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**Research Note**

# Fuel Properties of Charcoal Briquettes Derived From Combinations of Coconut (*Cocos nucifera* L.) Husk and *Bitanghol-Sibat* (*Calophyllum soulattri* Burm. f.) Bark

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**This study attempted to characterize the fuel properties of briquettes made from coconut (*Cocos nucifera* L.) husk, *Bitanghol-sibat* (*Calophyllum soulattri* Burm. f.) bark and combination of these two materials with different blending ratios (90% coconut husk:10% bark, 80% coconut husk:20% bark and 70% coconut husk:30% bark). Properties analyzed were moisture content, volatile matter, ash content, fixed carbon, gross calorific value and elemental composition. Results showed that pure *Bitanghol-sibat* bark briquette has better fuel properties than coconut husk. Among the combinations analyzed, it has the lowest moisture content (1.4%) and ash content (13.52%), but has the highest fixed carbon (56.78%) and gross calorific value (5168 Kcal $kg^{-1}$). In terms of volatile combustible matter, coconut husk briquette has higher percentage (37.13%) compared to *Bitanghol-sibat* bark briquette (29.7%). Similarly, pure *Bitanghol-sibat* bark briquette gave the highest % C, H, and O values in the form of cellulose (76.24%) and yet showed the highest amount of sulfur (0.46%). Nevertheless, sulfur values observed among the blending ratios were all below 1%. Nitrogen was not observed among briquette combinations. Elements such as potassium, calcium, and chlorine were also noticed due to the starch binder used.**

**Enhanced fuel properties were observed in the combined coconut husk and *Bitanghol-sibat* bark briquettes. Lower ash content, higher fixed carbon and higher gross calorific values were recorded in the three blending ratios. Properties were most improved in the 70:30 combination. Lower moisture content, ash, % H and % O, higher volatile combustible matter, fixed carbon and gross calorific value were recorded for this combination. It also has low sulfur content which indicates that the polluting effect of the briquette would be minimal.**

**Keywords:** briquettes, *Calophyllum soulattri,* coconut husk, gross energy, proximate analysis, ultimate analysis