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**Faculty of Agriculture**  
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*Studies on usage of humic acid in fertilization of  
some ornamental plants*

*By*

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B. Sc.. Fac. Agric., Tanta Univ., 2010

*Thesis*

*Submitted in Partial Fulfillment of the Requirements*

*For the Degree*

*Of*

*Master of science*

*In*

*Ornamental Horticulture*

*Department of Horticulture*

*Faculty of Agriculture*

*Kafr El-Sheikh University*

**2020**

## *ACKNOWLEDGMENT*

*First endless thanks are due to Almighty "ALLAH" the merciful and clement GOD who gave me the power, help, knowledge and patience to carry out and finish this thesis.*

*Undebted thanks are due to, Dr. Emam Mohamed Saber. Nofal, and Dr. Fardous A. Menesi, Emeritus Professors of Floriculture, Hort. Dept., Fac. Agric., Kafr El-Sheikh University for their fruitful supervision, valuable suggestion, continuous help, and constructive criticism and for the great effort and time they provide me for the completion of this work.*

*Thanks are also extended to Dr.Samia .M.Z. EL-Bably Emeritus Head Researches of Floriculture in Sakha Experimental Station Hor. Res .Inst., Agric Res Center for help, facilities and encouragement throughout this work.*

## Abstract

A series of pot plant experiments was conducted during 2014/2015 and 2015/2016 in Hort. Dept., Fac. Agric, Kafr EL –Sheikh Univ, to study the effect of soil drench of NPK fertilizer and foliar spray of humic acid and their interactions on growth, rooting, flowering and chemical composition of Mexican petunia (*Ruellia brittoniana* L.) and *Eranthemum pulchelum* (Vahl) R.B.R..

The treatments were 1-Control, 2-Full dose of NPK as 6 gm ammonium sulphate (20.5%N) + 4g calcium super phosphate (15.5%P<sub>2</sub>O<sub>5</sub>) + 3g potassium sulphate (48.5%K<sub>2</sub>O), 3-Half NPK dose, 4- Half NPK dose + 50 ppm humic acid(HA), 5- Half NPK dose+100 ppm humic acid(HA), 6- Half NPK dose+150 ppm humic acid(HA), 7- humic acid(HA) at50 ppm, 8- humic acid(HA) at100ppm and 9- humic acid (HA) at 150ppm.

The obtained results showed that most treatments gave taller plants, more branch, leaf number and leaf area than control in both seasons for the two plant species with the superiority of the treatment of 1/2NPK+150 ppm humic acid. This treatment gave also the significantly heaviest fresh and dry weight of the vegetative parts and roots, longest roots and highest number of roots. All treatments significantly advanced flowering in Mexican petunia than control while for *Eranthemum pulchelum*. This occurred in most treatments. The superiority was for the treatment of 1/2NPK+150 ppm humic acid(HA) as gave the significantly highest effect of this treatments extended to give the significantly longest flower stem, flower diameter, number of flowers per plant as well as the fresh and dry weights of flowers in the two seasons for both plants species. Most treatments gave significantly higher total chlorophyll in the leaves than control treatment. With the superiority of both treatments of 1/2NPK+150 ppm humic acid(HA) followed by the treatment of NPK alone with non-significant differences for both plants in the two seasons.

S Nitrogen percentage (N%) in the leaves was significantly increased over control in the two seasons for both plants especially in the treatment of 1/2NPK+150 ppm humic acid(HA). Likewise, was the results of phosphorus percentage (P%) with the superiority of treatment of 1/2NPK+either 100 or 150 ppm humic acid (HA) for Mexican petunia while for *Eranthemum pulchelum* this resulted from the treatment of NPK alone. Potassium percentage (K%) was significantly increased in the leaves of both plants in the two seasons over control treatment. The utmost highest values resulted from the treatment of 1/2NPK+either at 100 or 150-ppm humic acid (HA) without significant differences in between. However, the treatment of 1/2NPK+150-ppm humic acid (HA) is recommended for the high quality plant of both species.

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