GROWTH PERFORMANCE OF KUB AND SABU CHICKEN IN EAST NUSA TENGGARA PROVINCE

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ABSTRACT

The objective of this study was to evaluate growth performance of 50% pure bred x 50% cross bred chickens under semi intensive management system. Pure and cross bred chickens were evaluated for growth performance from 2 weeks to 7 weeks of age. The chickens were raised under a deep litter house system and provided with water and commercial feeds *ad libitum*. There were no significant differences in body weights of crossbred and pure bred chickens at 4 and 8 weeks of age. However, at 20 weeks of age, crossbred males were significantly heavier ($p<0.05$) than purebred . This might be attributed to the differences in hormonal profile, aggressiveness and dominance of males when feeding especially when males and females are housed together.

Key words: growth, crossbred, local chickens, purebred.

INTRODUCTION

Local chickens have been raised by most of the rural population of Indonesia, and they represent an important source of meat and eggs. However, they are not able to provide consumption on a daily basis because of their low production. Most farmers in Nusa Tenggara Province raised local chickens in traditional system. The local chickens are left to scavenge in the backyard, and are provided with limited facilities such as a simple cage, a small amount of food scraps, and no diseases prevention program. Rearing of local chickens faced various problems relating to social, financial and management system. Therefore, there is a need to improve the management system of rearing chickens village. Semi intensive chickens rearing system is one of the methods in reducing various problems and improving performance and production of chicken village in Nusa Tenggara Province. Some local chickens in East Nusa Tenggara Province Indonesia are well-adapted to local environmental conditions but exhibit slow growth rate, other local chickens are not well-adapted to local environmental conditions but exhibit rapid growth rate and high egg production. Crossbreeding of both local chickens can therefore be used as a

strategy to improve growth performance of local chickens in East Nusa Tenggara Province Indonesia.

MATERIALS AND METHODS

The study used 120 chickens (20 males and 100 females chickens), ratio males : females = 1 : 5. The number of males chickens was 20 (pure bred), 50 females (cross bred) and 50 females (pure bred). In this study, pure bred is: local chicken from Sabu Island, and cross bred is (50% local chicken x 50% commercial layer) = KUB/Kampung Unggulan Balai Litbang Pertanian. One male chicken (pure bred) was housed together with 5 cross-bred females. Another one male (pure bred) was housed together with 5 pure-bred females. They raised in deep litter house to produce fertile eggs. Eggs were collected and incubated in automatic incubator at 37^{o}C and 65% RH for 21 days to produce cross bred and pure bred. After hatching chicks were housed in brooder cage up to 4 weeks.

From 4-8 weeks females and males pure bred and cross bred were housed separately in grower cage. The chickens were fed with chick starter crumbs *ad libitum* from day old - 4 weeks of age. From 4 - 8 weeks of age, chickens were fed commercial grower pellets + rice bran + corn (5:4:1). Water was provided *ad libitum.* All diets were optimized to the same ME level and to the same nutrient content. The selection and allocation procedure was such that the mean group weights were the same and contained a similar range of body weights; birds with extreme low or high body weight were discarded as were sick birds. Birds were monitored several times each day for the duration of experiments. Mortality was recorded daily and the weight of dead birds was recorded.

RESULT AND DISCUSSION

Body weights at different ages of both males and females of crossbred and purebred chickens are presented in Table 1.

Table 1. Crossbred and Purebred Chickens

Age (weeks)	Cross bred		Pure bred	
	Males	Females	Males	Females
4	358.73±14.25[b]	236.87±16.47	278.85±15.24	283.79±13.96
5	446.25±19.58	399.38±22.62	473.56±20.94	449.87±20.00
6	815.09±31.09'	674.71±36.64b	698.78±33.92	646.27±31.73
7	1041.60±39.97'	938.13±47.11'	928.35±43.62	813.24±40.81
8	1241.60±39.97'	1104.41±48.94b	1215.20±45.31	1052.45±42. 38
SEM	*124*	*106*	*0.26*	101
P-value	*0.0005*	*0.0004*	*0.014*	0.0005

There were no significant differences in body weights of crossbred and pure bred chickens at 4 and 8 weeks of age. This probably because of the genetic similarities between the pure local chicken and cross breeds (less heterocyst effects) and the breakdown of favorable gene combinations in the F1 cross during game to genesis. It however changed the physical appearance of the chickens. Crossbred males were significantly heavier ($p<0.05$) than female. This might be attributed to the differences in hormonal profile, aggressiveness and dominance of males when feeding especially when males and females are housed together.

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