

## **ABSTRACT**

### **(LITERATURE REVIEW)**

#### **THE EFFECT OF CONTACT TIME VARIATION ON ADSORPTION OF IRON (Fe) METAL USING ADSORBENT OF SEVERAL TYPES OF FRUIT PEELS AND TUBERS**

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*The waste of banana peels (*Musa acuminata*), peanut shells (*Arachys hypogaea* L.) and cassava peels (*Manihot esculenta* Crantz) can be used as alternative sources of adsorbent because they contain pectin and cellulose. The aim of the study was to determine the length of contact time needed to adsorb the heavy metal Iron (Fe) using the adsorbents of Kepok Banana peel (*Musa acuminata*), Peanut peel (*Arachys hypogaea*) and Cassava peel (*Manihot esculenta* Crantz).*

*This research method is an article resume. 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 Scholar. Search for manuscripts that are found and relevant, namely by means of a systematic search process from libraries and online catalogs, subject area encyclopedias, periodical indexes, and abstracts (scanning), identifying important information or ideas by reading quickly and carefully, potential material that is suitable for researchers (skimming), information organizing techniques (mapping).*

*The results of an article resume study of 3 articles show that fruit peel waste can be used as an adsorbent, where variations in contact time affect the adsorption of Iron (Fe). Optimum contact time on the use of kepok banana peel charcoal (*Musa acuminata*) at 60 minutes there was an increase in % adsorption effectiveness of 86.38%, cassava peel activated charcoal obtained optimum contact time occurred at 120 minutes contact time with % adsorption effectiveness of 99.86%, and the use of peanut shell cellulose optimum contact time is 90 minutes with % absorption effectiveness of 53.86%. From the study of article resumes, 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 article resumes.*

**Keywords:** *Iron, adsorbent, contact time.*