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BIOTECHNOLOGICAL POTENTIAL OF LACTIC ACID BACTERIA PRESERVED IN NATIONAL COLLECTION OF NONPATHOGENIC MICROORGANISMS

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Microbial collections are biologically valuable resources of different microorganisms for research and practical application. The National Collection of Nonpathogenic Microorganisms (NCNM) is a Republican research, information and coordination Institution that deals with the authentic preservation of valuable non-pathogenic microorganisms and their research and practical applications. NCNM includes representatives of *Lactococcus*, *Streptococcus*, *Lactobacillus* lactic acid bacteria isolated from naturally fermented homemade dairy products. These bacteria are used as starter cultures, obtained fermented products have better taste, flavor, texture, also contained beneficial microorganisms in abundance, extending shelf-life and enhancing the safety.

The aim of this study was to review of lactic acid bacteria from NCNM and their potential for industrial applications.

Strains were isolated from sample of different dairy products of spontaneous fermentation and are destined for the production of sour cream, fresh cheese, yoghurt, soy milk, brined cheese. *Lactococcus lactis ssp. lactis* are destinated for application as active acidifier for starter cultures. *Lactococcus lactis ssp. lactis bv. diacetylactis* contribute to flavor and aroma due to the production of diacetyl (specific to Camembert, Cheddar, Emmental cheeses). *Streptococcus thermophilus* is lactic-acid probiotic combined with the *Lactobacillus bulgaricus* for yogurt obtaining, flavour and texture, produce exopolysaccharides. *Lactococcus lactis ssp. cremoris* strains used to prevent active acid formation in manufacture of cream, sour milk, fresh cheese.

The viability of freeze-drying lactic acid bacteria periodically are investigated using classical microbiological, biochemical, physico-chemical methods. Technological features of strains are compared with the initial ones according to the strain passport. Lactic acid bacteria strains deposited in NCNM have biotechnological potential due to acidification and coagulation capacity and can be used for manufacturing fermented foods.

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