

سامية محمد مصطفى



شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



سامية محمد مصطفى



شبكة المعلومات الجامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



سامية محمد مصطفى



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



سامية محمد مصطفى



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



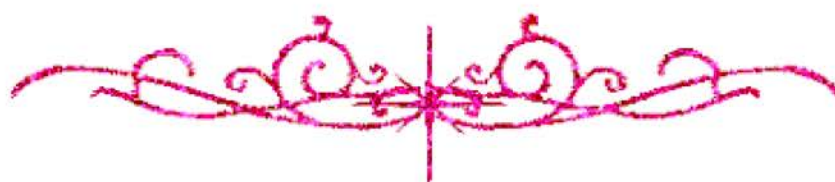
سامية محمد مصطفى



شبكة المعلومات الجامعية



بالرسالة صفحات لم ترد بالأصل



Physiological studies on the effects of food preservative and colouring compounds on the growing malnourished white rat

A THESIS

Submitted for the Faculty of Science

Ain Shams University

For

Ph. Degree

By

Mohamed Islam Ahmed Fahmy Heibashy

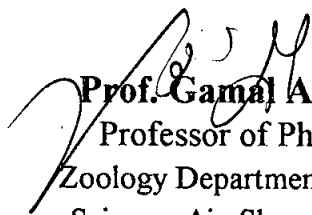
B.Sc. (Zoology - *Chemistry*) 1984

M.Sc. (Zoology) 1990

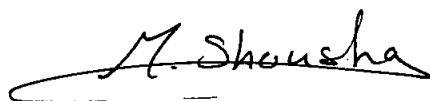
Zoology Department, Faculty of Science

Ain Shams University

Supervised by



Prof. Gamal Abu Sinna
Professor of Physiology
Zoology Department, Faculty of
Science, Ain Shams University



Prof. Moustafa A. Shousha
Professor of Biochemistry
Biological Application Department,
Atomic Energy Authority

Dr. Ali Abd-El Aal

Assistant Professor of Physiology

Zoology Department, Faculty of

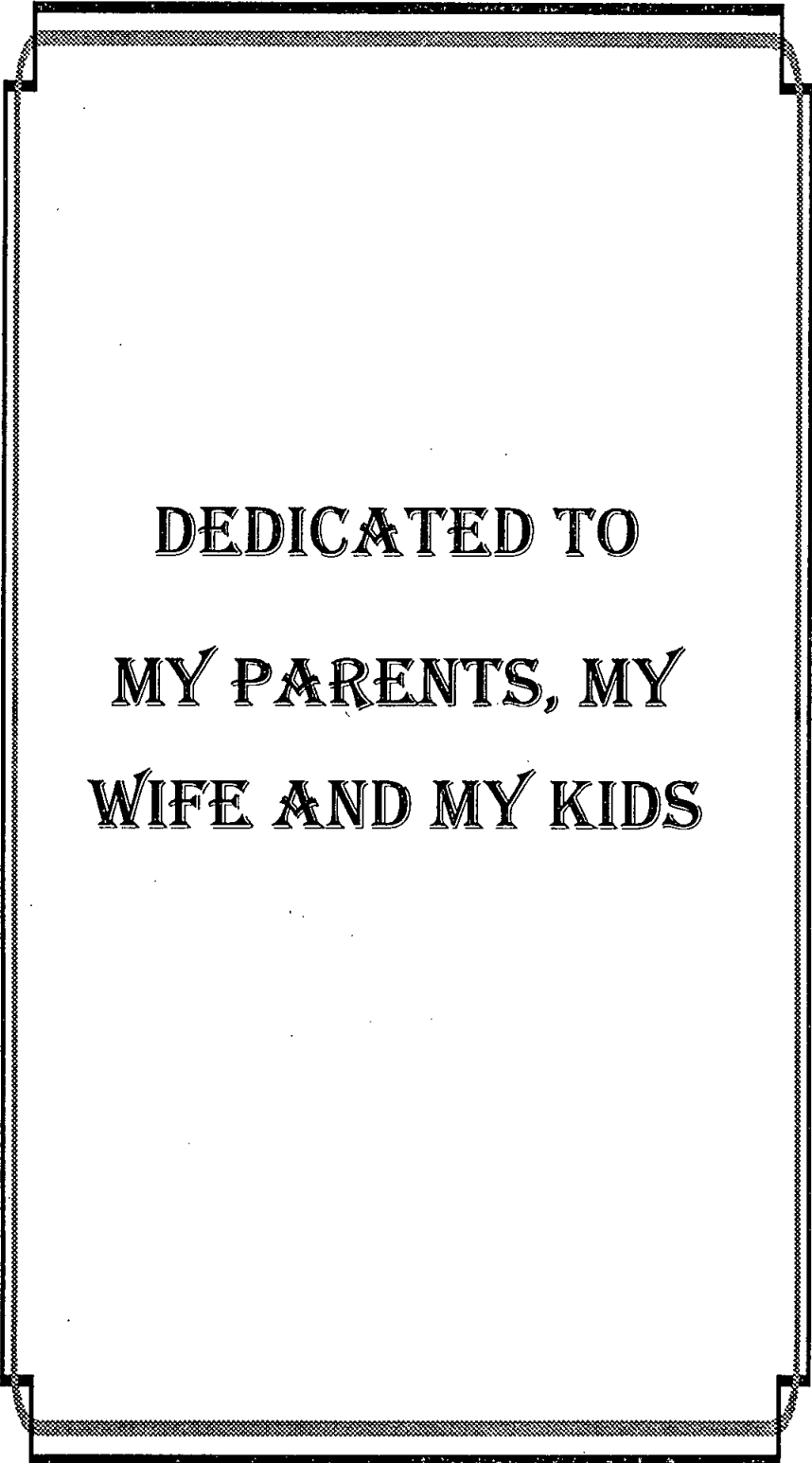
Science, Ain Shams University

B

14791

1997





DEDICATED TO
MY PARENTS, MY
WIFE AND MY KIDS

Contents

	Page
- ACKNOWLEDGMENT	
- LIST OF ABBREVIATIONS	
- ABSTRACT	1
- INTRODUCTION	4
- THE AIM OF THE WORK	5
- REVIEW OF LITERATURE	6
- MATERIAL AND METHODS	24
- RESULTS	36
- DISCUSSION	126
- SUMMARY AND CONCLUSION	151
- REFERENCES	156
- ARABIC SUMMARY	

Acknowledgment

I wish to express my deep gratitude and thanks to Dr. Gamal Abu-Sinna, Prof. of Physiology, Department of Zoology, Faculty of Science, Ain Shams University, for his suggestion and planning of the present work and for his supervision, guidance and constructive comments.

My obligation and indebtedness are due to Dr. Moustafa Shousha, Prof. of Biochemistry, Biological Application Department, Atomic Energy Authority for his supervision, encouragement and providing various facilities for accomplishment of this work.

Thanks are expressed to Dr. Ali Abd El-Aal Assistant Prof. of Physiology, Department of Zoology, Faculty of Science, Ain Shams University for his suggestions and guidance.

I wish to express my thanks to Prof. Dr. Ibrahim Issa Ibrahim, Chairman of Isotopic Applied Center, Atomic Energy Authority for his encouragement.

I wish to express my thanks to the head and staff members of the Department of Zoology, Faculty of Science, Ain Shams University.

Thanks are expressed to the members of the Physiology and Biochemistry Research Unit, Biological Application Department, Atomic Energy Authority.

Abbreviations

AFP	Alpha-fetoprotein
A/G	Albumin: globulin ratio
ALP	Alkaline phosphatase
ALT	Alanine aminotransferase
AST	Aspartate aminotransferase
ATP	Adenosine triphosphate
Ca	Calcium
CEA	Carcino-embryonic antigen
CO ₂	Carbon dioxide
CPM	Count per minute
DNA	Deoxyribonucleic acid
DNP	Dinitrophenylhydrazine
EDTA	Ethylene diamine tetra acetic acid
Fe	Iron
Fe ⁺⁺⁺	Ferric ion
GARG	Goat anti-rabbit gamma globulin
Hb	Haemoglobin
HgCl ₂	Mercury chloride
H ₂ O	Water
H ₂ O ₂	Hydrogen peroxide
hr	hour
Insig.	insignificant
K	Potassium
KOH	Potassium hydroxide
MB	Maximum binding
Met Hb	Methemoglobin
mRNA	messenger ribonucleic acid
Na	Sodium
NADH	Nicotinamide adenine dinucleotide hydrogenase

NaNO ₂	Sodium nitrite
NH ₃	Ammonia
NSB	Non specific binding
PEG	Polyethylene glycol
ppm	part per million
RNA	Ribonucleic acid
rpm	round per minute
SALT	Serum alanine aminotransferase
SAST	Serum aspartate aminotransferase
T ₃	Triiodothyronine
T ₄	Thyroxine
TBG	Thyroid hormone binding globulin
TSH	Thyroid stimulating hormone
T tube	Total count tube
WHO	World Health Organization