

## **Acidity, Solubility and Chemical Utilization of Local *Leucaena Leucocephala* Stem Bark**

### **ABSTRACT**

Acidity, solubility and chemical properties of eleven years old of *Leucaena leucocephala* stem bark were investigated. The bark was peeled from the stem of tree and gently washed in tap water to remove dirt before air-dried in the laboratory at room temperature ( $24 \pm 3^\circ\text{C}$ ) for 2-3 weeks. The bark was minced into coarse powder and ground to pass BS 250 $\mu\text{m}$  mesh sieve. After air-dried for several days, the samples were conducted to chemical analyses (ash content and pH value; solubility in 1%NaOH, hot and cold water solubility; extractive, cellulose and lignin content) based on ASTM standard methods. The results show that *L. leucocephala* stem bark considered as least acidic (pH value 6.04) and high ash content (15.76%). The solubility of bark components was higher in 1% NaOH (41.36%) compared to hot water (14.45%) and cold water (11.06%). Holocellulose and hemicellulose was 132.85% and 103.66%, respectively. Lignin was the major composition in *L. leucocephala* stem bark (38.4%) followed by cellulose (29.19%) and extractive (8.39%). This study indicated that the bark of *L. leucocephala* had less acidity. The high solubility of the bark potential as a carbohydrate resource, while the chemical component of the bark might influence rapid combustion during pyrolysis.