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308 Lasani Town, Sargodha Road, Faisalabad - Pakistan
Mob: +92 300 3008585, Fax: +92 41 8815544
E-mail: editorpjn@gmail.com

Response of Broilers to Antibiotic and Antistress Dietary Inclusion

T.S. Olugbemi¹, C.O. Ubosi², G.N. Akpa¹ and W.H. Esuga¹

¹Department of Animal Science, Faculty of Agriculture, Ahmadu Bello University, Zaria, Nigeria

²Department of Animal Science, Faculty of Agriculture, University of Maiduguri, Maiduguri

Abstract: Forty Eight day old broiler chicks of Anak 2000 strain were used to determine the effect of an antibiotic (Furazolidone) and antistress (Vitalyte) on production performance of broiler chickens. They were randomly assigned to four treatments comprising of Treatment 1 (T1:Control), Treatment 2 (T2:Antibiotic and Antistress), Treatment 3 (T3:Antibiotic) and treatment 4 (Vitalyte). Results obtained from the study showed no significant differences ($P>0.05$) in final weight, feed intake, feed conversion efficiency and live weight gain between weeks four to nine. Inclusion of antibiotics and antistress in broiler diets over the five week period did not improve performance.

Key words: Antibiotics, antistress, broiler, production

Introduction

The poultry industry has played a significant role in man's civilization in many ways and has gone through a phase of rapid development and commercialization. Eggs and meat of birds have been consumed since prehistoric times. Poultry comprises of chickens, turkeys, ducks, quails, pheasant, peafowls etc whether dressed or alive which are reared for their economic benefit (Singh, 1990).

Modern poultry production was introduced in Nigeria in the 1960's when it became apparent that the expansion of the cattle production could not progress at a satisfactory rate to cope with the increased demand for meat (David-West, 1979).

Antibiotics and Antistress are commonly used in poultry production as non-nutritive additive for a number of reasons such as their growth stimulating effects, for which purpose they are generally used in both broiler and market of turkey rations (Ensminger, 1985).

Antibiotics are chemical substances produced by various species of micro-organisms that suppress the growth of other micro-organisms and may eventually destroy them (Goodman *et al.*, 1985). Vitamins are required in small quantities in the diet for both livestock and humans for various metabolic functions to maintain health.

Vitalyte is a combination of vitamins, electrolytes and amino acids which are administered to poultry and other livestock to aid growth and performance. The quantity of these substances used in animal production in Nigeria as well as its effect is not well documented. This study aimed at looking at the effect the administration of antibiotics (Furazolidone) and antistress (vitalyte) would have on the production performance of broilers in terms of weight gain, feed conversion efficiency and feed intake.

Materials and Methods

The experiment was carried out at the Animal Science

Department Farm Unit. Forty Eight day old chicks of Anak 2000 strain were used. They were centrally brooded using kerosine stoves. At four weeks of age, they were randomly assigned to four treatments with two replicates and six birds per replicate viz 1 (Control), 2 (Furazolidone and Vitalyte at 1gm/10 litres and 150gm/200 litres of water respectively), 3 (Furazolidone at 1gm/10 litres water) and 4 (Vitalyte at 150gm/200 litres of water). The birds were fed standard commercial broiler finisher diets containing 18%CP and 2900Kcal/Kg.

Feed and water were given ad lib. The birds were vaccinated as at when due. Weekly feed intake, body weight and mortality were recorded while feed conversion efficiency and weight gain were calculated.

Results and Discussion

The results of the study are presented in Table 1. The birds on treatment 2 had slightly higher final weights than the rest however the difference was not significant ($P>0.05$). This supports the findings of Hinvers (1972) which showed that the inclusion on antibiotic and antistress in broiler diets resulted in no improvement in the final body weight.

Although WHO report (1997) and Manie *et al.* (1998) reported that subtherapeutic antibiotics supplementation of animal feeds results in enhanced rate of weight gain of animals without increase in the amount of feed consumed, non significant differences ($P>0.05$) were observed for feed intake, weight gain and feed conversion ratio (FCR) although the birds on treatments 2 and 3 had slightly higher feed intake and weight gain respectively. This result is supported by the findings of Day and Dilmorth (1980) in which they reported no improvement in broiler performance when their diets were supplemented with antibiotics and antistress. Potter (1978) while reporting growth changes in broilers fed antibiotics between 0-4weeks mentioned little or no

Olugbemi *et al.*: Response of Broilers to Antibiotic and Antistress Dietary Inclusion

changes as from 4-8 weeks. Henry *et al.* (1987) however in a study comparing several antibiotics in chicks diet reported no significant effect on weight gain or feed efficiency.

Table 1: Effect of treatment of Production Performance

Treatment	T ₁	T ₂	T ₃	T ₄
Mean Initial weight (Kg)	0.79	0.80	0.79	0.80
Mean Final Weight (Kg)	2.47	2.72	2.55	2.48
Mean Feed Intake (kg)	4.43	4.46	4.63	4.32
Mean Weight gain (Kg)	1.86	1.92	1.76	1.68
Feed Conversion Ratio	2.38	2.32	2.63	2.57
Mortality	-	-	-	-

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