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Research paper

Micropropagation of Gerbera (*Gerbera jamesonii* Bollus) Using Capitulum Explants

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Abstract

Three separate experiments were conducted to study the effect of the cytokine benzyl amino purine (BAP) concentration (0, 2, 4, 6 and 10 mg l^{-1}) and medium status (solid with agar versus liquid with cotton support); number of capitulum sections (2, 4, 8, 16 sections) on *in vitro* shoot regeneration on capitulum explants of the gerbera cultivar "Evergreen" and indole-3-butyric acid (IBA) concentration (0, 0.5, 1, 2 mg l^{-1}) on *in vitro* rooting of shoots using half MS salt strength. Data were collected on percentage of responding explants, number of shoots/explant, rooting percentage, number of roots per shoot and root length. The highest percentage of responding explants (86.6 %) and highest number of shoots/explant (4.77 shoots) were recorded by the solid medium supplemented with 4 mg l^{-1} BAP. The solid medium gave significantly higher number of shoots/explant (2.37) than the liquid one (1.53). There was no shoot formation in BAP- free medium. Cutting the capitulum into 8 sections resulted in the highest percentage (76.6%) of responding explants and highest number of shoots per explant (6.55 shoots). There was no significant difference between treatments in percentage of rooted shoots. The highest rooting percentage (86.6%) resulted from the treatment 2 mg l^{-1} IBA and the lowest one (66.6 %) was given by the control. The treatment 2 mg l^{-1} IBA resulted in, significantly, the highest number of roots per shoot (8.8) and the lowest number of roots (2.1) was given by the control. There was no significant difference between treatments in root length. The treatment 0.5 mgl^{-1} IBA gave the highest root length (20.7 mm). The lowest root length (12.2 mm) was given by the control.

***Key*words:** Micropropagation, *Gerbera jamesonii,* Capitulum explants, benzylaminopurine, Indole butyric acid, *In vitro* rooting.