

**KARAKTERISTIK PEMBAKARAN BIOBRIKET  
CAMPURAN AMPAS AREN DAN BATUBARA**

**THE CHARACTERISTIC BIOBRIKET COMBUSTION  
MIXTURE of AREN DREGS AND COAL**

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**ABSTRAKSI**

*Limbah pertanian merupakan biomassa yang dapat dimanfaatkan sebagai bahan bakar yang potensial. Di dukuh Margo Luwih desa Daleman kecamatan Tulung kabupaten Klaten banyak terdapat industri kecil tepung aren yang bahan bakunya dari batang pohon aren. Limbah dari bahan baku pembuatan tepung aren adalah ampas aren. Menurut masyarakat, setiap harinya desa tersebut dapat menghasilkan ampas aren sebanyak 50 ton, sehingga ampas aren menimbulkan masalah bagi masyarakat tersebut, karena terjadi penumpukan ampas aren. Ampas aren apabila dicampur dengan batubara dapat dimanfaatkan sebagai sumber energi alternatif, sehingga perlu dilakukan penelitian ampas aren dan batubara untuk dijadikan sebagai bahan dasar pembuatan biobriket.*

*Dalam penelitian ini diawali dengan pengumpulan bahan dasar berupa ampas aren, batubara lignit dan pati kanji sebagai bahan perekat, kemudian dilakukan uji proximate ampas aren dan batubara. Pembuatan biobriket dengan komposisi 100% ampas aren, 90% ampas aren dan 10% batubara, 80% ampas aren dan 20% batubara, 70% ampas aren dan 30% batubara, 60% ampas aren dan 40% batubara, 50% ampas aren dan 50% batubara dan 100% batubara. Setelah itu dilakukan pengujian karakteristik pembakaran, yang meliputi laju penurunan massa, laju pembakaran dan temperatur pembakaran biobriket.*

*Hasil penelitian menunjukkan bahwa temperatur tertinggi pembakaran dihasilkan oleh biobriket dengan komposisi 100% batubara. Hal ini menunjukkan bahwa semakin besar komposisi batubara maka temperatur biobriket yang dihasilkan semakin tinggi. Tingginya kadar karbon pada batubara akan membuat temperatur puncak yang akan dicapai semakin lama. Sedangkan laju penurunan massa paling cepat pada komposisi 100% ampas aren, hal ini dikarenakan ampas aren mempunyai volatile matter tinggi sehingga menyebabkan ampas aren cepat terbakar.*

**Kata kunci : Biobriket, Ampas Aren, Batubara Lignit, Karakteristik pembakaran**

## **ABSTRACT**

*Agriculture waste represent the biomassa which able to be exploited as potential burn. In Margo Luwih of Daleman country side of Tulung district, and of Klaten sub-province, there are many small industries of aren flour which have raw material from aren tree bar. Waste from raw material of aren flour making is aren dregs. According to society, every day the country side can yield the aren dregs counted 50 ton, so that aren dregs make problem to the society, because there was happened by the aren dregs heaping. If aren dregs are mixed with coal, they can be exploited as energi alternative source, so that they require to be done by research of concerning aren dregs and coal to be made as biobriket making base.*

*In this research, firstly it is done by the elementary materials gathering in the aren dregs, lignit coal, and pati kanji as glue, afterwards it is done by proximate test of aren dregs and coal. Biobriket making with composition 100% aren dregs, 90% aren dregs and 10% coal, 80% aren dregs and 20% coal, 70% aren dregs and 30% coal, 60% aren dregs and 40% coal, 50% aren dregs and 50% coal, and 100% coal. Afterwards it is done by combustion characteristic examination which is covering of mass degradation fast, combustion fast, and biobriket combustion temperature.*

*Result of research indicate that the highest temperature of combustion is yielded by biobriket with composition 100% coal. This matter indicate that ever greater of coal composition so that the biobriket temperature which is yielded is excelsior. The height of carbon rate at coal will make the top temperature which is to be reached longer. While the quickest of mass degradation fast at composition 100% aren dregs, this matter is happened because aren dregs have the high matter volatile so that cause aren dregs is burnt quickly.*

**Key words:** Aren Dregs, Lignit Coal, Biobriket ,Characteristic Combustion