RESEARCH PAPER | Asian Journal of Bio Science, Volume 8 | Issue 1 | April, 2013 | 15-18
Received : 16.10.2012; Revised : 10.01.2013; Accepted : 15.02.2013

In vitro micropropagation of gerbera using auxillary bud

A.R. KADU

Plant Tissue Culture Division, Jain Irrigation Systems Ltd., Jain Hills, JALGAON (M.S.) INDIA
Email : arvinda2012@gmail.com

A protocol for rapid clonal micropropagation of gerbera was developed by auxillary bud. MS+BAP 2.0+NAA 0.5 mg/l, which was given early bud initiation (19.40 days), with higher initiation per cent (91.66%) along with longer shoot length (2.5 cm). MS+BAP 2.0+NAA 0.5+Ads 100 mg/l produced higher number of shoots (7.33 shoots/explants). The micro shoots were rooted (96%) in just 8.56 days on MS+NAA 2.0+activated charcoal 750 mg/l. *In vitro* rooted plants were acclimatized on sand + soil + FYM+ leaf mould. Plants shows 82.43 per cent survival rate during acclimatization. The plants were established in the field after acclimatization.

Key words : Gerbera, Auxillary bud, Micropropagation

How to cite this paper : Kadu, A.R. (2013). *In vitro* micropropagation of gerbera using auxillary bud. *Asian J. Bio. Sci.*, **8** (1) : 15-18.

INTRODUCTION

Gerbera (*Gerbera jamesonii* Bolus), commonly known as Transvaal Daisy, is an important cut flower both in the domestic and the international markets. It ranks fifth in the international cut flower trade. *Gerbera* is one of the leading cut flowers and ranks among the top ten cut-flowers of the world (Parthasarathy and Nagaraju, 1999). The production of gerbera was approximately US$ 220 million in 2001 representing 70 million stems sold in US alone (Broek *et al.,* 2004). Micropropagation is one of the viable alternatives for large-scale multiplication of gerbera (Bhatia *et al.,* 2008). Over the years, gerbera has been propagated by direct or indirect organogenesis using various explants, including stem tips, floral buds, leaf, capitulum etc. (Kanwar and Kumar, 2008). The emergence of floriculture as an important industry in many countries has been possible due to the revolution in the propagation method of ornamentals. Micropropagation has been recognized as the most reliable, cost and labour effective method for large scale clonal propagation of elite cultivars, leading to systematic development of the floriculture industry. Cut flower trade is increasing exponentially across all the continents and the availability of micropropagated, clonal planting material in sufficient numbers has helped commercial growers to cultivate many commercial varieties for the production of cut flowers.

The drive for encouraging floriculture development in India, making it almost parallel to agriculture, is dependent on the varied agro-climatic conditions in the country, where moderate climatic control at relatively cheaper cost can deliver quality products at internationally competitive prices. Using methods of micropropagation, the commercial growers can rapidly introduce selected superior clones of ornamental plants in sufficient quantities, which would have a direct impact on the market potential. Major pot plants such as begonia, ficus, anthurium, chrysanthemum, rosa, saintpaulia and spathiphyllum are being produced in the developed countries (Anonymous, 2003). The share of the developing countries of Africa, Asia and Latin America is less than 20 per cent (Rajagopalan, 2000; Schiva, 2000) Planting material of ornamental plants is in great demand for commercial production as well as for domestic gardens and landscaping. The better quality planting material is a basic need of growers for boosting productivity. Chebet *et al.* (2003) reported the use of biotechnological approaches to improve horticultural crop production.

The floriculture industry in India after several initial setbacks, is still struggling for stabilization. Out of 70 to 80 floriculture units in the organized sector, more than half are listed companies, but very few are doing well today, while many others have closed down and presently the industry is not doing well, but managing to survive due to severe availability of genuine planting material and or availability of repetitive tissue culture protocol. Micropropagation of gerbera has been reported by several workers *viz.,* Schiva *et al.* (1982), Sharma and Srivastiva (2005), Kumar and Kanwar (2006),