Development of formulas and evaluation of consumer properties of the sweet dishes with the use of additives from plant and animal origin
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Abstract
On the basis of the collected data from the organoleptic, physical-chemical and microbiological analysis of the quality indexes of the sweet dishes was discovered the ability to use chitosan and protein isolates from sesame seeds instead of gelatin and egg protein in the recipe of cream-parfait, produced by the enterprises of public catering. The quality of the products remained high, and at the same time the biological value of the finished product increased.

Key words: Sweet dishes, chitosan, protein isolate, nutrition value

Study of a hydraulic accumulator system for energy efficient pressing
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Abstract
The paper focuses on the topicality of research on energy efficient technologies. It describes the setting, structure, basic parameter determination and operation of a hydraulic accumulator system realized in a laboratory pressing stand. The results of the experimental tests for pressure stability in relation to the static mode duration, the time needed for pressure compensation in the hydraulic accumulator by pump activation, the power generating capacity and efficiency coefficient of the hydraulic generator, and the ratio between time intervals WITH and WITHOUT energy consumption during rapeseed production have been reported. Conclusions have been formulated on the application of consolidated modifications of the studied system in industrial pressing technology equipment. The exceptionally positive energy effect of the hydraulic accumulator systems, especially with extended technological pressing modes, has been stressed.

Key words: hydraulic accumulator system, pressing, exceptional energy efficiency

Development of food concentrate formulas for soups with a functional purpose
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Abstract
This article contains the results of scientific-research work on development of technology and formulations design of food concentrates for soups with functional purpose. The optimal ratio of the fruit and vegetable raw materials is given, as well as the interactions of the components of the receipt among themselves.

Key words: food concentrates, drying, puree soups, functional food

Trends in catering fryers production
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Abstract
Fried foods are among the most popular and at the same time criticized ones for the damage they are causing to our health. The topics of the discussion are the trends in minimizing the negatives and solving the problems in fried culinary products through improving deep fat fryers. Proper procedures for handling them are suggested. Examples of advanced solutions for frying apparatus and their application in culinary practice are given.

**Keywords:** Deep fat fryers, Fried foods, Food safety, Catering

**Identification of Bulgarian Variety Cottonseeds, from Different Vintages**

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**Abstract**

There are not found investigations about objective mathematical evaluation of the origin of oil-containing seeds by vintage and variety. By applying discriminant analysis it is possible to help selectionists in the establishment of the origin of cottonseeds by vintage. By applying statistical methods it has been proved a difference in physico-chemical characteristics of different varieties and vintages of Bulgarian cottonseeds. It gives a base for effective description of different varieties and vintages by means of discriminant analysis. For better visual interpretation of results canonic analysis has been applied. Concerning different varieties and vintages discriminant analysis provides an opportunity to evaluate the significance of the individual characteristics involved in modeling.

**Issue 3/2012**

**Comparative analysis of the composition and the properties of vegetable oils with the aim to be used in functional dairy products**

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**Abstract**

A comparative analysis of the composition and the properties of sunflower, corn and soybean oils, was made with the purpose to create new functional dairy products. The physico-chemical parameters, the fatty acid and the tocopherol composition of these oils were studied. The index of oxidative stability of sunflower oil was characterized by a lower value – 2.13 hours and 2.40 hours, compared with the corn and soybean oil. It was found that the peroxide value was higher respectively with 0.54 meq O2/kg and 0.36 meq O2/kg compared to that of corn and soybean oil. According to the fatty acid composition, soybean oil is characterized by the lowest percentage of saturated fatty acids, respectively 1/8 and with absolute amount of unsaturated fatty acids, including ω-3 and ω-6 fatty acids, above 57%. Higher values of γ tocopherol in corn and soybean oil, respectively 51.1% and 70.0%, justify their higher oxidative stability.

**Key words:** functional dairy products, vegetable oils, milk fat, ω-3 and ω-6 fatty acids;

**Investigation the possibilities for waste heat utilization and water saving from autoclaves**

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**Abstract**

The possibilities for waste heat utilization after canned foods sterilization from autoclaves are investigated. For this purpose two-stage cooling scheme of the sterilized products is realized. The heat quantities and water savings that could be utilized in different conditions in this process are established.

The results show that with analysis and reconstruction of the technological process could be achieve significant energy and water saving.
Determinant of the objective function for the optimal control of the apricot drying process
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Abstract:
The most important aspects of drying processes optimization are energy consumption, duration of the drying process, and the end product quality. An generalized objective function is defined. It includes energy costs, changes of the average moisture content in the material during drying, and some parameters, that define the product quality. This objective function can be used for the drying process optimal control, which results will be reduction of the drying period, energy consumption and improvement of the product quality.

Keywords: Apricot, Drying process, Energy consumption, Product quality, Optimization
The aim of this study was to determine the effects of different drying methods on ascorbic acid thermal degradation in tomato slices. Tomato slices dried by using hot air drying method (AD) performed at drying temperatures of 65°C, 75°C and 85°C, vacuum drying method (VD) at 65°C and 75°C drying temperatures, freeze drying method (FD), performed using 30°C plate temperature and sun drying method (SD). In order to determine the degradation kinetics of ascorbic acid in tomato slices, during drying processes, a first-order rate equation was applied to the changes in the decomposition of ascorbic acid contents. Activation energy was found for hot air drying process that was performed at three different drying temperatures using the results of the ascorbic acid degradation rate (k) and drying temperature values. Activation energy was determined as 21.90 kJ/mol K for AD method.

**Keywords:** Drying of tomato, Ascorbic acid, Degradation kinetics, Activation energy.