

## Adsorption of Methylene Blue by Pectin from Durian (*Durio zibethinus*) Seeds

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**Abstract :** Methylene blue is a popular water-soluble dye that is used for dyeing a variety of substrates such as bacteria, wool, and silk. Methylene blue discharged into the aquatic environment will cause health problems for living things. Treatment method for industrial wastewater may be divided into three main categories: physical, chemical, and biological. Among them, adsorption technology is generally considered to be an effective method for quickly lowering the concentration of dissolved dyes in a wastewater. This has attracted considerable research into low-cost alternative adsorbents for adsorbing or removing coloring matter. In this research, pectin from durian seeds was utilized here to assess their ability for the removal of methylene blue. Adsorption parameters are contact time and dye concentration were examined in the batch adsorption processes. Pectin characterization was performed by FTIR spectrometry. Methylene blue concentration was determined by using UV-Vis spectrophotometer. FTIR results show that the samples showed the typical fingerprint in IR spectrogram. The adsorption result on 10 mL of 5 mg/L methylene blue solution achieved 95.12% when contact time 10 minutes and pectin 0.2 g.

**Keywords :** pectin, methylene blue, adsorption, durian seed

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