

## STUDIES OF CHARACTERISTICS OF LACTOBACILLUS STRAINS

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**Summary.** The following characteristics of *Lactobacillus plantarum* U-14 and *Lactobacillus fermentum* U-5 were studied: resistance to NaCl, bile, thermoresistance, compatibility of strains (by standard methods for *Lactobacillus* examination), inhibitive effect on the relatively pathogenic microflora (determining non-growth area in solid medium) and resistance to antibiotics (by disc method). Both strains were shown to be resistant to 2%, 4% and 6% NaCl and 20%, 40% of cattle bile, but non-resistant to 6% NaCl concentration and to the long effect of 60°C temperature. The antagonistic reaction to relatively pathogenic microflora was obvious. The non-growth area for *L. plantarum* U-14 to *E. coli* was 19-20 mm, *S. aureus* – 18-20 mm, *Sh. sonnei* – 22-26 mm, *E. faecalis* – 18-20 mm, respective areas for *L. fermentum* U-5 were narrower. When these strains were cultivated together - the expansion of inhibitive area to *S. aureus* and *E. faecalis* was observed. The compatibility of strains is also demonstrated by faster turning of milk in combined culture, than in individual cultures. The resistance to the antibiotics of wide spectrum of activity such as gentamycini, ampicillini, polymyxini, erytromycini, neomycini was determined, although *Lactobacillus* strains were sensitive to lincomycini and tetracyclini. It can be concluded, that both strains are resistant to 2% and 4% NaCl, to bile, and many antibiotics. They also demonstrate the antagonistic effect on relatively pathogenic microflora. The combination of *Lactobacillus* strains was determined. These characteristics are particularly important in production of probiotics.

**Keywords:** *L. fermentum*, *L. plantarum*, NaCl, bile, antagonistic effect, antibiotics.