EFFECT OF SOME NATURAL ANTIOXIDANTS SUPPLEMENTATION ON PRODUCTIVE PERFORMANCE OF RABBITS UNDER HEAT STRESS CONDITIONS

By

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B.Sc. Agric. Sc. (Poultry Production), Ain Shams University, 2002

M.Sc. Agric. Sc. (Poultry Physiology), Ain Shams University, 2010

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Approval Sheet

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ABSTRACT

OSAMA MOHAMED MOHAMED ABOELAZAB: Effect of Some Natural Antioxidants Supplementation on Productive Performance of Rabbits Under Heat Stress Conditions. Unpublished Ph.D. Dissertation, Department of Poultry Production, Faculty of Agriculture, Ain Shams University, 2015.

The present study was conducted to evaluate the effects of some natural antioxidants supplements (moringa dry leaves and rosemary dry leaves) to rabbit diets either singularly or in combinations on alleviating the negative impact of heat stress on productive performance. Sixty three male growing New Zealand White rabbits (NZW) aged six weeks old with an average body weight of 750.0±5.8g were distributed by weight in seven equal groups. The first group (R1) was fed on a basal diet. Moringa dry leaves powder was added with other feed ingredients at 0.5% and 1.0% (R2 and R3 groups), and also rosemary dry leaves powder at 0.5% and 1.0% (R4 and R5 groups), both moringa and rosemary at levels of 0.25% (R6) and 0.5% (R7) groups, respectively.

Results showed that live body weight, body weight gain and feed consumption were not affected among experimental groups. Feed conversion was numerically improved in high level combination group (R7) and moringa fed groups (R2; R3). Plasma T_3, total protein, albumin and globulin were not significantly influenced by different treatments. Plasma total lipids, tri-glycerides, cholesterols and low density lipo-proteins (LDL) levels were significantly decreased in experimental groups compared to control group. Plasma corticosterone level was significantly decreased in moringa fed groups (R2; R3) and low level combination group (R6). Hemolysatic malondialdehyde was significantly decreased, while total antioxidant capacity, catalase, glutathione peroxidase and superoxide dismutase activities were significantly increased in all experimental groups. Intestinal total plate count, *Salmonella*, *E. coli*, *Staphylococcus*

aureus and total mold count were decreased significantly in all experimental groups compared with control group.

It is concluded that, dietary supplementation with moringa dry leaves at 0.5% or a high mixture of moringa and rosemary dry leaves (0.5%+0.5%) may be used for enhancing productive performance and preventing pathogenic bacterial infections of growing rabbits reared under heat stress conditions**.**

Key words:

Natural Antioxidants, Heat Stress, Rabbits, Moringa, Rosemary, performance, Antimicrobial Effect

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