

ABSTRACT

ADSORPTION CAPACITY ANALYSIS OF Pb AND Cd METALS USING KEPOK BANANA PEEL ADSORBENT (*Musa paradisiaca* L.)

(Initial Metal Concentration 80, 100, and 125 ppm)

Ayang Dyah Arum Nur widya Wati

Banana is a fruit plant that grows and spreads throughout Indonesia. Production is increasing from year to year. So far, the use of banana trees is still limited to the fruit which is consumed and utilized, even though there are many other parts of the banana that are very useful. The abundant potential availability of bananas is what also produces banana peel waste. The types of waste produced are heavy metals that are disposed of or produced by production activities are lead (Pb) and cadmium (Cd). The research conducted is an experimental research. Experimental research is research conducted to examine or investigate the effect of certain treatments on a research subject under controlled conditions. The parameters used in this study were initial metal concentrations of 80, 100 and 125 ppm. Kepok banana peels that had been mashed were weighed as much as 0.5 grams, mixed into Pb metal solution and into Cd solution according to the initial concentration, namely concentrations of 80, 100, and 125 ppm with a pH setting of 5 using the addition of HCl and NaOH solutions, then stirred using a stirrer at 250 rpm for 60 minutes. In this study the average adsorption capacities of Pb and Cd metals were based on initial concentrations of 80 ppm of 5.413 and 6.036 mg/g respectively, initial concentrations of 100 ppm of metals were 6.692 and 7.220 mg/g, and the highest results were obtained at initial concentrations metal 125 ppm with initial metal concentrations of 8.774 and 8.182 mg/g.

Key words : Adsorption, Lead Metal (Pb), Cadmium Metal (Cd), Adsorbent
Kepok Banana Peel, Preliminary Metal Concentration