

**IN- VITRO PROTOCOL FOR TWO CULTIVARS OF  
*Gerbera jamasonii* UNDER SRI LANKAN CONDITIONS**

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This study was conducted to develop effective *in-vitro* protocol for cv. Winter queen and cv. Ecco of *Gerbera Jamasonii* under Sri Lankan conditions at Tissue Culture Laboratory, National Botanic Gardens, Peradeniya. Capitulum explants were cultured on MS medium containing three concentrations of TDZ with two concentrations of IAA for cv. Ecco and cv. Winter queen and measured percentages of callus initiation after 4 weeks and shoot initiation after 12 weeks. More than 90% callus initiation was observed in all the treatments with TDZ in cv. Ecco whereas no callus initiation was observed in treatments without TDZ. Significantly high shoot initiation (78.0%) was observed in MS medium with 0.5 mg/l TDZ alone ( $p < 0.05$ ). There was no treatment effect on callus initiation in cv. Winter queen, as more than 95% callus initiation was recorded in all the treatments. Highest shoot initiation percentage (71.2%) was observed in MS medium with 0.75 mg/l TDZ ( $p < 0.05$ ).

In another experiment half strength MS medium treated with three levels of NAA was tested for rooting of cv. Winter queen. Root induction percentage, number of roots per shoot and root length were recorded after one month period. MS medium with 0, 0.5 and 1.0 mg/l NAA levels showed 68.2%, 80.0% and 100.0% root induction respectively. Highest number of roots per shoot ( $12.2 \pm 2.4$ ) was observed in  $\frac{1}{2}$  MS + 1.0 mg/l NAA while highest average root length ( $2.1 \pm 0.58$ ) was observed in  $\frac{1}{2}$  MS + 0.0 mg/l NAA.

The effect of potting medium consisting of sand, leaf mould and charcoal at different ratios (1:1:1; v/v and 1:2:1; v/v) and two different growth conditions were investigated for cv. Winter queen on acclimatization. All treatments showed more than 80 % survival rate without significant differences ( $p < 0.05$ ) on acclimatization.

**Key words:** Cv. Ecco, Cv. Winter queen, *Gerbera jamasonii*, *In-vitro* protocol