

**ARANG DARI LIMBAH TEMPURUNG KELAPA SAWIT
Elaeis guineensis(Jacq)**

(Charcoal From Palm Shell Waste)

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ABSTRACT

Indonesia is the largest CPO (Crude Palm Oil) producer. CPO processing produces a large amount of solid waste (shell), which may be utilized to produce charcoal, hence providing more value added. The objective of this study was to investigate the appropriate temperature and time of carbonization on the quality of palm shell charcoal. Three carbonization temperatures (400 C, 500 C, 600 C,) and three carbonization durations (2,3 and 4 hours) were applied. The best charcoal was obtained using 500 - 600 C with 2-3 hours of carbonization. The produced charcoal has 7,032,22-7,177.87 cal/g calorific value, 66.79-77.73 carbon content, 0.29-0.53 water content, 7.90-16.44 ash content, negative sulfur content, and 11.93-19.99 % volatile matter content.

Keywords : Palm shell, charcoal, carbonization temperatures, carbonization duration, charcoal Quality

ABSTRAK

Penelitian bertujuan untuk mengetahui pengaruh temperatur dan waktu pengarangan terhadap mutu arang tempurung kelapa sawit. Proses pengarangan dilakukan pada temperature 400 C, 500 C dan 600 C dengan waktu pengarangan 2 jam, 3 jam dan 4 jam. Mutu arang yang baik dihasilkan pada temperatur 500 - 600 C selama waktu pengarangan 2 - 3 jam dengan hasil nilai kalor 7.032,22 - 7.177,87 kal/g, kadar karbon 66,79 - 77,73%, kadar air 0,29 - 0,53%, kadar abu 7,90 - 16,44%, kadar sulfur negatif, dan kadar zat terbang 11,93 - 19,99%.

Kata kunci : Tempurung sawit, arang, karbon, abu