

Abstrak

Limbah cair tahu merupakan salah satu jenis pencemar yang dapat mencemari lingkungan. Kandungan bahan organiknya yang tinggi dapat menyebabkan penurunan kualitas lingkungan apabila langsung dibuang ke badan air. Produsen tahu masih didominasi oleh industri skala kecil, sehingga diperlukan pengolahan yang murah, mudah dan praktis penerapannya untuk mengatasi masalah tersebut. Penelitian ini bertujuan untuk mengkaji potensi *Chlorella* sp. dalam menyisihkan kadar COD dan nitrat yang terkandung didalam limbah cair tahu dengan konsentrasi 0, 10, 20, 25, 30, 40, 50, 75 dan 100%. Parameter yang diamati adalah kelimpahan sel, laju pertumbuhan sel, nilai COD dan nitrat. Hasil penelitian menunjukkan bahwa pertumbuhan sel tertinggi teramati pada perlakuan konsentrasi 30% dengan nilai rata-rata 9.850.000 sel/mL. Sedangkan penyisihan kadar COD dan nitrat juga terlihat pada konsentrasi 30% sebesar 71,54% dan 30,03%.

Kata Kunci: *Chlorella* sp., Limbah Cair Tahu, COD, Nitrat

Abstract

Tofu liquid waste is one type of contaminants that can pollute the environment. Organic matter content that very high in tofu liquid waste can lead to environmental degradation if directly discharged into water bodies. The manufacturers of tofu is still dominated by small-scale industry, so it requires treatment is cheap, easy and practical application to resolve the issue. This study aims to assess the potential of *Chlorella* sp. in reducing the levels of COD and nitrates contained in tofu liquid waste with concentrations of 0, 10, 20, 25, 30, 40, 50, 75, dan 100%. The parameters measured were the abundance of cells, cell growth rate, COD and nitrate. The results showed that the highest cell growth was observed in the treatment concentration of 30% with an average value of 9.850.000 cells/mL. While the allowance for COD and nitrate levels were also seen at a concentration of 30% amounting to 71.54% and 30.03%.

Keywords: *Chlorella* sp., Tofu Liquid Waste, COD, Nitrate