

DECREASE CONTENT OF MANGANESE (Mn) IN CLEAN WATER BY USING ACTIVE CARBON KEPOK BANANA SKIN (*Musa acuminata*)

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ABSTRACT

Water is included in the primary human need. In the use of water, problems often occur such as the high content of metals in the water, one of which is Manganese (Mn). Clean water in Kepuhkembeng Village, Peterongan District, Jombang Regency contains Manganese (Mn) which exceeds the quality standard of Minister of Health Regulation No. 32 of 2017. The use of clean water with high Manganese (Mn) content can result in losses and adverse impacts on humans, as well as direct and indirect health problems. One way to reduce the Manganese (Mn) content in clean water is the adsorption process using activated carbon. The activated carbon of kepok banana peel (*Musa acuminata*) contains galacturonic acid which can bind Manganese (Mn) in clean water. The purpose of this study was to measure the content of Manganese (Mn) in clean water before treatment, after treatment with activated carbon of kepok banana peel (*Musa acuminata*) with a concentration of 6 gr/L, 8 gr/L, 10 gr/L and calculate the percentage decrease in Manganese content. (Mn) the most.

This research uses the carbonization process in the manufacture of activated carbon. The carbonization process uses a furnace with a temperature of 400°C which is then activated with H₂SO₄. There were four treatments in this study, namely before being given the activated carbon of the kepok banana peel (*Musa acuminata*), and after being given the activated carbon of the kepok banana peel (*Musa acuminata*) with a concentration of 6 gr/L, 8 gr/L, and 10 gr/L. With each treatment, six replications were performed.

The results of this study indicate that variations in the concentration of activated carbon of kepok banana peel (*Musa acuminata*) can decrease with the largest decrease, namely 97.97% at a concentration of 10 g/L. It is necessary to carry out water treatment such as sedimentation and/or filtration processes as well as testing for water clarity.

Keywords: Manganese (Mn), Clean Water, Activated Carbon, *Musa acuminata*