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COMPARATIVE STUDY ON THE EFFECT OF ALBAC, GALLAMYCIN AND O-TETRA-45 AS FEED ADDITIVES ON THE PERFORMANCE OF BROILER CHICKS

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ABSTRACT

The comparative value of albac, gallamycin and O-tetra-45 as feed additives was determined on the basis of performance of broiler chicks. The birdsfed rations containing different feed additives gained 7.30 to 15.16% higher weight, consumed 1.23 to 7.86% more feed, utilized 4.51 to 6.39% less feed per unit gain and had 3.35 to 5.06% more dressed weight than those on control. The effect on feed consumption and feed efficiency was, however, non-significant. The broiler chicks showed comparatively better performance on O-tetra-45 followed by albac and gallamycin, the difference being non-significant.

INTRODUCTION

Inspite of the fact that the growth rate of poultry development in Pakistan had been 15% per annum during the last decade (Anonymous, 1985), the optimum production performance of exotic breeds and strains could not be achieved. A number of factors seem to influence the production performance of broilers, the most important being climatic stress, infectious and parasitic infestations early chick mortality and poor quality of feed. A sustained economic growth of poultry industry has been claimed by the use of antibiotics as feed additives. Awan (1985) compared a number of antibiotic feed additives with a view to recommend the most effective preparation. He rated albac, gallamycin and O-tetra-45 as the best out of 9 feed additives available in the market.

The study under report was conducted to further confirm the comparative value of the three best rated feed additives in terms of weight gain, feed consumption, feed efficiency and dressing percentage in broiler chicks.

MATERIALS AND METHODS

One hundred and twenty day-old commercial broiler chicks were used in

the experiment. The chicks were individually weighed and wing-banded for identification. All the chicks were randomly divided in twelve experimental units of ten birds each and placed at random in individual pens on deep litter system. After brooding the chicks were kept at room tempertature (21°C).

A starter ration was formulated which servrd as control (A). Albac (Hilton), gallamycin-50 (Abbot) and O-tetra-45 (Agri-vet) were added at the rate of 13, 25 and 38 g per 50 kg of basal rations, respectively. The rations containing these antibiotics were designated as B, C and D, respectively. The starter rations were given from day-old to six weeks of age and the finisher ration without feed additives was fed during 7th and 8th weeks to all the groups. The rations were fed *ad lib*.

The birds were weighed at the start of the experiment and at weekly intervals thereafter. Weekly feed consumption of each group was recorded and the feed efficiency was calculated. Mortality record was maintained and the economics of the broiler production was worked out. At the end of 6th and 8th week one bird from each replicate was slaughtered and the dressing percentage was recorded.

RESULTS AND DISCUSSION

The average values for various performance parameters have been shown in Table 1.

Table 1. *Average weight gain, feed consumption, feed efficiency and dressing percentage in chicks fed rations containing different antibiotic feed additives*

Description	Rations			
	Control (A)	Albac (B)	Gallamycin (C)	O-tetra-45 (D)
Weight gain/chick (g)	1643.1 b	1797.1 a	1763.1 a	1892.0 a
Feed consumption/ chick (g)	4368.1	4553.1	4421.9	4711.7
Feed efficiency	2.66	2.54	2.51	2.49
Dressing percentage	64.0 b	68.1 a	67.4 a	69.1 a

The same superscript for means in a row shows non-significant difference.

Weight gain and feed utilization: During the experimental period of 8 weeks the average weight gains per chick on rations A,B,C & D were 1643.1, 1797.1, 1763.1 and 1892.0 g, respectively (Table 1). The chicks on ration D (O-tetra-45) gained the highest weight, while those on ration A (control) gained the least. The analysis of variance showed significant ($P<0.01$) effect due to treatment (Table 2). The comparison of means revealed significantly higher gain in weight in brids on rations containing different antibiotic feed additives than control. The difference due to the use of different feed additives was non-significant.

Table 2. *Analysis of variance of the data on weight gain, feed consumption, feed efficiency and dressing percentage*

Source of variation	Degree of freedom	Means square			
		Weight gain	Feed consumption	Feed efficiency	Dressing percentage
Treatment	3	31703.42**	70354.9 NS	0.8751 NS	14.4581**
Error	8	3843.15	81597.16	1.5057	0.6864

** = Significant ($P<0.01$); NS = Non-significant.

The chicks on rations containing albac, gallamycin, O-tetra-45 and control had a similar growth pattern throughout the experimental period. During the treatment period the birds showed progressive linear weight gains and reached the maximum weight at 6th week of age beyond which there was a decline till 8th week. The decrease in weight in case of chicks on O-tetra-45 was not drastic as compared to those on gallamycin and control. The birds on ration containing albac had slow weight gain during the first three weeks and their weights were lesser than their counterparts in the other groups. After that an increase in weight gain was observed which surpassed the other groups touching the peak at 6th week. Beyond 6th week there was a slow decline and at the end of 8th week the gain in weight was next below the highest. The chicks on albac showed a sharp spurt in growth during 3rd to 5th weeks and had the maximum weights. The experimental chicks fed rations containing different feed additives gained 7.30 to 15.15% higher weight than those on control indicating their positive effect. Similar findings were reported by Awan (1985). Growth stimulation

by antibiotics may be the result of their direct action on the intestinal wall that might have increased efficiency of absorption of nutrients (Matsuzawa *et al.*, 1973). King (1968) observed significant reduction in weight of small intestine by oxytetracycline in an experiment on ducklings which could be due to decrease in the thickness of the intestinal wall.

The average values for feed consumption per chick on rations A, B, C and D were 4368.1, 4553.1, 4421.9 and 4711.7 g and feed efficiency ratios 2.66, 2.54, 2.51 and 2.49, respectively. The statistical analysis revealed non-significant differences among feed consumption values and efficiency of feed utilization. The chicks fed rations containing different feed additives consumed 1.23 to 7.86% more feed and utilized 4.51 to 6.39 percent less feed per unit gain than those on control but the increase was still non-significant. Amin *et al.* (1977) also reported similar results. The variation in feed efficiency might be due to variation in the absorption of feed nutrients.

Dressing percentage and economics: The average dressing percentage of carcasses of chicks fed rations A, B, C and D were 64.0, 68.1, 67.4 and 69.1, respectively. The analysis of variance showed significant ($P<0.01$) effect due to treatments. The comparison of means showed significantly higher dressing percentage of birds on rations containing albac (B), gallamycin (C) and O-tetra-45 (D) than on control (A). The differences among the dressing percentages of carcasses of birds on rations containing feed additives were not significant The experimental chicks fed rations containing different feed additives gained 3.35 to 5.06% more dressed weight than those on control. Similar results were reported by Leeson (1984) and Awan (1985).

Net profit per bird on rations A, B, C and D was rupees 6.4, 8.7, 8.1 and 10.1, respectively Maximum profit was observed in chicks on ration containing O-tetra-45(D) and minimum in case of control (A).

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