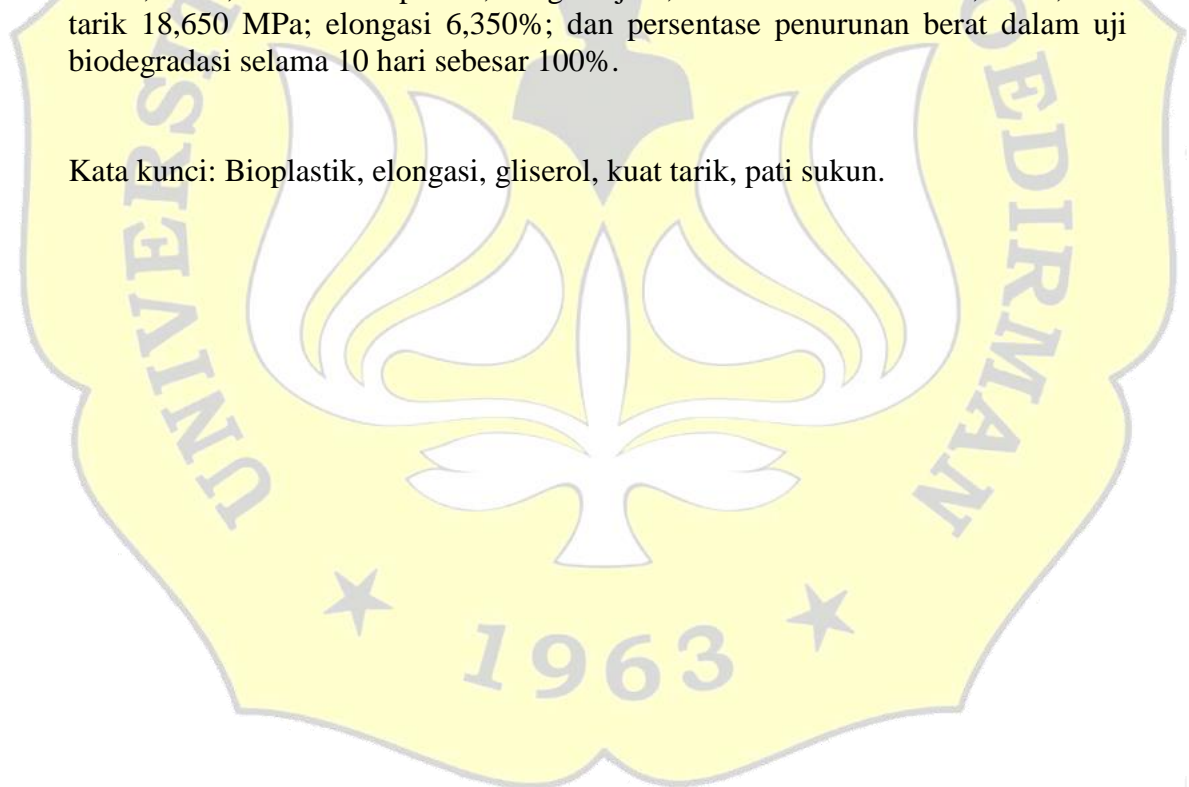


ABSTRAK

Bioplastik merupakan plastik ramah lingkungan yang digunakan sebagai salah satu upaya dalam menanggulangi permasalahan plastik *non degradable*. Bioplastik pada penelitian ini berbahan dasar komposit pati sukun dan kitosan dengan penambahan *plasticizer* gliserol. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan *plasticizer* gliserol terhadap karakteristik bioplastik yang dihasilkan. Variasi penambahan gliserol yang digunakan yaitu 0, 30, 45, dan 60%. Pembuatan bioplastik menggunakan metode *blending*. Hasil penelitian menunjukkan pengaruh penambahan gliserol terhadap sifat fisik dan mekanik yaitu cenderung akan memperbesar nilai ketebalan, kadar air, transmisi uap air, kelarutan dalam air, dan elongasi, namun cenderung memperkecil nilai ketahanan air dan kuat tarik bioplastik. Penambahan *plasticizer* gliserol cenderung akan mempercepat proses biodegradasi bioplastik. Karakteristik yang optimal yaitu pada bioplastik dengan penambahan *plasticizer* gliserol 0%. Karakteristiknya adalah nilai ketebalan 0,129 mm; ketahanan air 82,295%; kadar air 19,539%; transmisi uap air 0,331 g/m² jam; kelarutan dalam air 15,775%; kuat tarik 18,650 MPa; elongasi 6,350%; dan persentase penurunan berat dalam uji biodegradasi selama 10 hari sebesar 100%.

Kata kunci: Bioplastik, elongasi, gliserol, kuat tarik, pati sukun.



ABSTRACT

Bioplastics are environmentally friendly plastics that are used as an effort to overcome the problem of non-degradable plastics. The bioplastics in this study are made from composites of breadfruit starch and chitosan with the addition of glycerol plasticizers. This study aims to determine the effect of adding glycerol plasticizer on the characteristics of the resulting bioplastic. The variations in the addition of glycerol used were 0, 30, 45, and 60%. Bioplastics was made using blending method. The results showed the effect of glycerol addition on physical and mechanical properties, which tended to increase the thickness, moisture content, water vapor transmission, solubility in water, and elongation, but tended to reduce the value of water resistance and tensile strength of bioplastics. The addition of glycerol plasticizer tends to accelerate the biodegradation process of bioplastics. The optimal characteristic was bioplastics with addition of glycerol plasticizer 0%. The characteristics were a thickness value of 0.129 mm; water resistance 82.295%; water content 19.539%; water vapor transmission 0.331 g/m²hours; solubility in water 15.775%; tensile strength 18.650 MPa; elongation 6.350%; and the percentage of weight loss in the biodegradation test for 10 days of 100%.

Keywords: Bioplastics, breadfruit starch, elongation, glycerol, tensile strength.

