

EFFECTIVENESS OF ACTIVATED CARBON OF RICE HUSK (*Oryza Sativa L*) ACTIVATED POTASSIUM HYDROXIDE AS A BIOADSORBEN IRON (Fe) DISSOLVED IN DAILY WELL WATER

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ABSTRACT

Well water with high levels of iron (Fe) causes health problems, technical problems and physical problems. The adsorption process was one way to reduce high levels of Fe. The purpose of this study was to analyze the effectiveness of rice husk-activated carbon (*Oryza Sativa L*) with a Potassium Hydroxide activator to reduce Fe content in dug well water.

This research was a quasi-experimental research with Pretest-Posttest Control Group Design. The treatments used were 4 variants of rice husk bioadsorbent (0 gr/l, 10 gr/l, 20 gr/l, and 30 gr/l), with 6 repetitions..

The research conducted to obtain the results of effective reduction of iron levels occurred at a dose of 30 gr/l. Fe content decreased to 1.00 mg/l with an efficiency of 89%. According to the PERMENKES RI Number 32 of 2017, the Fe content of 1.00 mg/l has met the requirements.

There was a significant difference between the control and the dose variation. There was a significant difference in the reduction of Fe content. Suggestions for other researchers are to conduct further research using the filtration method or use the optimum dose of rice husk in reducing iron levels or use other chemicals for activation (such as HCl, K₂S, ZnCl₂)

Keywords: Rice husk, KOH activation, Iron content, Clean Water, Adsorption