

POSSIBILITY OF USING CHEESE WHEY FOR CULTIVATION OF TEA FUNGUS

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Human health is one of the most urgent and challenging issues our society is facing today, which is why this issue has been investigated from different sides. There is a significant correlation between nutrition and human health. In this regard, great importance is attached to the development of prophylactic products, fortified products, including fermented milk products.

Dairy products in the dietary and medicinal relations are superior to milk, as they contain more digestible milk constituents. Lactic acid, alcohol, carbon dioxide, vitamins, antibiotics are components of dairy products. It conditions the positive effect of dairy products on the human body.

The therapeutic properties of fermented milk products depend on the quantity and quality of antibiotic substances formed in the product during its preparation. Different ferments give different antibiotic properties to dairy products.

Kombucha culture is a natural symbiosis of microorganisms, formed as a mass on the surface of the liquid and at the bottom of the vessel. Culture fluid has a very complex composition because the composition of the tea fungus includes both yeast and acetic acid bacteria. So, there are both acetic acid and alcohol fermentation. The cultural fluid contains organic acids, ethanol, lipids, proteins and nucleoproteins (including enzymes - catalase, lipase, protease, amylase), sugars, purine bases from tea leaves and pigments, tar and tannins from tea leaves, antibiotics, vitamin C, vitamin B1, vitamin PP.

Microflora of cultural fluid allows creating dairy products with specific taste and properties. A great deal is being written and said about using the kombucha as a ferment for the creation of dairy products. But there were no researches about using cheese whey for the cultivation of tea fungus. In this regard, it seemed interesting to investigate how tea fungus will behave in non-standard conditions (cheese whey; a mixture of cheese whey with tea and sugar) and compare with behaviour in standard conditions.

The purpose of the research was to determine the possibility of using cheese whey as a fluid for cultivation, the optimal ratio of cheese whey and tea for creating a therapeutic and prophylactic beverage.

The brewing of kombucha was carried out with 3 different fluids for cultivation: pure whey cheese; whey cheese with the addition of tea and sugar; brewed tea and sugar. The samples were taken every 2 days during the brewing. Organoleptic properties, titrated acidity, pH had been found for all samples.

The pure cheese whey is not fit for cultivation of tea fungus. The mixture of whey with addition standard components for cultivation (0,25% of tea, 7,5% of sugar) is fit for cultivation. The fermentation is going longer than in standard fluid for cultivation. There are specific good taste and flavour. Separation of fluid is observed (because pH is less than 4.6). So, the cultural liquid is fit for being a component of the beverage after filtration.

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