

DETERMINATION OF FAVORABLE CONDITIONS AND ENVIRONMENTS FOR GROWING A KEFIR FUNGUS

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Dairy products have always been an important part of the diet of consumers. Clinical trials of sour-milk drinks showed their high therapeutic and prophylactic effect for various gastrointestinal diseases. Regular use of sour-milk products in food contributes to the strengthening of the nervous system due to the accumulation in them of vitally important vitamins, synthesized by lactic acid bacteria. A special place among fermented milk products is kefir, in the production of which a natural multicomponent symbiotic starter is used, the organism-zoogloea is a kefir fungus. The microflora of kefir fungi is represented by homo- and heterofermentative lactococci, thermophilic and mesophilic lactobacilli, yeast and acetic acid bacteria. These main groups of microorganisms are found both in fungal kefir leaven and in kefir, although the number of some genera of bacteria differs. In kefir fungi, lactic acid microorganisms of the species *Lactococcus lactis subsp. lactis biovar. diacetylactis* (up to 30%), *L. lactis subsp. lactis* (up to 20%) and lactobacilli *Lactobacillus sp.* (up to 20%). Among the mesophilic lactobacilli, *L. lactis subsp. cremoris* (~ 7%) and *Leuconostoc sp.* (~ 7%). Obligatory microflora of the kefir fungus are acetic acid bacteria *Acetobacter aceti* - they constitute up to 3% of the total amount of the microflora of the kefir fungus, as well as the yeast *Saccharomyces* and *Kluyveromyces marxianus* - 10%. The balanced growth of yeast, lactic acid and acetic acid bacteria is due to the symbiotic nature of the relationship of these groups of microorganisms. In form, kefir fungi are similar to inflorescence of cauliflower, 0.3-3.5 cm in diameter, from white to light yellow. The approximate chemical composition is 89-90% water, 0.3% fat, 3.2% protein, 6.0% carbohydrate and 0.7% mineral components. The purpose of this work is to determine the favorable conditions and environment for the cultivation of kefir fungus. Important factors that affect the growth of the kefir fungus biomass are temperature, nutrition, air. To date, the department of biotechnology is conducting research to determine the favorable conditions and environment for the cultivation of kefir fungus. At the first stage kefir fungi were placed in different conditions: warm milk, room temperature; warm milk, room temperature +10 g of sugar; temperature of the refrigerator; water; water +10 g of sugar; dried kefir mushrooms; frozen mushrooms, etc. After determining the most favorable environment and the conditions for cultivation of the kefir fungus, further studies should be conducted to assess its viability under the given conditions.