Faculty of Science

Zoology Department

Evaluation of the Protective Role of Date (*Phoenix dactylifera*) Against Flusilazole Fungicide Toxicity in Male Albino Rats

A thesis

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By

Soad Ahmed Ebrahim Khwanes

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Supervisors

Prof. Dr. Nadia Mohamed Abd El-Aziz El-Beih

Prof. of Physiology-Faculty of Science

Ain Shams University

Prof. Dr. Magdy Mohammed El-Said Gad

Department of Mammalian and Aquatic Toxicology

Central Agricultural Pesticides Lab

Agricultural Research Center

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I dedicate this work to my family especially my mother, my husband, my dear daughter and my kind son.

بسم الله الرحمن الرحيم

وَلْيَخْشَ الَّذِينَ لَوْ تَرَكُوا مِنْ خَلْفِهِمْ ذُرِّيَّةً
ضِعَافًا خَافُوا عَلَيْهِمْ فَلْيَتَّقُوا اللَّهَ وَلْيَقُولُوا
قَوْلًا سَدِيدًا

صدق الله العظيم

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List of Abbreviations

A/G ratio	Albumin/ Globulin ratio
ALAT	Alanine aminotransferase
ANOVA	Analysis of variance
ASAT	Aspartate aminotransferase
ATP	Adenosine triphosphate
BAT	Brown adipose tissue
b. w.	Body Weight
Cal.	Calorie
CAPL	Central Agricultural Pesticides Lab.
CAT	Catalase
CCL_4	Carbon tetra-chloride
CDNB	1-chloro-2,4-dinitrobezene
Cl^-	Chloride ion
CYP	Cytochrome P450
DNA	Deoxyribonucleic acid
DTNB	5-5\-dithio-bis(2-nitrobenzoic acid)
EC	Emulsifiable concentration
EDCs	Endocrine-disrupting Chemicals
EDTA	Ethylene diamine tetra acetic acid
EPC	Erythropoietin
Fig	Figure
FL	Femtolitre, 10^{-15}
g	gram
GGT	Gamma glutamyl transferase
GI	Glycemic index
GR	Glutathione reductase
GS	Glutamin synthetase
GSH	Total glutathione
GSSG	Glutathione Disulfied
GST	Glutathione S-Transferase
GPx	Glutathione peroxidase
HAT	Hour after treatment
Hb	Haemoglobin concentration

HCl	Hydrochloric acid
HDL-C	High density lipoprotein-Cholesterol
HPLC	High Performance Liquid Chromotography
H_2O_2	Hydrogen Peroxide
hr	Hour
i.e.	Identified example
Ig	Immunoglobulin
LC	Liquid Chromatography
LD_{50}	Median Lethal dose
LDL-C	Low density lipoprotein-Cholesterol
LP	Lipid Peroxidation
MCV	Mean Corpuscular Volume
MCH	Mean Corpuscular Haemoglobin
MCHC	Mean Corpuscular Haemoglobin concentration
MDA	Malondialdehyde
mg	Milligram
MTD	Maximum tolerated dose
M. W.	Molecular Weight
NaCl	Sodium chloride
NAD	Nicotinamide adenine dinucleotide
NADPH	Nicotinamide adenine dinucleotide phosphate
ND	Not Detected
nmol	Nanomole
OD	Optical Density
$^{\cdot}OH$	Hydroxyl radical
O_2	Oxygen
O_2^-	Superoxide anion
PCV	Packed Cell Volume
PF	Pair-Fed control
Pg	Picogram, 10^{-12}
ppb	Pert per Billion
ppm	Part per million
PROTOX	Protoporphyrinogen Oxidase
PUFA	Polyunsaturated Fatty Acids
RBCs	Red Blood Corpuscles
RDA	Recommended Dietary Allowance

ROOH	Reduction of variety of hydroperoxides
ROS	Reactive Oxygen Species
rpm	Round Per Minute
SDS	Sodium Dodecyl Sulphate
SE	Standard Error
SOD	Superoxide dismutase
T_3	Tri-iodothyronine
T_4	Thyroxine
TAG	Triacylglycerol
TBA	Thiobarbituric acid
TBARS	Thiobarbituric acid reactive substance
TC	Total cholesterol
TCA	Trichloroacetic Acid
THs	Thyroid Hormones
TMP	1,1,3,3- tetramethoxy propane
TNB	5-Thio- 2- Nitrobezoate
T.P	Total Protein
TSH	Thyroid stimulating hormone
UDP-GT	uridine-diphosphate glucuronosyl transferase.
U/l	Unite/ Litre
UV	Ultra-Violet
VLDL	Very low density lipoprotein
V/V	Volume/Volume
Vol.	Volume
WBCs	White Blood Cells
W/V	Weight/Volume
xg	Gravity
µM	Micro mole

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