

ABSTRAK

PENGARUH VARIASI KOMPOSISI ARANG TUNGKU BOILER PABRIK CPO PTPN 7 LAMPUNG TENGAH DAN PEREKAT (TAPIOKA DAN GULA) TERHADAP KUALITAS BIOBRIKET

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Telah dilakukan penelitian pengaruh variasi komposisi arang tungku boiler pabrik CPO PTPN 7 Lampung Tengah dan perekat (tapioka dan gula) terhadap kualitas biobriket. Penelitian ini bertujuan untuk mengetahui variasi komposisi arang tungku boiler pabrik CPO (*Crude Palm Oil*) dan perekat (tapioka dan gula) terhadap kualitas biobriket yang dihasilkan. Metodologi penelitian yang digunakan terdiri dari beberapa tahap, meliputi preparasi bahan, pembuatan sampel, uji *proksimat*, uji nilai kalor, dan analisis hasil. Hasil penelitian menunjukkan bahwa kadar air terendah biobriket dengan perekat tapioka sebesar 3,37% (K1) dan biobriket dengan perekat gula sebesar 4,34% (K9), kadar abu terendah biobriket dengan perekat tapioka sebesar 58,77 (K4) dan biobriket dengan perekat gula sebesar 58,59% (K6), fixed carbon tertinggi sebesar 26,75% (K3 pada biobriket dengan perekat tapioka dan 27,04% (K7) biobriket dengan perekat gula. nilai kalor tertinggi pada biobriket dengan perekat tapioka sebesar 2252,71 Kkal/Kg (K1) dan 2264,054 (K6) pada biobriket dengan perekat gula. Berdasarkan hasil pengujian, dapat disimpulkan bahwa Hasil terbaik tercatat pada biobriket dengan komposisi perekat 25% tapioka (K1) dan perekat 25% gula (K6).

Kata kunci: biobriket, arang, boiler, proksimat, tapioka, gula

ABSTRACT

THE EFFECT OF COMPOSITION VARIATIONS IN CPO FACTORY BOILER CHARCOAL PTPN 7 CENTRAL LAMPUNG AND ADHESIVES (TAPIOCA AND SUGAR) ON THE QUALITY OF BIOBRIQUETTE

By

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A study has been conducted on the effect of variations in the composition of boiler furnace charcoal at the PTPN 7 Central Lampung CPO factory and adhesives (tapioca and sugar) on the quality of biobriquettes. This study aims to determine the variations in the composition of boiler furnace charcoal at the CPO (Crude Palm Oil) factory and adhesives (tapioca and sugar) on the quality of the biobriquettes produced. The research methodology used consists of several stages, including material preparation, sample preparation, proximate testing, calorific value testing, and result analysis. The results of the study showed that the lowest water content of biobriquettes with tapioca adhesive was 3.37% (K1) and biobriquettes with sugar adhesive was 4.34% (K9), the lowest ash content of biobriquettes with tapioca adhesive was 58.77 (K4) and biobriquettes with sugar adhesive was 58.59% (K6), the highest fixed carbon was 26.75% (K3) in biobriquettes with tapioca adhesive and 27.04% (K7) in biobriquettes with sugar adhesive. The highest calorific value in biobriquettes with tapioca adhesive was 2252.71 Kkal/Kg (K1) and 2264.054 (K6) in biobriquettes with sugar adhesive. Based on the test results, it can be concluded that the best results were recorded in biobriquettes with a composition of 25% tapioca adhesive (K1) and 25% sugar adhesive (K6).

Keywords: biobriquettes, boiler, furnace, proximate, tapioca, sugar