

EFFECT OF FEEDING BROILERS AT DIFFERENT AGES WITH VARIOUS LEVELS OF CONO RICE BRAN

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ABSTRACT

Cobb broilers were fed with rations containing 0, 10, 20, 30, 40, and 50% levels of cono rice bran at different ages (one day, 2, 4, and 6 weeks old) until market age (8 weeks old). Results of the experiment revealed that feed consumption of the birds was not affected by the levels of rice bran nor by the ages when the different levels were fed. *Cono* rice bran can replace corn at 10% level without marked effect in weight gain. Replacement of corn at higher levels (20-50%) on the broiler rations significantly lowered the mean gain in weight of broilers at 8 weeks. In spite of the significant weight gained and feed conversion efficiency by birds fed with 0% level (control), the return above feed cost per kg liveweight revealed that birds fed with 30, 40 and 50% cono rice bran gave the highest return above feed cost. Furthermore, rice bran as the main energy source in broiler rations can be fed starting from a day old up to the 8th week without marked effect on the gain in weight, feed consumption, and feed conversion efficiency of the birds.

INTRODUCTION

The main bulk of commercial feeds for poultry is corn since it comprises 50 to 60% of the feed ingredients used. However, corn is

not only an animal feed but is also utilized for human consumption especially in the Visayas region. This situation forces animal producers to search for non-traditional sources of feed for poultry production. Rice

bran, either as *cono* (fine rice bran) or *kiskisan* (coarse rice bran) could be considered as a substitute for corn, since it is abundant and cheap in Leyte. It is high in fiber, rich in some vitamins particularly thiamine, and relatively high in crude protein.

Labadan (1957) observed that the different grades of *cono* rice bran affected the growth of New Hampshire chicks. However, differences in weight gains were not observed by Gerpacio (1974) in Peterson broiler chicks fed with rice bran for 28 days. Gorrez (1954) reported that birds fed with *cono* rice bran weighed on the average 193 grams heavier than those fed with *kiskisan* rice bran. On the contrary, Villanoy (1952) reported that *kiskisan* rice bran sieved through a 1-2 mm mesh can substitute satisfactorily for *cono* rice bran. In laying birds, Sevilla (1955) found that those fed with *kiskisan* produced the same number of eggs as those fed with *cono*.

MATERIALS AND METHODS

This study utilized 0, 10, 20, 30, 40 and 50% levels of *cono* rice bran in the ration. The 50% level meant a total replacement for corn in the broiler ration. The birds were fed at the following levels and at different ages: one day, 2, 4, and 6 weeks old, until market age (8 weeks old).

Formulation and Mixing of Feeds.

— The mixed rations were adjusted to give 22-24% and 20-22% crude

protein content for starter and finisher rations, respectively. The rations differed mainly in the ingredients used as sources of energy, which were the *cono* rice bran and the yellow corn.

The rations were mixed manually using shovels and mixing troughs. After mixing, the rations were separately stored in properly labeled containers.

Experimental Design. — A total of 378 day-old Cobbs which were randomly distributed into 21 treatments and replicated 2 times were used in this study. The treatments were arranged in a factorial scheme using a completely randomized design (CRD). The experimental treatments consisted of the different ages when feeding was started and the different levels of *cono* rice bran used as substitute for corn.

Management of Birds

Brooding. The chicks were immediately brooded upon their arrival. Floor space was 0.15 m²/bird on the 1st day to 3rd week and 0.30 m²/bird on the 4th to 8th week.

To keep the birds warm during the night from the first day of brooding up to the 3rd week, kerosene lamps were installed. During the day, heating was not found to be necessary. Sheets of paper were used as beds during the first week.

Feeding and watering. Dry method of feeding was used in *ad*

libitum amounts. Since the experiment included the feeding of specific rations at specific ages, a schedule of feeding was followed. Fresh and clean water in liberal amount was provided daily.

Prevention and control of diseases. Normal precautions for preventing and controlling diseases were undertaken.

RESULTS AND DISCUSSION

Gain in Weight

The differences in the mean weight gains among treatments as affected by levels of *cono* rice bran were statistically significant (Table 1). The results further revealed that *cono* rice bran can replace corn at

10% level. However, replacement of corn at higher levels (20 to 50%) significantly lowered the mean gain in weight of broilers. Anongos (1950) observed that corn and rice bran can substitute for each other in the brooding ration of SCWL without marked effect on growth. However, his report did not further specify whether the substitution was partial or complete.

The experiment revealed further that the differences among mean weight gains as affected by the feeding of *cono* rice bran at different ages and the interaction between levels and ages were not statistically significant.

Feed consumption

Results revealed that neither the

Table 1. The mean weight gains (kg) of 8-week old Cobb broilers fed with different levels of *cono* rice bran at different ages.

Age feeding started	Level (%) of <i>cono</i> rice bran					
	0 ¹	10	20	30	40	50
1 day	1.386	1.321	1.226	1.268	1.188	1.134
2 wk	-	1.412	1.246	1.266	1.299	1.173
4 wk	-	1.317	1.328	1.272	1.254	1.174
6 wk	-	1.342	1.328	1.335	1.237	1.173
Level						
Mean ²	1.386a	1.348ab	1.281bc	1.285bc	1.245cd	1.164d

¹ There was only one set of control treatment used in the study.

² Means with common letter are not significantly different at 1% level using Duncan's Multiple Range Test.

different levels of *cono* rice bran nor the different ages when the birds were fed, or the interaction of the two factors, significantly affected the differences in the mean feed consumption of the birds. Therefore, the substitution of *cono* rice bran for corn did not affect the appetite of the birds.

Feed Efficiency

The average feed conversion efficiency among treatments was affected by the levels of *cono* rice bran fed but not by age of the birds. Table 2 shows that birds fed with rations without *cono* rice bran were significantly more efficient feed converters than the birds in all the

other treatments except those fed with rations containing 10% *cono* rice bran. There were no significant differences in the feed efficiency of birds fed with rations containing 10, 20, and 30% *cono* rice bran. Birds fed with ration at 50% replacement were significantly less efficient than all the other birds except those at 40% replacement level.

Return Above Feed Cost per Kilogram Liveweight

Results revealed that return above feed cost per kg liveweight of broilers was significantly affected by the levels of *cono* rice bran fed. The rations that had 30, 40 and 50% *cono* rice bran gave significantly

Table 2. Mean feed conversion efficiency of 8-week old Cobb broilers fed with different levels of *cono* rice bran at different ages.

Age feeding started	Level (%) of <i>cono</i> rice bran					
	0 ¹	10	20	30	40	50
1 day	2.652	2.941	3.93	2.851	3.198	3.115
2 wk	-	2.692	2.940	2.889	2.831	3.206
4 wk	-	2.880	2.762	2.884	2.818	3.042
6 wk	-	2.716	2.774	2.781	2.916	3.081
Level						
Mean ²	2.652a	2.784ab	2.872bc	2.851bd	2.941cd	3.11d

¹ There was only one set of control treatment used in the study.

² Means with common letter are not significantly different at 1% level using Duncan's Multiple Range Test.

higher return above feed cost per kg liveweight than the other replacement levels (Table 3). Furthermore, the results showed that return above feed cost was not affected by

the age when the different levels of *cono* rice bran were fed. Thus, *cono* rice bran can be fed from day-old to the market age of 8 weeks.

Table 3. Return above feed cost (pesos) per kg liveweight of 8-week old Cobb broilers fed with different levels of *cono* rice at different ages.

Age feeding started	Level (%) of rice bran					
	0 ¹	10	20	30	40	50
1 day	4.040	3.825	4.035	4.555	4.375	4.820
2 wk	-	4.255	4.135	4.485	4.875	4.640
4 wk	-	4.085	4.330	4.365	4.685	4.340
6 wk	-	4.100	4.140	4.335	4.315	4.280
Level						
Mean ²	4.040cd	4.070c	4.10d	4.440a	4.560a	4.520a

¹ There was only one set of control treatment used in the study.

² Means with common letter are not significantly different at 1% level using Duncan's Multiple Range Test.

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