

ANALISIS EFEKTIVITAS *ECO ENZYME* TERHADAP PENURUNAN PARAMETER PENCEMARAN AIR DI SITU BAHAR

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ABSTRAK

Situ Bahar merupakan salah satu badan air di Kota Depok yang mengalami penurunan kualitas akibat aktivitas domestik di sekitarnya. Salah satu alternatif untuk memperbaiki kualitas air adalah penggunaan eco enzyme. Penelitian ini bertujuan menganalisis efektivitas eco enzyme terhadap penurunan parameter pencemaran air di Situ Bahar. Penelitian menggunakan metode eksperimen laboratorium dengan Rancangan Acak Lengkap (RAL). Sampel air diambil dari tiga titik (inlet, tengah, dan outlet), kemudian dikompositkan dan diberi perlakuan eco enzyme pada volume total 1000 mL per unit percobaan dengan rasio kontrol (0:10), 1:9, 2:8, dan 3:7 selama 10 hari. Parameter yang dianalisis meliputi pH, DO, BOD, COD, TSS, dan TDS. Data dianalisis menggunakan uji One-Way ANOVA. Hasil penelitian menunjukkan bahwa pemberian eco enzyme meningkatkan nilai pH dan DO, tetapi juga meningkatkan BOD, COD, dan TDS, sedangkan perubahan TSS relatif kecil. Uji One-Way ANOVA menunjukkan perbedaan signifikan pada pH ($p=0,028$), BOD ($p=0,003$), dan TDS ($p<0,001$), tetapi tidak pada DO ($p=0,405$), COD ($p=0,368$), dan TSS ($p=0,315$). Peningkatan BOD, COD, dan TDS dapat disebabkan oleh kandungan bahan organik dalam eco enzyme, sehingga secara keseluruhan eco enzyme belum efektif memperbaiki seluruh parameter kualitas air Situ Bahar.

Kata Kunci: *Eco enzyme*, Kualitas air, Situ Bahar

ANALYSIS OF THE EFFECTIVENESS OF ECO ENZYME IN IMPROVING THE WATER QUALITY OF SITU BAHAR

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ABSTRACT

Situ Bahar is a water body in Depok City that has experienced declining water quality due to domestic activities. Eco enzyme has been proposed as an alternative to improve water quality. This study aimed to analyze the effectiveness of eco enzyme in reducing water pollution parameters in Situ Bahar. A laboratory experiment using a Completely Randomized Design (CRD) was conducted. Water samples were collected from the inlet, middle, and outlet, composited, and treated with eco enzyme at 1000 mL per experimental unit using control (0:10), 1:9, 2:8, and 3:7 ratios for 10 days. Parameters included pH, DO, BOD, COD, TSS, and TDS. Data were analyzed by One-Way ANOVA. Eco enzyme increased pH and DO but also increased BOD, COD, and TDS, while TSS changed only slightly. Significant differences were found in pH ($p = 0.028$), BOD ($p = 0.003$), and TDS ($p < 0.001$), but not in DO ($p = 0.405$), COD ($p = 0.368$), or TSS ($p = 0.315$). The increases in BOD, COD, and TDS may be attributed to the organic matter in eco enzyme; therefore, it was not effective in improving all water quality parameters of Situ Bahar.

Keywords: Eco enzyme, Situ Bahar, Water quality