ABSTRAK

PEMBUATAN BIOPLASTIK DARI LIMBAH KULIT PISANG TANDUK *(Musa Corniculata Rumph)* DENGAN PENAMBAHAN SORBITOL

***Clarisa Audeylia*, 2025, 3 4 Halaman, 6 Tabel, 10 Gambar, 4 Lampiran**

Bioplastik adalah plastik ramah lingkungan yang dapat terurai secara alami. Salah satu bahan baku potensial adalah limbah kulit pisang tanduk karena kandungan patinya yang tinggi. Penambahan sorbitol sebagai plasticizer digunakan untuk meningkatkan fleksibilitas bioplastik. Penelitian ini bertujuan mengkaji pengaruh variasi konsentrasi pati kulit pisang tanduk 10 dan 20 gram dan sorbitol 10–50%)terhadap sifat fisik bioplastik serta kesesuaiannya dengan SNI 7188.7:2016. Bioplastik dibuat melalui gelatinisasi pada suhu 80°C selama 15 menit dan dikeringkan selama dua hari. Hasil terbaik diperoleh pada kombinasi 20 gram pati dan 10% sorbitol dengan kuat tarik 9,53 MPa memenuhi SNI. Elongasi maksimum 6% dan biodegradabilitas tertinggi 21,21% masih di bawah standar. Seluruh sampel memenuhi standar ketahanan air, dan secara organoleptik, sorbitol 10–30% menghasilkan mutu visual terbaik

Kata kunci : Bioplastik, kulit pisang tanduk, sorbitol, sifat fisik

ABSTRACT

PRODUCTION OF BIOPLASTIC FROM HORN PLANTAIN (Musa Corniculata Rumph) PEEL WASTE WITH THE ADDITION OF SORBITOL

Clarisa Audeylia, 2025, 34 pages, 6 Tables, 10 Figures, 4 Attachment

Bioplastic is an environmentally friendly type of plastic that can naturally degrade. One potential raw material is horn plantain peel waste due to its high starch content. The addition of sorbitol as a plasticizer is used to improve the flexibility of the bioplastic. This study aims to examine the effect of varying concentrations of horn plantain starch 10 and 20 grams and sorbitol 10–50% on the physical properties of bioplastic and its compliance with SNI 7188.7:2016. The bioplastic was produced through a gelatinization process at 80°C for 15 minutes and dried at room temperature for two days. The best results were obtained from the combination of 20 grams of starch and 10% sorbitol, achieving a tensile strength of 9.53 MPa, which meets the SNI standard. The maximum elongation was 6%, and the highest biodegradability was 21.21%, which is still below the minimum standard. All samples met the water resistance standard, and organoleptically, bioplastics with 10–30% sorbitol showed the best visual quality.

***Keywords**: Bioplastic, horn plantain peel, sorbitol, physical properties.*