



بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / حسام الدين محمد مغربي

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى

مسئولية عن محتوى هذه الرسالة.

ملاحظات : لا يوجد



**EFFECT OF *SACCHAROMYCES CEREVISIAE* ON
GROWTH PERFORMANCE AND DIGESTIVE
SYSTEM DEVELOPMENT OF WEANING
RABBITS**

By

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B.Sc. Agric. Sci. (Poultry Production), Fac. Agric., Ain Shams Univ., 2016

**A Thesis Submitted in Partial Fulfillment
Of
The Requirements for The Degree of**

**MASTER OF SCIENCE
in
Agricultural Sciences
(Poultry Physiology)**

**Department of Poultry Production
Faculty of Agriculture
Ain Shams University**

2022

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Approval Sheet

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ABSTRACT

Basma Mohamed Abdel Aziz El-Sawy: Effect of *saccharomyces cerevisiae* on growth performance and digestive system development of weaning rabbits, Unpublished M.Sc., Department of Poultry Production, Faculty of Agriculture, Ain Shams University, 2022.

The current study aimed to evaluate the effects of treatment of weaning rabbits with *Saccharomyces cerevisiae* from 4-10 weeks of age on growth performance and digestive system development. A total of 60 NZW rabbits at 4 weeks of age were used. Rabbits were assigned to 4 treatment groups (15 in each) during December 2017 to February 2018. Rabbits in 1st group were fed basal diet and served as control group (C), while, Rabbits in 2nd, 3rd, and 4th groups were fed basal diet supplemented with 100, 200 and 400 gm SCB/ton diet (R1, R2 and R3).

Resulted revealed that final live body weight and daily weight gain were increased significantly ($P \leq 0.01$) for rabbits fed treated diets, and growth rate was significantly ($P \leq 0.05$) improved comparable with control. Feed intake was decreased while FCR was improved for rabbits fed treated diets. Hot carcass weight% and dressing% were increased significantly ($P \leq 0.05$) in rabbits fed diet supplemented 400 gm SCB/ton (R3) by 29.3% comparing to control group. Gastro-intestinal tract (GIT) length and caecum length were increased in rabbits fed basal diet supplemented with SCB compared to control group. Addition a pelleted basal diet with 200 or 400 gm SCB/ton diet due to decrease in the pH of caecum compared with those fed 100 gm SCB/ton diet and control group. Addition SCB was decreased total cholesterol significantly ($P \leq 0.05$) comparing with the control group. Best economical efficiency was obtained in rabbit's fed 400 gm SCB/ton diet.

Keywords: Rabbits, Boulardii *Saccharomyces cerevisiae*, Growth, Blood, Digestive System and Economic Efficiency.

ACKNOWLEDGMENT

I'm greatly appreciate the help and support by my Principle supervisor **Dr. Ibrahim El-Wardany El-Sayed Hassan**, and **Dr. Ayman Mohamed Hassan**, Professors of Poultry Physiology, Department of Poultry Production, Faculty of Agriculture, Ain Shams University, Egypt, for their keen supervision, encouragement, valuable criticism, suggesting the problem, planning the work, moral assistance during the course of my study and for preparing and reviewing the manuscript to be in the best final form.

Appreciation is also due to **Dr. Yaser Kamel Badawi**, Head Researcher of Biotechnology, Animal Production Research Institute, Agriculture Research Center, Ministry of Agriculture, for his valuable criticism, reviewing manuscript and moral assistance for suggesting the problem, planning the work, sincere help, keen supervision and reviewing the manuscript.

I wish to thank and morally appreciate my lovely father **Dr. Mohamed Abdel Aziz El-Sawy**, Head Researcher of Rabbit's Management at Animal Production Research Institute, Agriculture Research Center, Minster of Agriculture, for his unlimited help in providing facilities, valuable guidance's during the field work of my searching and for help in preparing, writing and reviewing the thesis.

I would like to thank and appreciate the help made by the Staff members and colleagues at the Department of Poultry Production for their encouragement during my study.

My best gratitude and appreciation are extended to my lovely Mother, my Husband and all my family members for their tender care, moral, inspiration during the tenure of study and for their patience and encouragement until finishing of this work.

CONTENTES

Title	Page
LIST OF TABLES	II
LIST OF FIGURES	III
LIST OF ABBRIVIATIONS	IV
ACKNOLEGMENT	VI
1. INTRODUCTION	1
2. REVIEW OF LITERATURES	3
2.1. Fattening rabbit benefits	3
2.2. Rabbit feeding costs	4
2.3. Definition of feed additives and types	4
2.4. Alternative feed additives to antibiotics	6
2.4.1. Probiotics	6
2.4.2. Prebiotics	6
2.5. Yeast culture in animal nutrition	7
2.6. Nutrition and blood status of rabbits	8
2.7. The rabbit's digestive tract	10
2.7.1. Micro flora in the gut of rabbits	10
2.8. Carcass traits	11
3. MATERIALS AND METHODS	12
4. RESULTS AND DISCUSSION	19
4.1. Effect of SCB on growth performance	19
4.1.1. Live body weight	19
4.1.2. Body weight gain	23
4.1.3. Relative growth rate and mortality%	26
4.1.4. Feed intake and feed conversion ratio	27
4.1.5. Performance index	31
4.2. Effect of SCB on carcass traits	32
4.3. Effect of SCB on gastrointestinal tract (GIT)	35
4.4. Effect of SCB on physiological responses	36
4.4.1. Haematological parameters	36

4.4.2. Total protein, albumin and globulin	37
4.4.3. Glucose	39
4.4.4. Effect of SCB on liver function	40
4.4.5. Effect of SCB on kidney function	40
4.4.5.1. Urea-n	40
4.4.5.2. Creatinine	41
4.4.6. Effect of SCB on serum fat profile	42
4.4.6.1. Total cholesterol	42
4.4.6.2. Tri-glycerides	43
4.5. Effect of SCB on caecum parameters:	43
4.5.1. VFAs and pH of caecum contents	43
4.5.2. Caecum bacterial count	46
4.6. Effect of SCB on economic efficiency	47
4. SUMMARY AND CONCLUSSION	50
5. REFERENCES	53
6. ARABIC ABSTRACT	

LIST OF TABLES

Table No.		Page
1	Normal physiological ranges of haematological and biochemical components for rabbits	9
2	The composition and chemical analysis of basal diets	13
3	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on live body weight (gm) from weaning to 10 weeks	21
4	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on body weight gain (gm) from weaning to 10 weeks of age	25
5	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on growth rate and mortality rate from weaning to 10 weeks of age	27
6	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on feed intake, feed conversion and performance index from weaning to 10 weeks of age	29
7	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on carcass traits at 10 weeks of age	33
8	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on carcass traits at 10 weeks of age as percentages	34
9	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on digestive tract diameters at 10 weeks of age	36

10	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on some hematological parameters at 10 weeks of age	37
11	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on some biochemical blood constituents at 10 weeks of age	39
12	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on caecum volatile fatty acids at 10 weeks of age	45
13	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on caecum bacterial count at 10 weeks of age	47
14	Effect of feeding growing NZW rabbits different levels of <i>Saccharomyces cerevisiae</i> boulardii on economic efficiency at 10 weeks of age	48

LIST OF FIGURES

Figure No.		Page
1	Final body weight.	22
2	Daily wight gain	26
3	Daily feed intake	30
4	Feed conversion ratio	30
5	Performance index	31
6	Hot carcass percentage	35
7	Serum urea-n	41
8	Serum fat profile	43
9	Total volatile fatty acids	45
10	Relative economic efficiency	49

LIST OF ABBREVIATIONS

ABBREVIATION	MEANS
AGP	Antibiotics as Growth Promoters
A/G ratio	Albumin/Globulin ratio
ALB	Serum Albumin
ALT	Alanine Amino Transferase
AST	Aspartate Amino Transferase
AT	Air Temperature
Bio Mos	Bio Mannan Oligo Saccharides
BWG	Body Weight Gain
C	Control Group (Without Supplementation)
°C	Celsius Degree
CFU	Colony Forming Units
CP	Crude Protein
cm	Centimeter
DBWG	Daily Body Weight Gain
DWG	Daily Weight Gain
DFI	Daily Feed Intake
dl	Decimeter/litter
E. Coli	Escherichia coli
E.E.	Economic Efficiency
EM1	Effective Microorganisms
EU	European Union
FBW	Final Body Weight
FCR	Feed Conversion Ratio
FI	Feed Intake
FOS	Fructo-Oligo Saccharides
GIT	Gastro-Intestinal tract
GLO	Serum Globulin
Gm	Gram
Hb	Haemoglobine
Hrs	Hours

Ht	Haematocrite
Kg	Kilogram
LBW	Live Body Weight
L.E.	Egyptian Pound
m ²	Squair Meter
MCH	Mean Corpuscular Haemoglobin
MCHC	Mean Corpuscular Haemoglobin Concentration
MCV	Mean Corpuscular Volume
Mg	Micro Gram
MOS	Mannan Oligo Saccharides
NZW	New Zealand White
PCV	Packed Cell Volume
pH	Power of Hydrogen
PI	Performance Index
R1	(SCB 100 gm/ton diet)
R2	(SCB 200 gm/ton diet)
R3	(SCB 400 gm/ton diet)
RBCs	Red Blood Cells
RGR	Relative Growth Rate
r.p.m.	Round Per Minute
SCB	<i>Saccharomyces cerevisiae</i> Boulardii
S.E.	Standard Error
Sig.	Significancy
T ₄	Thyroxin
TBWG	Total Body Weight Gain
THI	Temperature Humidity Index
TG	Tri Glycerides
TFI	Total Feed Intake
TP	Serum Total Protein
VFAs	Volatile Fatty Acids
WBCs	White Blood Cells
μl	Micro Litter

INTRODUCTION

Rabbits breeding are one of the most successful investment projects because rabbits are characterized by rapid growth and production of an excellent meat with good palatability in respect of its high content of protein, lower levels of fats, especially low and very low-density lipoprotein cholesterol (**Owen 1981**).

It is well known that antibiotics are the most commonly used feed supplementation, that have positive effects in reducing pathogenic bacteria count of the digestive tract. Moreover, antibiotics play its important role as growth promoters (AGP) in animal feeds via limiting the growth of harmful microorganisms.

Antibiotics are widely used to reduction mortality rate in growing rabbits, although, there are increasing concerns over drug residues in meat products and increases in bacterial resistance due to the prophylactic use of antibiotics, while, using alternatives to antibiotics has received renewed emphasis (**Bovera *et al.*, 2012 a**). The ordinary use of yeast in its live form is widely applied as alternative for AGP to inhibit the deleterious effect of bacteria on intestinal tract and to preserve microbiota balance resulting in an enhancement of immunity. Live yeast addition to diets may provide some positive impacts on growth performance and health status of rabbits (**Maertens and De Groote, 1992**), depending on the route of administration, added doses, species, age and the physiological status of livestock.

The use of probiotics had many potential benefits and included: modified host metabolism, immune-stimulation, anti-inflammatory reactions, exclusion and killing of pathogens in the intestinal tract, reduced bacterial contamination on processed broiler carcasses, enhanced nutrient absorption and performance, and ultimately decreased human health risk (**Patil *et al.*, 2015**).

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