ABSTRACT

EFFECT OF SODIUM ALGINATE – GELATIN COMBINATION (1,5% : 1,5%) IN CHARACTERISTIC AND ANTIMICROBIAL ACTIVITY OF PROBIOTIC Lactobacillus acidophilus MICROSPHERE.

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The aim of this research was to investigate effect of sodium alginate and gelatin combination in physical characteristic and antimicrobial activity of probiotic Lactobacillus acidophilus microparticle. Sodium alginate – gelatin combination (1,5% : 1,5%), Single sodium alginat 3%, and single Gelatin 3%, were used for maked microsphere in this study by extrusion method, then dried by oven method. Resulting microsphere were characterised in terms of characteristic (morphology, particle size, MC, and entrapment efficiency) and antimicrobial activity. The particel size of Sodium alginate – gelatin combination decrease compare to single Sodium alginate but increase compahre to single Gelatin, and the MC of Sodium alginate – gelatin combination decrease compare to single Sodium alginate but increase compahre to single Gelatin. The result of viability tests show that Sodium alginate – gelatin combination have the highest trapping efficiency of Lactobacillus acidophilus in microsphere under extrusion and oven process than single Sodium alginate and single Gelatin. The result of antimicrobial activity show that combination of Sodium alginate – Gelatin have the higest activity compare to single Sodium alginate and single Gelatin. The highest activity was obtained in formula combination with 12,50±0,67 mm.

Keywords: Microsphere, Extrusion, Sodium Alginate, Gelatine, Probiotic, Lactobacillus acidophilus, antimicrobial.