Production of Glycyrrhizin in Callus Cultures of Licorice

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Licorice plants, *Glycyrrhiza glabra, G. uralensis,* and *G. inflata*, were investigated for callus induction using Murashige and Skoog (MS) medium combined with auxins and cytokinins. After 4 weeks of culture, 33–100% of leaf or stem explants formed calli. Maximum of shoot induction from callus cultures was achieved by *G. inflata* stem explants cultured on MS medium supplemented with 1 mg/l α-naphthaleneacetic acid (NAA) and 0.5 mg/l 6-benzyladenine (BA) (67%) which also gave maximum shoot formation per explant (two shoots per explant). These results indicated that all three *Glycyrrhiza* species regenerated shoots from callus cultures on MS medium combined with NAA and BA or only thidiazuron (TDZ; 0.1 and 0.5 mg/l). Glycyrrhizin contents of *G. uralensis* calli induced using MS medium in combination with NAA and BA [(27.60 ± 8.47) μg/g DW] or TDZ alone [(36.52 ± 2.45) μg/g DW] were higher than those found in other combinations.

Key words: Glycyrrhizin, Licorice, Callus Cultures