

شبكة المعلومات الجامعية







شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

### جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

#### قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها على هذه الأفلام قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار في درجة حرارة من ١٥-٥٠ مئوية ورطوبة نسبية من ٢٠-٠٠% To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%



# بعض الوثائـــق الإصليــة تالفــة



# بالرسالة صفحات لم ترد بالإصل

## PHYSIOLOGICAL STUDIES ON TWO Chrysanthemum spp.

 $\mathcal{B}_{\mathcal{Y}}$ 

404

#### Taghreed El-Sayed Abd El-Hameed Eissa

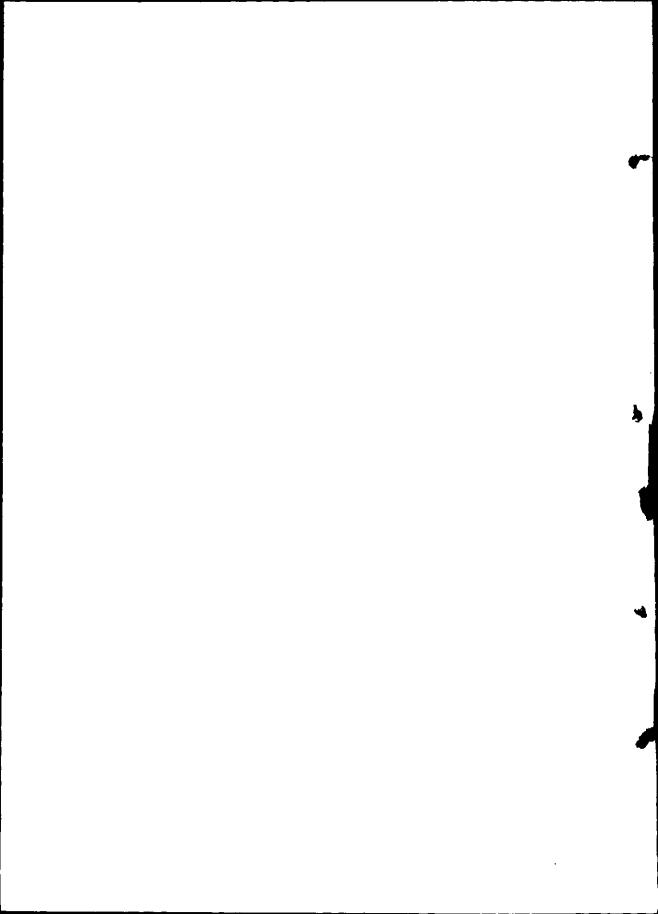
B.Sc. Agric. Sci. (Floriculture), Kafr El-Sheikh, Fac. Agric. Tanta Univ. (1999)

Thesis

Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science In

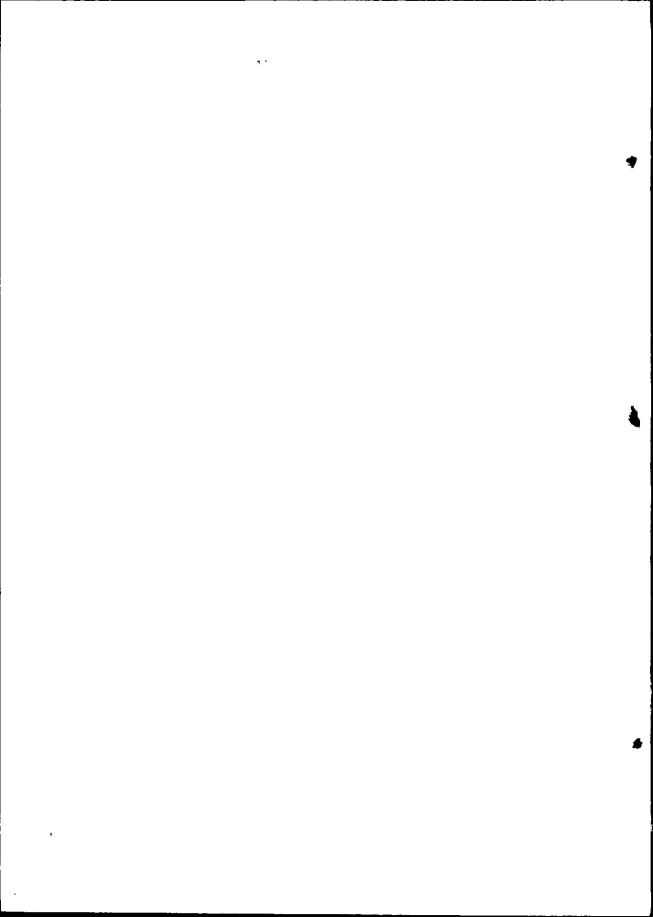
Floriculture and Ornamental Horticulture

Department of Horticulture Faculty of Agriculture Kafr El-Sheikh Tanta University



#### APPROVAL SHEET

Title of Thesis:	Physiological studies on two Chrysanthemum spp.
Name:	Taghreed El-Sayed Abd El-Hameed Eissa
Degree:	M.Sc., Floriculture and Ornamental Horticulture
	as Been Approved by:
Prof. Dr.	Magdy Khalafalla
Prof. Dr. L	z.M.S. Nofal
	Shorty M. Seli
	Committee in Charge
Date: 3/9/20	02



#### **ACKNOWLEDGEMENT**

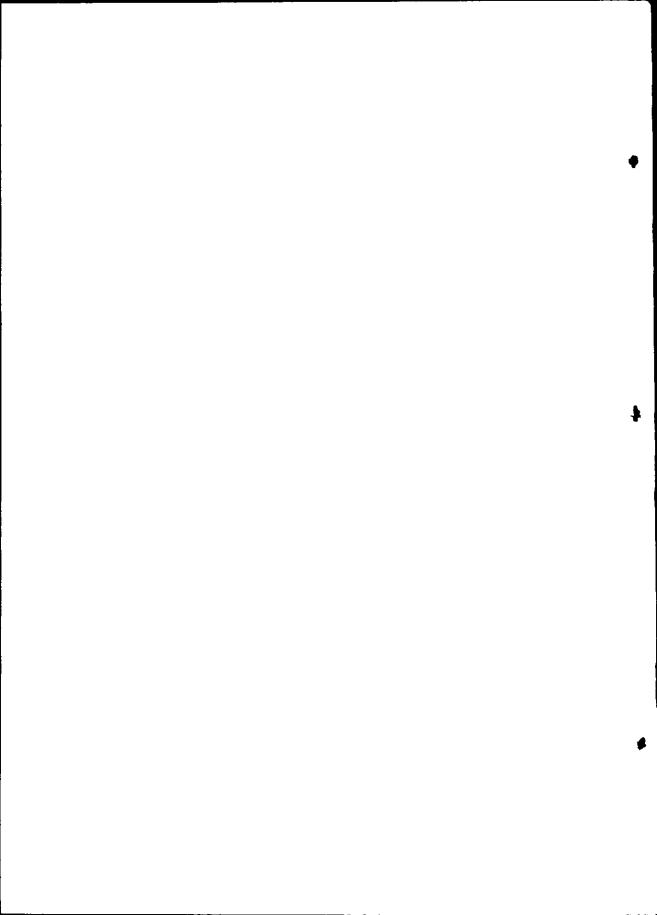
Firstly, my obedience and deep thanks to ALLAH. Moreover, praise to ALLAH, who have created us and have not, left as without guidance. Thanks to ALLAH. Who gave all causes for accomplishing this work.

I would like to extend my deeply gratefulness to Prof. Dr. Emam M.S. Nofal, Head of Floriculture Branch, Horticulture Department, Fac. Agric. Kafr El-Sheikh, Tanta Univ., for his continuos help and guidance during this study, his personal and professional attitudes towards graduate training will be long recommended and appreciated. Also I wish to express my deep thanks to him for his sincere supervision, guidance and preparation of the manuscript.

Deep gratitude and appreciation are also due to Prof. Dr. Magdy M. Khalafalla Prof. of Floriculture, Horticulture Dept. Fac. Agric. Kafr El-Sheikh, Janta Univ., for his kind help, continuos advice support to complete all the practical work of the present study and valuable guidance throughout this work.

Special thanks and dedication are due to Dr. Youssef M.R. Kandeel, Assoc. Prof. of Floriculture, Horticulture Dept. Fac. Agric., Kafr El-Sheikh, Janta Univ., for his help and support throughout this investigation.

Lastly I would like to express my deep thanks and gratitude to my parents, my sisters, my friends and any body, who helped me, gave me the inspiration and made my life worthwhile.



Name of candidate: Taghreed El-Sayed Abd El-Hameed Eissa Degree: M.Sc.

Title of thesis: Physiological studies on two Chrysanthemum spp.

#### ABSTRACT

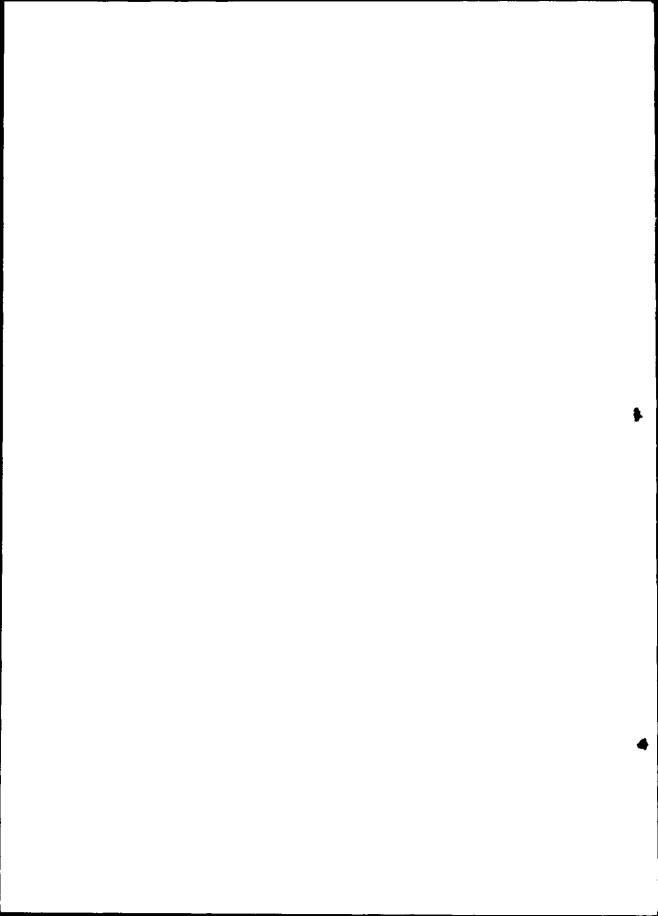
A series of pot experiments were conducted at the Experimental Farm in the Faculty of Agriculture at Kafr El-Sheikh during two successive seasons to study the effect of N-fertilization on growth, flowering and chemical composition of two important Chrysanthemum spp. i.e. Chrysanthemum leucanthemum, L. and Chrysanthemum parthenium, (L.) Bernh.

The fertilization of each experiment was added in seven levels of nitrogen (ammonium sulphate 20.5% N), 0, 1, 2, 3, 4, 5 and 6 g/pot, potassium and phosphorus fertilizers were added as a constant rate of 0.5 and 2 g/plant from potassium sulphate  $(48.5\%\ K_2O)$  and calcium superphosphte  $(15.5\%\ P_2O_5)$ .

The fertilizer devoted to each pot in the first experiment (marguerite) was monthly repeated for five times at one month interval as the first was added one month after while the last was before cutting stems. The fertilization treatments of the second experiment (feverfew) was as those in the first experiment but the fertilizer was monthly repeated for four times at one month interval. The first was added one month after transplanting while the last was before flowering.

The obtained results may led to the following:

- 1. To produce the best *Chrysanthemum leucanthemum* plants having the highest number of offshoots, the largest leaf area/plant, heaviest fresh and dry weight of roots, earlier flowering, tallest growth height at flowering, thickest flowering stem diameter, highest number of infloresences on the main stem, highest inflorescence diameter, heaviest fresh and dry weight of top infloresences, longest vase life as well as highest total chlorophyll, N, P and K% in the leaves they should be fertilized with 4 g ammonium sulphate (20.5% N)/pot.
- 2. To produce the best Chrysanthemum parthenium plants having the tallest plant height, the highest number of branches/plant, highest leaf area/plant, heaviest fresh and dry weight of the vegetative parts, longest roots, heaviest fresh and dry weight of roots, earliest flowering, highest number of inflorescences/plant, largest inflorescence diameter, heaviest fresh and dry weight of roots, earliest flowering, highest number of inflorescences/plant, largest inflorescence diameter, heaviest fresh and dry weight of inflorescences/plant, highest oil percentage in fresh leaves and dry inflorescences, as well as highest total chlorophyll, N, P and K% in the leaves they should be fertilized with 4 g ammonium sulphate (20.5% N)/pot.



#### **CONTENTS**

				Page			
1.	IN	ΓRO	DUC	CTION1			
2.	RE	VIE	w o	F LITERATURE7			
	I.	Effect of nitrogen fertilization on growth, flowering and					
		che	chemical composition of Chrysanthemum leucanthemum,				
		L.,	Chi	rysanthemum parthenium, (L.) Bernh and other			
		ornamental plants7					
		I.A	I.A. Effect on growth and flowering7				
		I.B.	. Eff	ect on chemical composition25			
3.	MA	MATERIALS AND METHODS32					
	I.	The	firs	t experiment (Chrysanthemum leucanthemum, L.)32			
	II.	The second experiment [Chrysanthemum parthenium,					
		Ber	nh].	34			
4.	RE	ESULTS AND DISCUSSION37					
	I.	Firs	•	periment37			
		A.	Eff	ect on vegetative growth37			
			1.	Number of offshoots/plant37			
			2.	Plant leaf area/plant39			
			3.	Fresh weight of the vegetative parts/plant40			
			4.	Dry weight of the vegetative parts/plant42			
			5.	Root length42			
			6.	Fresh weight of roots/plant43			
			7.	Dry weight of roots/plant44			
		B.		ect on flowering45			
			1.	Flowering time (days)45			
			2.	Growth height at flowering47			
			3.	Flowering stem diameter48			
			4.	Number of inflorescences on the main stem/plant49			
			5.	Inflorescence diameter50			
			6.	Top inflorescence fresh weight/plant51			
			7.	Top inflorescence dry weight /plant51			
			Q	Vaca life (days)			

	C.	Effe	ect on chemical composition	
		1.	Total chlorophyll in leaves	53
		2.	Nitrogen percentage	55
		3.	Phosphorus percentage	55
		4.	Potassium percentage	56
	II. Sec	ond e	experiment	57
	A.	Effe	ect on vegetative growth	57
		1.	Plant height	58
		2.	Number of branches/plant	59
		3.	Plant leaf area/plant	61
		4.	Fresh weight of the vegetative parts	62
		5.	Dry weight of the vegetative parts	63
		6.	Root length	64
		7.	Fresh weight of roots/plant	65
		8.	Dry weight of roots/plant	67
	B.	Eff	ect on flowering	67
		1.	Flowering time (days)	67
		2.	Number of inflorescences/plant	69
		3.	Inflorescence diameter/plant	70
		4.	Fresh weight of inflorescences/plant	71
		5.	Dry weight of inflorescences/plant	71
	C.	Eff	fect on chemical composition	72
		1.	Volatile oil in fresh leaves (%)	72 
		2.	Volatile oil in dry inflorescences (%)	74
		3.	Total chlorophyll in leaves	75
		4.	Nitrogen percentage	76
		5.	Phosphorus percentage	77
		6.	Potassium percentage	77
5.	SUMM	[AR]	<i></i>	79
6.	CONC	LUS	ION	85
7.	LITER	RATU	JRE CITED	87
8.	ARAB	IC S	UMMARY	