

ABSTRACT
(LITERATURE REVIEW)

UTILIZATION OF CORN COB ACTIVE CHARCOAL
AS IRON ADSORBENT IN WATER

Rina Setianingsih

The availability of clean water is necessary to support various kinds of daily human needs and activities. The community utilizes water from ground water (wells), river, rain, and other water sources. According to the Regulation of the Minister of Health Number 492 of 2010, drinking water quality requirements must be physically fulfilled, odorless, tasteless, clean, and colorless. The presence of iron is dissolved in water. Iron (Fe) makes yellowish red, causes a fishy odor, and forms an oil-like layer in water when the concentration is more than 1.0 mg. One way to reduce iron (Fe) in water is using an adsorption process on filter media with activated carbon or activated charcoal which has a high adsorption capacity of materials in the form of solutions or vapors. Corn cobs are one of the wastes that can be used as raw material for absorbent levels of iron (Fe) in water. This study aims to be a reference in the processing of corncob activated carbon as an adsorbent of iron (Fe) content in water. The research method used in this study is a literature review using three national literatures. The results of the study based on a review of three articles, namely the adsorption capacity of iron in water using corncob activated charcoal as adsorbent had a yield variation of 97.8%; 99%; and 85.78%. The mass of the adsorbent used could have an influence on the adsorption process. The more adsorbent used, the more adsorbate that can be absorbed and the percentage decrease in iron (Fe) content will increase. The more adsorbate that will be adsorbed, the speed of adsorption will increase.

Keywords : water, iron, active charcoal, corn cob