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الطائي

DIFFERANTIATION OF CALLUS PRODUCED FROM CULTURE DORMANT BUDS AND ROOTS OF *Crocus sativus* L .

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ABSTRACT

The study was carried out in Plant Tissue Culture Laboratory Department of Horticulture and Landscape Design , College of Agriculture and Forestry , Mosul University, during the period from Jan till Aug 2011 of *Crocus sativus* were cultured dormant buds at length 0.5cm on MS medium supplemented with NAA , 2,4-D , TDZ . and 1 cm part of root produced in field cultured in MS medium supplemented with different growth regulator for callus induction and differentiation, Data refers that highest percentage for callus formation (90 %) was obtained from culturing dormant buds on MS medium supplemented with 0.2 mg/L 2,4-D this amount of callus needs 29 days for induction . this callus cultured on MS medium free from hormones as control or supplemented with 1 mg/L kin + 0.1 mg/L NAA or 2 mg/L kin + 0.2 mg/L NAA the treatment at 2 mg/L kin+ 0.2 mg/L NAA gave significant effect for all parameter , (high percentage 80 % for callus differentiation and highest number of shoot 10 shoot/explant with highest shoot length 6.5 cm and highest number of root 12 root/explant with longer root 3.8 cm) . Callus cultured on control treatment did not differentiate . Callus obtained with percentage 70 – 90 % from culturing roots parts on MS medium supplemented with 2 mg/L 2,4-D+0.6 mg /L NAA , 5 mg/L 2,4-D + 2 mg/L kin and 1 mg/L NAA + 1 mg/L kin . Callus produced from 2 mg/L 2,4-D + 0.6 mg/L NAA treatment cultured on MS medium supplemented with (0.0 , 1 mg/L kin , 2 mg/L BA) and this callus gave highest percentage (90%) of shoots production from culturing on MS supplemented with 2 mg/L BA and highest shoot lengths(5.3) cm and highest number of root (15 root/explant), and 6.6 cm length. Shoots produced from callus cultured on MS medium with 1 mg/L IBA to rooting transported to laboratory and field to grow normally gave 100 % survival percentage .

Key words : *Crocus sativus* , root callus , bud callus , crocus callus induction .