Effect of pre-sowing treatment on seed germination and seedling vigour in Sri Lankan *Exacum trinervium*, an endemic herb

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Exacum trinervium (Gentianaceae) is a threatened endemic medicinal and ornamental plant for which ex-situ cultivation has been recommended as a conservation strategy. Although the seeds germinate, seedling growth is poor and therefore difficult to maintain under captive environment. The effect of pre-sowing BAP (6-Benzylaminopurine) treatment to enhance the seed germination and seedling vigour of *E. trinervium* was examined. BAP concentrations of 1, 2 and 3 mgL^{-1} as pre-sowing treatments under 18, 24 and 30 hrs exposure durations were used in laboratory and nursery conditions. Control experiment was maintained with distilled water. BAP concentrations of 2 and 3 mgL^{-1} under 24 hrs exposure duration showed significant effect ($P<0.05$) on increasing seedling dry weight and seedling vigour index compared to the control. There was no significant effect of BAP treatments on seed germination percentage under laboratory and nursery conditions. Twenty four hour exposure duration resulted in lowest mean germination time under nursery conditions. The effect of BAP concentration and exposure duration is significant ($P<0.05$) on number of leaves, plant height, root length, number of primary roots, dry weight and fresh weight of *E. trinervium*. The present study suggests that BAP treatment may improve seedling emergence and plant development in greenhouses.

Key words: *BAP, Exacum trinervium, germination time, Seedling vigour index*