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In vitro propagation protocol of *Hibiscus syriacus* L. plants

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Abstract: The *in vitro* experiment was carried to examine the effect of various MS strength culture medium (full or half strength) and growth regulatorsconcentrations of BA at (0.0, 0.1 or 0.2 mg/l) onshootlet multiplication andzeatin, 2,4-D and NAA oncallogenesis potentiality)on*Hibiscus syriacus* L. plants. The results showed that using MS (3/4 strength) medium supplemented with BA at 0.2 mg/l resulted in the highest shootlets number/explant (3.33shootlet/explant) and the highest number of leaves (7.67 leaf/shootlet).The *in vitro* plants showed increasing in number of xylem rows, number of vessels and length of vascular bundle as comparison with control (mother plants). For callus induction,zeatin and 2,4-D at 0.5% for each were favored (highest callus percentage/leaf explant (100%) was observed. The response of formed callus to grow as a result of using BA (0.2 mg/) in combination with 2,4-D or NAA (0.25, 0.5 or 1.0 mg/L) for three subcultures was recorded.The high concentration of 2,4-D (1.0mg/l) added to BA (0.2) was favored for callus growth in the third subculture.BA combined with 2,4-D at low concentration (0.25mg/L) had promotion effect on callus dry weight after three subcultures. All shootlet produced from above multiplicationtreatments were rooted on half strength MS free medium with 3 g/l activated charcoal.The highest survival percentage and longest roots of acclimatized plants were recorded for growth media peat + sand (1: 1) after transplanting (five weeks).
Key words*Hibiscus syriacus*, BA, zeatin, 2,4-D, NAA**,**leaf anatomy.

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