

The application of Haematococcus pluvialis culture on outdoor photobioreactor

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A unicellular green microalgae, Haematococcus pluvialis, has been focused as a microbial source of astaxanthin production and astaxanthin has been suggested as a food supplement for humans. H. pluvialis accumulates the highest level of astaxanthin. In this study, the microalgal H. pluvialis was cultured at outdoor condition. The condition is maintained, temperature is 20~25°C, light intensity is 80~150 $\mu\text{mol photon/m}^2\text{s}$. A photobioreactor of poly bag type which has 25L volume was used for cell cultivation. H. pluvialis culture accumulated astaxanthin about 130 mg/L during the 90 days. This is good data compared with indoor condition at small scale. In industry, this result can be useful to make the high profitable photobioreactor.