ABSTRACT

(LITERATURE REVIEW)

The Effect of Variations in pH on the Adsorption of Metal Cadmium (Cd) using Adsorbents of Several Types of Fruit Peels

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Pollutants generally have toxic or toxic properties that are harmful to living organisms. Toxicity or the toxicity of pollutants is what triggers the occurrence of pollution in the environment. One of the heavy metals that is dangerous in the environment is Cadmium (Cd). Bioadsorbents made from fruit peels have been tested to remove chromium, cadmium and copper ions from solution. Fruit peels have functional groups that play a role in binding metal ions. The waste of Kepok banana peels (*Musa paradisiaca* L.), Mas banana peels (*Musa accuminata* Colla) and watermelon skins (*Citrullus lanatus*) can be used as an alternative source of heavy metal adsorbents. The purpose of the study was to determine the effect of variations in pH on the adsorption of heavy metal cadmium (Cd) using the adsorbents of Kepok Banana peel (*Musa paradisiaca* L.), Mas Pisang Peel (*Musa accuminata* Colla) and Watermelon peel (*Citrullus lanatus*).

This research method is literature review. Researchers searched for manuscripts through official databases and library sources relevant to the research topic. The databases used include Indonesia One Search and Google. Searching for manuscripts found and relevant, namely by means of a systematic search process from libraries and online catalogs, subject area encyclopedias, periodic indexes, and abstracts (scanning), identifying important information or ideas by reading quickly and carefully, potential material that is suitable for researchers (skimming), techniques organizing information (mapping).

where variations in pH affect the adsorption of Cadmium (Cd) metal. Optimum pH on the use of Banana Kepok fruit peel (*Musa paradisiaca* L) with a concentration of 1 ppm, stirring for 60 minutes the optimum pH occurs at pH 5 with the highest increase in solution adsorption from other pH variations, namely the amount of adsorption is 0.9979 ppm and the percentage of adsorption is 0.9979 ppm. 99.8%, the use of Pisang Mas fruit peel as an adsorbent found the optimum pH was pH 5 at a stirring time of 35 minutes at pH 3 using data that had been obtained previously with the highest adsorption percentage value of 83.30%, and the use of Watermelon peel pH Optimum adsorption process with Watermelon peel biosorbent is pH 2 and stirring time is 30 minutes with a percentage of 94.55%.

Keywords : Cadmium, adsorbent, pH