

RESEARCHING OF MICROBIOLOGICAL PARAMETERS OF APPLE JUICE, PROCESSED BY SHUNGITE

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However, juices have the highest water activity - 0.98 ... 0.99 and present themselves as a favorable environment for microbial growth. Content of sugars stimulates the growth and reproduction of lactic acid bacteria, T-CFC, yeast and micro fungi.

One of the priority areas for improving the quality of apple juice is the use of natural dispersive minerals, including carbon containing adsorbent shungite.

The results of the previous studies had established environmental safety of using shungite for processing vegetable juices.

The purpose of this work was to study the microbiological parameters of apple juice processed with shungite.

The results of the conducted studies showed a decrease in quantity of microorganisms in 1.5 ... 100 times, and in some samples, processed by shungite at different technological parameters, when compared to control sample, they were not identified at all. The quantity of bacteria in juice processed at 60°C and with adsorbent concentration of 2.0% mass, decreases from $1.1 \cdot 10^3$ to $0.4 \cdot 10^3$ and to $1.7 \cdot 10^1$ units when duration of processing constitutes 20 min and 40 min respectively. Under the same conditions and with duration of juice processing of 60 minutes, bacteria are completely adsorbed by shungite.

Under the studied technological parameters of processing apple juice by shungite, the quantity of fungi decreases in 1.5 ... 2.5 times, compared with control sample, and with adsorbent concentration of 2% mass, fungi are completely removed from the juice.

Yeast was not identified in samples, processed by shungite with concentration of 1.0, 1.5, 2.0 % mass and with duration of 60 minutes. In juice, processed by adsorbent for 40 min, small quantity of yeast was identified. As control sample apple juice, stillled under the experiment conditions without being processed by shungite, was used.

When processing apple juice by shungite, simultaneously with the adsorption of harmful microorganisms, colloidal substances are also adsorbed, and that in turn promotes clarification of juice.

This work proves the expediency of adsorptive processing of apple juice by shungite with fraction of 1 ... 3 mm. Rational parameters of apple juice processing, under which the maximum reduction of microbial insemination is reached, are the following: shungite concentration of - 1.5 ... 2% mass., temperature - 60°C, duration - 60 min.

KEYWORDS: apple juices, shungite, the adsorption of harmful microorganisms