



شبكة المعلومات الجامعية

Ain Shams University

Information Network

جامعة عين شمس

شبكة المعلومات الجامعية

@ ASUNET



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 ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

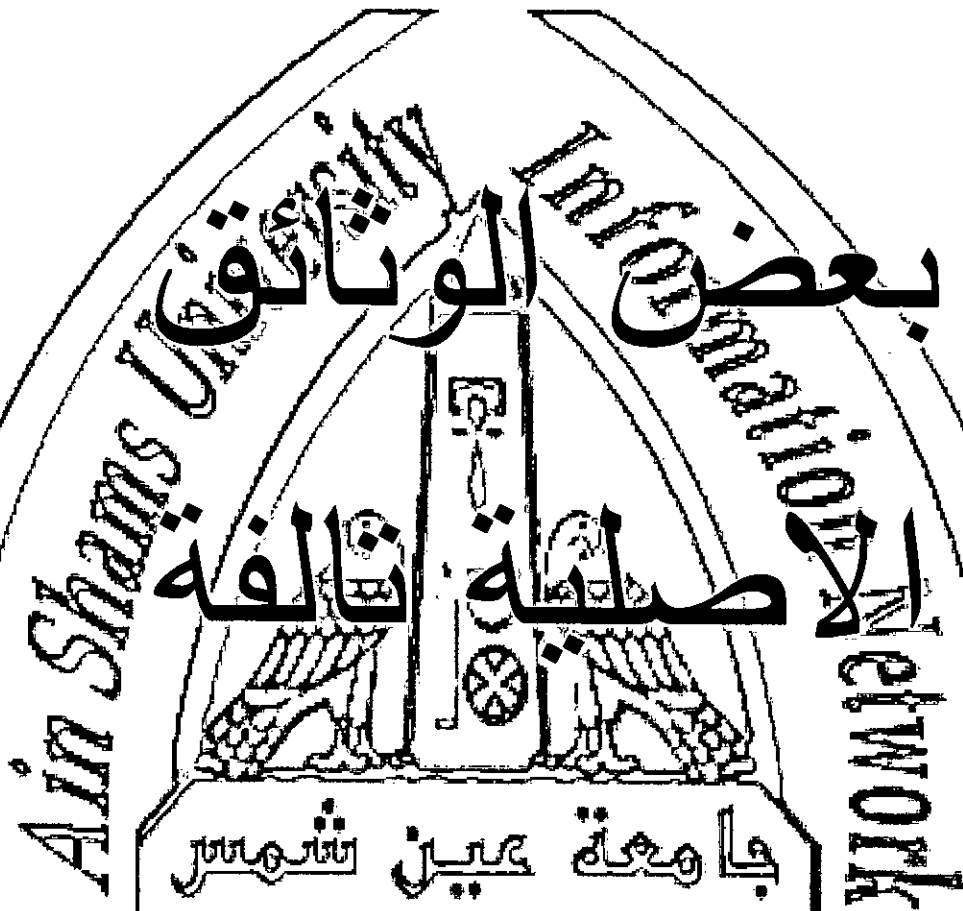
To be Kept away from Dust in Dry Cool place of
15-25- c and relative humidity 20-40%



بالرسالة صفحات لح

Ain Shams University
بلا كل
Information Network
جامعة عين شمس

شبكة المعلومات الجامعية
@ ASUNET



شبكة المعلومات الجامعية
@ ASUNET

Some studies on The diseases causing fish anomalies

A Thesis

Presented to the Graduate school

Faculty of Veterinary Medicine

Alexandria University

In Partial Fulfillment Of The

Requirements For The Degree

of

Doctor of Philosophy of veterinary sciences

In

(Fish diseases and hygiene)

By

Rafik Abd Elkarim Rashed Shawer

(M.V.Sc., Fac. Vet. Med. , Alex. Univ., 2006)

2010

60 12 12

Some studies on The diseases causing fish anomalies

A Thesis

Presented to the Graduate school

Faculty of Veterinary Medicine

Alexandria University

In Partial Fulfillment Of The

Requirements For The Degree

of

Doctor of Philosophy of veterinary sciences

In

(Fish diseases and hygiene)

By

Rafik Abd Elkarim Rashed Shawer

(M.V.Sc., Fac. Vet. Med. , Alex. Univ., 2006)

2010

60 12 12

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالُوا رَبُّنَاكَ لِأَ
عَلِمَ لَنَا إِلَّا مَا
عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْكَبِيرُ

البقرة / ٣٢



Advisers committee :

Prof . Dr . Hatem Salah El Deen Abd - El - Hamid

Prof . of Poultry Diseases and Hygiene *H.S-Abdelhameed*

Dean of the Faculty of Veterinary Medicine

Alex . Univ . Damanhour Branch (El - Bostan)

Prof . Dr. Magdy Khalil Soliman *Magdy K. Saleh*

Prof . of Fish Diseases and Hygiene

Vice Dean of the Faculty of Veterinary Medicine

Alex . Univ . Damanhour Branch (El - Bostan)

Prof . Dr. Riad Hassan Khalil *R. H.*

Prof . of Fish Diseases and Hygiene

Head of Department of Poultry and Fish diseases

Faculty of Veterinary Medicine

Alex . Univ

Approval Sheet

Approval sheet for the thesis presented by "*Rafik Abd El-Karim Rashid Shawer*" for the degree of "**Ph.D.**" in the Fish Disease and Hygiene branch from Faculty of veterinary Medicine Alexandria University.

Members

Signature

Prof. Dr. Mohamed Said Mohamed Marzouk

Prof and Head of Fish Disease and Management,
Fac. Vet. Med. Cairo Univ.



Prof. Dr. Manal Adel Ahmed Essa

Prof and Head of Fish Disease and Management department
Fac. Vet. Med. Beni Swif Univ.



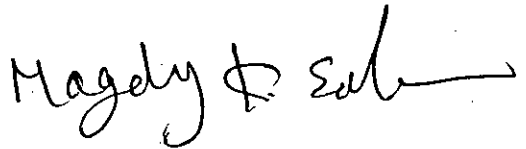
Prof. Dr. Hatem Salah-El-Din Abd El-Hamid

Prof. of Poultry Diseases and Hygiene
Dean of the Fac. Vet. Med.
Department of Poultry and Fish diseases
Alexandria Univ. El-Bostan-Damanhour branch (Supervisor)



Prof. Dr. Magdy Khalil Soliman

Prof. of Fish Diseases and Hygiene
Vice dean of the Fac. Vet. Med.
Department of Poultry and Fish diseases
Alexandria Univ. El-Bostan-Damanhour branch (Supervisor)



Prof. Dr. Riad Hassan Khalil

Prof. of Fish Diseases and Hygiene
Head of the dep. of Poultry and Fish diseases,
Fac. Vet. Med.
Alexandria



Dedicated

To

My sons , Mohammed

and Abdelkarim

ACKNOWLEDGEMENTS

Acknowledgement

I wish firstly to thank "Allah" almighty for helping me to complete this work.

*I wish to express my cardinal gratitude and my deepest thanks to supervisors of the present work **Prof. Dr. Hatem Salah El-Deen Abd-El Hamid** professor of Poultry Diseases and Dean of Faculty of Veterinary Medicine, Alexandria University, Damanhour branch for his interest, valuable Suggestion, continuous helpful advice and encouragement in preparing and proposing the subjects Of this work.*

*I wish to extend my sincere gratitude and great appreciation to **Prof. Dr. Magdy Khalil Soliman** Professor of Fish Diseases and hygiene and Vice Dean of Faculty of veterinary Medicine, Alexandria University Damanhour branch for his keen supervision, continuous encouragement and for stimulating discussion throughout the course of this work.*

*I am deeply grateful and wish to express my sincere appreciation And hearty thanks to **Prof. Dr. Riad Hassan Khalil** Professor And Head of Poultry and fish diseases Department, Faculty of Veterinary Medicine, Alexandria University, for his help in finishing this research.*

Greatful appreciation and heart thanks to all staff members of Poultry and fish diseases and Genetic departments.

List of Contents

No.	Contents	Page No.
1	Introduction	1
2	Review of Literature	3
3	Materials and Methods	23
4	Results	31
5	Tables and Figures	36
6	Discussion	62
7	Conclusion	69
8	English Summary	70
9	References	72
10	Arabic Summary	

List of Tables

Table No.	Table	Page No.
1	Design of experimental infection of <i>Ichthyophonus hoferi</i> in <i>Oreochromus niloticus</i>	36
2	Showed level of Calcium / kg in examined diets :-	37
3	Showed mortality during the experiment among experimented fish	37
4	Prevalence of infective agent in deformed fish in relation to location :	38
5	Seasonal prevalence of deformed fish :	39
6	Distribution of the infective agent among different organs of the examined deformed fish :	40
7	Results of micro nucleated cells percentage due to the effect of genetic deformity	41