EFFECT OF FLAVOMYCIN, O-TETRA-45 AND TYLOSIN PREMIX AS FEED ADDITIVES ON THE PERFORMANCE OF BROILER CHICKS

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An experiment was conducted to study the effects of flavomycin, O-tetra-45 and tylosin premix at the Poultry Experiment Station, University of Agriculture, Faisalabad, using 84 day-old Hubbard broiler chicks over a period of 8 weeks. The results revealed statistically significant weight gain, feed consumption and feed conversion ratio due to feeding different antibiotics as feed additives. Weight gains per chick for flavomycin, O-tetra-45, tylosin premix groups and control group were 1798.59, 1945.73, 1622.74 and 1466.53 g respectively, whereas total feed consumed per chick was 4522.33, 4781.33, 4155.00 and 3959.33g respectively.The most efficient feed conversion ratio (2.45) was found in O-tetra-45 group whereas control group showed poor feed conversion ratio (2.69). The group fed O-tetra-45 showed maximum profit, whereas the least profit was observed in control group.

INTRODUCTION

The quality of feed and its quantity consumed both play an important role in determining the economic feasibility of a poultry enterprise. Poor quality feed as well as environmental stress results in early chick mortality and variation in weight at the time of marketing. These factors also lower feed efficiency causing considerable economic losses to broiler producers. Henning *et al.* (1975) fed oxytetracycline, zinc bacitracin and flavomycin to chicken in two different experiments. They reported that weight gain and feed intake were increased by these antibiotics. Similarly, Ahsan *et al.* (1987) fed furazol, gallimycin and erthro-FZ to broilers. They reported significant increase in weight gain, feed consumption and feed efficiency. The study under report was conducted to see the comparative efficiency of flavomycin (Hoechst), O-tetra-45 (Agri-Vet) and tylosin (A.H.C.) as feed additives for gain in body weight, feed consumption and efficiency of feed utilization in broiler chicks.

MATERIALS AND METHODS

The experiment was conducted on eighty-four day-old "Hubbard" broiler chicks randomly divided into 12 experimental units of 7 chicks each. Each replicate was placed randomly in an individual pen of 82 x 30 cm size and the chicks were reared on deep litter. Three replicates were randomly allotted to each feed additive antibiotic i.e. flavomycin, O-tetra-45 and tylosin premix, mixed into a broiler starter ration at the rate of 10, 38 and 45 g per 50 kg, respectively. The antibiotics were fed for a period of six weeks. Three replicates were also kept as control. In the last two weeks (7th and 8th), the feed additives were withdrawn. The birds were fed the allotted rations *ad libitum* free of feed additives and fresh and clean water was made available to them at all times. The temperature of the brooder room

was maintained at 34 ± 1°C during first week and then lowered by 3°C everry week upto the end of third week, after which the chicks were kept at room temperature. Twenty-four hours light was provided to all the experimental units. The chicks were weighed at the start of the experiment and at weekly intervals thereafter, till 8th week. Weekly feed consumption by each experimental unit was recorded. The feed conversion ratio and economics of various feed additives were worked out. The data were subjected to statistical analysis using analysis of variance technique and comparisons of mean differences were made by applying DMR-test.

gain data revealed significant effect due to treatment, period of growth and their interaction (Table 2). The analysis of the data on total weight gain at 8 weeks age also revealed significant differences at Ist, 5th, 6th and 8th weeks of age. The peak growth rate was attained at 6th week after which there was a sharp decline. Bokhari (1985) and Anwar (1985) reported that in broiler chicks the weight gain started to decline after 6th week. More gain in weight by chicks given feed additives was probably due to more feed consumption and higher efficiency of feed utilization than control. The birds on flavomycin grew slowly during the first two weeks and their weights were lesser

Table 1. Average gain in weight, feed consumption and efficiency of feed utilization of different feed additives

Description	Flavomycin	O-Tetra-45	Tylosin premix	Control
Av. initial wt./chick (g)	45.57	91.90	45.56	45.50
Av. final wt./chick (g)	1844.16 b	1991.63 a	1668.30 c	1512.10
Av. weight gain/chick (g)	1798.59 b	1945.73 a	1622.74 c	1466.53
Total feed consumed/chick (g)	4522.33 b	4781.33 c	4155.00 b	3959.33
Feed conversion ratio (feed/wt. gain)	2.51	2.45	2.56	2.69

RESULTS AND DISCUSSION

Average body weight, feed consumption and feed conversion ratio in broiler chicks fed rations containing different antibiotic feed additives have been shown in Table 1.

Weight gain: Weight gains per chick for flavomycin, O-tetra-45, tylosin premix and control groups were 1798.59, 1945.73, 1622.74 and 1466.53 g, respectively during the experimental period of 8 weeks (Table 1). Analysis of variance on weekly weight

than those of their counterparts in other groups. Rapid growth started after the 2nd week and beyond 3rd week their weights surpassed the other groups, touching the peak of their growth on 5th week i.e. one week earlier than the growth of their counterparts. Beyond 5th week there was a slow decline and at the end of 8th week their weights were 2nd to the highest.

The results of the present study are in accordance with those of Haq *et al.* (1987). They found significant effect of feed additives on weight gain. However, King (1968)

could not observe any significant effect of feed additives on weight gain in broiler chicks.

feed consumption in birds on rations containing O-tetra-45 than those on rations containing flavomycin and control. The

Table 2. Analysis of variance of data on weekly weight gain,feed consumption and feed efficiency in broiler chicks

S.O.V.	DF	Means of squares		
		Weight gain	Feed consumption	Feed efficiency
Treatment (T)	3	13846.26**	41377.01**	0.193**
Week (W)	7	163201.54**	934637.51**	0.355**
T x W	21	7709.19**	42890.68**	0.022**
Error	64	685.23	2206.23	0.009

** Significant (P<0.01).

Table 3. Analysis of variance of data on total weight gain, feed consumption and feed efficiency

S.O.V.	DF	Means of squares		
		Weight gain	Feed consumption	Feed efficiency
Treatment	3	110635.20**	331000.00**	0.03**
Error	8	398.48	1875.00	0.0012

** Significant (P<0.001).

Feed consumption: Total feed consumed during eight weeks by each chick fed flavomycin, O-tetra-45, tylosin premix and control was 4522.22, 4781.33, 4155.00 and 3959.33 g, respectively (Table 1). Analysis of variance on weekly feed consumption data revealed significant effect of treatment, weeks and their interaction. The statistical analysis of the data on total feed consumption upto 8th week also revealed significant treatment effect. The comparison of means by DMR-test showed significantly higher differences between feed consumption of birds fed rations containing tylosin premix and control were found to be non-significant. Average weekly feed consumption values were also compared by DMR-test which revealed significant differences among all the weeks except Ist, 3rd, 4th and 8th. The results are supported by those reported by Buksh *et al.* (1980) and Haq *et al.* (1987). They found significant effect of feed additives on feed consumption. However, Rashid *et al.* (1987) did not observe significant effect

of feed additives on feed consumption probably due to a variable response of feed additives on feed intake depending mainly upon the type of feed, feed additives used and other environmental factors prevailing at the time of experiment.

Feed efficiency: Average feed conversion ratio for birds on rations containing flavomycin, O-tetra-45, tylosin premix and control were 2.51, 2.45, 2.56 and 2.69, respectively (Table 1). The comparison of means showed best feed efficiency in birds fed the ration containing O-tetra-45. The birds fed the ration containing tylosin premix showed lower feed efficiency than those on flavomycin. The results of the present study are in line with those of Buksh *et al.* (1980) and Ahsan *et al.* (1987). They reported significant effect of feed additives on feed efficiency. However, Rashid *et al.* (1987) observed non-significant effect of feed additives on feed efficiency. The improvement in the efficiency of feed utilization in groups given feed additives could be due to more dry matter and crude protein digestibility.

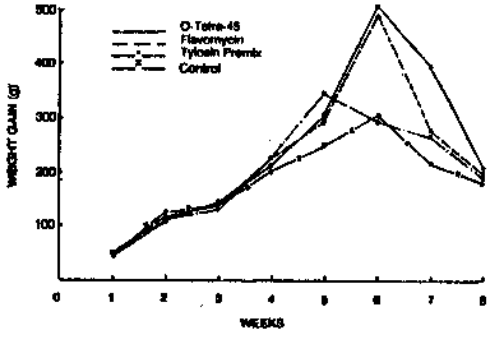

Fig. 1. Growth curves of different feed additives in broiler chicks from 0 to 8 weeks

Net profit per broiler for flavomycin, O-tetra-45, tylosin premix and control was 6.29, 7.42, 4.36 and 0.83 rupees, respectively. The maximum profit was found in birds fed O-tetra-45 and the least profit was observed in birds of control group. Based on the results of the present study, it may be concluded that O-tetra-45 was a better feed additive. It was also observed that feed additives significantly improved the performance of broilers.

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