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ULOGA MIKROBIOLOŠKIH KULTURA U PROIZVODIMA NAMENJENIM LJUDSKOJ UPOTREBI

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Sažetak. U radu je dat revijalni prikaz uloge mikrobioloških kultura u proizvodima namenjenim ljudskoj upotrebi, sa posebnim osvrtom na primenu bakterija i kvasaca kao radnih mikroorganizma. Mikroorganizmi imaju dugu istoriju primene u proizvodnji hrane, posebno uzimajući u obzir proizvode alkoholne i kiselo-mlečne fermentacije. Razvojem tehnologije, raniji spontani mikrobiološki procesi postaju kontrolisani i vođeni radi formiranja prihvatljivih fizičko-hemijskih i organoleptičkih karakteristika prehrambenih proizvoda. Primenom mikroorganizama pod određenim uslovima sredine može se uticati na konzistenciju proizvoda, kiselost, miris, ukus, boju, ali i na dužinu roka trajanja, odnosno održivost proizvoda. Tradicionalno spremani sirevi, kiselo-mlečni proizvodi, fermentisane kobasice, pivo, vina i drugi proizvodi, zahvaljujući komercijalnim mikrobiološkim kulturama mogu biti proizvedeni u velikim šaržama i sa ustaljenim kvalitetom. Mikrobna biomasa ili ekstrahovani proteini mogu biti dodaci ishrani ili sastojci hrane. Takođe treba dodati i ulogu mikroorganizama u proizvodnji sirovina kao što su enzimi, prehrambene arome i mirisne materije koji imaju nezamenivu ulogu u prehrambenoj industriji i proizvodnji predmeta opšte upotrebe. Posebnu pažnju zavređuju i probiotički mikroorganizmi u hrani, dodacima ishrani, kozmetičkim i faramaceutskim proizvodima i njihova dobrobit za ljudsko zdravlje, prevenciju i tretiranje kardiovaskularnih bolesti, gojaznosti, dijabetisa tipa 2 i karcinoma.

Ključne riječi: hrana, mikrobiološke kulture, probiotici, farmaceutski proizvodi

THE ROLE OF MICROBIAL CULTURE IN PRODUCTS INTENDED FOR HUMAN USE

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Abstract. The paper presents a review of the role of microbiological cultures in products intended for human use, with special reference to the use of bacteria and yeasts as working microorganisms. Microorganisms have a long history of application in food production, especially considering the products of alcoholic and lactic fermentation. With the development of technology, earlier spontaneous microbiological processes become controlled and guided to form acceptable physicochemical and organoleptic characteristics of food products. The application of microorganisms under certain environmental conditions can affect the consistency of the product, acidity, smell, taste, and color, but also the length of the shelf life, i.e. the sustainability of the product. Traditionally prepared cheeses, sour milk products, fermented sausages, beer, wines, and other products thanks to commercial microbiological cultures can be produced in many batches and with established quality. Microbial biomass or extracted proteins can be dietary supplements or food ingredients. It should also be added the role of microorganisms in the production of raw materials such as enzymes, food flavors, and fragrances that have an interchangeable role in the food industry and the production of general-use items. Probiotic microorganisms in food, dietary supplements, cosmetic and pharmaceutical products and their benefits for human health, prevention, and treatment of cardiovascular disease, obesity, type 2 diabetes, and cancer deserve special attention.

Key words: food, microbiological culture, probiotics, pharmaceutical products