowledge and technical-economic study of their access to food is a real interest for food technology engineer.

Obtaining and characterization studies on low carbohydrate bread

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The theme addressed in this paper is current in the context of Romania's European Union integration, when food safety and security remain major national objectives carefully monitored by specialized international organizations. In this paper was aimed at obtaining and characterization (organoleptic and physico-chemical) low carbohydrate bread. Thus, this study has established the manufacturing recipe and technological parameters for obtaining technology-specific low carbohydrate bread in "Milling and bakery technology" laboratory conditions belonging to the faculty of "Food products technology". In order to determine these parameters, low carbohydrate bread manufacturing recipes were varied using various amounts of bread rye flour and soy flour.

The intra- and interdisciplinary marriage was justified by the elucidation pros and cons regarding the benefits, resulted upon the use of low carbohydrate bread in the diet of the diabetes.

The experimental results obtained regarding physical and chemical characterization of the used flours and low carbohydrate bread obtained upon following a recipe tailored to technological conditions of "Milling and bakery technology" laboratory, falls within the limits set by the STAS in the domain. Also, this study has highlighted the need to use rye flour and soybean in the low carbohydrate bread manufacturing technology. But the proportion in which are added is very important, as improper use of proportions can lead to obtaining a bread with quality defects.

OC81

Technical and economic aspects of processing of spicy products. Rustic sauce

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The complex (composite) food recepture, analytical assessment of each ingredient in "Rustic Sauce" is difficult but not strictly necessary for the main technological parameters which to ensure further quality conditions, sanogenic (sodium chloride, acidity, total soluble solids), the rest of ingredients being quantify in material initial received. In this article, was performed to determine the three indicators mentioned previous on one lot of samples from Timișoara supermarkets in comparison with the samples household made.

The experimental data obtained it can remarks that the parameters values fit the standard limits set by regulatory norms in force.

OC82

Technical and economic aspects of processing technology of volatile oil dill (*Anethum graveolens* L.) as ecological additive system

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Dill volatile oil - product (component) food classic, traditional and topical but accompanies native and artificial (added) a large number of multiple food products due its role in human nutrition and by flavoring in food processing. Ingredient or additive, raw material or intermediate processing, dill oil presents theoretical and practical interest in food processing.

This paper aims to resume the processing technology concepts dill oil, therefore, to specific way to new varieties, defined as benefits to consumer health.

OC83

Proteases influence in wafers technology

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On base of wafer technology the main ingredient is flour. It must to be a special flour with low gluten content 24-26%. In the paper we studied proteases using in the wafers dough to observing the protease influence and their effects on glutenic chain and wafer layer quality.

We have been added 10 g protease with the trade name "Veron W" in the dough. Increasing dough extensibility after addition of proteases led to rise gas retention capacity and consequently, the porosity of the wafer layer. The effect varies with origin and enzyme dose used.

Lack of proteases conducted to greater baking time, the dough viscosity was higher, being require more energy consumption. The wafer layer becomes heavy, less crispy and sometimes remain raw in the middle. By enzymes adding decreases of viscosity due to enzymatic action of glutenic chain, thus lowering the baking time.

OC84

**Technical and economic aspects of dehydrated apricots
(*Armeniaca vulgaris*)**

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In this paper was technological sizing (mass flow horticultural material, evaporated water, consumption of air, heat consumption, heat balance, use of cobustibil) a tunnel dryer with 15 buildings each with 22 grills.

Documentation and proposed economic and technical analysis conducted in this paper, on adapted classic technology - the dehydration of apricots, confirms the topicality of the research theme. In regional national, European and global legal requirements in terms of phytochemical composition and food safety, apricots dehydrated required constantly rising in minimum food processing with real benefits to consumer health food. Track research topic will continue to extend the range of material bearers of utility supply valuable active principles, but sensitive to handling aggressive process.

OC85

Biochemical and nutritional characterization of some specialties of mould cheese

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The paper had as main target the physico-chemical characterization of some mould cheese found in Romanian market. Our experimental work refers to some laboratory analysis for three types of mould cheese with *Penicillium Roquefort*, such as pH test, humidity and dry matter analysis, quantitative test for lipid and salt content, and also the ratio between fat and dry matter.

Analyzing the mould cheese samples we found that „Castello Danish – Blue Cheese” types „extra creamy” and „traditional” had a little acid pH (5.0), and „Dorblu – Edelpilzkäse” cheese had a neutral pH. Also, „Castello Danish – Blue Cheese – traditional” and „Dorblu – Edelpilzkäse” mould cheese had the greatest humidity. The sample of „Castello Danish – Blue Cheese – extra creamy” had the greatest lipid content (37%) and the highest lipid/dry matter ratio – 64%. The others two samples – „Castello Danish – Blue Cheese – traditional” and „Dorblu – Edelpilzkäse” had 29% lipid content. The quantity of salt from our samples varied from 3.97g / 100 g product to 4.52g / 100 g product. Our analytical results demonstrates that mould cheese have a high salt content and does not meet the nutritional recommendations for reducing the salt intake from the diet to maximum 3-4 g NaCl daily. Also, the lipid content to these types of cheese is too high and the mould cheese products are foods with high lipid content and should be consumed occasionally and in small quantities.

OC86

Setting flow type mill technology for MVG 1000 - Lovrin

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In this paper we studied following aspects: Technology to obtain the wheat flour milling and were described processes occurring during the technological flow; Tehnological calculations and sizing of the main mill equipment (shafts and flat sieve); Drawn the technological flow of Lovrin MVG 1000, fixing the number of technological stages and characteristics of working machines; The physico-chemical parameters (determination of ash, moisture determination, the gluten content, glutamate index, index of deformation) were analysed for wheat flour type 550 obtained in process technology.

OC87

The study of pasteurisation and of principal equipment (pasteurisation boiler) in the technology of pressed ham

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For the evaluation of pressed ham (from pork) quality, the packing and marking of products, the physico-chemical, microbiological, and organoleptic properties for eight sorts were verified.

The following conclusion can be drawn: the water from the analyzed samples was lower than the maximum admissible limit; the protein percent was higher than the maximum admissible limit of 13%; the fat content was in the normal range; the sodium chloride content was approximately 3.1%, little bit lower than the maximum allowed of 3.5%; the number of microorganisms were very low, being in the acceptable range; thus, the analyzed products were met the requested quality.

OC88

Tehnological vessel sizing of the reaction for synthesis of some modified lipids

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The paper aims sizing key tehnological machinery to obtain the synthesis of modified lipids, thus trying to provide practical tehnology solution in a new method to obtain a food additive product with broad aplicability.

This paper presents the main tehnical and economic issues leading to final favorable conclusions or not for the proposed variant. In this respect were calculated and dimensioned: partial and total material balances in analytical form, using experimental values of basic economic indicators (foreign bodies, tehnological losses, process efficiency, etc) a dimensioned of machinery for the tehnological process (tunnel dryer); the main elements of economic calculation. The idea of diversifying assortment of structured lipids remains topical because it allows recovery of ecological integrated numerous lipid fraction of processing by-products of agrotehnology. Gain access to tehnologies similar to those classics, with new economic indicators performant solution proposed in this paper falls within this area of engineering concern.

OC89

Using smoked sausage meat flavorings

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In this work we tried to make a thorough study of literature in terms of overall flavor of meat and meat flavorings used in the preparation of smoked pork sausage, in particular.

Study of literature was made on formation mechanism of flavors, after we conducted the study for each product flavors and aromas we treated each range as consumer preferences for these products: flavor of beef, poultry, pork, lamb and lamb.

The experimental part of sodium glutamate, we identified the smoked pork sausage. Demonstrated that the optimal quantity of additive added smoked sausage has an important role in the formation of flavor in this product.

The technological process, in addition to conventional technology, we added sodium glutamate smoked pork sausage. In the design, it realized sizing machinery necessary for the finished product.

OC90

**Assessment antioxidant capacity of
some medicinal plants**

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Effect of herbs on the human body is well known since ancient times, man finding in these remedies to physical and mental stressors. Recent research undertaken by WHO, the International Center of Cancer Research and other specialized institutes around the world, have yielded the important role of active principles of medicinal plants over body health, by linking their consumption to reduce the incidence of developing various diseases, such as cancer, cardiovascular and respiratory diseases, dermatological diseases etc. Healthy body synthesizes under conditions of oxidative stress, large amounts of active endogenous antioxidant. This biosynthesis can greatly decrease under stress, in some disease, when immunity is low or in case of long-term oxidative stress. Exogenous antioxidants complement endogenous antioxidants deficiency, with a very favorable action on the body, slowing processes like aging, protecting the body from pollution, cancer, heart disease, helping to strengthen the immune system and increase body's resistance to the infections.

In my research I sought to determine total antioxidant capacity (FRAP method) of a number of 33 herbs and determination of polyphenol content. Therefore cold extracts were made from different medicinal plants and were then subjected to determine the polyphenol content by Folin Ciocalteu method. Following the analysis performed we can draw several conclusions: medicinal plants used in ancient times, and their study was an ongoing concern of scientists; based on tabular and clusterization we can make a number of considerations:

- high antioxidant capacity, at considerable distance from the following classes shall Willow (1168 polyphenols and 183 strike) and Balm-mint (1009 polyphenols and 184 strike);
- Recorded a relatively high antioxidant capacity group consisting of St. John's wort (834 and 206 strike polyphenols), Hawthorn (791 and 202 strike polyphenols), Linden-tree (759 and 204 strike polyphenols), Meadow-sage (783 strike polyphenols and 182), Willow-tree (759 polyphenols and 204 strike) close this group are Arnica (635 and 202 strike polyphenols) and Thyme (586 and 180 strike polyphenols);
- Then follows a large group of plants with a low antioxidant capacity to average - the lowest antioxidant capacity are noted for Pelin (160 and 101 strike polyphenols), Fennel (159 polyphenols and 60 strike), Nettle (84 polyphenols and 40 strike), Artichokes (108 polyphenols and 33 strike) and Hollyhock (100 polyphenols and 26 strike);

Regular use of herbs such as herbal and medicinal products, provide input of antioxidants and polyphenols needed to defend the body against free radicals and helping to maintain its health.

OC91

Installation, machinery and equipment for food industry

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Concern for the product, for living standards, consumer safety and health protection was enshrined in the European continent, on March 25, 1957 signing of the Treaty of Rome, Article 2 of the Treaty is relevant in this respect. On April 9, 1985 UN General Assembly, by resolution no. 39/248, adopted guidelines for consumer protection, stating, inter alia, the need for safety certification, quality and performance of key consumer products and services (Article 26) and appropriate writing on labels (Article 42). Starting November 1, 1992 came into force the European Union Treaty art. 2 and art. 3 points. a, c, k, a, s, confirmed by others, continuing concerns regarding the product, the life, health and consumer safety.

Since February 1, 1995 when the Association Agreement entered into force Romania to the EU (European Agreement), followed by pre-accession period (from June 21, 1995 our country has made application to join the European Union EU) and the January 1, 2007, the date on which Romania has become a full EU member, the national strategy for implementation and development of market economy has a resonance among operators practice embodied in the assertion: Who will not compete will be removed from market.

Regarded as competitive strategy, quality strategy envisages that the quality level of products is a key strategic element, and any competitive strategy related to triad product - market - technology, which is the further environment variable. In a competitive and sophisticated application quality is how the company can survive. Quality can be obtained only through continuous improvement of production technology, machinery and their working arrangements, adequate training of workers to perceive quality as an innovative culture.

OC92

Impact fluidized freezing and storage period on quality of some fruits

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This paper aims to study the influence freezing process under dynamic technique IQF - Individually Quick Freezing and storage period on the quality of the garden fruits (apples, apricots, strawberries and plums) from local agriculture.

The theoretical part covers general aspects regarding the peculiarities indicating freezing of frozen fruits. In the practical part has pursued the following objectives: the influence of processing technique fluidized freezing on sensory characteristics of fruit; determining the impact of processing technique IQF system on physicochemical characteristics of fruit set; determining the impact of shelf life of frozen fruit on sensory and physicochemical properties of the fruits investigated; freezing is a process in fluidized bed modern small for food, especially fruit and vegetables. Based on the data it appears that the investigated fruits, strawberries have the highest content of vitamin C, polyphenols and the highest total antioxidant capacity. Values are maintained after the 8 months of frozen storage.

By freezing no significant differences occurred on the characteristics investigated, because the technique is rapid IQF minimum negative impact on bioactive compounds from raw materials.

OC93

Study of physico-chemical and sensorial characteristics of raw-dried salami-type "Banatean salami"

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Prepare raw smoked sausage made of pork and bacon, two materials differ in structure and composition, which should obtain a compact unit product with a specific ruby color, stable, tight, which can be cut easily into thin slices and have a pleasant flavor and shelf life.

In this paper we propose to determine the organoleptic and physico-chemical examination of quality indicators of „sausage Banat” made of unit „X”. *Organoleptic* legally of analyzed product pursued appearance, texture, color, smell and taste.

Physico-chemical examination in accordance with legal provisions aimed to determine physico-chemical quality: Water - the oven drying method according STAS-9065/3-73; Fat - by Soxhlet method according STAS-9065/2-73; Protein - Kjeldahl method, according STAS-9065/81; Sodium chloride - by Molir method, according STAS-9065/5-73; Nitrites - by Griess method, according STAS-9065/9-74; Easily hydrolyzable nitrogen, according STAS-9065/7-74; Unit X from Timisoara produces "Banatean sausages" which falling generally in terms of sensory and physical-chemical parameters imposed by SCP 401/95.

The data presented suggest that we can afford to raise economic efficiency in the processing unit of Banatean sausage, it must add a higher percentage of water and fat, which were well below the maximum allowed.

OC94

Research under dynamic look at the influence of freezing on the quality of vegetables

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The aim of this paper was to study the influence of freezing process under dynamic technique IQF - *Individually Quick Freezing* and storage period on the quality of some vegetables (broccoli, carrots, potatoes, red peppers).

In the paper has pursued the following objectives: to determine the influence of processing techniques by freezing technique - IQF on sensory and physico-chemical characteristics of

the investigated vegetables; research on the need and usefulness of the preparatory stages in the succession stages of technological process, reflected in the sensory properties of finished products; to determine the impact of storage period of frozen products on the sensory and physico-chemical properties of vegetables.

The freezing by IQF technique is a modern process that applies for small food, especially fruit and vegetables. Based on the data it appears that between investigated vegetables, broccoli has the highest content of vitamin C, polyphenols and the highest total antioxidant capacity, values that remain after the 8 months of frozen storage. By freezing no significant differences occurred on the characteristics investigated, because the IQF technique is rapid, which has minimum negative impact on bioactive compounds from raw materials.

OC95

Spectrophotometric determination of starch in different samples of frankfurters

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Addition of small quantities of starch has a favorable effect on the binding capacity of the paste, its uniform appearance and consistency. Since there is a possibility that producers do not comply with formal technology standards, so adding a larger amount of starchy products, in order to obtain fraudulent returns, the physical exam - chemical, starch content determination is required as a necessity. In this paper frankfurters were analyzed from a market in Timisoara.

After analysis it was observed that the samples analyzed presented concentrations below the maximum permissible starch (4% - Order 560/1271/1339/210/2006). Highest starch content occurred in samples of poultry frankfurters produced by the unit "CAM" (1.46095%), while the lowest content was found in samples of chicken frankfurters produced unit "A" (1.34555%). Spectrophotometric method starch dosage benefits are financial accessibility, speed and accuracy. The main disadvantage of this method in determining starch is slow solubilisation of starch in water - to prepare standards. This shortfall can be corrected by preparing more dilute solutions.

Bioactive compounds from medicinal plants used in the production of flavored beverages

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Wine, as product of the alcoholic fermentation from the juice of grapes, in present, is more and more accepted like an alimentary accompaniment what can be rational consumed during meals. Trough his rich contents of compounds like as: alcohols, acids, amino acids, mineral salts, phenol compounds, vitamins (especially from group B), odorant substances, gives an extra flavor to the foods consumed together stimulating the appetite and a better digestion of the other ingested substances.

Organic chemistry register an big progress in the last century and made possible not just the separation and the knowledge of chemical structure of natural products but even the attainment on syntetical way for most of them. The development of the synthesis chemical industry, of some odorant and aromatized substances, had a major kickback on the industry of perfume products and on the aromatized foods, marking the beginning of a new age. The enthusiasm outcome from the successful obtain of some substance with similar odor of some flowers or with similar taste of some fruits, lead the care of scientific explorer to the synthesis of some substances which cane replace totally the natural products.

The substances with odorant and aromatized character can be found from abundance in nature, in first row in the vegetable kingdom and in a small quantity in the animal kingdom. They can be found in the whole plant, or the most of times they amass in one of the plant organ. The parts or the organs of the aromatic plants, become prime material for the obtaining of natural aromatized substances.

Aromatic or medicinal plants are not only prime material for the aromatized substances they are also an excellent source of natural antioxidants, category of nutrients, essential to life which inactivate the reactive oxygen and the radicals generated of this. A part of the antioxidants can not be integrate of the human organism so they have to be take in from vegetable food. Antioxidants are known under the generic name of phyto-chemicals. Phenolic elements from the red wine are in measure to introduce daily in our diet a valuable elements of antioxidants what insure an efficient protection of humans front the cardiovascular disease and cancer.

Combining the quality of this drink –red wine- with the bioactive compounds from the medicinal plants we obtain an aromatized wine with special organoleptichs characteristics and an excellent source of nutrients necessary to the human organism.

OC97

Research on the influence of the olive oil and green apples addition on bread quality

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This work covers concerns of technological research disciplines: Technology of Milling and Bakery and Food Chemistry department of Food Technologies of our faculty. In this paper we studied the influence of olive oil and green apples on the quality of bread, i.e., influence on organoleptic characteristics of bread with the additions, the effect on physical indicators: volume, porosity, elasticity, H/D ratio, and on biochemical indices: moisture, titrated acidity, pH, determine both the fresh product and the product stored for 96 hours at room temperature. The obtained results in terms of experimental characterization of the organoleptic, physical and biochemical bread with olive oil and green apples added obtained by a tailored prescription of laboratory technology "Technology of milling and bakery" within the limits set by the STAS domain sites. Analysis of samples of bread with various amounts of olive oil and green apples showed a direct relationship between the type / amount of stock and product quality achieved on the one hand and type / amount of stock and sample moisture values determined at intervals stored at room temperature, on the other hand. Also, this study highlighted the need to use technology in manufacturing olive oil and green apples bread. But the proportion is very important as they are added, improper use of proportions can lead to getting a bread with quality defects.

OC98

Implementation of HACCP system in technology of peasant sausages

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The aim of this paper was to HACCP system implementing in technology of peasant sausages. Thus, this work includes the quality concept, principles and stages of implementing HACCP and covers the practical technology of sausage. In order to develop the HACCP quality system, it must to necessary following steps: designation of HACCP team; product description, method of preparation and distribution; description of intended use; developing production processes graphs; check the chart field production processes an analysis of risks; determine the critical control points; establishing critical limits; develop monitoring procedures; develop corrective actions; develop verification procedures; documenting and registrations preserving.

OC99

Impact of GMOs on the environment

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This paper is a bibliographic study on impact of GMOs on human society and the environment. Genetic research showed that many specific diseases of plants, animals or man have their origin in small imperfections in the genetic code. We can imagine how serious can be these side effects, and accidents with all these technologies which they play with order and balance of this so fragile life cells.

Modern biotechnology offers "new opportunities for development" in different sectors, from agriculture to pharmaceutical production and global debate on GMOs is unprecedented in recent years and have attracted the attention of both scientists and that of supply manufacturers, consumer groups defending the public interest, public institutions and policy makers. The transgene techniques offer such unlimited power to humans (at least theoretically) to alter the hereditary patrimony of all beings who surround him, including his own species.

World Food and Agriculture Organization (FAO) recognizes the potential of these new technologies, while aware of the problems it can generate. A thorough analysis requires evaluation of GMOs both in terms of influences on food safety assessment, of costs in the long term, arising from new technologies and the potential effects exerted onto the environment, sustainable development, as we discover through this paper.

OC100

Research on antioxidant activity of propolis from Banat (Recaș)

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Were used three propolis samples collected in 2006 from Recas Banat-Romania, coded P1, P2 and P3. Propolis extracts were made in 96% ethanol pa (Chimopar, Bucharest, Romania), and for chromatographic analysis were used for HPLC solvents Advanced purity (acetonitril for HPLC > 99%, Fluka Chemie AG, namely water doubly distilled).

Yardsticks used to identify bioactive compounds of propolis were routinely (> 90%, Fluka), cinnamic acid, caffeic acid (> 98%, Sigma-Aldrich), quercetin, apigenin, kaempferol, acacetină, crisină, pinocembrină (> 99% Sigma-Aldrich). To determine the

antioxidant activity of extracts was used 96% of the same origin, DPPH (1,1-diphenyl-2-picrilhidrazil, > 99%, Fluka Chemie AG). Following studies on the extraction and analysis flavonoid compounds of propolis can draw the following main conclusions: in propolis extracts were able to identify significant concentrations of flavonoid compounds and cinnamic acid derivatives, more hydrophilic compounds (such as routine and cinnamic acid derivatives) were extracted in higher concentrations in more polar solvents (water and ethanol 20%) respectively less polar flavonoids were extracted in reducing maximum concentrations polarity extraction mixture (ethanol 60% and 96%). The best concentration of ethanol for an efficient extraction of these bioactive compounds is 60%; presence of bioactive compounds from extracts containing phenolic hydroxyl groups susceptible to oxidation (mainly flavonoids and cinnamic acid derivatives) gives them significant antioxidant activities (as determined by DPPH).

OC101

Influence of fermentation time on the rheological characteristics of dough and bread obtained device ALASKA BM 2000

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Bread is one of man's basic foods, being vital in everyday nourishment, due both to its nutritive properties and its content in substances producing thermal energy. This important kind of food has been a permanent concern for people since early times. Nowadays, bread means the product obtained by baking biologically fermented dough. Generally the bakery technological process is the following preparing and weighing the raw and auxiliary material, preparing the dough, processing the dough, dividing the dough, shaping the dough, fermentation, baking and cooling the bread. In order to establish the quality of bread, of special importance is its chemical composition, because the substances composing it are meant to get the energy necessary to the human organism. Beside the chemical composition, the quality of bread and thus, its nourishing value greatly depend on gustative values: flavor and taste, the outside aspect of the bread, and crumb porosity.

Rheology studies the behavior of the bodies possessing at least one of the following properties elasticity, viscosity or plasticity. The main concern is the answer of the bodies to mechanic actions, rheology being defined as the science connected to the flow of fluids and the deformation of materials. By the fermentation of the dough, the quality of the baking process and of the final products is influenced, as well as the operations of division, shaping and final fermentation of the dough pieces. This process is a set of transformations thing the maturation of the dough and its porosity, so that products of a large volume can be obtained.

OC102

Color change color profile of red wines, Merlot and Pinot Noir with aging in glass bottles

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In this work we are studied changes color profile of Merlot and Pinot Noir red wines during aging process in glass bottles, by determining the chromatic characteristics, using Glories, Somers and Evans & Boulton methods. The paper presents theoretical and practical aspects of the problem addressed. The theoretical part covers general issues concerning the classification of wines, chemical composition, physico-chemical properties of wine, red wine production technology, unwanted changes that occur in wine during its development, quality parameters of raw material and wine production, evolution of phenolic compounds in red wine aging in bottle. In the practical part it have been pursued the following objectives: the presentation of grapes as raw material, red wine and vineyard reference; color characterization using Glories method; determination of total monomers anthocyanins by pH differential method; red wine color structure evaluation by method Somers & Evans; red wines color structure evaluation by Boulton method.

During the eight months of wine aging, it has been noticed that different weight fractions of wine color total pigments, it has changed. Thus, the percentage of assigned color yellow pigment fraction increases and the one assigned to red pigments decreases, thus the color structure becomes more balanced along with the advancing of wine aging process. Also, wine color intensity decreases with time, while the color hue is intensified. By the addressed theme, this study allows the extension of modern analysis methods of wines and interpretation color changes in relation to grape variety and aging time.

OC103

Studies on the protein content of some species of wheat used in bakery industry

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This paper presents the current state of knowledge on the influence of various species of wheat on the baking quality of food and pasta wheat importance afforded to it worldwide. It was appreciated the influence of structural manifested by its main protein component of wheat, gluten, which is defining the terms of quantity and quality in the processing of pasta with major implications for the quality of their fingerprints.

Experimental data shows that the percentage changes in wet gluten content is relatively close to the species *T. durum* and *T. aestivum*, but remarkable in the case of *T. spelta*. Percentage of the total protein content in starlings significantly evolve from a variety to another (up to 10%), values recorded by the biuret method (Gornall), which is significantly more accurate results are similar to those by the Kjeldahl method. Spectral profile of investigated samples revealed that the region corresponds to the maximum absorption wavelength in the range 850-1135 nm. Between 900-950 nm wavelength values for the three strains are similar. Between 1100 - 1135 nm difference has only *T. spelta*, which points up to a wavelength value of 20 units higher than the other two species analyzed.

Hypsochrom effect was found in all three spectral regions, the difference between the values of species are noticeable in areas wavelength 850-900 nm and 1100-1120 nm respectively. Differences between the three wheat varieties investigated are determined mainly by the following chemical constituents: protein, carbohydrate and water content. Conclusions drawn from the paper considers that wheat species by its protein profile has a major influence on the quality of pasta products. The most valuable species and the highest protein content of *T. spelta* is followed in terms acet *T. durum*, *T. aestivum* respectively.

OC104

Implementing HACCP in a unit in the technology of baking bread multicereale

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The present work focused on food quality and safety to protect the consumers interests. This paper presents the importance of bakery products in human food and the influence of physical and chemical properties of raw material used in bakery upon the quality of final product. Our paper presents the concepts which are the basis of HACCP system, the 7 principles of action of the method, the 14 steps listed in the HACCP plan, identification and evaluation of physical, biological and chemical hazards in all the steps of the technological flow of manufacturing multicereal bread, identification of critical control points at which the product may suffer depreciations, their remedy through proper corrective actions and monitoring the maximum limits established at every control point.

The bakery quality control by verifying every value by comparison with standards and current legislation, bread diseases and defects which present a hazard for consumers health is describes.

Study concerning ambient air quality in Maramureş County

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During 2009 there were no special events on the environmental condition in Maramures county. Issues from previous years remained largely the same, with the same critical points related to air quality, soil and water, waste management and impact of historical/residual of ferrous metallurgy and mining activities on the environment, which creates further vulnerability and environmental issues. The area affected regarding air quality in Maramureş, is Baia Mare , determined now by pollutants in the atmosphere coming mainly from SC ROMPLUMB, unit in profile of non-ferrous metallurgy (getting decupered lead). Air quality and congestion generally in Baia Mare Baia Mare in particular remains critical in 2009, indicators of sulfur dioxide and particulate matter, PM10 fraction. Lead indicator of PM10 recorded lower values than the annual limit in three automatic stations and the station MM4 (station located in proximity to specific industrial sources situated on sites contaminated by decades of industrial activity), the average annual value ranged tolerance limits and margin for the year 2009. In indicator of sulfur dioxide in 2009 there were 33 exceedances of the hourly limit value and five exceedances of daily limit value MM2 station and the 4 exceeded the hourly limit value in MM5 station. Given the situation created by recording exceedances of limit values indicators of sulfur dioxide, PM10 and Pb in PM 10% derived from mathematical modeling of dispersions made by the company Westag SRL Bucharest (based on contracts with the Ministry of Environment and Sustainable Development) using as inputs annual inventories of emissions of pollutants in the atmosphere produced by the Environmental Protection Agency in the fourth quarter of 2009, EPA Maramures decided to initiate development the integrated air quality management program for congestion Baia Mare. The Integrated Management Air Quality Program in the agglomeration of Baia Mare was prepared by Technical Committee appointed by Order No. Maramures county prefect. 184/09.11.2009, the Protocols of Cooperation in Environmental Protection Agency concluded Maramures authorities have responsibilities in the field. Under current legislation, the development program follows several stages of public information to enable the public concerned to participate in its elaboration. The original version of the program was completed and made available on March 16, 2010 (inspection at the EPA and CJ Maramures Maramures and publishing websites of both institutions), and since April 19, runs round training of public debate, scheduled for May 20, 2010. After completion, justified by the inclusion of public comments and suggestions, program will be subject aporbării Maramures County Council so that the June 1, 2010 to enter into implementation. The measures contained in the program directly addresses the objectives of reducing the concentration of these pollutants in ambient air.

OC106

Implementing HACCP into a bakery unit to obtain the product with sesame bagels

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Quality and food safety is based on the efforts of all involved in the food chain, consisting of agricultural production, processing, transportation and consumption. Entry into the European Community has led to substantial change in the economic and legal systems of new Member States as required implementing HACCP, a system that meets all European safety and quality standards. The HACCP system aims to identify and control hazards associated with food materials from the organization receiving, processing, distribution and up to the consumer. Documentation and implementation of HACCP system shall be based on a HACCP plan developed by the organization's HACCP team. According to the Codex Alimentarius, the HACCP system in the application follows the seven principles of HACCP. The HACCP system implements the fundamental and a fourteen-stage commercial companies to follow. HACCP plan review is required periodically. When there are a number of amendments or changes in the technological flow should be considered redrafting the HACCP plan.

OC107

Total antioxidant capacity of *Momordica charantia* naturalized species in the western area of the country

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This paper aims to present the regeneration of *Momordica charantia*'s plant species in order to improve the characteristics of its treatment. It is known that *in vitro* cultivation methods are a swift and easy way to induce somatic variability, influenced by artificial conditions of cultivation, and phytohormones. To highlight this, we determined the total antioxidant capacity of the fruit of *Momordica charantia* plants, which were regenerated and acclimatized in normal culture.

Regeneration of *Momordica charantia in vitro* is strongly influenced by the type explants, the combination and concentration of growth regulators and culture age. The most easily calogenic answer is recorded in the cotyledonary explants. The maximum percentage of callus is noticeable in the presence of BAP and Kin.

Meristematic explants induce the formation of shoots in the presence of all experimental variants containing chinetină. Direct organogenesis is determined by the presence in culture medium of growth regulators BAP and ANA and indirect organogenesis in the callus was determined by the presence of BAP in combination with TDZ and BA in combination with Kin. Rooting is strongly induced by the presence of IBA in combination with Kin. After acclimatization, it was observed that survival rate is 65-70%. The method of regeneration *in vitro* induced variability in tissue level, in terms of total antioxidant capacity. Green fruits are recommended in order to obtain antioxidant products and for consumption as well.

OC108

Influence of the presence of aflatoxins on the quality of frozen pastry

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Both mycotoxins and fungi that have the effects they produce damage and decomposition of plants and foods in varying degrees. In principle they can invade and grow on any food at all times, both before harvest and during storage, as well as processed food or feed mixture. Their detection depends on the food or feed, bodies and the degree of invasion. Problems posed by mycotoxins are relatively recent techniques that allow their analysis in an evolving legislation. The current HPLC method is a necessary technique for assay work of most mycotoxins.

As this study demonstrated analytical methodology mycotoxin analysis is a complex issue and requires supervision and competent bodies, validating specific techniques interlaboratoriale tests mycotoxins. These techniques are of two types: qualitative and quantitative. TLC continues to be an official method of analysis is an inexpensive, rapid and practice can analyze multiple mycotoxins poses for multidetecției because it is difficult to achieve while more than one purification (system fining can be used very effectively for a product type and less effective for other items). HPLC is a technique increasingly used in and applied in more formal ways, is expensive and does not allow multidetecții due imunoafinitate columns that are part of specific mycotoxins. ELISA is a method that allows both quantitative and qualitative determination of mycotoxins.

Processing of vegetable lipid fractions

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The major motivation which founded the projection (sizing) technological theme mentioned was determined that the importance of natural and synthetic waxes in preservation, storage medium and short term of horticultural products and legumes. Known importance of superficial films, (pellicule) in regulating (reducing) gas transfer through cell membranes and respiratory process determined as commodities, “*galantar life*” of food. In the master's thesis presented, rice wax was the central objective of the projection (sizing) technological theme, to diversify the assortment of organic coating additive systems, natural.

Theme paper launched has proposed the major objectives: complete and complex characterization of large raw material base of the food system studied; synthetic structure of product sheet (*MSDS 2009*) respectively phytochemical and ethnobotanical data specifically to technological solution chosen; block diagram drawing operations; schematized presentation of technological flow accompanied by circuit description of materials and energy; preparation of material balances (partial and global) (analytical and graphical) of processing the sugar from raw material (resources) diverse natural, principled technological sizing of an solid/liquid extraction plant. Interpretation of experimental data presented can be formulated comparatively the following observations subsequent consequences in food processing of food receptors, accessing rice wax emulsions as emulsifier in the system: at the same temperature, emulsifier concentration in demineralized water, stability of emulsions with rice wax decreases while; at the same temperature, evaluation period, in demineralized water, same emulsion stability increases with emulsifier concentration; assessment at the same time, emulsifier concentration in demineralized water, emulsion stability decreases with increasing temperature; at the same temperature, emulsifier concentration, evaluation period, emulsion stability decreases with increase of permanent hardness (expressed in german degrees as magnesium salt).

OC110

Evaluation of antioxidant capacity of coffees

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This paper two parts: one part of the literature and one experimental. The effect of coffee on health has been carefully studied and, although there were many conflicting opinions over the years, most scientific studies have associated many and varied benefits of coffee consumption. Besides well-known ability to enhance performance on mental activities / physical, drinking coffee is strongly linked to reduced risk of illnesses like asthma, diabetes, cirrhosis, Alzheimer and Parkinson.

A study conducted in 2006 shows that tea and coffee are key sources of antioxidants (Coffee: 97 mg/100 g tea: 30-36 mg/100 g). Consumer studies conducted in Europe and North America indicates that 64% of the take internally antioxidants derived from coffee, followed at a distance of contribution made by fruit, tea, red wine, etc. The research we sought to determine their antioxidant capacity of coffee and determination of caffeine. The extracts were made from different kinds of coffee, hot extracts obtained were then subjected to antioxidant activity assessment. Following analysis established the caffeine content, which was 0.5 to 2% for different types of coffee.

To determine the antioxidant activity DPPH method was used. Time monitoring of changes in absorbance of DPPH solution in the presence of samples of green coffee extract 20 EtOH 96%, spectrophotometric method indicated in most cases a logarithmic inverse floating. In conclusion, using various methods of biochemical evaluation, proved that the popular beverage, coffee has antioxidant power (in vitro) higher than beer, fruit juice, or black tea.

OC111

Studies concerning animal fats on bread quality

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In this paper we studied the influence of animal fats (pork lard and cow's milk) on the quality of bread, i.e, influence on organoleptic characteristics of bread with the additions, the effect on physical indicators: volume, porosity, elasticity, H /D ratio , and on biochemical indices: moisture, titrated acidity, pH, determine both the fresh product and the product stored for 96 hours at room temperature.

The obtained results in terms of experimental characterization of the organoleptic, physical and biochemical bread with added animal fat obtained by a tailored prescription of laboratory technology "Milling and Bakery Technology " are within the limits set by the STAS domain sites.

Analysis of samples of bread with various additives for animal fat showed a direct relationship between the type / amount of stock and product quality achieved on the one hand and type / amount of stock and sample moisture values determined at intervals stored at room temperature, on the other hand. Also, this study highlighted the need to use technology in manufacturing animal fat bread. But the proportion is very important as they are added, improper use of proportions can lead to obtaining a bread with quality defects.

OC112

The antioxidant activity of extracts pilework (*Ficaria verna*)

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This article studied extracts pilework obtaining and analysis (*Ficaria verna* Huds.) (flower and leaves) respectively the antioxidant activity evaluation of the extracts, The following main conclusions can be drawn: there were two types of extracts obtained pilework (*Ficaria verna* Huds.: flowers and leaves) extract bioflavonoids concentration was ~ 100 mg/100 ml, and fresh plant material (assuming a complete extraction) of ~ 200 mg/100 g (expressed as quercetin), the presence of bioflavonoids in their extracts gave significant antioxidant activity, comparable to the activity of quercetin standard solutions on concentration 5 mg / ml for extracts diluted 1:25; average speeds response DPPH three significant periods of time (for a review of 15 minutes) decreased quickly in case of extracts.

OC113

Epicuticular protective systems

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The major motivation which founded the projection (sizing) technological theme mentioned was determined that the importance of natural and synthetic waxes in preservation, storage medium and short term of horticultural products and legumes. Known importance of superficial films, (pellicule) in regulating (reducing) gas transfer through cell membranes and respiratory process determined as commodities, "galantar life" of food.

Interpretation of experimental data presented can be formulated comparatively the following observations subsequent consequences in food processing of food receptors, accessing *synthetic whale wax* emulsions as emulsifier in the system: at the same temperature, emulsifier concentration in demineralized water, stability of emulsions with *synthetic whale wax* decreases while; at the same temperature, evaluation period, in demineralized water, same emulsion stability increases with emulsifier concentration; assessment at the same time, emulsifier concentration in demineralized water, emulsion stability decreases with increasing temperature; at the same temperature, emulsifier concentration, evaluation period, emulsion stability decreases with increase of permanent hardness (expressed in german degrees as magnesium salt).

OC114

Implementation of HACCP in dough puffs technology

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In this work has been studied the implementation of the HACCP plan for a confectionery unit and we chose the representative product dough puffs with basis weight 800 g. Theoretical part covers general aspects of terms used in the design and implementation of HACCP principles, applying HACCP, HACCP implementation stages, and international regulation, European and National implementing HACCP. In the practical part, it has been exemplified a general model for implementing HACCP confectionery unit. In this chapter we wanted to: submission form HACCP team competence; product description; presentation of technical specifications of raw and auxiliary materials; submission of the technical specification for the finished product; achieving technological flow chart of the finished product analysis; analyzing the potential risks that may arise during the process technology; determine critical control points for each stage of the technological process; achieving HACCP plan for the finished product; examples of procedures to be followed in the implementation of HACCP. A HACCP a rigorously applied eliminates all cases that may obtain unsafe products.

OC115

The milk powder influence on the viscosity and elasticity characteristics of bread with milk powder

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This paper presents a study of literature harsh treatment issues, the causes of nutritional deficiencies that may occur, the bioavailability of calcium in food products, proteins influence the bioavailability of calcium, the influence of lactose on calcium bioavailability and foods fortified with calcium-based product is structured cerealiere.

In order to determine the viscoelastic characteristics of bread produced was an overview of the main theoretical aspects of experimental procedure were determined. Characteristics viscoelastic relaxation of bread tests conducted on samples cut from cylindrical crumb with experimental obtained. Dependence relaxation during labor was drawn graphics and processed by nonlinear regression using the Origin program. Because the crumb with 7.7% milk powder, five of the seven viscoelastic characteristics were obtained by nonlinear regression maximum and crumb homogeneity is evident in both video and graphics obtained, it can be concluded that the content of milk powder is ideal for this sort of bread.

OC116

Comparative study on some properties of dairy colloids derived from different animal species

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This paper presents chemical composition and properties of milk derived from cow, sheep and goat, protein analysis techniques, especially of casein, using modern analytical techniques; includes determination of turbidity, viscosity, pH, refractive index and conductivity.

OC117

Study of antioxidant activity of solvent extracts from juniper

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Common juniper (*Juniperus communis* L.) is a natural evergreen shrub or tree growing in dry uncultivated regions of Asia, Europe, North Africa and North America. The berries and needles of juniper contain an essential oil having a characteristic aromatic flavour and bitter taste.

The extracts were obtained from dry branches, berries and needles of *Juniperus communis* and *Juniperus virginiana* collected from three habitats. From this juniper species were realized extractions by solvent use like ethyl acetate, hexane and tetrahydrofurane. The antioxidant activity was determined by DPPH (2,2-diphenyl-1-picrylhydrazyl) method. The average speed values were correlated with antioxidant activity of *Juniperus communis* and *Juniperus virginiana* extracts and we observed a significant activity on this extracts.

For its diuretic and gastrointestinal properties common juniper has been known as medicinal plant for centuries. Juniper oil is a natural product which is used in the pharmaceutical and food industries and perfumery, as well as in cosmetics. Certain spirits (gin) are made by distillation from fermented juniper berries.

OC118

Methods of identification and dosing of aminoacids from the diet farinaceous aliments

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Our paper includes an introduction regarding amino acids and proteins, and the role of nutrients in the nourishment, presents the amino acids, giving a general presentation, amino acids formulas, the ways of preparation and physical and chemical properties, talks about methods of identification and dosing of amino acids in the nourishment products.

Thus, in this work debates upon the amino acids from foods, referring to the several foods classification based on protein type and content, and also upon a comparison between amino acids from flour and those from cereal grains. It was identified and dosed some amino acids in diet biscuits.

OC119

Package - factor of ensuring safety bakers

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We proposed a theoretical and practical study to slowing the ageing process of bakery products and extension of shelf life through packaging materials. In this respect, three packaging methods were chosen: PE packaging film, PP film, perforated polypropylene film and packaging in a bag of complex material composed of two layers of cellulose and a polyethylene film.

Package selection was based on physical characteristics, mechanical and chemical properties of packaging materials and by the requirements for proper storage of product packaging. Different experimental variants of bread packaging described it appears that there is close relation between water vapor permeability, duration of maintaining product freshness and appearance of mold.

For bread wrapped in polypropylene foil degree of contamination was highest, contamination being carried by two species of mold: *Penicillium nigricans* and respectively *Penicillium frequentans*. In bread wrapped in complex material degree of contamination with *Aspergillus fumigatus* is 10%. Bread samples packaged in complex material, bread keeps it's quality of fresh bread, taste, elasticity, unchanged or low degree of fragmentation, smooth crust and rigid for 4 - 5 days. In the seventh day mold is observed.

OC120

Iron fortified bread technology

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Chronologically, food fortification with iron starts since 1941, when the U.S. establishes mandatory fortification with iron salts to wheat flour. Subsequently most developed countries have joined the programs of mandatory fortification of wheat flour. An important direction, to be developed lies in increasing the bioavailability of iron in fortified foods. As flour and cereals, selected for mandatory fortification, food present - base vehicle is proposed to develop food processing procedures, which contribute to the activation of natural fitazelor able to reduce the inhibitory action of phytates in these products.

Fortification can take several forms: strengthening universal, targeted fortification, or the domestic market. But first talk about universal fortification or table. This refers to the addition of one or more nutrients in foods commonly consumed by the entire population. Of particular importance for the enrichment of food with iron is a correct choice of sources of iron used. Were subjected to sensory analysis and physicochemical evidence as follows: 518 g bread with spinach, 681g nettle bread, bread with egg 665 g and 360 g. The control sample were determined.

For bread with spinach, nettle bread, simple bread with egg and bread were made following laboratory tests: volume of bread, crumb porosity, crumb elasticity, total protein, energy value. Nutritive value is given by the protein, carbohydrates, fats, minerals and vitamins that one bread fortified with iron and their rate of assimilation. The amount of energy released by different nutrients has to express their calories or joules.

OC121

Applications of the sensory analysis in quality control of raw-dried salamis (Sibiu salami)

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Meat industry is a very important leader in human life. It is responsible with realization appropriate products, under the quality appearance, but especially it must be sees the requirements and the exigent of the consumer. Meat is a basic food source in human nutrition, because it balanced chemical composition in high biological trofin value (protein, fats, minerals, vitamins), higher digestibility and dietetic-culinary potential, meat is indispensable nourishment in human nutrition.

Under the name of meat products, it finds meat products made of minced and spicy meat placed into a membrane and expose to a thermal process (pasteurization, smoking or drying), these products can be use in alimentation as they are, without other culinary processing. An assortment of meat products are raw-dried smoked sausages (example: Sibiu salami). These sausages are made of pork meat and pork lard. It must obtain a single and compact product, specific ruby color, fixed, well tight which can be easily cut into thin slices and to have a nice flavor and great durability.

The technological process of manufacturing the Sibiu salami includes the following stages: receiving raw materials; pork meat: storage, carving, boning, picking out, leakage, drying, strengthening; pork lard: storage, trimming, portioning and freezing. The raw materials are chopped into the cutter, then vacuumed, filling into the membrane, homogenizing the forcemeat, clipsing-binding, dying, smoking, maturation-drying, packaging and storage.

The finished product is accounted from the quality point of view. This is done by sensory analysis (organoleptic examination), physicochemical and microbiological analysis. Sensory analysis is based on the ability of sense organs to analyze perceived sensations,

the sensations begin in the sense organs and end in the cortex hemispheres. The whole system which participate to the sensory analysis is named the analyzer.

Sensory analysis involves the assessment of sensory quality of food products, by the instrumentality of sense checked in advance (eyesight, taste, smell, hearing, touch), by using different methods and qualified people in this scope, under certain conditions which ensure the objectivity to reproduce the results. Using sensory analysis for measurement the quality characteristics of the products and their acceptability levels is broadcast all over the world. People takes an attitude of rejection or acceptance of food, depending on its sensory traits (appearance, smell, taste, consistency). This first contact leads, through neuronal receptors, to the occurrence of the pleasant or unpleasant sensations.

Sensory analysis is a crucial step in determining the quality of food products, its buying rate depends on it. This step allows the processor to choose the most suitable recipes for manufacturing. For fulfilling the research theme: - “Application of sensory analysis in quality control of raw-dried sausages (Sibiu salami)” – organoleptic examination was performed by twelve tasters and the properties that had been studied and given a note were: appearance, color, flavor, taste, smell, consistency. The final result of this examination led us to a top of the analyzed food products. Entering the European market, Sibiu salami, made by domestic manufactures could change the Romania status from consumer to acknowledged producer.

OC122

Quality of quality pasta. Preparing HACCP for all pasta

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Food producers are forced to use only their manufacture and secondary raw materials to meet the quality parameters set out in standards, technical specifications, sanitary rules in force. Essential raw materials which result in the formation of dough with specific attributes are flour and water. Some varieties are widely used material to improve color and appearance, flavor and taste improvement. We looked in the experimental methods for assessing the quality of pasta products by determining the following parameters: color, smell and taste, dirt, boiling behavior, grain, gluten, ash, index drop, moisture, acidity, crude protein.

In this paper have investigated some aspects to the raw materials and manufacturing process parameters influence on the pasta quality. Consumers are strongly influenced by culinary traditions from the country or even in regions where they live. However, the consumer may be defined by two criteria to assess the suitability of pasta: one directly perceptible in the grocery store and some aspects raw pasta, this criterion, together with appearance package, brand and product price, often influence the buying decision; the second is the quality of cooking or boiling behavior, this criterion is manifested only when preparing pasta preparations in the kitchen.

OC123

Hydrolysis of native cellulose (E – 460) from hardwood timber – beech (*Fagus Sylvatica*)

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Paper aims to assess the expansion and diversification opportunities of food assortment of organic caloric sweeteners from category sugar.

From comparative evaluation of experimental data recorded can make the following findings: at the same temperature, acid hydrolysis yield of cellulose increase over time; at the same temperature, evaluation period in demineralized water, acid hydrolysis yield of cellulose increases with temperature; at the same evaluation period and temperature, acid hydrolysis yield of cellulose increases with mass ratio H_2SO_4 / native starch; at the same temperature, evaluation period, acid hydrolysis yield of cellulose increases with mass ratio H_2O / native starch. Analyzed the values obtained within changes the primary data access justify projection technology theme (sizing) addressed and forward encourages new related case studies. The annexes are trying to present partially by technological schemes, equipment and /or parts, component, complexity and diversity of technological solutions proposed in literature consulted.

OC124

The influence of Biogel content on the viscoelastic properties of a snail meat pâté assortment

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Our paper present a short history of the role snails played so far as food for humans. This is followed by the mentioning of the role Rheology has in the Food Industry and also by a classification of food products from a rheological point of view. Thus, this paper contains general information about snails and a description of some better known snail species, the technological stages for snail meat manufacturing process, the general technological process for manufacturing meat pâté in tin cans and the quality conditions that meat pâtés must meet. We presents some basic rheological theoretical notions, focusing on the viscoelastic properties of food products, as well as on stress relaxation tests with practical importance for the experimental part. The experimental part consists in the study, through relaxation tests, of the viscoelastic properties of four snail meat pâté assortments with different amounts of Biogel (0-3%). A mathematical model that describes the behavior of a

three-element Maxwell mechanical model was used for interpreting the relaxation tests. The three elements are connected in parallel with each other and also with an ideal spring. Data acquired for the snail meat pâtés without Biogel, with 1% Biogel and with 3% Biogel can be associated with an inhomogeneity present within them. For the 2% Biogel assortment, the data suggest a good homogeneity in the prelevated samples. It's probable that this assortment contains the optimum Biogel quantity for ensuring a homogenous gelification of the pâté mass.

OC125

Mineral substances from medicinal plants

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Quantitative ratio of chemical elements in plants body varies and they are conventionally divided into macro elements, whose amount varies between 0.01 and 10% of dry substance and micro elements, whose amount varies between 0.00001 and 0.001% of dry substance. When the plant nutrition is lacking or the quantity of a chemical element is insufficient, physiological diseases appear, accompanied by slowing or stopping the growth of root, stem, leaves, or fruits. Many macro elements are absolutely necessary for the normal growth and development of plants. These are N, P, K, Ca, S and Mg.

Micro elements are present in small quantities in plants body. But their presence is absolutely necessary. They are involved in general metabolism, in plant growth and development, in the processes of immunity. Lack of a micro element can be corrected by adding it to the environment. Macro elements content in medicinal plants for the samples that are being analyzed range between: 3.763% (*Plantago major*) - 0.442% (*Hippophae rhamnoides*), for Ca, 0.718% (*Urtica dioica*) - 0.107% (*Hippophae rhamnoides* and *Pinus*), for Mg, 1.417% (*Chelidonium majus*) - 0.319% (*Rhamnus frangula*), for K and 1.945% (*Cynara scolymus*) - 0.021% (*Pinus*), for Na. Macroelementele divide herbs main clusteriale analyzed in three groups. Among the herbs studied macro elements concentrations were not recorded significant correlation coefficients.

Fruit preservation by modeling of environmental parameters

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The aims of this paper was to explore the technical and economic issues on preservation (conservation for a determined period), storage of fruit (apple, quince, chestnuts) in controlled atmosphere (modify) based on the fact that post harvest are still cellular organisms live where biochemical, fundamental physiological processes (as tissue respiration respectively fermentation) are major. Influenced by their ontogenetic nature, environmental factors (temperature, humidity, oxygen and /or inert gases in the atmosphere content, etc.), the correct conservation (extension) of "life galantar", ensure the nutritional and Merchandising standard quality accepted (imposed) on agro-food market.

Practical work aims to establish the basic kinetic of respiratory process for horticultural products mentioned [volume of CO₂, moisture (water vapor), oxygen]. On this line, in a sealed static system equipped with silica gel indicator (impregnated with cobalt chloride), concentrated pirogalol solution (20%) and sodium hydroxide pellets, were maintained specified quantity of fruit set and were periodically quantitatively evaluated the compositional evolution of the atmosphere (environment). From comparative evaluation of experimental data recorded can make the following observations: shelf life (storage) in normal medium (20% O₂; 80% N₂) (760 mm col Hg), (24°C) for healthy and clean fruit, adversely affect the glucose content which indirectly affects the respiratory quotient; increasing storage temperature (storage) in normal atmosphere environment (20% O₂; 80% N₂) (760 mm col Hg), 9 days evaluation period adversely affect the glucose content and respiratory quotient indirectly; the size of overburden area on a healthy and clean fruit adversely affect the glucose content which indirectly and respiratory quotient in normal medium (20% O₂; 80% N₂) (760 mm col Hg), (24°C), 9 days evaluation period; temperature detrimental stronger the glucose content in terms of a healthy overburden fruit monitored to the same environmental conditions (20% O₂; 80% N₂) (760 mm col Hg), 9 days evaluation period.

Obtaining technology of spinach pasta

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Objectives and activities followed in experimental part of paper were: establishing and achieving manufacturing recipe for spinach pasta; physical-chemical characterization of the obtained product; qualitative comparison of qualitative indices of spinach pasta.

Activities: raw and auxiliary materials dosage; preparing the block diagram of operations; obtaining of the finished product; physical-chemical determination: moisture, minerals, proteins, lipids, macro and micronutrients; physical-chemical interpretation of values depending on the limits imposed by standards.

Experimental results obtained revealed that: Spinach is a valuable food component that enter in the composition of pasta using the product to nutrient enrichment and conferring a specific staining. Spinach contains iron in greater proportion than in other plants, however, iron is combined with other substances of prime importance: folic acid, vitamin B12, which lead to increased number of red blood cells. Chlorophyll, in combination with iron, it regenerates and increases the blood hemoglobin content. In the chemical composition of spinach are found metals as sodium, magnesium, iron, torque and elements such as sulfur and phosphorus, vitamin Class A, B, C, E, K, PP, as well important amino acids for body as arginine and lysine. Due to this composition, spinach is extremely beneficial to the digestive system, skeletal, circulatory, endocrine and kidney, aspect acknowledge by natural medicine, as well as the modern.

Pasta enriched in iron leads to an increased intake of iron and minerals and are considered dietary food products for people with special needs. The main role of food is to provide nutrients in suitable quantities for metabolic needs of body and further to give consumers a sense of satisfaction and pleasure through hedonic attributes of food. In addition to generally accepted nutritional effects, diet can have beneficial physiological and psychological effects. Nutrition not only contributes to maintaining optimal health and development, but may have a role in reducing disease risk.

Although there are few people who have extensive knowledge in nutrition, consumer awareness about the relationship between food and health is in evolving worldwide. Thus, the ordinary consumer is every day more interested in what it consumes, of the proper nutrition. Food manufacturers are forced to diversify range of products to satisfy all tastes and consumer needs. In this context, referring to the theme of this paper, pasta manufacturers have diversified their product range and, in addition to the taste test took into account the nutrient enrichment of pasta and such, we find on the market enriched pasta in protein, iron and vitamins.

OC128

Obtaining technology of flour type 550 using VD 1000 Mill

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Experimental part of paper with has the following objectives: develop milling diagrams to obtain wheat bakery flour type 550 and 650; operational control of technological process; physical-chemical and rheological characterization of obtained products.

The paper achieved the following subjects: It was made a bibliographical study regarding the importance of wheat culture in our country and internationally; Milling technology issues were presented to obtain wheat flour and were described processes occurring during the technological flow; Technology calculations were made in mill and have tailored the main equipment (shafts and flat sieve) of the milling industry; Experimental, were made technology flow of Mill MVG 1000 in Lovrin, were drawn sitar and milling diagrams to obtain wheat flour type 550, fixing the number of technological stages and characteristics of working machines (rollers and riddle); Were analyzed physico-chemical parameters (ash determination, determination of humidity, gluten content, gluten index, deformation index) for wheat flour type 550 obtained in technology process developed and the results were interpreted; Were recommended hygienic standards for work safety equipment, fire fighting, to be followed in the manufacture of flour, in accordance with the law.

OC129

Technology of flour type 550 using Mill roller MVG 1000

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Paper has the following objectives: Setting technology flow for mill type MVG 1000 Lovrin; Setting grist and sitar diagram to obtain flour type 550; Determination of physical-chemical indices of obtained flour

Associated activities: establishment of the machines number and their location; determining the raw materials movement and grist products in mill; development of the mill plan operation; determining the number grist products, selling and cleaning passages depending on assortment obtained; setting rollers characteristics, meal plan strainers and crumb machines; acidity determination; determination of ash; determination of gluten.

Paper has proposed and developed following goals: It was made a bibliographical study on the importance of wheat culture in our country and internationally; Were presented technology issues of production of grinding wheat and flour and were described processes occurring during the technological flow; Were made technology calculations in mill and have tailored the main equipment (shafts and flat sieve) of the milling industry; Experimental were made technology flow for MVG 1000 Lovrin were drawn diagrams sitar and milling to obtain wheat flour type 550, fixing the number of technological stages and characteristics of working machines (rollers and Site Map); Were analyzed physical-chemical parameters (ash determination, determination of humidity, gluten content, gluten indicator, deformation indicator) for wheat flour type 550 obtained in technology process were developed and results were interpreted; Were recommended hygienic standards for work safety equipment, fire fighting, to be followed in the manufacture of flour, in accordance with the law.

OC130

Obtaining technology of gluten free biscuits

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Objectives followed in experimental part of paper were: Establishment of gluten free recipe manufacturing product; Physical-chemical characterization of the obtained product; Comparison of qualitative indices of quality of gluten free biscuits with regular biscuits

Activities: raw and auxiliary materials dosage; preparing the block diagram of operations; obtaining of the finished product; physical-chemical determination: moisture, minerals, proteins, lipids, macro and micronutrients; physical-chemical interpretation of values depending on the limits imposed by standards

Experimental results obtained revealed that: Gluten free biscuits based rice flour, nutmeg and Hippophae rhamnoides extract is a valuable product for nutrition and diet for people with gluten intolerance; Rice flour gluten free biscuits meet the nutritional requirements of patients with immune-type food allergy (celiac disease), characterized by the absence of gluten in composition; Using the nuts in biscuits composition increased the intake of minerals necessary for human body, thanks to the content of copper, magnesium and zinc, with a role in treating cardiovascular disease, growth disorders and immune deficiencies corrected. As appreciable amount of iodine in this fruit, it helps to treat thyroid disorders, and certain skin diseases; *Hippophae rhamnoides* extract has valuable antioxidant properties and high content in vitamin C, helps cell regeneration, healing. It is excellent for skin diseases, flu and aging.

Functional food for allergies combat and intolerances must consider the type of allergy and intolerance, respectively products that are contraindicated in these cases. Is practically difficult to make a functional food complex with a specific purpose, since they must

achieve a balanced mix, scientifically, basic ingredients and biologically active substances. It is generally recommended that the daily diet to get those foods by biologically active components may contribute to the goal.

Gluten-free products are an example of "reverse" functional foods, the gluten is removed / excluded and not included as other constituents. Research are directed towards the production of comparable quality to those without gluten with those who contain gluten. These products must be free of allergens factors (in this case, gliadin from wheat gluten) and contain nutrients necessary to correct metabolic disorders caused by disease. Cereal products were among the first foods included in functional foods (dietary fiber content). Using recipes and adapted technologies, may be obtained from allowed raw materials, gluten free dessert products, very tasty and looks good, wide assortment of gluten free romanian pasta products is steadily diversifying, with pasta products destined for children and adults.

OC131

Comparative study of the using methods to classification of pig carcasses in Romania

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Classification of pig carcasses trough objective methods of assessment of carcass lean meat content in slaughterhouses began in Romania in autumn 2004. The methods used were approved by a national experiment dissection done according to the EU reference model used to establish lean meat content. A new dissection experiment took place during 2007 and led to change the formulas for calculating from July 2008 for the optical device method (FOM) as well as the two point method (ZP).

After applying the new formulas, working in the field of pig slaughtering, I found differences in the correlation between the results obtained through the ZP and FOM methods. In order to quantify these differences I conducted a series of experiments in the S.C.SMITHFIELD PROD S.R.L. slaughterhouse in Timișoara, between 19-26 January 2010, applying both methods on a total number of 162 carcasses. From the data's collected I observed a difference of 1,8 % lean meat content between the results obtained by applying both methods on the same carcasses, this having important financial implications.

In conclusion, a new national dissection experiment is needed for re-correlation of the results, as both farmers and slaughterhouse operators may feel cheated by the results, and legislation imposed them as the basis of value calculation for pigs delivered for slaughter.

OC132

Comparative study on the butter types from the Timișoara market

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The paper presents a literature survey on the technology of butter and personal contributions on the comparative study between physical and chemical properties of nine butter types throughout the storage for two month. The physico-chemical values for all studies samples were in the normal ranges.

OC133

Study of physical, chemical and enzymatic changes in different types of yogurt stored improperly

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Yogurt as *Codex Alimentarius* is a milk product obtained by lactic acid fermentation of *Lactobacillus bulgaricus* and *Streptococcus thermophilus* as an action of enzymes with the addition of flavorings, colorings and sugar. Since storage conditions can affect crucial product quality, in the present study we aimed to investigate the influence of storage temperature on quality parameters of yoghurt in order to identify analytical markers allowing early evidence that product quality deterioration. After studying the variation of three parameters of product quality yogurt (fat content, acidity and protease activity) stored in different temperature conditions found that the acidity and protease activity may be used in assessing the degradation (aging) of this product.

Experimental determination of fat in yoghurt was done by butirometric-acid method. Acidity was determined by the titration with NaOH using phenolphthalein as indicator and expressed in Thorner degrees acidity. Protease activity has been determined by the modified Anson. Most analytical sensitivity has a proteolytic activity method; the product differs greatly from that stored properly to store improperly.

Variation in storage conditions of these two parameters was studied in four types of yoghurt, yoghurt that normal diet, fat and with the addition of functional yeast. In all four types of yoghurt were significant changes in values depending on storage temperature, the most significant differences occurring for protease activity. Analytically speaking, the fastest and easy is to determine the acidity, then determine the fat and then determining

protease activity. The latter requires a longer working time, most exquisite and expensive reagents, more sophisticated equipment (spectrophotometer) and professional experience, but much better results in the results due to increased susceptibility to enzyme thermal storage conditions.

OC134

Sensorial and physico-chemical quality of summer salami made by “A” factory from Timișoara

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The paper presents the organoleptic and physico-chemical quality of summer salami produced by „A” unit from Timisoara. The organoleptic examination highlighted: product shape, exterior and in section aspect, consistency, taste and flavor and there were no changes compared to admitted parameters.

The physico -chemical examination highlighted the moisture, fat, total proteins, sodium chloride, nitrites and easy hydrolyzed nitrogen. Water content was under the maximum admitted limit of 50%. Medium fat value was 30.66%, by 2.5% under the 40% maximum limit. Total proteins exceed the maximum admitted limit (15%) in all 3 analyzed groups. Medium sodium chloride content was 2.5%, under the maximum admitted limit of 3%. Easy hydrolyzed nitrogen registered a medium value of 33.67 mg NH₃/100g product under the 45% maximum admitted limit. Nitrites content was 3.43 ppm, under the 7 ppm imposed limit. Conclusion: unit „A” from Timisoara produces summer salami with organoleptic and physico -chemical qualities in the admitted limits. We recommend more effective utilization of bacon in the manufacturing recipe because fat medium value was by 9.34% under the maximum admitted limit.

OC135

Physico-chemical assesment of pig meat canned

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Food industry is an important component of our country's economy and a decisive factor for grown living standards having an economic, social and somogenetic importance. In this study I have examined many cans from an organoleptical, bacteriological and physico-chemical standpoint.

At all the samples examined I haven't found any convexities, whether physical, biological or chemical. All the cans examined were correctly labeled and pressed according to the working regulations. From the total of samples examined, only eight had shown air-tight defects. No samples had shown any convexities whatsoever. The bacteriological examination has not shown the presence of pathogen agents. At phisico-chemical examination the results were, with few exceptions, within the limits of acceptability approved by Standard 8924/1995.

OC136

Identification of honey adulteration by spectrophotometric methods

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The paper relates the spectroscopic method, with the help of which, it had been materialized the analysis of the honey assortments, taken into consideration, as much as the experimental results obtained from the nine tests of the honey. The utilized spectroscopic methods are: the quantitative establishments through spectrometry UV – VIZ: the stabilization of the antioxidant capacity (the FRAP method) and the establishment of the entire polyphenols content through the FOLIN - CiOCALTEU; the establishment of the hard methods (Fe, Mn, Cu, Zu) from honey through atomic inhalation spectroscopy; Taking into consideration the experimental results, it can be concluded that only the use of more spectroscopic methods and the setting of a bigger number of parameters (TRAP, Polyphenols, metals) can offer useful information for tracing out the honey forgery.

OC137

Vegetal systems preservation through acetic fermentation

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The paper investigates vegetal systems preservation from a physical-chemical and organoleptic point of view. In order to do that we obtained apple vinegar using a traditional method. Although the vinegar is known from ancient times and used as well as food and medicine, because of its multiple qualities, it melt old and new the same time. This study try to establish optimal recipes and technological parameters of obtaining apple vinegar in our faculty laboratory conditions.

One of our contribution through this project implicates the elaboration of some possibilities of optimization of fermentation process by using yeasts, black bread, sugar or honey as substrate corrector or precursors of the process.

Because of the complexity of biochemical transformation during fermentation process, we can say that obtained results depend of the work conditions and vegetal material used as raw material. The fermentation process can be driven to obtain a certain composition of final product working on technological parameters as well (humidity, temperature, pH, etc.). On the other hand every type of fruits has its chemical and biochemical properties and this fact relies on final products quality and properties.

OC138

White bread technology

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I've chosen this topic in light of my preference for reading and discovering new and interesting things about „white bread”. This paper details all that i have learnt these past six years, thoroughly explaining all the requirements and criteria used nowadays in this industry branch. My approach is based on multiple – fields exploration, as well as in correlation of theoretical knowledge, laboratory customs and literature approved standard practices. With the introduction and development of new technologies, the bakery products industry has become more modern, thus easing the effort put in by its employees.

My hopes are that this work will be of use to all my colleagues practising in the field and, on a larger scale, to any who take interest in and wish to join the production and distribution of bakery products sector. This paper is a practical instrument for specialized technical personnel, in a field where work and its related procedures represent determinant factors for increasing the quantity and quality of bakers products.

Bakery products supply the human body with a consistent ratio of the resources necessary for its vital activity, for maintaining its general health and for conserving its work capabilities. The nutritional properties of bakery products are a result of correct exploitation of flour, a derivate obtained in the industrial processing of wheat. Nowadays, different assortments of bread manufactured : from white bread to half – white (intermediate) and wholemeal bread, from simple pastry to bakery products with added ingredients and even to dietary products.

The nutritional value of pastry products particularly of bread, ensure an important contribution to the daily intake of nutrients and have long been the scope of thorough research. The increased dietary value of bakers products is given by their caloric (energy) count a result of the high levels of carbohydrates and fat flour

benefits from – but also by these products' other ingredients, all of which are easily absorbed by the human body. It is common knowledge that bread's caloric content can go as high as 2200 – 2400cal/kg. On the bakery market, white bread has an approximate share of 43%, half – white – 20%, wholemeal bread - 18%, while other pastry products account for a total of 19% of the market. The pastry market has an important within the consumer goods market, primarily because of bread's fundamental role as basic nutrient, one eaten on a daily basis.

OC139

Some physico-chemical characteristics evaluation of Mozzarella cheese

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Over the time, it has been developed several pathways in case of Mozzarella production, because of the important contribution of these sort of cheese in order to maintain a normal health status. In case of our study we used two sorts of cheese: Mozzarella bocconcino and Mozzarella filon.

The analysed data bring useful information for food industry, and the subject of this paper contains 5 chapters including several tables and graphic representation. The paper is structured in two parts – literature data regarding general aspects concerning several types of cheese, especially Mozzarella, the nutritional characteristics of this product, technological pathways of Mozzarella obtainment, with a large description of technological phases, necessary equipment, mathematical operations regarding material and thermal balance, and also experimental part including some physico-chemical determination to evaluate the nutritional characteristics of the product. Results are expressed by using graphic illustration. The analyses revealed positive aspects generated by the introduction of Mozzarella cheese in our diet, because of its nutritional value.

OC140

Researches on honey bees from the hill region

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The following aspects were evaluated on this study: the physico-chemical characteristics of the acacia and poly-floral honey (humidity, acidity, diastatic index, and hydroxymethylfurfural); sensory analysis on honey (color, texture, taste, and aroma of

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poly-floral honey and related products with different additives); increasing the consumer acceptance for the honey products from the autochthonous market; determination of the humidity by the refractometric method; determination of the acidity by titrimetric method; determination of the diastatic index by Gothe method; determination of hydroxymethylfurfural by Winkler method.

Due to the complexity of chemical composition (rich in glucides, proteins, albumins, organic acids, mineral substances, vitamins, enzymes, natural antibiotics, hormones, pollen etc.), honey is an important natural food product, which cannot be compared with synthetic food or pharmaceutical formulations. The food and therapeutic qualities of honey are due especially by the presence of nutritional compounds from this product. Honey can be (accidentally) impurified by contaminants (heavy metals, pesticides, veterinary drug residues), all having negative impact on the honey characteristics. By knowing the honey chemical composition and by a rigorous quality control of this product, according to the Romanian and European Union standards, the food researchers evaluate the honey from the Caraş-Severin county and these are corresponding from the humidity, acidity, diastatic index, and hydroxymethylfurfural contains point of view.