

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

CAIRO UNIVERSITY
FACULTY OF VETERINARY MEDICINE
DEPARTEMENT OF MICROBIOLOGY



## THE ROLE OF GRAM NEGATIVE BACTERIA IN GYNAECOLOGICAL DISESIS IN ARABIAN MARES

A THESIS PRESENTED

BY

636,089

WY. WOP

#### RANIA MAHMOUD KHALIFA ALI

**B.V.SC. CAIRO UNIVERSITY (1998)** 

**FOR** 

The Degree of Master in Veterinary Science (Microbiology)

(Bacteriology – Immunology – Mycology)
Under The Supervision of

#### Prof. Dr. MAHMOUD ESSAM HATEM

Professor and Chairman of Microbiology
Faculty of Veterinary Medicine
Cairo University

#### Dr. AMAL ABD EL FATAH GHONIEM

Senior Researcher, Bacteriology Unit, Reproductive Diseases Department, Animal Reproduction Research Institute, EL Haram.

Giza

2005

#### **Approval Sheet**

This is to certify that dissertation presented by/Rania Mahmoud Khalifa Ali to Cairo University for the Master Degree in Veterinary Sciences (Bacteriology, Mycology and Immunology) has been approved by the examining committee.

Prof. Dr. Faozy Riad El-Seedy

Professor of Microbiology.

Vice Dean of Fac. of Vet. Med.

Cairo University (Beny – Sweef branch).

Prof. Dr. Ahmed Faried Ahmed Hassan.

Professor of Microbiology

Fac. of Vet Med.

Cairo University.

Prof. Dr. Mahmoud Essam Hatem Ahmed.

Professor and chairman of the Microbiology Department

Fac. of Vet. Med.

Cairo University.

*5 | 10 |*2005

#### بسم الله الرحمن الرحيم

" والعادیات ضبحا ♦ فالموریات قدحا ♦ فالمغیرات صبحا ♦ فأثرن به نقعا ♦ فوسطن به جمعا ♦ "

صدق الله العظيم سورة العاديات ( آيات رقم ۱-۰ )

قال رسول الله صلى الله عليه وسلم:

" الخيل معقود بنواصيها الخير إلي يوم القيامة وأهلها معانون عليها"

صدق رسول الله صلي الله عليه وسلم

أخرجه البخاري ومسلم

Dedicated to My Lovely

Mother and The Soul of My

Father with All Affection And

Respect.

# GNOLEDGENRN

#### **ACKNOWLEDGEMENT**

I am extremely grateful to ALLAH who gave me the ability and patience to finish this work.

I wish to express my high appreciation and sincere thanks to **Prof. Dr. MAHMOUD ESSAM HATEM** Professor and Chairman of Microbiology

Department, Faculty of Veterinary Medicine, Cairo University for his valuble supervision, guidance and continous encouragement during the present work which will never be forgetten.

I ,also, wish to express my warm thanks to **Dr. AMAL ABD EL FATAH GONIEM** Senior Researcher, Bacteriology Unit, Reproductive Diseases
Department, Animal Reproduction Research Institute, El Haram, Giza for
her supervision, advice, continual encouragement and interest allover the
work.

Special thanks is expressed to **Dr. MANSOUR EL NAGAR** Head of Animal Health Department, Egyptian Agriculture Organization (EL-Zahraa Stud), Ain Shams, Cairo For his advice, guidance and supplying most of samples required throughout the present work.

#### **List of Contents**

	List of abbreviations	
	List of Tables	ii
	List of Figures	iv
1.	Introduction	1
2.	Review of Literature	3
3.	Material and Methods	21
3.1.	Material	21
3.1.1.	Samples	21
3.1.2.	Types of media used	21
3.1.2.1.	Media used for cultivation and isolation	21
3.1.2.1.1.	Routine media	21
3.1.2.1.2.	Selective Preenriched broth for Salmonella	23
3.1.2.1.3.	Selective differential media	23
3.1.2.2.	Media used for biochemical testing	24
3.1.2.3.	Media used for antibiotic sensitivity test	25
3.1.3.	Stain used	26
3.1.4.	Reagents and chemicals	26
3.1.5.	Diagnostic and antibiotic discs	28
3.1.5.1.	Diagnostic oxidase disc (Biomerieux)	28
3.1.5.2.	Antibiotic sensitivity discs	28
3.2.	Methods	30
3.2.1.	Collection of samples	30
3.2.1.1.	Swabs	30
3.2.2.	Bacteriological examination of samples	30
3.2.2.1.	Enrichment in liquid media	30
3.2.2.2.	Platting on solid media	31
3.2.2.3.	Microscopical examination	31

3.2.2.4.	Biochemical identification of the recovered isolates	32
3.2.3.	Antibiotic sensitivity test	38
4.	Results	40
4.1.	Results of isolation of Gram negative bacteria from different	
	affections of mares	40
4.2.	Results of bacteriological examination and identification of	
	Gram negative bacteria	40
4.3.	Bacterial isolation in cases of abortion	49
4.4.	The incidence of abortion in Arabian mares along the 4 years of	
	investigation during the different season to study the effect of	
	seasonal variation on the rate of abortion	49
4.5.	In vitro antibiogram testing for some Gram negative isolates	54
5.	Discussion	59
6.	Summary	69
7.	References	74
8.	Arabic summary	87
	<ul> <li>3.2.3.</li> <li>4.</li> <li>4.1.</li> <li>4.2.</li> <li>4.3.</li> <li>4.4.</li> <li>5.</li> <li>6.</li> <li>7.</li> </ul>	<ul> <li>3.2.3. Antibiotic sensitivity test</li></ul>

#### List of Abbreviations

AMC Amoxycillin

AML Amoxycillin /Clavulanic acid

AMP Ampicillin

C Chloramphenicol

C. fruendii Citrobacter fruendii

CIP Ciprofloxacin

cm Centimeter

CN Gentamicin

**DNF** Danofloxacin

E Erythromycin

E. coli Escherichia coli

E. fruendii Escherichia fruendii

E. intermedia Escherichia intermedia

ENR Enrofloxacin

Klebsiella pneumoniae capsular type 1

Klebsiella pneumoniae capsular type 2

K. aerogenes Klebsiella aerogenes

K. oxytoca Klebsiella oxytoca

K. ozaenaei Klebsiella ozaenaei

MD<sub>a</sub> Megadaltons

μg Microgram

ml Milliliter

mm Millimeter

MR Methyl red

NA Nalidixic acid

NCCLS National Committee for Clinical