

Physiological studies on tuberose plant

(Polianthes tuberosa L.)

By

Samah Mohammed Youssef Mohammed

B.Sc. Agric. Sci. (Horticulture), Fayoum University, 2007

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THESIS

Submitted in Partial Fulfillment of Requirements for Degree of

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In

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(Floriculture)

Horticulture Department

Faculty of Agriculture

Fayoum University

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### **Abstract**

The present experiment was performed throughout two successive seasons of 2014/2015 and 2015/2016 at a Private Farm in Fayoum Governorate - Egypt. It intended to find out the individual and the combined effects of phosphorus fertilizer at four levels (20 "is considered as control", 40, 60 and 80 –unit/fed.) and gibberellic acid at four concentrations (control, 75, 150 and 300 ppm) on growth, flower quality, corms production, chemical composition and concrete oil percentage of tuberose (*Polianthes tuberosa*, L.) cv. Double. The results emphasized that using phosphorus fertilizer or gibberellic acid treatments had significant response on all parameters in this study. Likewise, resulted in supported vegetative growth parameters, improved flowers quality, progressed bulbs and bulblets productivity, promoted chemical composition, as well as, increased concrete oil percentage and chemical constituents of essential oil, especially using the medium and high levels. Additionally, the interactive between various levels of phosphorus fertilizer and different concentrations of gibberellic acid improved all the studied parameters, particularly using the combinations between phosphorus fertilizer at 60 – unit/fed. together with gibberellic acid at 150 ppm.

**Keywords:** Tuberose, Phosphorus fertilizer, gibberellic acid, vegetative growth, flowering production, essential oil, chemical composition and bulbs characters