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STANDARDIZATION OF CULTURE MEDIA, EXPLANT TYPE AND AUXIN / NON- AUXIN TREATMENT FOR *IN VITRO* ADVENTITIOUS ROOT FORMATION IN *GYMNEMA SYLVESTRE* R.BR.

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ABSTRACT: The *in vitro* multiplied shoots of *Gymnema sylvestre* were tested for root induction on different culture media [MS (Murashige and Skoog Medium), WPM (Woody Plant Medium), B_5 (Gamborg Medium), SH (Schenk and Hildebrandt Medium) and NN (Nitsch and Nitsch Medium)], explant types (apical bud with two nodes or with three nodes, two nodes, one node) and auxin Indole-3-acetic acid (IAA), Indole-3-butyric acid (IBA), α-naphthalene acetic acid) (NAA) and non-auxin (coumarin) treatment (0 , 5 , 10 and 15 µM). Rooting percentage and root number were recorded at 21, 28, 35 and 42 days in Experiment 1 and 21, 28 and 35 days in Experiment 2. In the first experiment maintained on uniform 10 µM IBA, the rooting percentage was significantly affected at all four stages of sampling by culture media, at 42 days by explant types and at 35 and 42 days by interactions between culture medium and explant type. However, root number was significantly influenced at all four stages of sampling by basal media only. The best interaction was found to be B_5 medium and apical bud with two nodes or with three nodes, which exhibited 43% rooting at 21-35 days and 39-47 % rooting at 42 days. In the second experiment, various auxins and non auxin, concentrations and their interactions significantly influenced rooting percentage and root number at all three stages of sampling. 5 µM NAA excelled all other combinations and exhibited 68 % rooting at 21-28 days and 85 % rooting at 35 days as well as 2.16, 3.44 and 4.27 root numbers at 21, 28 and 35 days, respectively. Therefore B_5 media supplemented with 5µM NAA was recommended for optimum induction of *in vitro* adventitious roots at 35 days in *Gymnema sylvestre.*

Keywords: *Adventitious root formation, Auxin, Culture media, Explant type, In vitro*