

“Effect of Gibberellic Acid on Photosynthetic Electron Transport Reactions and Nitrogenase Activity of *Anabaena cylindrica*”

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Various concentrations of gibberellic acid (GA) were tested for their effects on photosynthetic reactions and dinitrogen-fixation (acetylene reduction) in *Anabaena cylindrica*. The optimum concentration of GA for growth and oxygen evolution was 10^{-4} M, and NADP photoreduction was also enhanced. A pronounced effect was evident on the photosystem II-Hill reaction, while the effect on photosystem I-Mehler reaction was much less. A concentration of 10^{-6} M GA exerted some inhibition on growth and photosynthetic reactions, while 10^{-2} and 10^{-3} M concentrations led to complete lysis. The optimum concentration of GA for maximum nitrogenase activity was 10^{-5} M, which also increased heterocyst differentiation.