

DAUN JATI DAN PASIR SEBAGAI FILTER UNTUK PENURUNAN KADAR BESI (Fe) AIR SUMUR GALI

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INTISARI

Latar Belakang: Air merupakan sumberdaya yang sangat penting bagi makhluk hidup. Ada beberapa parameter yang perlu diperhatikan pada penggunaan air sumur sesuai dengan standar baku mutu parameter kimia diantaranya kadar besi (Fe). Apabila konsentrasi besi (Fe) dalam air melebihi batas tersebut maka akan menyebabkan gangguan kesehatan, ekonomis maupun teknis.

Tujuan Penelitian: Diketuainya perbedaan varian ketebalan media filtrasi daun jati dan pasir terhadap penurunan kadar besi (Fe) dengan ketebalan filter A, filter B, dan filter C pada air sumur gali di Dusun Sawit, Panggungharjo, Sewon.

Metode Penelitian: Penelitian ini merupakan penelitian *quasi eksperimen* dengan desain *Pre Test-Post Test Group Design*. Penelitian dilaksanakan pada bulan Desember 2021- Januari 2022. Obyek dalam penelitian ini adalah sumur gali milik ibu Y yang berlokasi di Dusun Sawit, Panggungharjo, Sewon, Bantul. Penelitian dilakukan dengan media daun jati dan pasir dengan tiga varian ketebalan yaitu Filter A, Filter B, dan filter C.

Hasil Penelitian: Tidak ada perbedaan yang signifikan atau sama-sama dapat menurunkan kadar besi (Fe) antara variasi ketebalan filter A, filter B, dan filter C pada air sumur gali di Dusun Sawit, Panggungharjo, Sewon. Hasil uji *One Way Anova* ($p\text{-value} = 0,379 > \alpha = 0,05$). Didapatkan penurunan variasi ketebalan daun jati dan pasir yang paling besar yaitu pada filter C. Penurunan kadar besi (Fe) sudah memenuhi baku mutu menurut Peraturan Menteri Kesehatan Republik Indonesia Nomor 32 Tahun 2017

Kata Kunci: media filtrasi, daun jati, pasir, besi (Fe)

TEAK LEAVES AND SAND AS FILTERS TO REDUCE THE IRON (Fe) LEVELS OF WELL WATER

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ABSTRACT

Background: Water is a very important resource for living things. There are several parameters that need to be considered in the use of well water in accordance with quality standards for chemical parameters, including iron (Fe) levels. If the concentration of iron (Fe) in water exceeds this limit, it will cause health, economic and technical problems.

Research purpose: To find out the differences in the thickness variance of the filtration media of teak leaves and sand on the reduction of iron (Fe) content with the thickness of filter A, filter B, and filter C in dug well water in Sawit Hamlet, Panggungharjo, Sewon.

Research Methods: This research is a quasi-experimental research with Pre Test-Post Test Group Design. The research was carried out in December 2021-January 2022. The object of this research is a dug well belonging to Mrs. Y which is located in Sawit Hamlet, Panggungharjo, Sewon, Bantul. The research was conducted with teak leaf and sand media with three thickness variants, namely Filter A, Filter B, and filter C.

Research Results: There is no significant difference or both can reduce iron content (Fe) between variations in the thickness of filter A, filter B, and filter C in dug well water in Sawit Hamlet, Panggungharjo, Sewon. One Way Anova test results ($p\text{-value} = 0.379 > 0.05$). The greatest decrease in the thickness variation of teak leaves and sand was found in filter C. The decrease in iron (Fe) levels has met the quality standard according to the Regulation of the Minister of Health of the Republic of Indonesia No. 32 of 2017.

Keywords: filtration media, teak leaves, sand, iron (Fe).