OMICS International
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J Food Process Technol 2015, 6:8
http://dx.doi.org/10.4172/2157-7110.S1.024

4th International Conference and Exhibition on
Food Processing & Technology
August 10-12, 2015 London, UK

The dry fermented products from camel milk

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Whole camel milk and shubat are valuable traditional products in Kazakhstan. For a fermentation of camel milk we created 2 consortia of lactic acid bacteria and bifidobacteria: *Lactobacillus acidophilus KM, Lactobacillus acidophilus KH1, Lactococcus lactis subsp. cremoris TM-5, Bifidobacterium bifidum1 and Lactobacillus acidophilus KM-2, Bifidobacterium bifidum 1, Bifidobacterium bifidum 791*. It is established that these strains of lactic acid bacteria and bifidobacteria produce exopolysaccharides and synthesize biologically active low-molecular peptides with Mm 50, 0; 10,0; 5, 0 and lower than 5, 0 kd. The technology of receiving the dry fermented products from camel milk with introduction to their composition of oligosaccharides-inulin and/or a laktuloza is developed. This technology allows providing in these products the high maintenance of microbial cells (109 CFU/g). The nutrition value of the dry fermented products (Per 100g) makes: Proteins-25, 56; fats-21, 10; carbohydrates-36,8 2; vitamin PP-0, 66 mg, vitamin C-3, 78 mg; power value: 439 kcal/100 g. The technological modes of receiving dry dairy mix for the baby food on the basis of active cultures of lactic acid bacteria and bifidobacteria, fermented and whole camel milk are developed. Samples of dry dairy mix for baby food from camel milk were investigated on indicators of quality and safety (the content of heavy metals, pesticides, radionuclides, *E.coli, S.aureus, Salmonella sp., yeast and a mold)* also is safe.

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Computational performance of two convergence methods applied to the estimation of viscosities for essential oils industry

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Essential oils are mainly composed of terpenes, which are unstable to heat, and oxygenate compounds, responsible for their characteristic aroma. Deterpenation of essential oils results in a better quality product and can be performed using solvent extraction. In this process, viscosity is important as it affects the loss of energy by friction and the mechanisms of heat and mass transfer. As viscosity can be affected by a large amount of variables, the use of appropriate methods for estimating it becomes a useful tool. The aim of this work was to study the influence of the convergence method on the modeling procedure to calculate viscosities of phases arose from the deterpenation of essential oils, using the UNIFAC-VISCO model. Interaction group parameters were obtained by correlating the model with experimental data of systems containing terpenes oxygenates compounds and alcoholic solutions. The matrix of parameters obtained was used to predict viscosities of similar mixtures that were not included in the modeling. The model was programmed using MATLAB® platform and gradient descent as convergence method. Results were compared to those obtained in our previous work* using a genetic algorithm. Averages relative deviations obtained in this work for modeling and prediction (3.06 % and 4.97 %, respectively) were higher than those obtained in our previous work (1.70 % and 3.56 %, respectively). The modeling results show that by using the gradient descent presented a lower predictive capacity. Furthermore, interaction parameters were obtained one hundred times slower than those ones using genetic algorithm.

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