Pak. J. Agri. Sci., Vol. 30, No. 3, 1993

COMPARATIVE EFFICIENCY OF TM-200 AND BIOVIN-40 AS GROWTH PROMOTANTS IN BROILER CHICKS

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The comparative efficiency of TM-200 and Biovin-40 as growth promotants in broilers was studied on 90 day-old chicks. These chicks were divided into 9 groups of 10 chicks each. These groups were randomly allotted to three treatments: A (Control), B (Biovin-40) and C (TM-200) with three replicates each. Biovin-40 was supplemented at the rate of 12.50 g/50 kg and TM-200 at the rate of 62.50 g/50 kg of ration. Group C exhibited significantly better weight gain, feed consumption and feed efficiency than groups B and A. There was non-significant difference in feed efficiency values of groups B and A.

INTRODUCTION

Since emergence of this planet, man's greatest problem has been to secure enough food which should be suitable to meet his nutritional requirements. Constant efforts to produce enough human foods from animal sources more efficiently and to make it available at lower cost have compelled the workers for continued search to find more suitable ways and means to produce food in large quantities. To achieve this target by using high producing breeds, man has developed certain food additives to improve productivity. These efforts have led to the use of additives, antibiotics and other chemicals in poultry to improve production. Some of the chemicals used as chemotherapeutic agents and for prophylactic purposes are also used as feed additives to promote growth and feed efficiency.

A project was thus planned to compare the efficiency of two feed additives i.e. TM-200 (Pfizer) having Terramycin 200 g/kg and Biovin-40 (Agri-Vet) having 40 g/kg Nitrovin, in broiler production.

MATERIALS AND METHODS

A six week experiment was conducted on 90 day-old broiler chicks. The chicks were wing-banded and randomly divided into 9 groups of 10 chicks each. All groups were housed in separate pens of 120 x 90 cm size, covered with wire gauze frames. The chicks were brooded at 35°C during first week and temperature was lowered by 3°C each week till it reached 25°C which was maintained for the remaining period of the experiment. The chicks were vaccinated against Newcastle disease at day-old through intraocular route and intramuscular route at the age of 4 weeks. The birds were fed *ad libitum*.

Commercial broiler starter and finisher rations were used as control (A), whereas Biovin-40 and TM-200 were added at the rate of 12.50 and 62.50 g/50 kg of the same ration. These rations were then designated as B and C, respectively. Each ration was offered randomly to three groups/replicates.

Initial, weekly and final body weight of individual chick was recorded. The record of

feed consumption was kept at weekly intervals. The data thus collected were subjected to statistical analysis.

RESULTS AND DISCUSSION

Weight gain per chick: The average weight gain per chick at six weeks under treatments A (control), B (Biovin-40) and C (TM-200) was 1233.66, 1285.00 and 1390.00 g, respectively (Table 1).

Feed consumption: The average feed consumption per group upto six weeks in treatment groups A, B and C was 3035.38, 3100.68 and 3209.68 g, respectively (Table 1). Statistical analysis of the data showed that the birds in group C (TM-200) consumed significantly ($P<0.05$) more feed than those in A and B groups i.e. (Biovin-40) and control. Similarly, the chicks in group B consumed significantly more feed than group A. The chicks in group B and C consumed 2.15 and 5.72% more feed respectively than control group A. These results are in accordance with the findings of Decuypere *et al.* (1989) who reported that zinc bacitracin, virginiamycin or avopracin supplementation to broiler rations significantly improved feed consumption. Similar findings were also reported by Sapra and Mehta (1990).

Table 1. Average weight gain, feed consumption and feed efficiency of broiler chicks fed rations containing different feed additives

Description	A (Control)	B (Biovin-40)	C (TM-200)
Number of birds	30	30	30
Experimental period (days)	42	42	42
Weight gain/chick (g)	1233.66 c	1285.00 b	1390.00 a
Feed consumption/chick (g)	3035.38 c	3100.68 b	3209.68 a
Feed efficiency (feed/gain)	2.46 a	2.41 a	2.31 b

Means bearing the same letters show non-significant differences between them.

The mean differences observed among various groups were statistically significant ($P<0.01$). The chicks supplemented with TM-200 were significantly heavier than those in group B and control group A. Similarly, the chicks supplemented with Biovin-40 were significantly heavier than control group A. The chicks on B and C rations gained 4.16 and 12.67% more weight respectively when compared with control group. These results are in line with the findings of Butolo *et al.* (1986) who reported that addition of Nitrovin and Olaquindox to broiler rations slightly improved weight gain. Similar findings were reported by Tokosova and Pleva (1988) who found that antibiotic supplementation significantly improved body weight.

Feed efficiency: The average feed efficiency values of birds on treatments A, B and C were 2.46, 2.41 and 2.31, respectively (Table 1). Statistical analysis of the data revealed that feed efficiency was significantly better in group C than other groups. However, groups B and A exhibited non-significant differences. These results agree with the findings of Harms *et al.* (1986). They reported significant improvement in feed effi-

ciency by use of feed additives in broiler ration. In feed additive groups, more gain in weight was probably due to more feed consumption and higher efficiency of feed utilization because feed intake, weight gain and feed efficiency are interrelated and interdependent. The feed additives/antibiotics by checking infection have a thinning effect on intestinal wall which results into better absorption by increasing ingesta time through slow peristaltic movements.

Mortality: Only three chicks died during this study. The mortality percentage in group A and B was 2.22 and 1.11, respectively with overall mortality percentage of 3.33 during the experimental period. The results of the present study are in accordance with the findings of Dost (1985) who reported that Flavomycin supplementation to broiler feed significantly reduced mortality.

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