

Effect of Rumen Content Flour Fermented by Probiotic as Rice Bran Substitution on Broiler Performance

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Abstract

The experiment tried to make benefit of rumen content flour was fermented by probiotic as rice bran substitution on broiler performance. The measured parameters were feed consumption, the body weight gain and feed conversion. The experimental animals were 28 DOC, strain Cobb 500. The research design used was a completely randomized design with four treatments and seven replications. Four treatment groups were, P0 was based ration 0% rumen content flour of total feed; P1 was 10% rumen content flour of total feed; P2 was 20% rumen content flour of total feed; P3 was 30% rumen content flour of total feed. The experimental diets were fed for two weeks in finisher period. The data were analyzed with Analysis of Variance statistic method and if there were differences among the treatments, the Duncan's Multiple Range Test was used. The result indicated that there were no significantly differences ($p>0,05$) on the feed consumption, the body weight gain and feed conversion.

Key Words: Rumen content flour, probiotic, rice bran, performance.

Introduction

Crude fibre of rumen content flour is 34,68% which is contains 9,13% crude protein (Soepranianondo, 2006). Livestock feed which contains high crude fibre and low crude protein cause low productivity of broiler so it is need further process, one of which by doing fermentation process using probiotic as a fermentor (Rachmawan, 2001). Result was to decrease crude fibre and increase crude protein so that could be used probiotic fermented of rumen content flour as feed substitutions and gave optimum result (Soepranianondo, 2009). This research carried out to make broiler feed by using rumen content flour which has been fermented with probiotic to decrease the using of

rice bran as a feed material yet gave better effect toward consumption rate, weight gain and broiler feed conversion rate.

Material and Method

This research was held for three months which consisted preparation stage and implementation stage. Preparation stage held in laboratory of Animal Feed Science and Implementation stage held in experimental cage laboratory of Animal Production Faculty of Veterinary Medicine Airlangga University. This research used 28 Day Old Chick (DOC) broiler as laboratory animals and randomized in four treatments so it was consist seven DOC of each as a replication

during research. Feed treatment composition was a follow:

Table.1 Broiler Feed Composition Finisher Phase

Feed Material	P0 (kg)	P1 (kg)	P2 (kg)	P3 (kg)
Corn	40	40	40	40
Rumen Content Flour + Probiotic 6%	0	10	20	30
Rice Bran	30	20	10	0
Concentrate	30	30	30	30
Total	100	100	100	100

Observation of broiler performance include feed consumption rate, weight gain and feed conversion rate done in finisher phase which was executed in the fourth week until the fifth under maintenance period. The data that has

been collected analyzed with Analysis of Variance, if there were difference then continued with Duncan's Range Test 5% using SPSS (Statistic Product and Service Solution) programme 19,0 for Windows.

Result and Discussion

Table. 2 Mean Broiler Cumulative Feed Consumption During Research (2 weeks)

Treatments	Feed Consumption (g) X ± SD
P0	1987,14 ± 123,74
P1	1753,00 ± 230,80
P2	1855,14 ± 119,54
P3	1771,00 ± 162,46

Statistic analytical result using Variant Analysis showed that benefit of rumen content flour fermented by probiotic in different dosage given to broiler at finisher phase in fact cannot give a real impact in order to increase feed consumption toward broiler finisher phase. This might be caused by nutrient contents especially metabolism energy within treatment feed which were still in normal level. Tillman et al (1991) explained that broiler given feed with

relatively equal nutrient composition was similar to the amount of the feed consumed by chicken. Anggorodi (1995) declared that feed with balanced composition of protein, mineral and vitamin will results in broiler with similar weight in spite of feed given contains different level of metabolism energy.

Table.3 Mean Broiler Cumulative Weight Gain During Research (2 weeks)

Treatments	Feed Consumption (g) X ± SD
P0	951,00 ± 113,93
P1	808,00 ± 157,16
P2	841,00 ± 91,49
P3	785,00 ± 158,75

Statistic analytical result with Variant Analysis showed rumen content flour fermented by probiotic as rice bran substitution gave no significant changes concerning broiler finisher phase to increase its weight. This might becaused

by few matters such as treatment feed which given was content $\pm 17\%$ protein so that broiler weight gain was similar (Rasyaf, 2002).

Table.4 Mean Broiler Conversion Rate During Research (2 weeks)

Treatments	Feed Consumption (g) X ± SD
P0	2,10 ± 0,20
P1	2,19 ± 0,20
P2	2,21 ± 0,18
P3	2,32 ± 0,45

Statistic analytical result with Variant Analysis showed rumen content flour fermented by probiotic as rice bran substitution gave no significant changes concerning broiler phase feed conversion rate. This might becaused by feed consumption and weight gain between treatment showed no significant differences ($p>0,05$). Result of this research showed mean range feed conversion between 2,10 up to 2,32, considered efficient for the feed consumption (Rasyaf, 2002).

Conclusion

Based on the result of the research might be concluded that the used of probiotic toward fermentation process of rumen content flour, showed no significant differences on broiler performance.

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