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

Submitted by:

Bhaeldin Elsir Abdel gadir Abbas

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Supervisedby:-

Professor: Mohammed Taj Elden Ibrahim

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I would like to dedicate this dissertation to:

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

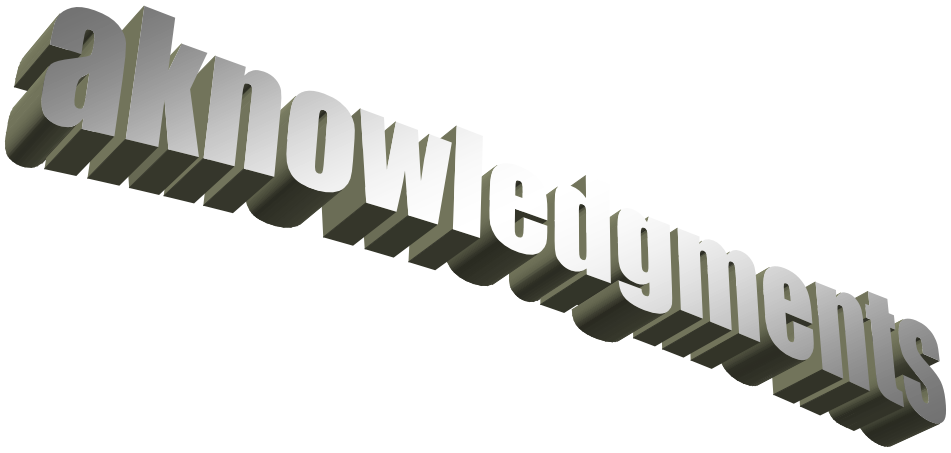
For the soul of my father

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.



First I am used to thank Allah who granted me the aptitude and patience to conduct and finish this study. Then I am used to express my sincere thank and faithful gratitude to the honest and modest supervisor Prof. **Mohammed Tag Eldin Ibrahim** for his generous limitless assistance, encouragement and advice.

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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 ± 0.18) (9.21 ± 0.14) (4.71 ± 0.11) and exotic breed (11.57 ± 0.18) (7.65 ± 0.14)(3.81 ± 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 ± 0.18)(6.15 ± 0.14) (2.85 ± 0.11) and pseudomonas (+ve) (16.43 ± 0.18) (10.71 ± 0.14)(5.66 ± 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 تخافيف (١:٠,١ ،١:١ و ١:١٠) علي التوالي.

تم جمع ١٢٠بيضة بصورة عشوائية من مزارع مختلفة . تم فصل الصفار من البياض بعد كسر قشرة البيضة

وتم حفظه في اوعية معقمة. خفف صفار البيض للتراكيز اعلاه ثم بعد ذلك تم تسخينه وفصله بواسطة الطارد المركزي وتم استخدام الجزء العلوي من الانبوب بعد تجهيز اطباق بتري المزروعة وثقبت ٦حفر في منتصف كل طبق بمعدل ٣حفر 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

(11.57 ± 0.18) (7.65 ± 0.14)(3.81 ± 0.11) كما سجلت سلالة الهجين التجاري

(4.71 ± 0.11) (9.21 ± 0.14) 14.03 ± 0.18) بمستويات تخفيف (١:١٠،١:١و ١:٠,١) 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 للإشريكية القولونية (0.11 ± 2.85) (0.14 ± 6.15)(0.18 ± 9.18) اما السودموناس فكان

(0.11 ± 5.66)(0.14 ± 10.71) (0.18 ± 16.43) وذلك علي حسب مستويات التخفيف (١:١٠،١:١و ١:٠,١) علي التوالي .

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