

## OPTIMASI NUTRISI MEDIA PERTUMBUHAN BAKTERI TERMOFIL PENGHASIL SELULASE DARI SUMBER AIR PANAS RIMBO PANTI

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### ABSTRACT

Optimization have been done on the media for the growth of the isolated thermophiles bacteria from hot springs Rimbo Panti, the nutrients comprising variety of carbon sources such as CMC (carboxymethyl cellulose), avicell (micro crystalline cellulose), and cellobiose, with a variety of sources organic nitrogen, peptone, extracts yeast, tryptone, and urea, as well as variations consist of inorganic nitrogen sources, KNO<sub>3</sub>, NaNO<sub>3</sub>, (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, and (NH<sub>4</sub>)NO<sub>3</sub>. Determination of cellulase activity performed using DNS reagent (3,5-dinitro salicylic acid). Maximum cellulase production with high activity based on the results of this research, the best of carbon source is CMC with optimum concentration 0.125%, inorganic nitrogen source is peptone with the optimum concentration of 0.3 to 0.4% and the inorganic nitrogen source is (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> with optimum concentration of 0.2 - 0.25%. Optimization of size of inoculums obtained the optimum amount of inoculums 2%.

**Keywords:** *Optimization, thermophiles bacteria, cellulose, carbon sources, nitrogen sources*

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