

عنوان مقاله:

The Effect of the Auxin Indol-3-Butyric Acid and the Cytokinins on Nodal Segment Culture of *Thymus vulgaris* L

محل انتشار:

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خلاصه مقاله:

Thymus vulgaris L. or common thyme is a popular traditional plant which produces bioactive compounds with medicinal properties. In this study, in vitro shoots of *Thymus vulgaris* L. were established and the effects of various plant growth regulators (the auxin Indol-3-butyric acid and cytokinins 6-benzyladenin (BA), kinetin (KIN) and thidiazuron (TDZ)) at 1.0 mg/lit on biomass production, shoot proliferation, rooting, SFC and RFC index were investigated. Nodal segment used as explant and hormon-free MS medium served as control (MS0). The maximum fresh and dry weights was obtained in the MS medium supplemented with TDZ (529 ± 44.3 and 39.9 ± 2.2 respectively). Optimum shoot formation (92.5 ± 4.7 and 95 ± 2.8) was recorded in medium fortified by TDZ and KIN respectively, but the difference was not significant. The number of shoots per explant increased with the addition of cytokinins to the culture medium and TDZ media resulted in the highest number of shoots (13.1 ± 0.6) and SFC index but the longest shoot was obtained on IBA-media. In this study, the best root apparatus (100 % rooting frequency, with 16.4 adventitious roots per shoot) and maximum RFC index developed on hormone-free MS medium and MS medium supplemented with IBA, while the BA- grown plantlets showed the longest root in compared to control. Our findings demonstrated that the application of growth regulators apparently increased growth and biomass production concomitantly in nodal segment cultures of *Thymus vulgaris* L., an aromatic species rich in commercially valuable terpenes

کلمات کلیدی:

Thymus vulgaris L., in vitro culture, biomass growth, plant growth regulator, TDZ

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