ABSTRACT

Anti-bacterial activity of *Lactobacillus acidophilus*, *Lactobacillus bulgaricus* and *Lactobacillus casei* fermented milk against *Staphylococcus aureus* ATCC 25923 was investigated.

The aims of this research is to prove anti-bacterial activity of *Lactobacillus acidophilus*, *Lactobacillus bulgaricus* and *Lactobacillus casei* fermented milk against *Staphylococcus aureus* ATCC 25923 both in *MH* media and milk preparation, either as a single or mix culture. Besides onset and duration of anti-bacterial activity, the research was also focused on maximal activity profiles. The research was carried out by using two methods, modified Kirby-Bauer and agar diffusion.

Mix culture that consisted of three *Lactobacillus* sp. in *Müller-Hilton* agar showed anti-bacterial activity, while mix culture that consisted of *Lactobacillus acidophilus* and *Lactobacillus casei* fermented milk showed the largest anti-bacterial activity with clear diameter zone was 14.23 ± 1.68 mm, at 12 hours, and pH 4.54 ± 0.01.

**Keywords**: *Lactobacillus acidophilus*, *Lactobacillus bulgaricus*, *Lactobacillus casei*, anti-bacterial activity, fermented milk