

PROSPECTS OF USING REPRESENTATIVES OF BLUE-GREEN ALGAE IN THE COMPOSITION OF NUTRIENT MEDIA FOR YEAST

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In our time, the problem of finding new components of culture media for cultivation of microorganisms is actual. Every year the production of yeast is growing and there is a need to look for more effective nonfood components with low additional of cell mass. The most important biological growth factors of microorganisms are niacin, thiamine, riboflavin, pyridoxine, biotin, diankobalamin, paraamino benzoic acid, folic acid, choline, hemin (factor X); purine and pyrimidine bases (adenine, guanine, xanthine, hypoxanthine, cytosine, thymine, uracil), amino acids triptofan, lysine, choline, glutamic acid, arginine, methionine, valine, leucine, threonine, histidine, phenylalanine, etc.

In that time the ubiquity of algae in nature and abundant, and sometimes massive, their development in different types of reservoirs on terrestrial substrates and soil determine the importance of these plants, both in everyday life and in his business. Nevertheless, the practical use of algae has not been exhausted, and scientists occur research of new applying these ones.

Algae are lowly plants that don't have true roots, leaves and stems. Today they are used for growing higher plants and fungi. They have a very peculiar chemical composition and contain large amounts of vitamins, mineral compounds and proteins, which in turn are characterized by a wide range of replaceable and essential amino acids. Spirulina and chlorella are representatives of blue-green algae.

Chlorella - a unicellular green alga of Chlorophyta. This alga actively produces proteins, carbohydrates, lipids, vitamins and usually dry biomass of chlorella contains 40-55% protein, 35% carbohydrates, 10.05% lipids and 10% of mineral substance. The protein of chlorella comprises more than 40 amino acids, including all assential them. Macro- and microelements of chlorella are: calcium, phosphorus, magnesium, potassium, copper, iron, sulfur, zinc, cobalt, manganese, zirconium, rubidium and others. It accumulates a lot of iodine. Approximately 80% of the total fatty acids of chlorella are unsaturated fatty acids which are precursors of prostaglandins.

Spirulina is a blue-green multicellular spiral algae kind of Arthrospora. It is used It includes 60-70% protein which is very easily absorbed. Coefficient of digestibility reaches 65-80%. Furthermore, spirulina contains 18 kinds of amino acids that are essential (valine, isoleucine, leucine, and others). This algae contains vegetable fats with a predominance of unsaturated fatty acids, vitamins, lots of micro-and macronutrients.

Therefore, dietary supplements from these algae can be used for the nutrient media for promoting the growth and development of various microorganisms. Now at the Department of Biotechnology National University of Pharmacy the study the effect of different concentrations of additional components of nutrient media containing spirulina and chlorella on growth properties of yeast *Saccharomyces cerevisiae* are conducted.