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## An Experimental Approach to Examining the Effect of Water Depth and Lemna minor L. on Algal Growth

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**Abstract:** In order to test how both water depth and Lemna minor L. affect the growth rate of algae, two different experiments were designed. In the first experiment, Scenedesmus quadricauda (Turp.) Breb. was cultured in sterilized Steinberg solution with reduced N and P levels in plastic containers at depths of 5, 10, 15 and 20cm. At the end of the experiment, differences in algal growth with depth were found to be significant between a) 5 cm with 10 cm, 15 cm and 20 cm, and b) 10 cm with 15 and 20 cm depth treatments ($p<0.001$). In the second experiment, L. minor was set up without (group I) and with (group II) Scenedesmus quadricauda and at a constant water depth. L. minor was added to the containers to create treatments with starting covers of 0, 10, 30, 60 and 100% to produce different initial light levels for the algae. At the end of the experiment, algal growth was found to be reduced by the presence of L. minor, the reduction being positively correlated with increasing cover percentage of L. minor ($p=0.017$) in group I. Although mean algal chlorophyll increased very slightly with increasing cover percentage, the effect of L. minor on algal growth was not significant in group II.

**Key Words:** water depth, algae, floating plant, Lemna, Scenedesmus

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