

ABSTRACT

UTILIZATION OF PALM OIL RESIDUE AS RAW MATERIAL (BIOPELLETS)

By

DEVI ZUHaida SARI

The aim of this study was to determine the effect of particle size and pressing pressure on the quality of biopellets from oil palm dregs. The pressing pressure used is 0.4882 kg/cm², 0.9764 kg/cm², 1.4647 kg/cm². Particle size passes mesh 10, passes mesh 20, and passes mesh 40. Biopellets are made using a hydraulic shop press and produce biopellets with a length of 2.5 cm and a diameter of 1.2 cm. The quality of the biopellets was assessed by SNI 8021: 2014. The results of the study showed hemicellulose with a value of 25.7% -34%, cellulose with a value of 27.1% -47.6%, lignin with a value of 7.2% -10.2%. Water content with a value of 6.49%-9.39%, ash content with a value of 5.00%-7.32%, heat with a value of 4380.43 cal/g-4621.86 cal/g. The quality of the biopellets meets the standard requirements of SNI 8021: 2014, except for the ash content. The best results were obtained for particles with a mesh size of 10 with a pressure of 4621.86 cal/g and a positive added value > 0, namely 38.91%.

Keywords: Biopellets, palm oil, value added.

ABSTRAK

PEMANFAATAN AMPAS BATANG KELAPA SAWIT SEBAGAI BAHAN BAKU (BIOPELET)

Oleh

DEVI ZUHaida SARI

Penelitian bertujuan untuk mengetahui kondisi terbaik dari ukuran partikel dan tekanan pengepresan terhadap kualitas biopelet dari ampas batang kelapa sawit. Tekanan pengepresan yang digunakan yaitu 0.4882 kg/cm², 0.9764 kg/cm², 1.4647 kg/cm². Ukuran partikel lolos mesh 10, lolos mesh 20, dan lolos mesh 40. Biopelet dibuat dengan alat hydraulic shop press dan menghasilkan biopelet dengan ukuran panjang 2.5 cm dan diameter 1.2 cm. Kualitas biopelet dinilai dengan SNI 8021 : 2014. Hasil dari penelitian menunjukkan hemiselulosa dengan nilai 25.7%-34%, selulosa dengan nilai 27.1%-47.6%, lignin dengan nilai 7.2%-10.2%. Kadar air dengan nilai 6.49%-9.39%, kadar abu dengan nilai 5.00%-7.32%, kalor dengan nilai 4380.43 cal/g-4621.86 cal/g. Kualitas biopelet memenuhi standar persyaratan SNI 8021 : 2014, kecuali pada kandungan abu. Hasil terbaik diperoleh pada partikel dengan ukuran lolos mesh 10 dengan tekanan 4621.86 cal/g dan nilai tambah positif > 0 yaitu sebesar 38.91%.

Kata kunci : Biopelet, nilai tambah, sawit.