

EVALUATION ON QUAILS (*Coturnix coturnix japonica*) GROWTH PERFORMANCE AMONG THE BREEDING CENTRE OF VILLAGE COMMUNITIES IN WEST JAVA

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Abstract

To study about quail (*Coturnix coturnix japonica*) growth performance among the breeding centre on village communities in West Java (Sukabumi, Bogor, Cianjur dan Bandung) had been implemented to determine the best quail performance on Farms in West Java. The research used quantitative descriptive method to measure the average, standard deviation, and variation coefficient. The total quails were used two hundred day old quail, fifty from each farm. Variables observed were feed consumption (gram), body weight gain (gram), feed conversion and mortality (%). The results showed the growth performance of quail from banding in the age of six weeks had the highest body weight gain (127.9 grams), the lowest feed conversion (3.51) and the lowest mortality (2%). The conclusion is that the laying quails from Bandung communities breeding centre had the best growth performance among breeding centre in West Java, then followed by Cianjur, Bogor and Sukabumi.

Key words: Growth Performance, breeding centre, Quail

INTRODUCTION

Quail business has at the first less serious attention of farmer, government and researchers. They assume that quail cannot be farmed because of its tiny body with wild life, so they believe that raising quail will not provide benefit. Until now raising quail management is still not established as well as the chickens and ducks and farmers are still using the methods commonly used for the chicken. Commercial quail farm potential for development in Indonesia as an alternative egg producer as good as chicken and duck production. In addition to having a good production, quail eggs are relatively cheap, which can be reached by various level of society. Another advantage to rear quail are start producing at short time, do not require a large capital, easy to maintain, can be maintained on limited land and can be reared integration with another livestock. Quail has many benefits such as egg, meat and manure for fertilizer.

Female quail start to produce an egg at 41 days age and can produce eggs until 210–300 eggs per year or average 250 eggs [6]. Quails

need 14 – 24 gram ration/quail/day. Quail has rapid growth rate and mature in a short time [7]. Rapid growth rate in quail is happened at one to four weeks. In that time male and female have the same growth, but the growth rate between them, clearly different at five to sixth week [4].

A lot of Quail strain reared in Indonesia is *Coturnix coturnix japonica* that is imported from Japan, Taiwan and Hongkong [10]. *Coturnix* quail has a small and round body with a very short tail and have coloured plumage black and brown spots. The plumage of the male in the chest and the area around head is dark brown, while the female quail have white fur black spots [5; 8].

Coturnix quail was already widespread in Indonesia and maintained by many farmer. Commercial quail farm in Indonesia is still dominated by back yard farming in small scale with simple ways. Most of quail farm in Indonesia not only produce eggs but also as breeding farm that use their own quail. The breeding program some times not does the right thing that theoretical, so gives impact to decrease the quail performance quality such as decreased body weight gain and increased feed conversion.

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Producing quail in Indonesia, many farmers often use by inbreeding in the farm, soothe quality of quail decline. Bad influence of inbreeding can be occurred the disability of the body, low fertility, low hatchability, and low survival [2]. This happens because the merger of the homozygous recessive gene [9]. To do in breeding may also increase mortality [11].

The aim was conducted to determine the growth performance of laying quails obtained from farms in west Java and where breeding farm that produces the best quality quail.

MATERIAL AND METHODS

Quail eggs obtained from several centre of breeding farms that comes from: 1) Sukabumi, Kelurahan Karang Tengah Kecamatan Gunung Puyuh (Quail Farm Group” Ternak Puyuh Mutiara Hitam”); 2) Bogor, Kampung Dukuh Desa Situ Kecamatan Bungbulang (Quail Farm “Bapak Prasetyo”); 3) Cianjur, Desa Haur Wangi Kecamatan Haur Wangi (Quail Farm “Bapak Awan Setiawan”); 4) Bandung, Kampung Wadat Desa Cikawao Kecamatan Pacet, Majalaya (Quail Farm Group “Usaha Puyuh Karunia Sejahtera”).

Two thousand hatching eggs obtained from four breeding farm and inserted into five incubators, 400 eggs each. After hatching, forty DOQ samples were taken from each incubator. The samples inserted into twenty pens, ten DOQ every pen. The quail maintained until sixth weeks age. Before being put into pen all DOQ were weighed to determine initial body weight. Observed variables are the feed consumption (grams), body weight gain (grams), feed conversion and mortality (%). To determine the development of the quail measured body weight, ration consumption and mortality every week.

This research uses descriptive quantitative method. Statistical analyses divide to two parts are 1) measure of concentration: the mean value 2) size distribution: the standard deviation and coefficient of variation.

**RESULTS AND DISCUSSIONS
FEED CONSUMPTION**

Feed consumption is calculated during the study and was measured every week. Average ration consumption per bird during the study are presented in Table 1.

The highest average ration consumption of quail from various breeding centres are derived from the Cianjur city (470.3 g), and then followed by sukabumi (460.9 g), Bogor (459.9 g) and Bandung (448.7 g). Average ration consumption when viewed from any place not much different, because the rations used in this study the same content of protein and energy. Average ration consumption during the growing period in this study are still below standard. The amount of feed consumed during the growing period is 500 - 650 g. Ration level of consumption is influenced by sex, body size, production levels, activity, palatability, quality and quantity of rations and levels of ration metabolic energy [1].

BODY WEIGHT GAIN

Body weight gain was calculated during the study and was measured every week by a reduction in body weight between the end of the week with the beginning of the in grams. Mean body weight gain quail can be seen in Table 1. Mean body weight gain of quail was highest from banding city (127.9 g), and then followed by Cianjur (127.7 g), Sukabumi (123.6 g) and Bogor (122.9 g).

Table 1 Average Quails Performance on Growing Period

Variables	District			
	Sukabumi	Cianjur	Bandung	Bogor
Feed Konsumtion (gram)	460.9 ± 11.1	470.3 ± 10.9	448.7± 9.0	459.9 ± 11.2
Daily Gains (gram)	123.6 ± 12.6	127.7± 11.2	127.9 ± 9.8	122.9 ± 9.9
Feed Konverton	3.79 ± 17.9	3.71 ± 11.7	3.51 ± 4.4	3.77 ± 13.2
Mortality (%)	4.0	6.0	2.0	4.0

The difference of Mean quail body weight gain of each breeding places until the age of six weeks is not too far. This growth is good enough when compared with previous studies. The high rate of body weight gain of

the quail reached the age of three weeks is 56, 5 grams [3], but another opinion that the highest rate of body weight gain reached the age of four weeks is 88.2 grams [12].

Growth is influenced by many factors, including genetics, ration, environment and others. Ration plays an important role in supporting the growth of livestock, especially nutrients contained in the ration such as protein and energy. One important factor in growth is the amount of protein consumed [1]. In this study, the ration consumption of quail from various breeding place are not much different, so that protein intake is also not much different, so body weight gain reached by quail is not much different. In this study, all quail have same environment because they reared in same house and same size and shape pen. It can be concluded that quail from different breeding place in this study have almost the same genetic quality.

FEED CONVERSION

Feed conversion is the ratio between the numbers of ration consumption with body weight gain achieved during the study. Average feed consumption of quail during the study is presented in Table 1. The best feed conversion was the lowest that achieved by the quail from the city of Bandung (3.51), followed by Cianjur (3.71), Bogor (3.77) and Sukabumi (3.79). Quail feed conversion value in the growing period of this study is relatively good when compared to the value of feed conversion in previous studies is 4.19 to 5.68 [1]. This shows quail produced by villages breeding centre in the city of Bandung, Cianjur, Sukabumi and Bogor is good enough quality. Feed conversion is influenced by genetic quality, age, nation, food, environment, and livestock conditions [1].

MORTALITY

Mortality is the percentage of the number of deaths based on the initial number of quail during the study. Quail Mortality until the age of six weeks during the study is presented in Table 1. Table 1, show that the mortality rate of any place of breeding quail are low or below the standard. The lowest quail mortality rate from Bandung (2%), followed by Sukabumi (4%), Bogor (4%) and Cianjur (6%). The mortality rate showed a good or bad quail quality that obtained from breeding farm. Mortality rate in this study include both categories because it is still lower than 10% according to the opinion [8]

which states that quail in the growing period can reach 10%.

CONCLUSIONS

The results showed the growth performance of quail from banding in the age of six weeks had the highest body weight gain (127.9 grams), the lowest feed conversion (3.51) and the lowest mortality (2%). Evaluation of the growth of laying quails on breeding centres in West Java, it was concluded that the best quail obtained from the breeding centre of Bandung, then followed by Cianjur, Bogor and Sukabumi.

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