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Multiple shoot regeneration from nodal segments of *Ceropegia maccanni* Ansari

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Ceropegia maccanni Ansari is a rare and endangered herbaceous plant belonging to the family Ascepiadaceae. The study was conducted with an objective to establish a protocol for *in vitro* propagation of plantlets from node, internode and leaf explants of *Ceropegia.* Multiple shoots were obtained by studying the influence of cytokinins BA (6-benzyladenine) and Kin (Kinetin) and auxins IAA (Indole-3-acetic acid), NAA (2-Naphthalene acetic acid) and 2,4-D (2,4-Dicholorophenoxyacetic acid) alone and in combinations. The best response for multiple shoot induction was obtained in nodal explants on Murashige and Skoogs medium supplemented with 7.5 uM BA and Kin (3.2±0.3 and 3.1±0.3 shoots per explants respectively). The shoots were rooted on half strength MS (Murashige and Skoog's) medium fortified with either IAA or NAA. However optimum percent frequency of shoots producing roots and number of roots per shoots was observed on liquid half strength MS medium fortified with 5% sucrose and 2.0 uM IAA in combination. Healthy regenerated were selected for hardening. Theses plantlets were transferred directly to the field with 100 percent success rate.

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Evaluation of anti-oxidant activity of Malus domestica fruit extract from Kashan area

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Antioxidants are considered as the main factors in the inhibition of unwanted oxidation reactions. In this research the antioxidant potential of the fresh fruits of 4 cultivars of *Malus domestica* cultivated in the Kashan, Qamsar area was evaluated. The antioxidant activity of the samples was evaluated using two complementary antioxidant assays: 2, 2-diphenyl-1-picrylhydrazyl (DPPH) and β-carotene/linoleic acid tests and the results were compared with the synthetic standard antioxidant butylated hydroxytoluene (BHT). Total phenolic contents of the samples are also estimated by Folin-Ciocalteu's phenol test. In both DPPH β-carotene/linoleic acid tests in the concentration of 2 mg/ml, only samples from Hossain cultivar showed moderate antioxidant activity with 63.92±0.42 and 6.02±0.03 inhibition percentages, respectively and other samples were only weekly active. The Folin-Ciocalteu's phenol test was also showed very little phenolic compounds for the fruits. In conclusion, week antioxidant activity was estimated for the studied apple cultivars.

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