ABSTRACT

ANALYSIS OF MASS VARIATIONS OF KEPOK BANANA PEEL ADSORBENT POWDER ON THE ADDRESSMENT OF CADMIUM METAL IN GREEN SHELLS FOR SALE IN THE KENJERAN AREA OF SURABAYA

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Mussels are filter feeders, namely filter animals, making it easier for metal compounds to enter the shellfish's body. High levels of pollution in waters cause the metal content in green mussels to increase. An example of a dangerous metal is cadmium. Exposure to the heavy metal cadmium can cause health problems such as kidney failure, cancer, and damage to the metabolic system. Kepok bananas are quite abundant in Indonesia, so this causes the waste produced to be relatively high. Kepok banana peels contain pectin which can absorb heavy metals because it contains carboxyl groups.

This research consists of the adsorbent preparation process and the adsorption process of the heavy metal cadmium present in green mussels by Kepok banana peels. The sample used in this research was 25 g of green mussel meat. The independent variable in this study was the mass of adsorbent powder which included 1, 2, 3, 4 and 5 grams. The dependent variable in this study was the final concentration of cadmium metal adsorbed by Kepok banana peel which was analyzed using an Atomic Absorption Spectrophotometer.

It is known that the initial concentration of the heavy metal cadmium in green mussels was 0.101 ppm. These results do not exceed the maximum limit permitted by BPOM No. H.K. 00.06.1.52.4011, namely 1.0 ppm. Then added variations in the mass of adsorbent powder of 1, 2, 3, 4, and 5 grams. The mass variation of kepok banana peel adsorbent which had the highest percent adsorption results was achieved at an adsorbent mass of 1 gram with an adsorption percent value of 88.118%. The use of Kepok banana peel waste as an adsorbent has been proven to be able to adsorb cadmium metal on green mussel meat.

Keywords : cadmium, green mussels, adsorbent, Atomic Absorption Spectrophotometer.