Analyzing the Efficiency of Different Microalgae Strains in Nitrogen Reduction

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This study explores the efficiency of microalgae for reduction of nitrogen pollution in wastewater, addressing global challenges in accessing safe drinking water. Chlorella vulgaris, Arthrospira platensis, and Nannochloropsis were cultivated in controlled environments and introduced into three different water samples, including control water, wastewater, and agricultural runoff. Nitrate and ammonium levels were analyzed using test strips. Results indicate Nannochloropsis as the most efficient, reducing nitrogen to undetectable levels within seven days. This study highlights microalgae's ability in water quality improvement, aligning with the UN's sustainable development goal six. Future research will explore microalgae efficacy in removing other contaminants and biomass utilization for clean energy production. This research contributes to affordable, sustainable solutions for access to clean water globally.

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