

Pengaruh Variasi Fotoperiodisitas terhadap Pertumbuhan *Chlorella* dalam Medium Basal Bold

Photoperiodicity effect on *Chlorella* Growth in Bold's Basal Medium

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Abstract

The research of photoperiodicity effect on the cell densities of genus *Chlorella* grown in Bold's Basal Medium (BBM) had been done. Observations were done for 14 days. Research was experimental study with full random design to 8 varieties of photoperiodicity i.e. 6 h light/18 h dark (L/D) cycles, 8 h light/16 h dark (L/D) cycles, 10 h light/14 h dark (L/D) cycles, 12 h light/12 h dark (L/D) cycles, 14 h light/10 h dark (L/D) cycles, 16 h light/8 h dark (L/D) cycles, 18 h light/6 h dark (L/D) cycles, and 24 h light/0 h dark (L/D) cycles. On peak culture, 24 h light/0 h dark (L/D) cycles produced the highest cell numbers (204.680.000 cell/ml) and the lowest cell numbers were achieved by culture with 6 h light/18 h dark (L/D) cycles. Kruskal-Wallis test showed that there were some effects of photoperiodicity variations on cell numbers of *Chlorella* (cell/ml) in culture ($p > 0.05$). Multiple comparison tests showed that mean of cell numbers of *Chlorella* (cell/ml) differ ($p > 0.01$) on every photoperiodicity. Relationship between photoperiodicity and cell numbers of *Chlorella* was determined by regression equation $\hat{Y} = 24634821,214 + 21977643,869 X$.

Key Words: *Chlorella*, Photoperiodicity, algal physiology

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