RESEARCH PAPER | Asian Journal of Bio Science, Volume **9** | Issue 1 | April, 2014 | 43-52
Received : 23.11.2013; **Revised :** 03.03.2014; **Accepted :** 13.03.2014

Somatic organogenesis and plant regeneration in castor (*Ricinus communis* L.)

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An *in vitro* propagation system developed for castor-bean (*Ricinus communis* L.) through hypocotyl derived callus cultures. Seeds were surface sterilized with 5 per cent bavistin for 30 min followed by 0.01 per cent $HgCl_2$ for 4 min to obtain *in vitro* seedlings germinated with growth regulator free MS medium. The impacts of different concentrations of auxins and cytokinins were evaluated for callus induction, shoot proliferation and root induction. Hypocotyls were excised from 10-12 days old *in vitro* seedlings and were cultured on Murashige and Skoog's (MS) medium supplemented with different concentration of BA, KIN and 2IP. White compact, nodular organogenic callus was obtained on the MS medium fortified with B_5 vitamins and 1.0 mg/l BA (80.84%) or 2.0 mg/l BA(80.17%). Shoot induction from the callus cultures was achieved on MS medium with 0.5 mg/l KIN + 0.25mg/l BAP (75.00%). Use of 0.2 mg/l GA_3 in combination with 0.5 mg/l KIN and 0.25 mg/l BAP induced maximum number of shoots per explants (7.00) as well as shoot length (6.49cm). For root induction, *in vitro* shoots were transferred to rooting media containing IAA, IBA and $AgNO_3$ singly or in combinations but root induction was not achieved even after 30 days of culture.

Key words : Ricinus communis, Auxins, Cytokinins, Callus cultures, Hypocotyl explants

How to cite this paper : Zalavadiya, V.K., Mehta, D.R., Javia, R.M., Padhiyar, S.M. and Madariya, R.B. (2014). Somatic organogenesis and plant regeneration in castor (*Ricinus communis* L.). *Asian J. Bio. Sci.*, **9** (1) : 43-52.