

ABSTRAK

PENGARUH RASIO CAMPURAN FIBER KELAPA SAWIT (*MESOCARP FIBER*) DAN JERAMI PADI (*ORYZA SATIVA STRAW*) SERTA KONSENTRASI PEREKAT MOLASE TERHADAP KARAKTERISTIK MUTU BRIKET

(Muhammad Farhad Futuwardani, 2026, 46 Halaman, 7 Tabel, 9 Gambar, 4 Lampiran.)

Limbah jerami padi (*Oryza sativa straw*) dan fiber kelapa sawit berpotensi besar dikonversi menjadi briket. Studi ini bertujuan mengevaluasi pengaruh rasio campuran biomassa dan konsentrasi perekat molase terhadap kualitas fisik-termal briket, serta menentukan formulasi optimum berdasarkan SNI 01-6235-2000. Proses karbonisasi dilakukan menggunakan metode pirolisis pada suhu 400°C selama 60 menit. Briket dicetak dengan variasi rasio bahan baku dan persentase perekat (10% dan 15%), lalu dievaluasi melalui analisis proksimat dan nilai kalor. Hasil menunjukkan bahwa Sampel 7, dengan rasio 75% jerami padi dan 25% fiber kelapa sawit serta perekat molase 15%, ditetapkan sebagai formulasi optimum. Sampel ini memenuhi standar SNI untuk parameter zat terbang (14,95%) dan menghasilkan nilai kalor sebesar 6.343,2952 Kal/gram, membuktikan potensinya sebagai substitusi bahan bakar fosil.

Kata Kunci: Biobriket, Jerami Padi, *Mesocarp Fiber*, Molase.

ABSTRACT

THE EFFECT OF THE MIXING RATIO OF OIL PALM FIBER (MESOCARP FIBER) AND RICE STRAW (ORYZA SATIVA STRAW) AS WELL AS MOLASSES ADHESIVE CONCENTRATION ON THE QUALITY CHARACTERISTICS OF BRIQUETTES

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Rice straw (Oryza sativa straw) and oil palm mesocarp fiber waste have significant potential for conversion into composite bio-briquettes. This study aimed to evaluate the effect of biomass mixing ratios and molasses adhesive concentrations on the physical-thermal quality of briquettes, and to determine the optimum formulation according to the SNI 01-6235-2000 standard. The carbonization process utilized pyrolysis at 400°C for 60 minutes. Briquettes were molded with varying raw material ratios and adhesive percentages (10% and 15%), then evaluated through proximate and calorific value analyses. The results indicated that Sample 7, with a ratio of 75% rice straw to 25% oil palm fiber and 15% molasses adhesive, was determined as the optimum formulation. This sample complied with the SNI feasibility standard for volatile matter (14.95%) and produced a calorific value of 6,343.2952 Cal/gram, demonstrating its potential as a viable alternative fuel.

Keywords: Biobriquette, Rice Straw, Mesocarp Fiber, Molasses.