

RESPONSE OF EUROVISION GLADIOLUS CULTIVAR PLANTS TO ROCK PHOSPHATE AND YEAST.

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ABSTRACT

The present study was conducted to evaluate the response of *Gladiolus cv. Eurovision* plants grown in a sandy calcareous soil to four rates (0, 75, 150 and 300 kg / fed.) of Abou – Tartour rock phosphate (ARP) and four concentrations (0, 2, 4 and 6 g / l.) of active dry yeast (ADY) during 2006 and 2007 seasons.

Different vegetative growth parameters, flowering aspects, corm production and chemical constituents were considerably increased due to the all rates of ARP. Active dry yeast at 4 and 6 g / L. were the most effective treatments for augmenting growth, flowering, corm production and chemical constituents of plant.

So, it could be recommended to supply *gladiolus cv. Eurovision* plants with the high rate of ARP at 300 kg / fed. and spraying with ADY at 6 g / l. In order to obtain reasonable growth, marketable flowering quality and quantity as well as higher productivity of corms and cormels.

INTRODUCTION

Eurovision cultivar is one of the introduced *gladiolus* cultivars to Egypt. The evaluation of this cultivars in terms of vegetative growth, flowering and bulb formation under middle Egypt environmental conditions is needed in order to choose the most suitable one (s) that performed the highest desirable quality of flowering and corm production. Phosphorus fertilization is among many other agricultural practices known to enhance growth and development of plants.

Rock phosphates are natural sources of rocks containing phosphorus, which has been used in some countries as a source of P fertilization. Awasthi *et al.*, (1977) reported that Mussorie rock phosphate was economical to the farmers – as a source of P_2O_5 as it was 30 – 50 % less costly and was efficient as other water soluble phosphate sources for groundnut crops. Hammond *et al.*, (1986) stated that phosphate rocks are chemically reactive and can be substituted in finely ground form for the capital intensive manufactured fertilizers such as superphosphates.

Few studies, concerning the effect of Abou – Tartour rock phosphate source on growth of flowering bulbs have been reported, while, many on other horticultural plants were revealed. Badran and Hassanein (2000) supplied *gladiolus* plants in clay soil with Abou – Tartour rock phosphate at 50, 100 and 150 kg / fed. They declared that vegetative growth, flowering bulb production and chemical composition were increased. Khattab *et al.*, (1983) obtained the maximum vegetative growth and flower production of *Chrysanthemum* by the high rate of Abou – Tartour rock phosphate source. Working on yarrow plants, Badran *et al.*, (1988) revealed that Abou – Tartour rock phosphate was almost equal to calcium superphosphate in increasing plant height, and flowers fresh and dry weights as well as percentage of phosphorus of the herb. Omar (1996) supplied guar plants with different rates of Abou – Tartour rock phosphate and obtained an increase in plant height, stem diameter and phosphorus percentage. Soliman (1997) demonstrated