

An Effect of Organic Supplements on Stimulating Growth of Dendrobium Protocorms and Seedlings

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Abstract : This study was aimed to investigate the effect of various organic supplements on growth and development of Dendrobium discolor's protocorms and seedlings growth of Dendrobium Judy Rutz. Protocorms of Dendrobium discolor with 2.0 cm. in diameter and seedlings of Dendrobium Judy Rutz at the same size (0.5 cm. height) were sub-cultured on Hyponex medium supplemented with cow milk (CM), soy milk (SM), potato extract (PE) and peptone (P) for 2 months. The protocorms were developed to seedlings in all treatments after cultured for 2 months. However, the best results were found on Hyponex medium supplemented with P was the best in which the maximum fresh and dry weight and maximum shoot height were obtained in this treatment statistically different ($p \leq 0.05$) to other treatments. Moreover, Hyponex medium supplemented with P also stimulated the maximum mean number of 5.7 shoots per explant which also showed statistically different ($p \leq 0.05$) when compared to other treatments. The results of growth of Dendrobium Judy Rutz seedlings indicated the medium supplemented with 100 mL/L PE enhanced the maximum fresh and dry weigh per explants with significantly different ($p \leq 0.05$) in fresh weight from other treatments including the control medium without any organic supplementation. However, the dry weight was not significantly different ($p \leq 0.05$) from medium supplemented with SM and P. There was multiple shoots induction in all media with or without organic supplementation ranging from 2.6 to 3 shoots per explants. The maximum shoot height was also obtained in the seedlings cultured on medium supplemented with PE while the longest root length was found in medium supplemented with SM.

Keywords : fresh weight, in vitro propagation, orchid, plant height

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