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***In vitro* regeneration from nodal explants in *Caesalpinia pulcherrima* L.- An anticancerous woody legume**

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The global demand for herbal medicine, for primary healthcare, is not only large but growing because of better cultural acceptability, better compatibility with the human body and the fewer side effects. *Caesalpinia pulcherrima* L. (Fabaceae), commonly known as 'Peacock flower' is a highly medicinal, fast growing, ornamental, woody leguminous plant, distributed throughout India. The plant bears a beautiful array of flowers and almost all part of this plant are medicinal and exhibit a wide range of pharmacological properties including antitumor, antimicrobial and cytotoxic activities. The plant is also a source of various phytoactive constituents such as tannins, flavonoids, steroids, alkaloids, glycosides, rotenoids, flavones, flavonols etc. *C. pulcherrima* L. is conventionally propagated through seeds which are not reliable because of low germination rate and seed viability. Moreover if the plants are raised through seeds, they show high heterozygosity and great variation in growth, habit and yield that may negatively affect the quality and appearance of the plant. To overcome these problems and to meet the increased demand of this plant, an alternative propagation method like plant tissue culture would be beneficial in enhancing multiplication rate and bioactive molecules in the plant. In the present study we described an efficient and reproducible protocol which can be exploited for rapid regeneration and large scale propagation of *C. pulcherrima* L. The nodal explants obtained from a mature plant were cultured *in vitro* on Murashige and Skoog (MS) medium supplemented with different concentrations of plant growth regulators like BA (6-benzyladenine), Kn (Kinetin), IBA (Indole 3 butyric acid) and NAA (α naphthalene acetic acid) singly as well as in combination. Of the different cytokinins tested BA with an optimal concentration of 5 μ M was shown to be most effective in inducing multiple shoots with 60% regeneration frequency and of the different combinations BA (5 μ M) + NAA (0.5 μ M) was shown to be best for maximum multiplication with 78% regeneration frequency. Rooting was successfully induced (80%) in shoots excised from proliferated shoot cultures on half strength MS medium supplemented with 2.5 μ M IBA after four weeks of implantation. The rooted shoots were successfully acclimatized to natural condition with 80% survival rate.

Biography

Nusrat Jahan has completed M.Sc. in botany and Post M.Sc. diploma in Plant Tissue Culture and Micropropagation from Aligarh Muslim University, Aligarh. At present she is pursuing Ph.D. (Botany) in Cell Molecular Biology and Genetics Section, Department of Botany, A.M.U. Aligarh. She is also Research Assistant under DST-PURSE scheme in the same department.

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