

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 in general has toxic properties that are harmful to the environment. Waste of Pisang Mas (*Musa acuminata colla*), Breadfruit (*Artocarpus altilis*) and Watermelon (*Citrullus lanatus*) peels can be used as an alternative source of adsorbent because they contain pectin. The aim of the study was to determine the effect of the optimum contact time required to remove the heavy metal cadmium (Cd) using adsorbents of Pisang Mas (*Musa acuminata colla*) peels, breadfruit peels (*Artocarpus altilis*) and watermelon peels (*Citrullus lanatus*).

This research method is a literature review. Researchers conducted a search of manuscripts through official databases and library sources relevant to the research topic. The databases used include Indonesia One Search and Google. Search for manuscripts that are found and relevant, namely by means of a systematic search process from libraries, encyclopedias of subject areas, periodical 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).

The results of a literature review study of 3 articles show that fruit peel waste can be used as an adsorbent, where variations in contact time affect the removal of Cadmium metal (Cd). Optimum contact time using golden banana peel for 35 minutes with pH 5 using 2 grams of biosorbent mass was able to adsorb 78.45% of cadmium metal. The optimum contact time on the use of breadfruit peel for 90 minutes with a pH of 5 using 500 mg of pectin was able to adsorb 91.51% of cadmium metal. Optimum contact time on the use of watermelon rind is 30 minutes with a pH of 2 using 5 grams of biosorbent mass capable of adopting 94.55% of cadmium metal. From the literature review study, it can be used as an alternative to using other fruit peel wastes as adsorbents and parameters other than contact time variations are used as independent variables in subsequent literature reviews.

Keywords: Cadmium, Adsorbent, Contact Time