

**RESPONSE OF GERBERA TO MINERAL FERTILIZERS IRRIGATION  
 INTERVALS AND GROWTH RETARDANTS  
 BY**

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**ABSTRACT**

*This* study was conducted during two successive seasons of 2005 and 2006 at the Experimental Farm of Faculty of Agriculture at Moshtohor to investigate the effect of commercial NPK fertilizer, regime of irrigation and growth retardants on gerbera growth, flowering and offsets yield. The treatments of ammonium nitrate fertilizer were 12.5 and 18.8 and 25.0 g/plant, while for calcium super phosphate treatments were 15.5, 23.3 and 31.0 g/plant. However, potassium sulphate were 48.0, 72.0 and 96.0 g/plant. The complete NPK fertilizer was at two levels as the first was 12.5 + 15.5 + 48.0 g/plant, and the second was 18.8 + 23.3 + 48.0 g/plant. Each amount of fertilizer treatment was divided into 3 equal parts and dressed at 1, 2 and 3 months after planting.

The obtained results showed that, adding ammonium nitrate at 18.8 g/plant significantly increased flower number/plant and both flower fresh and dry weights in both seasons. However adding complete fertilizer at the first level, produced the highest flower number/plant and the highest offsets yield/plant in both seasons.

As for the irrigation treatments, three regimes irrigation were suggested 1) irrigate every 7 days in summer then 10 days in winter, 2) irrigation every 10 days in summer then every 15 days in winter, 3) irrigate every 13 days in summer then every 20 days in winter, the control was irrigated every week. The obtained results showed that, the second regime was useful for producing flowers suitable to cut production, while the third regime was suitable to produce the largest offsets yield meanwhile, the first regime may be useful to produce the highest fresh leaves/plant. The obtain an antimicrobial substance from gerbera fresh leaves.

As for growth retardants, the treatments were cycocel at 500 and 1000 ppm and dikogulac at 0.2 and 0.4%. The obtained results showed that spraying gerbera foliage with 500 ppm cycocel significantly increased production of offsets yield with increasing most of the flowering parameters. Regard ornamental appearance treating gerbera with any concentration produced better appearance because, due to shortening plants more than their flower especially at the second season (plants of two years old).

**INTRODUCTION**

*Gerbera jamesonii* plant Fam. Astera-  
 cae in mainly propagate by seeds, cuttings  
 and offsets (Bailey, 1978). It has a considerable  
 economical value owing to their beautiful  
 shape and yearly exports more than five  
 millions gerbera pot plant (I.T.C., 1997).  
 However, some flower growers in Egypt use  
 local seeds of gerbera, which produce seed-  
 lings with high genetic variability, thus their  
 production is the second grade and always in  
 tumble down. Therefore, the main target of

this investigation is to produce large number  
 of new offsets (which could used in vegetative  
 propagation) as well as time producing high  
 quality gerbera flowers by adding some  
 fertilizers or by finding the most suitable  
 water regime meantime, some growth retar-  
 dants were sprayed to obtain the proper case  
 of producing gerbera offsets with the best  
 quality flowers yield. On this concern, Vass  
 and Hargital (1986) on gerbera cv. Marleen,  
 reported that plants demanded a continuous N