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Effect of Carbonization on the number of fixed Carbon produced from Banan peel waste(Ambon, Kepok and Raja)

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Abstract : The number of fixed Carbon produced from every banana peel waste of Ambon, kepok, and raja was different due to the influence of carbonization temperature change. Carbonization temperature was varied into 400°C; 500°C; 600°C; 700 °C and 800°C. Fixed Carbon analysis included the moisture content, ash content and volatile matter. The change of carbonization also had impact on the number of carbon yield produced. The analysis result of highest carbon yield was temperature 400°C on kepok banana peel of 45.99%, Ambon banana peel of 42.14%, and raja banana peel of 41.18%. Meanwhile, the analysis result of fixed carbon according to the standard of SII 0258-88 was temperature 700°C on raja banana peel of 92.53%, kepok banana peel of 91.13%, and Ambon banana peel of 89.29%, with the percentage of moisture content 0.07%, ash content 3.14%, and 4.27% of volatile matter. In addition, the number of fixed carbon of kepok banana peel was 90.12% and Ambon banana peel was 88.86%. The score of analysis parameter conducted in the research was in accordance with SII 0258-88 that was about the carbon quality requirement of solid material, percentage parameter of fixed carbon produced minimal was 65%, Water Content maximal was 15%, Ash content maximal was 10%, and Volatile Matter maximal was 25%. Keywords : Banana Peel Waste, Carbonization, Carbon.

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