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Effects of different strength of MS and N6 media on rooting, growth and development of *in vitro* propagated *Echinacea purpurea*

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Echinacea purpurea L., commonly known as purple coneflower, belongs to the family Asteraceae, is one of the most economically important and popular medicinal perennial herb presently used in the world ranking beside ginkgo and ginseng. The extracts of *E. purpurea* commonly known as purple coneflower have been confirmed to have significant immunomodulatory activities by modern laboratory and clinical researchers. The component obtained from roots of *Echinacea* species have been found to stimulate mammalian immune system and to act as anti-inflammatory agents. Recently, because epidemic diseases caused by viruses have become much more threatening, global demand for products of purple coneflower has been increasing. The demand for the products of purple coneflower opened eyes to find attractive methods for the development and the growth of the plant.

Experiment was carried out to find best strength of culture medium for the rooting, growth and development of *E. purpurea* in MS basal medium and N6 medium. The weight of roots formed on high strength (x 1.25 and x 1.00) was relatively higher compared to the lower strength (x 0.5) while basal N6 medium gave the best rooting response. Normal strength MS (x 1.00) yielded the highest whole plant weight and root weight of 1.7469 g and 0.5022 g respectively, while the lowest entire plant weight 0.8725g and root weight 0.2215 g were in strength 0.25 times than the normal strength at MS, comparing to all other MS strengths. Both media (MS and N6) responded similarly on growth and root production of adventitious buds but N6 medium of normal strength displayed slightly higher mass production (0.5883 g) in roots comparison with MS medium.

Keywords: *Echinacea purpurea*, MS medium, N6 medium, regeneration