

Cantika Ellycia Agustin. NPM 21.03.4.1.1.00022. PENGARUH PERBEDAAN PERLAKUAN *PLASTICIZER* (GLISEROL) TERHADAP KARAKTERISTIK *edible film* BERBASIS ALGINAT DAN GELATIN IKAN. **Kartika Dewi, S.Pi., M.Si**

ABSTRAK

Kemasan plastik banyak digunakan dalam industri pangan karena praktis dan ekonomis, namun sulit terurai sehingga menimbulkan permasalahan lingkungan. *Edible film* berbasis bahan alami menjadi alternatif kemasan ramah lingkungan yang berpotensi menggantikan plastik sintetis. Kombinasi alginat dan gelatin ikan dengan penambahan *plasticizer* gliserol dikembangkan untuk menghasilkan *edible film* dengan karakteristik fisik dan mekanik yang lebih baik. Penelitian ini bertujuan untuk : 1). Mengetahui karakteristik ketebalan, transparansi, kelarutan, kuat tarik dan kadar air *edible film* berbasis alginat dan gelatin ikan pada berbagai konsentrasi gliserol, 2). Mengetahui pengaruh perbedaan konsentrasi gliserol terhadap karakteristik *edible film*, dan 3). Menentukan konsentrasi gliserol terbaik berdasarkan parameter tersebut. Analisis data dilakukan menggunakan metode deskriptif kuantitatif dan analisis statistik untuk mengetahui perbedaan nyata antarperlakuan. Hasil penelitian menunjukkan bahwa perbedaan konsentrasi gliserol 1,05%, 1,75% dan 2,45% memengaruhi karakteristik *edible film* dengan nilai ketebalan 0,07-0,10 mm, transparansi 1,96-1,34, kelarutan 0,60-1,61%, kuat tarik 10,10-4,33 MPa dan kadar air 5,19-65,73%. Konsentrasi gliserol 1,05% menghasilkan karakteristik terbaik dengan ketebalan 0,07 mm, kelarutan 0,60%, transparansi 1,96, dan kuat tarik tertinggi sebesar 10,10 MPa.

Kata kunci ; *Edible film*, Alginat , Gelatin Ikan, Gliserol

ABSTRACT

Plastic packaging is widely used in the food industry because it is practical and economical, but it is difficult to decompose, thus causing environmental problems. Edible films based on natural materials are an environmentally friendly alternative to synthetic plastics and have the potential to replace them. A combination of alginate and fish gelatin, with the addition of a glycerol plasticizer, was developed to produce edible films with improved physical and mechanical properties. This study aims to: 1). Determine the characteristics of thickness, transparency, solubility, tensile strength and water content of edible films based on alginate and fish gelatin at various glycerol concentrations, 2). Determine the effect of different glycerol concentrations on film characteristics, and 3). Determine the best glycerol concentration based on these parameters. Data analysis was conducted using quantitative descriptive methods and statistical tests to determine significant differences between treatments. The results showed that the difference in glycerol concentration of 1,05%, 1,75% and 2,45% affected the characteristics of the film with a thickness of 0,07-0,10 mm, transparency of 1,96-1,34, solubility of 0,60-1,61%, tensile strength of 10,10-4,33 MPa and air content of 5,19-65,73%. The glycerol concentration of 1,05% produced the best characteristics with a thickness of 0,07 mm, solubility of 0,60%, transparency of 1,96 and the highest tensile strength of 10,10 MPa.

Keywords: Edible film, Alginate, Fish gelatin, Glycerol