IDENTIFICATION OF THE MOST SUITABLE *EX-VITRO* MEDIUM FOR ACCLIMATIZATION AND NPK FERTILIZER RATIO FOR FLOWERING IN GERBERA (*Gerbera jamesonii*)

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ABSTRACT

Gerbera (*Gerbera jamesonii*) is an economically important cut flower, which is commercially propagated by tissue cultural techniques. Therefore, this research was conducted to find out the most suitable *ex-vitro* medium for acclimatization and NPK fertilizer ratio for flowering in Gerbera (*Gerbera jamesonii*). The research consisted with two experiments. The first experiment comprised four treatments namely: 2:1 loam soil : red yellow podsolic soil (T1); 2:1 coir dust : sand (T2) (control); 1:1 loam soil : red yellow podsolic soil (T3); coir dust only (T4) and arranged in Complete Randomized Design with ten replicates. All media were steam sterilized and two months old *in-vitro* propagated Gerbera plants were acclimatized in four different *ex-vitro* media. Weekly, survival percentage, plant height and number of leaves were recorded. The second experiment comprised four treatments namely: 1:2:1 Urea : TSP : MOP (T1); 1:2:2 Urea : TSP : MOP (T2); 1:0.5:2 Urea : TSP : MOP (T3); No application (T4) (control) and arranged in Complete Randomized Design with five replicates. Three months old acclimatized Gerbera plants were tested using three different NPK fertilizer ratios with a control. Soil : coir dust : sand 3:2:1 mixture was used as the potting mixture. Fertilizer mixtures were applied weekly. Plant height, number of leaves, number of suckers, number of days for flower initiation and number of flower buds were recorded weekly. In experiment one, Survival percentage was significantly different ($P<0.05$) among four treatments. The highest survival percentage (90%) was recorded in T1. Plant height and number of leaves were not significantly different ($P>0.05$) among four treatments. In experiment two, Plant height, number of leaves, number of days for flower initiation and number of flower buds were significantly different ($P<0.05$) among four treatments. The highest number of flower buds (2 ± 1.0) was resulted in T3. Number of suckers was not significantly different ($P>0.05$) among four treatments. According to first experiment results, it can be suggested that T1 is the most suitable *ex-vitro* medium for acclimatization of *in-vitro* propagated Gerbera plants and according to second experiment results, it can be suggested that T3 is the most suitable fertilizer ratio for flowering in Gerbera.

Key words - *Gerbera jamesonii,* Tissue culture, *ex –vitro* medium, Acclimatization, Fertilizer ratio