

The effect of using exhaust gases; SO<sub>2</sub> and NO for autotrophic cultivation of microalga  
*Haematococcus pluvialis*

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A unicellular green alga which feed on CO<sub>2</sub>-caused global warming, *Haematococcus pluvialis* is the richest source of natural astaxanthin. Astaxanthin is a strong coloring agent and a high-value antioxidant fifty times stronger than β-carotene. We knew that *Haematococcus pluvialis* can be easily cultivated in a high CO<sub>2</sub> gas. Exhaust gas contain CO<sub>2</sub>, NO<sub>x</sub> and SO<sub>x</sub>. Therefore, we studied on the influence of SO<sub>2</sub> and NO for *Haematococcus pluvialis* cultivation. For using exhaust gas directly; without separate, we guess that reduce a price when cultivating *Haematococcus pluvialis*. We expect that the results of these researches contribute for industrial astaxanthin production & biological CO<sub>2</sub> reduction by *Haematococcus pluvialis* cultivation using exhaust gas directly.