STUDYING OF STABILITY OF SYRUP WITH ANTIFUNGAL ACTIVITY

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Introduction. The steadily increasing fungal resistance to existing antifungal medicines is a serious problem, and therefore there is a great need to search for new classes of antifungal substances, especially from natural sources. Unlike synthetic drugs, antifungal substances of plant origin are not associated with side effects and have a great therapeutic potential to heal many fungal diseases.

Acorus calamus, which is commonly known as Sweet flag is a medicinal plant used for the treatment of various disease and disorders. The rhizome part of Acorus Calamus is found to possess the antifungal activity against the yeast strain of Candida Albicans and other fungi strains. The genus Eucalyptus is known for its rich source of bioactive compounds which show high inhibitory activities against C. albicans.

Aim. The aim of our work was to develop composition, the scientifically and experimentally grounded technology of the syrup on the base of Acorus Calamus rhizome extract and Eucalyptus extract with antifungal activity and studying of stability of this syrup.

Materials and methods. The object of our researches was an Acorus Calamus rhizome extract, Eucalyptus extract and syrup on its basis. Rhizome alcoholic extract 1: 1 was used for syrup obtaining. Extract was prepared with 70% alcohol by the method of bismaceration followed by evaporation.

Results and discussion. At the first stage of the research extracts was obtained and analyzed for indicators such as appearance, solid residue, density, and the authenticity of the sample necessary to justify the composition and further technological research of syrup. It was found that the resulting extracts have a characteristic unpleasant bitter taste and peculiar pungent smell, which confirms the need to develop corrected form of extracts. Further researches on the optimal flavor composition and the basis for a syrup extract were conducted. As a sweetener system mannitol, sorbitol and fructose solutions were used in the following proportions: mannitol and purified water - 70:30; fructose and purified water - 70:30; sorbitol and purified water - 70:30. Concentrated sweetener solutions were prepared by heating to 100 °C. The extracts were added to the cooled syrup. Corrective agents for good taste, flavor and color "cherry", "orange", "cocoa" were added to the syrup base. In the study sorbitol with corrective agents "cherry" received the highest rating of organoleptic properties.

Conclusions. Researches on a stability of obtained syrup showed that properties of syrup remained stable during 6 months (observation time).