SALACCA LEATHER WASTE STUDY (SALACCA ZALACCA) AS BIOSORBEN METHYLENE BLUE COLOUR SUBSTANCE

ABSTRACT

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This study aims to study the adsorption ability of salak skin charcoal, smooth salak skin, and rough salak skin on methylene blue (MB) dyes with varying time. In addition, to determine the characterization using FTIR, GSA, and SEM. This research method includes making biosorbent of carbonization salak skin and without carbonization process. The adsorption process was carried out by mixing methylene blue (MB) with biosorbent salak skin then stirring with a variation of time 0.5; 1; 1.5; 2; 2.5 hours. Then the resulting filtrate was analyzed by UV-Vis spectrophotometer to determine the adsorption capacity. The characteristics of FTIR spectra results before and after adsorption on biosorbent salak skin showed that the MB molecule was adsorbed on biosorbent. Characteristics with GSA Surface area on coarse bark skin and activated charcoal is small <10m2 / g, whereas for smooth zalacca skin the surface area is large because> 10 m2 / g. coarse bark has a large pore size > 50 nm. while the skin of fine zalacca and active pore size is small <50 nm. Characterization by SEM showed that the biosorbent surface of salak skin was uneven. The optimum adsorption capacity of coarse bark occurs at 2 hours, the optimum adsorption capacity of the bark occurs at 0.5 hours, while the optimum value of activated bark occurs at 1 hour. So that the fastest is adsorbed in smooth salak skin.

Keywords : Adsorption, Biosorbent, SEM, BET, GSA, MB, Salacca Zalacca, FTIR