

ABSTRAK

STUDI PENGARUH KOMPOSISI PEREKAT TEPUNG KETAN DAN MAIZENA TERHADAP KARAKTERISTIK BIOBRIKET LIMBAH BAGLOG JAMUR TIRAM

(Aisyah Putri, 2025, Skripsi, 42 Halaman, 6 Tabel, 9 Gambar, 4 Lampiran)

Peningkatan kebutuhan energi dan terbatasnya sumber energi fosil mendorong pencarian bahan bakar alternatif yang ramah lingkungan. Penelitian ini bertujuan untuk mengkaji pengaruh variasi komposisi perekat tepung ketan dan maizena terhadap karakteristik biobriket berbahan dasar limbah baglog jamur tiram. Proses pembuatan biobriket diawali dengan karbonisasi limbah baglog, dilanjutkan dengan pencampuran perekat pada tiga variasi komposisi 20%, 25%, dan 30%, kemudian dicetak menggunakan alat briket metode *compacting*. Pengujian karakteristik biobriket dilakukan berdasarkan parameter analisis proksimat (kadar air, kadar abu, kadar zat terbang, dan karbon terikat), dan nilai kalor. Hasil menunjukkan bahwa peningkatan komposisi perekat cenderung meningkatkan kadar air, kadar abu, dan zat terbang, namun menurunkan nilai kalor dan karbon terikat. Biobriket dengan perekat maizena 20% menunjukkan hasil terbaik dengan kadar air 3,83%, karbon terikat 78,21%, dan nilai kalor 6044,0181 kal/gr. Semua sampel memenuhi standar SNI 01-6235-2000, kecuali nilai kalor pada perekat tepung ketan dengan komposisi 25% dan 30%. Penelitian ini menyimpulkan bahwa penggunaan maizena dengan komposisi 20% merupakan kondisi optimum untuk menghasilkan biobriket dengan kualitas pembakaran terbaik.

Kata kunci : *Biobriket, Tepung Ketan, Maizena, Limbah Baglog Jamur, Nilai kalor*

ABSTRACT

STUDY OF THE EFFECT OF GLUTEN FLOUR AND CORNSTARCH COMPOSITION ON THE CHARACTERISTICS OF BIOBRICKS MADE FROM OYSTER MUSHROOM BAGLOG WASTE

(Aisyah Putri, 2025, Thesis, 42 Pages, 6 Tables, 9 Figures, 4 Appendices)

The increasing demand for energy and the limited availability of fossil fuel sources have driven the search for environmentally friendly alternative fuels. This study aims to investigate the effect of variations in the composition of glutinous rice flour and cornstarch adhesives on the characteristics of biobriquettes made from oyster mushroom baglog waste. The bio-briquette production process begins with the carbonization of mushroom baglog waste, followed by mixing the adhesive in three composition variations (20%, 25%, and 30%), and then molding using a compacting briquette machine. The bio-briquette characteristics were tested based on proximate analysis parameters (moisture content, ash content, volatile matter content, and bound carbon) and calorific value. The results showed that increasing the binder composition tended to increase moisture content, ash content, and volatile matter, but decreased calorific value and fixed carbon. Biobriquettes with 20% cornstarch binder showed the best results with a moisture content of 3.83%, fixed carbon of 78.21%, and a calorific value of 6044.0181 kcal/g. All samples met the SNI 01-6235-2000 standard, except for the calorific value of the glutinous rice flour adhesive with 25% and 30% composition. This study concluded that the use of cornstarch with a 20% composition is the optimal condition for producing biobriquettes with the best combustion quality.

Keywords: Biobriquettes, Glutinous Rice Flour, Cornstarch, Mushroom Baglog Waste, Calorific Value