

Chemical constituents of oil-cured tropical bamboo *Gigantochloa scortechinii*

Abstract

The chemical constituents of oil-cured 3 years-old tropical bamboo *Gigantochloa scortechinii* were investigated in this study. The bamboo splits were oil-cured using organic palm oil at temperature of 140, 180 and 220°C for duration of 30 and 60 min. The bamboo splits were then grinded into small particles and air-dried prior to the chemical analysis to obtain the compositions: holocellulose, hemicellulose, cellulose, lignin and starch. Untreated samples were used as control for comparison. The results obtained showed an overall reduction in the chemicals constituents after treatments compared to the control. Significant changes were however noted after the bamboo samples underwent treatment at temperature above 180°C. The holocellulose content decreased slightly from 81.4 to 79.7% for treatment conditions at 220°C for 30 min. On the other hand holocellulose content diminished significantly when the sample was treated at 180°C for 30 min and further treatment resulted in 72.7% holocellulose content at 220°C for 60 min treatment. The hemicellulose content of bamboo ranged from 24.1 to 27.8% when treated at 140 and 220°C for 30 to 60 min, respectively. The cellulose content of heat-treated samples ranged 47.4 to 55.2%. Starch contents were largely reduced from 4.1 to 1.9% for control to oil-cured samples at 220°C for 60 min.

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