

## ABSTRAK

### STUDI PUSTAKA POTENSI ECENG GONDOK (*Eichornia crassipes*) UNTUK PEMBUATAN BRIKET

Eceng gondok berpotensi dijadikan briket karena memiliki kandungan selulosa yang banyak. Studi pustaka ini bertujuan untuk memahami dan menelaah potensi eceng gondok (*Eichornia crassipes*) untuk pembuatan briket. Berdasarkan studi pustaka yang telah dilakukan, eceng gondok dapat diproses menjadi briket melalui proses pengeringan, pencampuran dengan perekat, dan pencetakan dengan cara di *press*. Beberapa uji kualitas yang biasa dilakukan meliputi laju pembakaran, densitas, kuat tekan, analisis proksimat, dan morfologi permukaan. Beberapa hasil analisis briket eceng gondok yang terbaik yang pernah dilakukan meliputi nilai kalor 4184,943 kkal/g, densitas 0,518 g/cm<sup>3</sup>, kuat tekan 89,575 kg/cm<sup>2</sup>, dan analisis proksimat. Analisis proksimat yang telah diketahui terdiri atas kadar air 7,5%, kadar abu 8%, kadar zat terbang 13,645%. Hasil-hasil analisis tersebut merupakan nilai yang paling mendekati kualitas briket batu bara atau lebih baik dari kualitas briket dari sumber limbah biomassa yang telah diaplikasikan. Oleh karena itu dapat disimpulkan bahwa eceng gondok memiliki potensi yang baik untuk bahan alternatif briket selain briket batu bara dan briket yang berbahan limbah biomassa.

Kata-kata kunci: Briket, Densitas, Eceng Gondok, Fitoremediasi, Kadar Air, Kadar Abu, Kuat Tekan, Kadar Zat Terbang, Lignin, Nilai Kalor, Protein, Selulosa.

## **ABSTRACT**

### ***LITERATURE STUDY OF THE POTENTIAL OF Water Hyacinth (Eichornia crassipes) FOR MAKING BRICKETS***

*Water hyacinth has the potential to be used as briquettes because it contains a lot of cellulose. This literature study aims to understand and examine the potential of water hyacinth (Eichornia crassipes) for making briquettes. Based on the literature study that has been carried out, water hyacinth can be processed into briquettes through a drying process, mixing with adhesive, and printing by pressing. Some of the quality tests that are commonly carried out include combustion rate, density, compressive strength, proximate analysis, and surface morphology. Some of the results of the best water hyacinth briquette analysis that have been carried out include the calorific value of 4184.943 kcal/g, density 0.518 g/cm<sup>3</sup>, compressive strength 89.575 kg/cm<sup>2</sup>, and proximate analysis. The known proximate analysis consisted of water content 7.5%, ash content 8%, volatile matter content 13.645%. The results of the analysis are values that are closest to the quality of coal briquettes or better than the quality of briquettes from biomass waste sources that have been applied. Therefore, it can be concluded that water hyacinth has good potential as an alternative material for briquettes other than coal briquettes and briquettes made from biomass waste.*

*Keywords: Briquettes, Density, Water Hyacinth, Phytoremediation, Moisture Content, Ash Content, Compressive Strength, Flying Substance Content, Lignin, Calorific Value, Cellulose, Protein.*

