

STUDY ON BROILER RATION. II. COMPARATIVE EFFICIENCY OF DIFFERENT VITAMIN-MINERAL SUPPLEMENTS IN BROILER FINISHER RATIONS

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ABSTRACT

A study involving 150 broiler chicks aged 55 days was conducted to compare different commercial vitamin mineral supplements in broiler;s finishing rations. The supplements tested were "self prepared premix", commercial, i.e., "Vita-mineral premix", "Nut-ri-pol" "Rousselot S. A." and "Nutrimix B". Non-significant difference in growth rate, feed consumption, feed efficiency and dressing percentage of birds fed on rations fortified with different vitamin-mineral supplements was observed.

INTRODUCTION

Ali *et al.* (1984) observed non-significant differences in the growth rate and feed efficiency of broiler chicks fed rations fortified with different premixes during their early growth (0-5 weeks). The present study was carried out in continuation to see the effect of the premixes already tested in the afore-mentioned experiment on the performance of the broilers in finishing period (6 to 7 weeks).

MATERIALS AND METHODS

Using completely randomised design, one hundred and fifty broiler chicks of 35 days age were divided into 15 experimental units of 10 birds each. The finisher rations (A, B, C, D and E) were allotted to the groups of chicks at random (Table 1). The premixes under test were:

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Table 1. *Composition of broiler finisher rations*

Ingredients	Rations				
	A (%)	B (%)	C (%)	D (%)	E (%)
Maize grain (ground)	54.00	54.00	54.00	54.00	54.00
Rice grain (ground)	2.00	2.00	2.00	2.00	2.00
Rice polishings	16.00	16.25	16.05	16.35	16.25
Maize gluten meal (60%)	6.00	6.00	6.00	6.00	6.00
Sesame oil cake	2.00	2.00	2.00	2.00	2.00
Guar meal (toasted)	2.00	2.00	2.00	2.00	2.00
Cotton seed meal (decorticated)	2.00	2.00	2.00	2.00	2.00
Fish meal	10.00	10.00	10.00	10.00	10.00
Blood meal	2.00	2.00	2.00	2.00	2.00
Molasses (cane)	2.00	2.00	2.00	2.00	2.00
Bone meal (steamed)	0.50	0.50	0.50	0.50	0.50
Ground lime stone	1.00	1.00	1.00	1.00	1.00
Vitamin-minerol premix	^a 0.50	^b 0.25	^c 0.45	^d 0.15	^e 0.25
Crude protein (%)	19.00	19.03	19.00	19.04	19.03
Metabolizable energy (Kcal/kg)	3200	3208	3201	3211	3208
Protein : energy ratio	1:168	1:169	1:168	1:169	1:169
Crude fibre (%)	3.45	3.48	3.45	3.49	3.48
Calcium (%)	1.17	1.17	1.17	1.17	1.17
Phosphorus (%)	0.96	0.96	0.96	0.96	0.96

^a Self prepared Vitamin-mineral premix; ^b Vita-mineral premix (Pfizer);

^c Nutripol (PVP); ^d Rousselot S.A (France) and ^e Nutrimix B (Agrivet).

“Self prepared Vitamin-mineral premix “Vita-mineral premix,” “Nutripol”, “Rousselot S. A and “Nutrimix B. These were added to rations A, B, C, D and E, respectively. The birds were provided 24 hours light throughout the

experimental period of two weeks. The temperature of the experimental room was maintained at 24 °C. The chicks were kept on floor with saw dust as litter. The experimental rations were fed *ad libitum*. Fresh and clean water was made available to the birds at all time. The data on growth rate, feed consumption, feed efficiency and dressing percentage were analysed using analysis of variance technique (Steel and Torrie, 1980). At the end of experiment two birds per experimental unit were picked up randomly to get slaughter data.

RESULTS AND DISCUSSION

Weight gain : The chicks fed ration A containing "self prepared premix", ration B supplemented with "Vita-mineral premix", ration C fortified with "Nutripol", ration D having "Rousselot S. A" and ration E containing "Nutrimix B", gained on an average 553.5, 609.3, 626.0, 579.3 and 530.9 gm, respectively (Table 2). The birds supplemented with "Nutripol" (ration C) showed the highest growth rate followed by those fed on rations B, D, A and E. But the difference in weight gain of the chicks fed different rations was found to be non-significant.

Feed Consumption : The birds consumed on an average 1823.0, 2043.0, 2082.0, 2043.0 and 2024.0 gm of rations A, B, C, D and E, respectively, during the finishing period (6th to 7th week) as shown in Table 2. Maximum feed consumption was observed with chicks fed ration C, followed by those on rations B, D, E and A. But the difference in feed consumption among different groups of birds fed on various rations containing different premixes was, however, non-significant.

Feed Efficiency : The average feed efficiency values of chicks fed rations A, B, C, D and E were 3.29, 3.36, 3.32, 3.52 and 3.81, respectively (Table 2). Apparently, the birds fed ration A appeared to be the most efficient in the utilization of feed; but the difference in the feed efficiency among different groups of chicks supplemented with various premixes was found to be statistically non-significant.

Dressing Percentage : The average dressing percentage recorded in birds fed rations A, B, C, D and E was 54.3, 54.4, 53.8, 52.5 and 54.1, respectively (Table 2). Although there was apparent variation in the dressing percentage of chicks fed different rations, yet the differences were found to be non-significant, indicating that all the premixes tested in the present study were equally efficient in promoting the growth.

Vitamin-Mineral Supplements in Broiler Rations

Table 2. *Data on average weight gain, feed consumption, feed efficiency and dressing percentage of birds fed rations containing various vitamin-mineral supplements*

Particulars	Rations,				
	A	B	C	D	E
No. of chicks	30	30	30	30	30
Days on experiment	14	14	14	14	14
Average initial weight per chick (gm)	922.8	922.7	976.2	895.8	919.1
Average final weight per chick (gm)	1476.3	1532.0	1602.2	1475.1	1450.0
Average total weight gain per chick (gm)	NS 553.5	NS 609.3	NS 626.0	NS 579.3	NS 530.9
Average total feed consumption per bird (gm)	NS 1823.0	NS 2048.0	NS 2082.0	NS 2043.0	NS 2024.0
Average feed efficiency	NS 3.29	NS 3.36	NS 3.32	NS 3.52	NS 3.81
Dressing percentage	NS 554.3	NS 54.4	NS 53.8	NS 52.5	NS 54.1

NS = Non-significant

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