Investigation of extraction of plant materials for making milk drinks

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Introduction. There was a need to study the process and determining optimal modes of obtaining extracts composition which provides enriched milk drink pectin.

Materials and methods. Conduct targeted removal of components was chosen by vibroextraction which is well proven its benefits in mass transfer processes. The raw material for the production of dairy drinks selected extract of apples and pumpkins, following the initial product obtained from the high content of pectin from plant material available. As extractant performed whey, which provides for the production of dairy drinks. For the selection of the optimal parameters of extraction were used so-called experimental and mathematical and statistical methods.

Results and discussion. It was determined that in creating the best conditions for the origin of mass transfer processes. Thus, to increase the contact area of phases raw material was cut for chips. This form allows you to rapidly undergo diffusion process and easily separated from the extract.

Due to the results obtained by these input parameters that most influence the process of extracting the plant material, hydrological; duration, min .; temperature, $^\circ$C.

The initial parameters were defined as the mass fraction of solids, which reflects the quantitative side passage of process and content of pectin extract that allows us to assess the qualitative characteristics of the product.
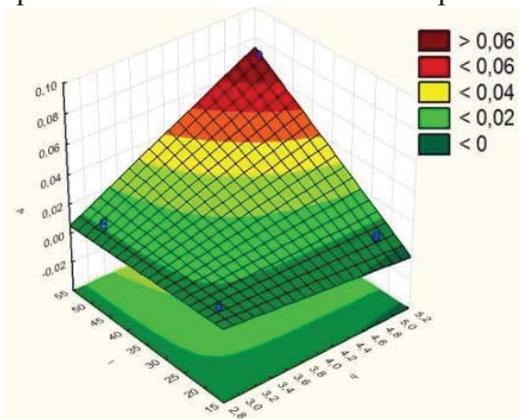
For the experiments was a plan specifying the number of experiments Research and boundaries change factors. After building and the results of three full factorial experiment managed to mathematical and statistical data to obtain regression equation. And after decoding input parameters received final mathematical and statistical models of the process. They are valid in determining the content mass fraction of solids in the fruit separately as apples and pumpkins in the fruit. Also found on some models of materials that define the content of pectin extract the influence of the main factors. Using statistical package Statistica 10 were built surface system response.

Conclusions. Using the results can be recommended to create milk drinks fortified with pectin, production extracts and further research pektynovmistnoyi extraction of plant material.