

Contents Vestnik MGUP, 2015 №1(18)

Contents

COMMODITY ASSESSMENT OF CANNED GERMINATED GRAIN AND SWEET CORN PRODUCTS

M.L. Zen'kova, M.Yu. Boiko, A.N. Lilishentseva

The paper reveals the results of expert analysis and physical and chemical parameters of canned products from germinated wheat, triticale and sweet corn. Commodity assessment of canned germinated grain and sweet corn products is made.

STUDIES OF VARIOUS VARIETIES OF BELARUSIAN SELECTION RYE FOR THEIR APPLICATION IN ALCOHOL PRODUCTION

A.A. Mirontseva, E.A. Tsed, S. V. Volkova, O. V. Yakovleva

The paper presents the results of experimental studies on the quality indicators of mixes, wort and mash on the basis of six varieties of Belarusian selection rye taking into account basic physical and chemical parameters. The possibility of increasing the yield of alcohol with reduced formation of extraneous impurities by using «Niva», «Plisa» and «Alcor» rye varieties is described.

COMPLEX INDICATOR OF QUALITY OF POLYMALT EXTRACT DEPENDING ON FRACTIONAL STRUCTURE OF GRAIN RAW MATERIALS

E.M. Morgunova, M.L. Mikulinich

Influence of fractional grinding of malt from bare-grained oats as a part of barley-wheat- bare-grained oats mix on the quality indicators of the extract is studied. It is revealed that fractional grinding of oat malt influences the indicators of nutritive value, vitamin and mineral compositions of extract to the utmost. Optimum fractional grinding of oat malt is proposed by means of the generalized function of desirability: large milling - 10 %, average milling - 30 %, small milling - 30 %, flour - 30 %.

ENRICHMENT OF MEAT-VEGETABLE HALF-FINISHED PRODUCTS OF CENTRALIZED PRODUCTION FOR SCHOOL MEALS WITH POLYUNSATURATED FATTY ACIDS

S.L. Masansky, T.M. Rybakova, Ya.A. Rybakova

Consumer properties of functional meat-vegetable culinary products for school meals enriched with polyunsaturated fatty acids are studied. It is shown that the enrichment of meat-vegetable products makes it possible to optimize the fatty-acid composition, including omega-6 / omega-3 ((ω -6 / ω -3) ratio and they have favorable organoleptic parameters.

INFLUENCE OF VARIOUS YEAST RACES ON THE QUALITY INDICATORS OF FERMENTED JUICES IN THE PRODUCTION OF FRUIT DISTILLATES

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

Physico-chemical and biochemical processes in the fermentation of black and red currants berry juices depending on the type of yeast races are studied. It is shown that each type of fermented juice requires the selection of the particular yeast race. The methods for production of fruit distillates based on the fermented juice of black and red currants were developed.

STUDY OF THE INFLUENCE OF PULP IN THE PUMPKIN DRINK ON THE LACTO-FERMENTATION PROCESS

I. B. Razviaznaya, V. N. Timofeeva

The influence of pulp presence in pumpkin drinks on the lactofermentation process has been studied. The accumulation of lactic acid bacteria depending on the time of lactofermentation in plant environments and changing of active acidity has been examined. It is shown that the immobilization of cells in lactic acid bacteria during solid phase of drink with pulp significantly intensifies the process and contributes to the accumulation of biomass.

GEOMETRIC CHARACTERISTICS OF SOFT WHEAT GRAINS OF BELARUSIAN SELECTION

D.M. Sycheva, E. V. Nelyubina, V. Yu. Tsyganova

Certain geometrical features of modern varieties of soft wheat grown in Belarus are studied. The results of the research make it possible to describe size and uniformity of modern varieties of soft wheat grains, characteristics of its shape. It is recommended to consider these characteristics when evaluating grain quality potential of specific varieties.

RAPSEED OIL: IMPORTANCE IN THE MARKET OF BELARUS, MAIN CHARACTERISTICS AND PROSPECTIVE METHOD OF RESEARCH

Zh. V. Kadolich, S. V. Zotov, V.A. Goldade, E.A. Tsvetkova, K. V. Ovchinnikov

Data on physico-chemical and consumer properties of rapeseed oil, a popular product in the Belarussian market, which production is characterized by stable growth are presented. A new method for evaluating the electrophysical properties of rapeseed oil - by the spectra of thermostimulated currents is proposed. It is found that the current peaks in the spectra can be compared with the fatty acid composition of the oil.

STUDY OF THE DRYING PROCESS OF POTATO STARCH MACARONI PRODUCTS

M.N. Vasilevskaya, A.V. Kirkor, E.F. Tikhonovich, E.A. Nazarenko

The process of drying potato starch macaroni products with the addition of modified starches is studied. The influence of the temperature of drying air and the type of modified starch on the consumer characteristics of macaroni products is examined. The temperature of drying macaroni products made from potato starch produced with different modified starches is determined, which makes it possible to obtain the finished product with excellent consumer properties.

LEAVES OF LINGONBERRIES (*VACCINIUM VITIS-IDEAE* L.) AS A FUNCTIONAL ADDITIVE IN SPONGE CAKE

Zh. T. Goranova, M. R. Baeva, Dr. V. Buhalova, I. V. Milkova-Tomova, S. S. Stankov

The possibility of the use of leaves from lingonberries (*Vaccinium vitis-ideae* L.), which application is almost unknown in our confectionery, is presented in this article. Two kinds of sucrose-sweetened sponge cakes made by a partial substitution of wheat flour with powder from dried leaves of lingonberry are proposed. The sponge cake batter recipe composition is specified as the physical characteristics of the goods are determined. The methods of descriptive sensory analysis are used for a comparative analysis of the new and the control sucrose-sweetened sponge cake. The newly obtained baker's goods are characterized with very good quality properties in comparison with those of the cake without leaves of lingonberries (the control cake-sample). On the grounds of the received results it can be expected a potential consumer interest in bakery sweet products enriched with plant biologically active components.

ENERGY CRITERION FOR ASSESSMENT OF GRAIN DESTRUCTION

ft. N. Kurilovclj V.G. Kharkevich

Experimental data on physical-mechanical properties of sprouted grains of different grain crops are presented. Curves of deformations have been drawn and dependences of bursting stress on the dynamics of stressing and humidity of grain have been received. The equation of energy type is used to evaluate the extent of grain damages at destruction. There has been shown the possibility of its use when ultimate resilience on the volume unit spent for grain destruction represents certain function depending on temperature, humidity and loading speed.

FORECASTING STEPS FOR TECHNOLOGICALLY REASONABLE LEVEL OF HOMOGENEOUS DOUGH

V.P. Yanakov

The operation of kneading machines used in baking, confectionery and pasta production develops techniques and methods of the best way of the process organization. As a result of experimental and theoretical studies of the power dynamics and qualitative changes we put forward a hypothesis that the energy used during the dough kneading forms a technologically reasonable level of uniformity. We conducted algorithmic calculations to support approach in the development of kneading machines. Technological operation dough is regarded as pattern evaluation, characteristics of properties approach, classification and systematization in the development of kneading machines. Scientific approach in dough preparation is aimed at distinct practical implementation. There are different variations of energy during the kneading process of bakery, pastry and pasta. The result of proposed innovations in dough preparation was to conduct experimental research on the most common kneading machine, L4-HTV in the bakeries of Zaporozhye region of Ukraine. Theoretical data and hypothesis were checked experimentally at the humidity level of 43% in kneading machine A4-HTV.

IMPROVEMENT OF THE EQUIPMENT FOR ACTIVE VENTILATION AND PNEUMATIC TRANSPORTING OF GRAIN IN SILOS AND BUNKERS

V.P. Chirkin, S. V. Bahuslou

The article reviews, analyzes and describes the existing and advanced plants for active ventilation of grain in the elevator silos and bunkers that make it possible to carry out a pneumatic loading and unloading of bulk materials as well. An experimental stand to study the processes of active ventilation and pneumatic transporting of grain in the silos and bunkers was developed. Initial results have been obtained.

ANALYTICAL STUDY OF THE MOTION OF PARTICLES ON THE SURFACE OF ROTOR CLASSIFIER

M.A. Kirkor, R.A. Bondarev, V.I. Nikulin

An analysis of the power of the product particles moving on the surface of the rotor classifier was conducted. A two-phase movement kinematics in the blade channel of the rotor was analyzed. The analytical dependence of the boundary separating the size of the parameters of the process for the classifier with curved blades was obtained.

ANALYTICAL STUDY OF THE MOTION OF PARTICLES ON THE SURFACE OF ROTOR CLASSIFIER

M.A. Kirkor, R.A. Bondarev, V.I. Nikulin

An analysis of the power of the product particles moving on the surface of the rotor classifier was conducted. A two-phase movement kinematics in the blade channel of the rotor was analyzed. The analytical dependence of the boundary separating the size of the parameters of the process for the classifier with curved blades was obtained.

INCREASE OF CHAIN DRIVE WEAR RESISTANCE

V.P. Pahadnya

The paper studies the problem of increasing wear resistance of chain wheels used in high-speed drives and machinery of food industry. A method for increasing reliability and durability of the chain drives is proposed.