bitter and aromatic hops, as well as ethyl alcohol, carbon dioxide and other fermentation products. Variety differences are determined by the type of malt, the quantity and the type of unsweetened products.

Aim. The purpose of the work is to create a new beer drink based on barley malt to improve the taste and aromatic characteristics, improve the beneficial properties inherent in beer, and to extend the range of action of this product to the consumer body by adding unsweetened materials and other additives.

Materials and methods. The following basic malt varieties were selected: barley malt Pale Ale (Finland) and barley malt Malteurop (Ukraine). Unsweetened raw material is selected fermented malt and rice sorghum.

Results and discussion. The quality of four types of malt was monitored when selecting basic barley malt. Considering that the purpose was to create a light and delicate, low-strength beer bio product, Malteurop malt, which had the best DSTU quality and high quality malt, was preferred. Rye malt is used to increase foaminess, to provide a more dry taste and to increase its fullness, to bring spicy and rye shades of taste and aroma. The choice was opted for malt fermented by Choice, which is the most suitable for the production of a new quality beer product. Also during the research were selected active dry brewer's yeast "Mangrove Jack's Bohemian Lager M84" manufactured by "Vintner's Harvest", UK. This is a classic Czech strain of the brewer's yeast of fermentation Saccharomyces pastorianus. Also, as a raw material were used tansy flowers, which have a refreshing spicy-bitter taste. It is believed that pajamas in the composition of beer drink are responsible for "body" (fullness of taste) and "head" (lush foam).

Conclusions. The study of raw material components was carried out, the optimum types of raw materials were selected, the composition of the beer drink was proposed, and experimental works were carried out to clarify and improve it. The developed composition of beer bioproduct can be used to obtain a new modern drink with a thin spicy-bitter taste with light acidity and light malt saturation and low strength. In addition to taste and aromatic benefits, the drink can be considered as a therapeutic and prophylactic for disorders of the choleretic system, to improve the functioning of the gastrointestinal tract.

POTENTIAL USAGE OF SQUALANE IN COMPLEX COSMETIC DERMATOLOGICAL MEDICINE

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Introduction. Human skin covers the entire outer surface of the body, is the largest organ and is constantly exposed to the sun's rays, including ultraviolet radiation and other harmful external factors. The skin tissue is rich in lipids, which are vulnerable to oxidative stress from sunlight. Squalene is a triterpene that is an intermediate in the cholesterol biosynthesis pathway. It was named because was found in shark liver oil, which contains a large number and is considered to be its richest source. However, it is widespread in nature and is sufficiently contained in olive oil, palm oil, wheat germ oil, amaranth oil and rice bran. Squalene, a major component of polyunsaturated lipids on the skin surface, has some advantages for skin as a firming and antioxidant as well as for hydration and antitumor activity. However, squalene is rapidly oxidized and loses efficiency. In addition, it can provoke inflammation. In cosmetic dermatological remedies, squalane is most commonly used – that is, squalene with attached a hydrogen molecule. Because of this, it oxidizes much more slowly and does not lose its properties for a long time, absorbs quickly, does not clog pores. Together with the fats that fill the space between the cells of the epidermis, sweat and skin microflora, sebum forms a hydrolipid mantle of the skin. When it is not broken, the skin functions normally and can protect itself. Based on the above, the combined use of

squalane and probiotic cultures to normalize the microflora of the skin is a promising aspect in the creation of dermatological remedies.

Aim. The aim of this work is to determine the possibility of combined use in complex dermatological cosmetic agent squalane with strains of probiotic cultures of lactobacilli.

Materials and methods. In the work cultures provided by the Institute of Microbiology and Virology named by J.K. Zabolotniy – *Lactobacillus plantarum* – B-2693, *Lactobacillus acidophilus* B-7016, *Lactobacillus fermentum* – B-2693 and squalane "100% Plant Derived Squalan" trademark "The Ordinary" were used.

To identify the possibility of combined use of squalane and lactobacilli, biotechnological studies were performed by the method of co-cultivation in liquid nutrient medium with subsequent seeding in Petri dishes. Sowing doses of inoculum were standardized to $1 \cdot 10^6$ CFU/cm^3. The cultivation was carried out for 48 h, temperature of (37±1)^{o}C. For each lactobacilli stain were performed separated experiment. As a control was used the liquid nutrient medium with pure cultures. Quantitative accounting of lactobacilli was performed by counting colonies (Koch method).

Results and discussion. According to the results of an experiment of the co-cultivation of squalane with strains of lactobacilli and counting microorganisms, could be concluded that the number of lactobacilli with squalane was not less than in control. This leads to the conclusion about the possibility of the joint use of squalane and lactobacterium as part of a complex dermatological cosmetic product.

Conclusions. Squalene has a number of advantages for skin tissues, but it is not stable and can cause inflammation, so it is advisable to use dermatological cosmetics with its analogue – squalane. The current success of squalene and its analogs shows the promise of further clinical trials for use in skin products. Another promising issue is the use of probiotic cultures in skin care and treatment products. In this work, experiments conducted on the co-cultivation of squalane and strains of lactobacilli proved the possibility of using them in one complex dermatological cosmetic product.

CHARACTERISTICS OF CLASSICAL PROPIONIC ACID BACTERIA

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Introduction. It is known that the correction of the intestinal microflora and, therefore, the prevention of various diseases, is possible by the use of lactic acid products prepared using homo-enzymatic lactic acid bacteria. The usage of propionic bacteria for this purpose has not been practiced until recently due to their inability to actively ferment milk, but when combined with propionic bacteria and bifidobacteria, this problem can be solved.

Aim. The purpose of the study is to characterize classical propionic acid bacteria for determining the possibility of expanding their application.

Materials and methods. We used the descriptive research method: were analyzed literary and Internet sources.

Results and discussion. Propionic acid bacteria can be called living fossils: they appeared at least three billion years ago, when life was born on Earth. In those days, the surface temperature of the planet was much higher than it is now; the other was the composition of the atmosphere: a lot of methane, ammonia, carbon dioxide, hydrogen, hydrogen sulfide, water vapor, complete absence of oxygen. Such conditions have determined the properties of modern propionic acid bacteria (*Propionibacterium*) – heat resistance, anaerobic, hydrogen sulfide tolerance, which is toxic to most living organisms.

When oxygen appeared in the earth's atmosphere, the propionic acid bacteria also adapted to the aerobic environment. Moreover, they are even able to extract a small energy benefit from contact with