



Sudan University for Science and Technology

Collage of Graduate Study and Scientific Research

**The Antimicrobial Effect of Large Baladi and Exotic Poultry Breeds  
on Egg Yolk IgY**

Dissertation submitted in partial fulfillment of the requirement for the degree of  
M.S.C in Tropical Animal Production

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# Dedication

*I would like to dedicate this dissertation to:*

*Firstly to my parents whom the reason for me in life.*

*For the soul of my father*

*For my lovely mother Siham*

*Then to second father professor Mohammed Tageldin and his colleague because they are the reason for me to know.*

*My brothers for their motivation me to success.*

*My friends efforts to made me in pleasure.*

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Finally it is a chance to convey my thank to everyone who helped, advised or contribution in this work.

## Abstract

This study was conducted at the college of Veterinary Medicine Sudan University of Science and Technology ,Kuku to explore The antimicrobial effect of large baladi and exotic poultry breeds egg yolk on E.coli and Pseudomonas bacteria among three dilution (1:0.1,1:1and 1:10).

A total of 120 eggs were randomly collected from each breed from different farms. The yolk was separated from the albumen after cracking the shell and kept at sterile urine containers. The yolk was diluted to (1:0.1,1:1 and 1:10) respectively then heated and centrifuged the supernatant was used. The petri dishes used in inoculation were holed with 6 wells after agar solidification. Each 3 wells deal with different breed and each one from the three wells deals with target dilution. About 240 replicate were carried out for each concentrate, 180 replicates for each breed and 180 replicate for each organism.

The study revealed that there is a significant differences in the inhibition zones between local breed which record an average of  $(14.03 \pm 0.18)$   $(9.21 \pm 0.14)$   $(4.71 \pm 0.11)$  and exotic breed  $(11.57 \pm 0.18)$   $(7.65 \pm 0.14)$   $(3.81 \pm 0.11)$  at  $(P<0.05)$  in dilution (1:0.1,1:1and 1:10) respectively. also there is significantly differences between E.coli(-ve) which record  $(9.18 \pm 0.18)$   $(6.15 \pm 0.14)$   $(2.85 \pm 0.11)$  and pseudomonas (+ve)  $(16.43 \pm 0.18)$   $(10.71 \pm 0.14)$   $(5.66 \pm 0.11)$  at  $(P<0.05)$  in dilution (1:0.1,1:1and 1:10) respectively.

## ملخص الدراسة :

أجريت هذه التجربة بكلية الطب البيطري –جامعة السودان للعلوم والتكنولوجيا لاستكشاف تأثير مضادات الميكروبات الموجودة في صفار البيض من خلال سلالة الدجاج البلدي والهجين التجاري علي بكتريا الاشريكية القولونية(سالبة الجرام) والسودوموناس (موجبة الجرام) علي حسب ثلاث تخفيف (١:١٠، ١:١٠٠، ١:١٠٠٠) علي التوالي.

تم جمع ١٢٠ بيضة بصورة عشوائية من مزارع مختلفة . تم فصل الصفار من البياض بعد كسر قشرة البيضة وتم حفظه في اوعية معقمة. خفف صفار البيض للتركيز اعلاه ثم بعد ذلك تم تسخينه وفصله بواسطة الطارد المركزي وتم استخدام الجزء العلوي من الانبوب بعد تجهيز اطباق بتري المزروعة وثقبت ٦ حفر في منتصف كل طبق بمعدل ٣ حفر لكل سلالة وحفرة لكل تركيز.

كشفت الدراسة عن وجود فرق معنوي عند مستوي ثقة ( $p < 0.05$ ) بين سلالة الدجاج البلدي والهجين التجاري حيث كان متوسط نصف قطر هالات الموت لسلالة البلدي

( $3.81 \pm 0.11$ ) ( $7.65 \pm 0.14$ ) ( $11.57 \pm 0.18$ ) كما سجلت سلالة الهجين التجاري

( $4.71 \pm 0.11$ ) ( $9.21 \pm 0.14$ ) ( $14.03 \pm 0.18$ ) بمستويات تخفيف (١:١٠، ١:١٠٠، ١:١٠٠٠) علي التوالي.

وايضا كشفت الدراسة عن وجود فرق معنوي بين بكتريا الاشريكية القولونية (سالبة الجرام) وبكتريا السودوموناس (موجبة الجرام) عند مستوي ثقة ( $p < 0.02$ ) حيث كان متوسط نصف قطر هالة الموت للاشريكية القولونية ( $2.85 \pm 0.11$ ) ( $6.15 \pm 0.14$ ) ( $9.18 \pm 0.18$ ) اما السودوموناس فكان

( $5.66 \pm 0.11$ ) ( $10.71 \pm 0.14$ ) ( $16.43 \pm 0.18$ ) وذلك علي حسب مستويات التخفيف (١:١٠، ١:١٠٠، ١:١٠٠٠) او

(١:١٠٠٠) علي التوالي .

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# CHAPTER ONE

## INTRODUCTION

CHAPTER TWO  
LITERATURE  
REVIEW

CHAPTER THREE  
MATERIALS AND  
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# CHAPTER FOUR

## RESULTS

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