

ABSTRACT

EFFECT OF COMBINATION NATRIUM ALGINATE- GELATIN 1% : 2% CONTENT IN CHARACTERISTIC AND ANTIMICROBIAL ACTIVITY OF PROBIOTIC MICROSPHERE *Lactobacillus acidophilus*

Regia Nada Asshafa

The aim of this research was to investigate effect of combination natrium alginate and gelatin in characteristic and antimicrobial activity of probiotic microsphere. Natrium alginate 1% : gelatin 2% was used for made microsphere in this study by extrusion technique then dried by oven, and natrium alginate concentration 3% and gelatin concentration 3% were made as control. Resulting microsphere were characterized in terms of characteristic (morphology, particle size, and entrapment efficiency) and antimicrobial activity. The result show that microsphere have spherical form. The particle size of all formula were varied in the range 5,40 – 9,69 μm . The highest entrapment efficiency and viability of *Lactobacillus acidophilus* under extrusion technique and oven obtained from F III $87,93 \pm 0,43\%$, and from the statistical test show F III was significant different with other formula ($p < 0,05$). The highest inhibitory activity against *Staphylococcus aureus* produced by F I $11,22 \pm 0,13$ mm, and from statistical test show F I was significant different with other formula ($p > 0,05$).

Keywords: Microsphere, Extrusion, Natrium Alginate, Gelatin, Probiotic, *Lactobacillus acidophilus*, Entrapment Efficiency, Antimicrobial Activity