

STUDY OF TECHNOLOGY AND PROPERTIES OF FERMENTED FUNCTIONAL DRINKS BASED ON HONEY

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Introduction. Today the market presents a wide range of both alcoholic and non-alcoholic beverages, demand for beverages that do not contain synthetic additives has increased.

Aim. In this connection, the most important areas of food biotechnology are the research and development of the application for the production of functional beverages based on honey fermentation.

To preserve and maintain the normal life of the human body, its full physical and mental balance, it is necessary daily to receive all necessary nutrients from the food. Important role in solving this problem is with drinks. Non-alcoholic and low-alcohol beverages are popular with the consumer, in connection with this, when solving the problem of the development of food enrichment, the use of useful natural raw materials of high quality plays a significant role. Honeydew is an example of functional low-alcohol beverages derived from fermentation of carbohydrate raw materials. As a result of the vital activity of microorganisms in the process of fermentation, the drink is enriched with amino acids, vitamins, organic acids, and acquires general strengthening and therapeutic and prophylactic properties. Since honeydew is a product of natural fermentation, its characteristic feature is light saturation with carbon dioxide.

Drinks obtained with the use of honey, have good organoleptic properties, perfectly quench thirst, normalize the metabolism in the body. Due to its beneficial properties, honey is widely used in the production of soft drinks and alcoholic beverages with prophylactic properties.

Materials and methods. On the basis of the analysis of the literature, technology of production of various functional beverages was studied, and the technology of producing a beverage with honey and beverage with the use of honey and flavoring additives was proposed. Work on the preparation and analysis of fermented beverages with honey was conducted at the Department of Biotechnology.

Preparation of an enzymatic drink with honey and additives consists of the following stages: preparation for the preparation of a drink; dissolving honey in water; making of flavoring additives (nutmeg, hops, cinnamon); preparation for fermentation (making yeast); fermentation; filtration and bottling and storage.

The preparation of a fermented beverage with honey consists of the following: preparation for a drink; dissolving honey in water; preparation for fermentation (drinking yeast); fermentation; filtration and bottling and storage.

On the basis of this technology, two samples were taken.

Results and discussion. The organoleptic evaluation of the drinks was carried out after 5 days of infusion. The results obtained for the study of organoleptic properties have shown that the drinks come with a pleasant sour, refreshing taste, aroma and color, which fully corresponds to normative indicators. But, according to the organoleptic characteristics, the most pleasant taste, the smell has a drink with honey and additives.

Determination of the alcohol content was carried out using a spirometer. The results showed that the amount of alcohol in a drink with honey is 10%, and in the drink with honey and additives - 5%. From which it can be concluded that the addition of additives stops the process of fermentation and the amount of alcohol is less than the sample without additives.

To determine the microbiological purity of the obtained drinks, a number of dilutions were made, and then from each test tube were hanging on the Saburro and MPA nutrient medium. As a result of the research, the presence of yeast cells (pure culture) and the absence of bacterial cultures were observed in beverages, indicating the possible antagonistic activity of yeast and the presence of alcohol in beverages that inhibits the development of bacteria.

Conclusions. Having analyzed the data obtained, one can conclude that the two samples of the drinks received, the drink with honey and additives has a more rich smell and harmonious taste, high acidity and lower alcohol content, which meets the requirements for fermented beverages with therapeutic and prophylactic properties. Thus, it should be noted that honey beverages are useful nutrient-rich functional beverages and the formulation of these beverages with honey and various additives should be used in the food industry.