

Contents Vestnik MGUP, 2015 №2(19)

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INVESTIGATION OF STRUCTURAL AND MECHANICAL PROPERTIES OF LOW LACTOSE CONTENT FERMENTED MILK PRODUCTS FROM SECONDARY DAIRY RAW MATERIALS

T.L. Shuljak, N.F.Gushcha, A. V. Akulich

The structural and mechanical properties of low lactose content fermented milk products obtained from secondary dairy raw materials (skimmed milk and buttermilk) are studied. Effect of temperature and component composition of the products on their viscosity and the ability to restore the structure after mechanical actions are examined. It is shown that low lactose content fermented milk products with higher temperatures are characterized by lower effective and relative viscosity as well as slower thixotropic properties. It was found that the addition of fruit and berry filling material improves the structural and mechanical properties of the products due to the stabilization systems present in the filling material.

STUDY ON THE BASIC TECHNOLOGICAL PROCESSES OF PREPARATION OF NEW VARIETIES OF BEANS OF THE BELARUSIAN SELECTION

V.N.Timofeeva, N.V. Samankova, T.M.Kozina, V.A. Lahadynova

Technological processes for soaking and blanching new beans varieties of Belarusian selection are investigated. Optimal technological parameters for soaking and blanching such new beans varieties of Belarusian selection as Zakrosninskaya, Velle, Bolto are proposed.

PROBLEMS AND PROSPECTS OF IMPROVING THE COMPETITIVENESS OF MANUFACTURERS OF ALCOHOLIC BEVERAGES UNDER THE CONDITIONS OF INSTABILITY OF THE WORLD ECONOMY AND THE DEEPENING OF INTEGRATION PROCESSES

L.M. Kucheravy

The article defines the features for the development of alcoholic beverage market under the conditions of strengthening crisis phenomena in the national and world economies. On the basis of the analysis of the statistical data, there were identified specific factors and problems influencing the development of the alcohol industry of the Republic of Belarus in general and the competitiveness of domestic producers in particular. Guidelines for the solution of the problems identified are defined in such areas as manufacturing and competitiveness increase of the national manufacturer as well as product promotion to foreign markets and the formation of high-quality recognizable national brand.

ZOOGLA AND ITS USAGE IN FOOD AND DAIRY INDUSTRIES

T.I. Shingareva, A.A. Kupriets

Studies were made in Zooglaas -symbiotic cultures of natural origin. The data obtained reveal that rice fungus starter has good organoleptic characteristics and can be used in the production of new kinds of fermented dairy products. Rice fungus starter has lower titrable acidity, content of carbon dioxide and mass fraction of ethyl alcohol than the kefiric one. However, it is characterized by higher relative viscosity, distillation number as well as proteolytic activity.

STUDY ON QUALITY INDICATORS OF BAKERY GOODS DURING STORAGE

Z.V. Vasilenko, M.M. Petukhov, E.V. Kolyada, P.A. Romashihin

Experimental studies were made into the quality indicators of white flour yeast-leavened dough buns during storage. Reasonability for introduction of ascorbic acid, modified starch of hot swelling as well as maltodextrin and glucose into the formula of yeast-leavened dough bakery goods to increase their quality and preserve freshness over a long period has been shown.

SUBSTANTIATION FOR THE DEVELOPMENT OF NEW METHODS OF PREPARING RYE FOR ALCOHOL PRODUCTION

A.A.Mirontseva, E.A. Tsed, S. V. Volkova, A. V.Surovets

Qualitative indicators of dry and soaked for a short period of time rye variety «Niva», wort and wash obtained in accordance with new operating conditions are studied. Possibility of using amaranth meal as an antiseptic agent and feasibility of new operating conditions without introduction of the enzymatic agent at the stage of batch liquefying for soaked rye processing have been shown.

OPTIMUM DOSAGES OF COWBERRY FOOD POWDER FOR PASTA ENRICHMENT

J. V. Koshak, E.L. Volynskaya, A. V. Pokrashinskaya

The possibility of using cowberry food powder for manufacturing functional pasta from durum high-grade flour (semolina) of Belarusian selection durum wheat is studied. The effect of different powder dosages on the pasta properties of flour is considered. The optimal dosages of cowberry food powder to produce pasta complying with the requirements of STB 1963-2009 have been determined.

CHARACTERISTICS OF CAPELIN AND CARP ROE LIPIDS

A. A. Menchynskaya, T. K. Lebskaya

The many-sidedness of the lipid functions depends on the variety of its biochemical composition. That's why when the roe based food products are made it is necessary to consider not only quantitative but also qualitative lipid content and its fractional characteristics of the fat components. In this article the lipid content and its fractional composition in the capelin and carp roe are investigated. It is found that the main lipid fractions are triglycerides, phospholipids and cholesterol. The phosphatidylcholine prevails in the phospholipid composition, which defines the roe emulsification ability. The content of the individual fat acids and its groups is determined. The correspondence between fatty-acid lipid content of the objects under study and the recommended consumption rate is estimated.

CALCULATION AND GENERALIZATION OF DENSITY IN LIQUID 1-ALKENES

T.S. Khasanshin, O.G Poddubsky

Density in liquid 1-alkenes at the temperatures of 303-433 K and the pressures of 0.1-100 MPa was calculated on the basis of sound velocity data. The parameters of the generalizing function to describe the density of 1-alkenes, depending on the structure, temperature and pressure were determined. The calculation results were compared with the experimental values. The error for the most reliable data averages out to 0.3%.

EFFICIENCY INCREASE OF CUTTER OPERATION

A.L. Zheludkov, S. V. Akulenko, K.K. Guliaev

The ways for intensification of cutting meat raw materials aimed at applying systems of the process automation, optimization of cutting conditions and cutting unit designs are considered. It is shown that effectiveness increase of cutting process (increase of cutting speed and linear velocity of the bowl) results in raw material temperature increase and specific energy intensity of the process.

MODELLING OF JET - MIXING MILK HOMOGENIZATION WITH SEPARATE CREAM FEED

K.O.Samoichuk, A.A.Kovalyov, A.A.Bezditnyi

The work deals with the computer simulation of jet-mixing milk homogenization with separate cream feed in ANSYS simulation software. Influence of pressure of skim milk in the central channel, diameter of central channel in the area of the most narrowing of stream and diameter of fatty phase feed channel on the velocity fields of milk emulsion was studied. Influence of these parameters on the degree of dispersing has been defined. Formulas to determine coordinates of localization area of the maximum velocity of the emulsion in order to obtain the highest homogenization degree as well as to determine the medium diameter of fat globules and specific power inputs of the investigated homogenizer were got. The data obtained give a more clear idea about the process of jet-mixing milk homogenization with the separate cream feed and allow the amount of experimental studies to be decreased.

EXTRACTION OF BIOLOGICALLY ACTIVE SUBSTANCES FROM GRAPE POMACE WITH SUBCRITICAL WATER AND DEVELOPMENT OF PROPER EXPERIMENTAL EQUIPMENT TO IMPLEMENT THE PROCESS

V.A.Sukmanov, V.B.Zakharevych, A.I.Marynin, I. S.Rogovoy, A.G.Fariseev

This paper presents the results of experimental studies of extraction process of grape pomace with subcritical water. The data on the installation for implementing the extraction process as well as calculations data and computer modeling of stress-strain state of the walls of the working chamber in the system ANSYS are given.

EVAPORATION FROM THE ADJACENT CYLINDRICAL CHANNELS IN THE PRESENCE OF A TRANSVERSE TEMPERATURE GRADIENT

V.L. Malyshev, A. V. Shlapakov

The influence of fluid supply from adjacent pores on evaporating was theoretically considered in the binary capillary mode. The process is complicated by the presence of inhomogeneous temperature field between communicating channels.

PACS 47.27.nf; 47.56 + r; 64.70.F-

SOME ASPECTS FOR THE CONTROL OF SUSTAINABLE OPERATION AND DEVELOPMENT OF ENTERPRISES

D.N. Vetoshko, N. V. Gracheva

The problems of operation and development of enterprises in the conditions of current economic challenges and trends are considered. The need for business modeling based on the modern technologies allowing quick adapting to the changes in the external environment is shown in relation to the strategic development. Some methods of approach ensuring quality of the development and implementation of strategic planning and program development projects were studied as the tools for its sustainment. Ranking method for the distribution of added value and subsidizing enterprises, depending on the achieved level of profitability and thus ensuring the capitalization of internal funds for the development is suggested.

STATE AND DEVELOPMENT OF PRODUCTION COSTS CALCULATION OF MEAT PROCESSING ENTERPRISES

O.O. Sudareva

Studies were made into the current state of the methods for calculation of production costs of meat processing enterprises with regard to technological and organizational characteristics of meat industry enterprises. There were given the recommendations for improving the methods under consideration. The methods applicable today in meat industry for net cost calculation of sausage goods were compared with those proposed in the paper.

IMPROVING TAXATION IN THE FIELD OF ENERGY EFFICIENCY IN THE REPUBLIC OF BELARUS

E.A. Radzisheskaya

The article develops a mechanism of energy taxation of enterprises in the Republic of Belarus consuming fuel and energy resources. The need for reforming existing national taxation of energy efficiency as well as the main advantages of introduction energy tax for all participants of tax relations in this sphere is identified.

ON THE PARTICIPATION OF MOGILEV STATE UNIVERSITY OF FOOD TECHNOLOGIES IN INTERNATIONAL PROGRAM TEMPUS

A.S. Nosikov, L.A. Shcherbina, I.A. Budkute

The paper presents the results of the participation of Mogilev State University of Food Technologies in international program Tempus.