

## ABSTRACT

*Indonesian Ministry of Health  
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Sanitation Study Program Diploma Program Three Magetan Campuses*

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*"The Effect of Aeration Trays in Reducing the Content (Fe) of Dug Well  
Water in Pabean Village, Sedati District, Sidoarjo Regency"*

*66 Pages +*

*Iron (Fe) is an element found almost everywhere on earth, in all geological layers and in all waters. In general, iron in water is soluble. The Fe ion content in well water can range from 5 to 7 mg/L.*

*The type of research used is experimental research which aims to determine the differences before and after levels (Fe) when going through the tray aeration process. Analyzed analytically, the test used was the Paired Sample T-test. The sampling method used was grab sampling in 16x replications before and after treatment so that the total sample was 32 samples.*

*From the research results, it can be seen that the concentration (Fe) before being treated with aeration trays was an average of 0.319 mg/l. and it can be seen that the concentration (Fe) after being treated with aeration trays was an average of 0.028 mg/l. Then the results of the examination showed that the percentage reduction before and after treatment was obtained was a decrease of 90.65%. From the results of the Paired T-test Content (Fe), namely the probability value (p-value) listed in the sig column. is  $0.000 < \alpha (0.05)$ , so it can be concluded that*

*Ho is rejected, meaning there is a difference before treatment and after Tray Aeration treatment in reducing the content (Fe) of dug well water.*

*From the results of this research it can be concluded that there is a difference before treatment and after Tray Aeration treatment in reducing the content (Fe) of dug well water.*

*Keywords: Aeration tray, Fe content*

## ABSTRAK

Kementerian Kesehatan RI  
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Program Studi Sanitasi Program Diploma Tiga Kampus Magetan

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*“Pengaruh Tray Aerasi Dalam Menurunkan Kadar (Fe) Air Sumur Gali  
Di Desa Pabean Kecamatan Sedati Kabupaten Sidoarjo”*

66 Halaman

Besi (Fe) merupakan unsur yang ditemukan hampir di semua tempat di bumi, di semua lapisan geologi, dan di semua perairan. Secara umum, zat besi dalam air bersifat larut. Kandungan ion Fe dalam air sumur dapat berkisar antara 5 hingga 7 mg/L.

Jenis penelitian yang digunakan adalah penelitian experimental bertujuan untuk mengetahui perbedaan sebelum dan sesudah kadar (Fe) pada saat melalui proses tray aerasi. Dianalisa dengan analitik, uji yang digunakan adalah Uji Paired Sample T-test. Metode pengambilan sampling yang digunakan adalah dengan cara grab sampling dalam 16x replikasi sebelum dan sesudah perlakuan sehingga total sampel berjumlah 32 sampel.

Dari Hasil Penelitian dapat diketahui Kadar (Fe) sebelum diberi perlakuan tray aerasi diperoleh rata-rata 0,319 mg/l. dan dapat diketahui Kadar (Fe) setelah diberi perlakuan tray aerasi diperoleh rata-rata 0,028 mg/l, Kemudian hasil pemeriksaan diperoleh prosentase penurunan sebelum dan sesudah diberi perlakuan diperoleh penurunan sebesar 90,65%. Dari hasil Uji Paired T-test Kadar (Fe) yaitu nilai probabilitas (p-value) yang tercantum pada kolom sig. adalah 0,000 <

$\alpha$  (0,05), sehingga dapat disimpulkan bahwa  $H_0$  Ditolak, berarti ada Perbedaan sebelum perlakuan dan setelah perlakuan Tray Aerasi dalam menurunkan Kadar (Fe) Air Sumur Gali.

Dari Hasil penelitian ini dapat disimpulkan bahwa ada perbedaan sebelum perlakuan dan setelah perlakuan Tray Aerasi dalam menurunkan Kadar (Fe) Air Sumur Gali.

Kata Kunci : Tray aerasi, Kadar Fe