بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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MONA MAGHRABY

IMPROVING PRODUCTIVITY AND IMMUNE RESPONSE OF BROILER CHICKENS UNDER HOT ENVIRONMENTAL CONDITIONS BY USING NON SPECIFIC METHODS

By

MOHAMED KHAIRY MOHAMED HASHIM

B.Sc. Cooperative Agric. Sc. (Management of Agric. Projects and Marketing), Higher Institute for Agricultural Co-operation (2012)

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ABSTRACT

Mohamed Khairy Mohamed Hashim: Improving Productivity and Immune Response of Broiler Chickens under Hot Environmental Conditions by using Non Specific Methods, 2020.

The aim of this work was to study the effect of Fenugreek seeds (*Trigonellafoenum-gracum* L.) and Camphor leaves powder (*Cinnamomum-camphora*) on productive performance and immune response of Ross broiler chicken. Total of (250) day-old unsexed broiler chicks (Ross 308) were allocated in random to five treatments with two replicates of 25 each reared for 35 days. The experimental diets were: Control diet (C), fenugreek seed powder 1g/1kg (Fen.1), fenugreek seed powder 1.5g/1kg (Fen.2), camphor leaves powder 1g/1kg (Cph.1), camphor leaves powder 1g/1kg (Cph.2). (Fen.2) trait considered the best trait among traits during most of ages for body weight and body weight gain. Dressing percentage of broilers at 5 week was significantly higher value for Cph.1 group. Cph.2 and Fen.2 addition had the maximum cutaneous basophilic hypersensitivity swelling response with insignificantly difference. Fen.1 and Fen.2 groups had significantly hyper responder to SRBCs at 7 days post-secondary injection, while at 14 days post-secondary injection Cph.2 and Fen.2 groups had significantly hyper responses to SRBCs. Therefore, fenugreek and camphor supplementation at 1.5g/1kg might be acceptable for achieving better performance under environmental conditions of Egypt. Considering the results obtained from the current study it could be concluded that the fenugreek seeds powder and camphor leaves powder may increase body weight, body weight gain and carcass characteristics. These additives may be also improving the cellular and humeral immunity for broiler chickens under environmental conditions of Egypt.

Keywords: Fenugreek, Camphor, Productivity, Immunity and Broiler.

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LIST OF ABBREVIATIONS

ABBREVIATION	Mean
14-PPI	fourteen-days-post-primary-SRBC-injection
7-PPI	Seven-days-post-primary-SRBC-injection
A. annua	Artimesia annua
Abs	Antibodies
AMI	Antibody-Mediated Immunity
BWG	Body Weight Gain
C	Control
Ca	Calcium
CF	Californium
Cph1	Camphor 1
Cph2	Camphor 2
CH	Cutaneous Hypersensitivity
CMI	Cell-Mediated Immunity
CP	Crude Protein
Cr	Chromium
CTL	Cytotoxic T lymphocytes
DFM	Direct Fed Microbial
DM	Dry Matter
E. acervulina	Eimeria acervulina
E. coli	Escherichia coli
E. maxima	Eimeria maxima
E. tenella	Eimeria tenella
Fen.1	Fenugreek 1
Fen.2	Fenugreek 2
FCR	Feed Conversion Ratio
FI	Feed Intake
FSP	Fenugreek Seed Powder
GLM	General Linear Model
IBW	Initial Body Weight

Ig	Immunoglobulin
IgA	Immunoglobulin-A
IgD	Immunoglobulin-D
IgE	Immunoglobulin-E
IgG	Immunoglobulin-G
IgM	Immunoglobulin-M
LPS	Lipopolysaccharides
ME	Mercaptoethanol
NS	Non-Significant
pH	Hydrogen ion concentration
PHAP	Phytohaemagglutinin-P
Ppm	Part per million
Pr	Probability
R1	Replicate 1
R2	Replicate 2
SRBCs	Sheep Red Blood Cells
T cells	T cytotoxic cells
TCR	T CellR

INTRODUCTION

Anti-microbials in chicken diets are considered genuine health dangers to human health cause of their remaining impacts in meat result pathogens create resistance to anti-microbials. Researchers of poultry are challenged to discover modern substitutes to anti-microbials without any side impacts for poultry that might be as compelling hostile to harmful micro-organisms and to invigorate the development by increment the capability of food utilization and to upgrade the resistant reaction **(Farman *et al.*, 2009).** The advancement of resistance to anti-microbials postures genuine problems to animal **(Barton, 2000).** Numerous additives such as: probiotics, prebiotics and symbiotic rise as interest as products of substitution to anti-microbials to making strides efficiency and health of people **(Bach, 2001).** Leaves and seeds of Fenugreek have been utilized to prepare extracts for therapeutic **(Basch *et al.*, 2003).** Fenugreek has been utilized for over two thousand years a long time as medicinal plant in different parts of the world **(Srinivasan, 2006)** and may considered as the oldest therapeutic plant, utilize of fenugreek is related with a therapeutic applications including its utilize as a carminative to its utilize as an sexual enhancer **(Chopra *et al.*, 1982).** The seeds have antioxidant, antiviral and anti-carcinogenic activities **(Mazur *et al*,. 1998).** Camphor is considered a natural product inferred from the wood of the Cinnamomum camphora tree, it utilize as clean, pain relieving, antipruritic, counterirritant and rubefacient **(Ellenhorn and barceloux, 1998).** Camphor is success plant and wide restorative utilize particularly in topical arrangements, it moreover associated to the generation of a circum scribed sensation of warm, in conjunction with its characteristic and entering scent that's by most of individuals related to the thought of a viable medication **(Gibson *et al.*, 1989).**

The main aim of this study is utilizing the fenugreek seeds and camphor leaves as a phytogenic instead of antibiotics for growth enhancing the broiler chickens under hot climate of Egypt.