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بالرسالة صفحات
لم ترد بالأصل

THE STUDY OF THE TOXIC EFFECTS OF ROUNDUP (GLYPHOSATE) HERBICIDE ON DIFFERENT BODY ORGANS

THESIS

Submitted in Partial Fulfillment of the requirements of the

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by

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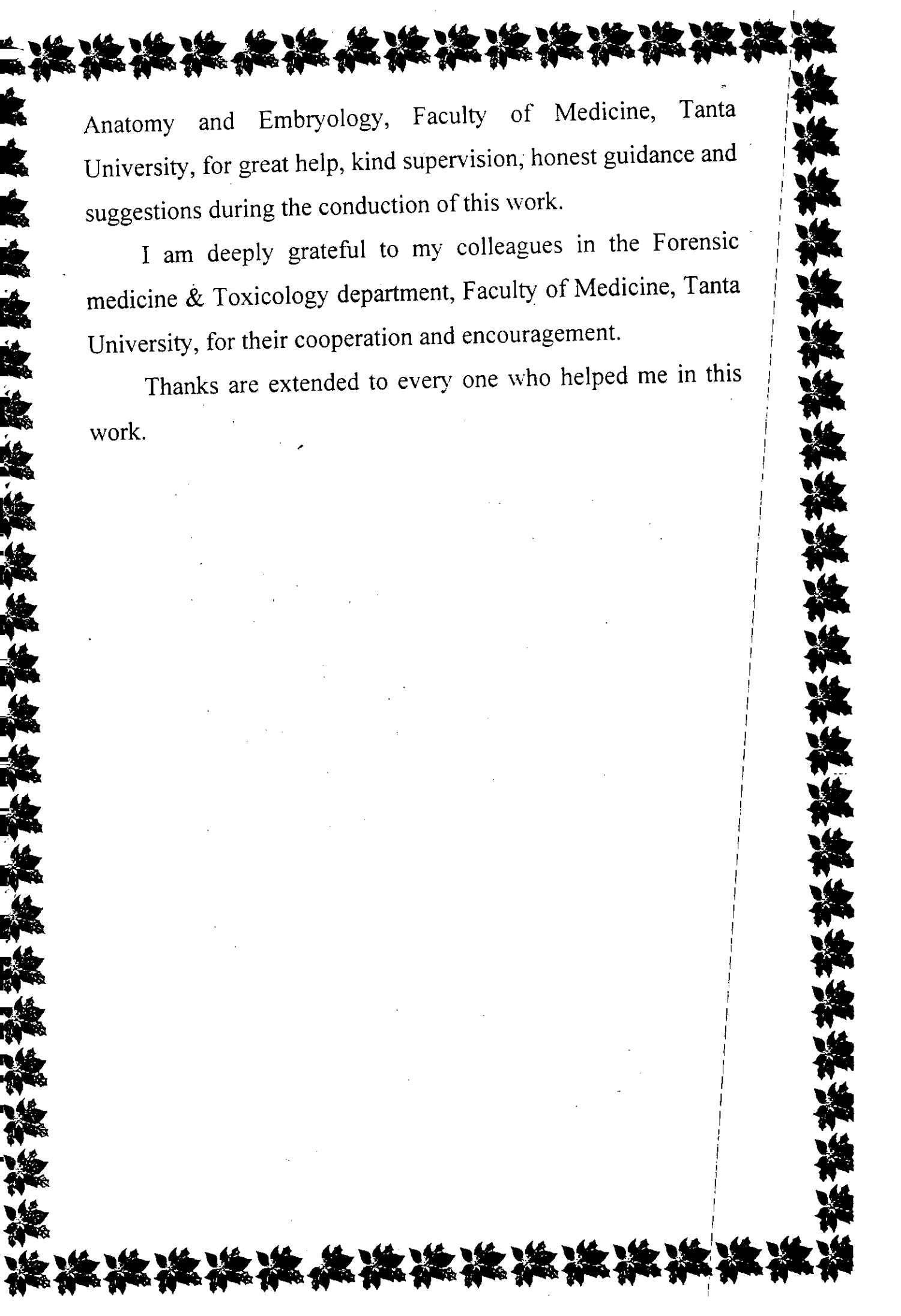
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Concised abstract/Summary

Introduction: Herbicide is a pesticide used to kill unwanted plants. Roundup (glyphosate) is the second most widely used herbicide by farmer, homeowner and lawn care professionals. Exposure of users can occur through skin contact and lung, and to non-users through micro-droplet inhalation and food residues.

Aim of the work: to clarify the toxic effects of roundup (glyphosate) on the different body organs of male albino rats.

Material & Methods: The present study was conducted on 80 mature male rats divided into 4 groups. Different organs was studied by histopathological examination, immunohistochemical staining and sperm examination.

Results: roundup (glyphosate) herbicide was toxic on different body organs. The histopathological changes, immunohistochemical changes in kidney, urinary bladder, lymph node, salivary glands, lung, bone marrow and testis as well as sperm abnormalities varied according to the dose and duration of exposure to this herbicide.

Conclusion: roundup is one of the most common herbicide used in Egypt, it was toxic to many organs with sperm abnormalities of male albino rats. Also, Ki-67 immunohistochemical changes in the organs showing precancerous changes increased by increasing the dose and duration of exposure to this herbicide.

المستخلص

المقدمة: يعتبر راوندايبي (الجليفوسات) هو ثاني مبيدات حشائش الأكثر شيوعاً و استخداماً على

مستوى العالم من قبل المزارعين و جميع المهتمين بالزراعة على كل المستويات مثل حدائق

المنزل والزراعة على جانبي الطريق و في الغابات و النباتات التي تنمو على سطح الأنهار.

الهدف من الدراسة: تقييم التأثير السام لمبيد الحشائش راونداب (الجليفوسيت) الأكثر شيوعاً و استخداماً في مصر على أعضاء الجسم المختلفة لذكور الفئران البيضاء.

طرق البحث: وقد أجريت هذه الدراسة على ثمانين من ذكور الفئران البيضاء حيث تم تقسيمهم إلى أربعة مجموعات كل مجموعة تتكون من عشرين فأراً. حيث خضعت أعضاء الجسم المختلفة إلى دراسة هستوباثولوجية و دراسة مناعية هستوكيميائية باستخدام الصبغة المناعية لـ إي-76 كعامل تنبؤ للأورام ثم فحص الحيوانات المنوية.

النتائج: يعتبر الجليفوسيت (راونداب) مبيد حشائش سام على مختلف أعضاء الجسم و ذلك باختلاف الجرعة و الفترة التي تم التعرض لها. و قد لوحظ ذلك من خلال التغيرات المستوباثولوجية والمناعية المستوكيميائية و كذلك التشوهات التي ظهرت في الحيوانات المنوية.

الخلاصة: أثبتت النتائج أن مبيد الحشائش راونداب سام على مختلف أعضاء الجسم و ذلك باختلاف الجرعة و الفترة التي تم التعرض لها.

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Abbreviations

Accase	Acetyl CoA Carboxylase
ALS	Aceto lactase synthase
AMPA	Aminomethyl phosphonic acid
BW	Body weight
CAS	Chemical Abstracts Service
CCME	Canadian Council of Ministers of Environment
DAB	3,3 diamino-benzidine tetrahydrochloride
2,4D	2,4-dichlorophenoxyacetic acid
EPA	Environmental Protection Agency
EPSPs	Enolpyruvyl skimate phosphate synthase
RED	Registration Eligibility decision
Hx & E	Haematoxylin and Eosin
FAO	Food and Agriculture Organization
Figs	Figures
FEBS	Federation of European Biochemical Societies
HCL	Hairy cell leukemia
IPA	Isopropyl amine
IPCS	International Programme on Chemical Safety
ICSC	International Chemical Safety Card
INCHEM	International Evaluation of Chemical data base
ha	1 kilogram/ 1 hectare (10,000 square meter)
LC	Lethal concentration

μg	Microgram
mM	Millie mole
MOA	Mechanism Of Action
MW	Molecular weight
NHL	Non-Hodgkin Lymphoma
NMR	Nuclear magnetic resonance
NTP	National toxicology program
PANUPS	Pesticide Action Network Updates Service
PCEs	Polychromatic erythrocytes
PH	=log [H ⁺]
Pka	= -log [Ka]. ka (acid ionization constant)
ppm	Particle per million
PBS	Phosphate buffered saline
SG	Specific gravity
SERA	Syracuse Environmental Research Associates
SH	Sulphydyl group
StAR	Steroidogenic Acute Regulatory protein
Tri buffer	Tris hydroxy methyl amino ethane; Trisamine
TVC	Total Vegetation Control
UNEP	United Nations Environment Programme
U.S.	United State
USDA	United State Department of Agriculture
WHO	World Health Organization
WSSA	Weed Science Society of America

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