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Spermatozoa Quality of Balenggek Roosters

Ramadhan Sumarmin[1], Elsa Yuniarti[1], Dwi Hilda Putri[1], Yuni Ahda[1], Nadyatul Khaira Huda[2]

[1]Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Negeri Padang. Jl. Prof. Dr. Hamka, Air Tawar Barat, Padang, West Sumatera, Indonesia. Phone: (0751) 7057420, Fax: (0751) 7055628, ♥email**: ramadhan_unp@yahoo.com**

[2]Department of Biology, Faculty of Mathematics and Natural Sciences, Andalas University. Jl. Prof. Dr. M. Hatta, Limau Manis, Padang, West Sumatera, Indonesia. Phone: (0751) 7057420, Fax: (0751) 7055628,

ABSTRACT

The Balenggek rooster is a long Crower fowl. This rooster always caged by single caging to have good long crower sound and it isolated to others.This study was carried out to identify the spermatozoa quality of Balenggek rooster. First, the sperm were collected from isolated caging of Balenggek rooster more or less than three years and un-isolated Balenggek rooster as the control. Second, the sperm were collected from isolated caging of Balenggek rooster more or less than three years and un-isolated Balenggek rooster as the control, after three months treated by 124 ComFed. The spermatozoa collected by massage methods and analyze with counting chamber of Improve Neubauer. Slides of sperm were stained by eosin to count normal and abnormal spermatozo. Parameter observed were spermatozoa number, colors, and sperm consistency. The results shows that the sperm quality of Balenggek rooster increased (from 2.5 billion sperm/ml to 3.5 billion sperm/ml) significantly higher ($p < 0.05$) in isolated caging with rescheduling feeding. The color and consistency of spermatozoa were Increased from + (c quality) to ++ (b quality). It can conclude that single caging could decreased the Balengggek rooster spermatozoa quality. The reschedul feeding rooster with suplement 124 ConFed could increased the spermatozoa quality

Key Words: 124 Confed, Balenggek rooster, isolated, sperm quality

Corresponding Author: Ramadhan Sumarmin, Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Negeri Padang. Jl. Prof. Dr. Hamka, Air Tawar Barat, Padang, West Sumatera, Indonesia. Phone: (0751) 7057420, Fax: (0751) 7055628, ✉ email: ramadhan_unp@yahoo.com

INTRODUCTION

Indonesia is one country that has the greatest biodiversity after Brazil's state including Avifauna diversity. However, biodiversity is threatened by illegal logging to the Indonesian rainforest, causing damage to habitats where live many kinds of animals. Animal habitat destruction is compounded by the illegal cultivation and burning of forests for farming activities. This forest habitat destruction further would threaten the existence of endangered species *(endangered species)* found in the jungles of Indonesia.

Birds that are scientifically known today are of animals included in Class Aves that have characteristics of primary feathers (feather generally plumae and fillo plumae), part (beak), scales on the legs and glands uropigealis (Nalbandov, 1975). Based on the early development after hatching the Aves is divided into two categories, which are precocial that

can feed itself and that is atricial ie feed puppies rely on the parent and eating in a way gavaging (Gilbert, 1994). Based on the habitat they inhabit Aves divided into terrestrial poultry or water fowl (fresh water) and marine waters (Mc Fadden and Keeton, 1995).

Based on the type of sound, there are two types of sound in the avian are *call* (sound calls) and *song* (sound singing). Sound type *of Call* is used to communicate between the same sex, as a gesture of their enemies or predators, surprise moment, and to find the food. Sound type *Song* is the type of sound as a statement of the territory *(territorial declare)* and as an attraction to lure females who would mated. Sound type *Call* found in males and females while the sound type *song* is only found in males only (Rusfidra 2007)

Balenggek chicken is a exotic chicken species typical of West Sumatra, Solok district. The beauty of the long sound crowing and storied is the hallmark of this kind cock crowing sound. Chicken population is very limited while the development potential is quite open. Various technologies and means have been tried so far to increase the population.

This research aimed to observe on spermatozoa quality of Balenggek rosster. Balenggek rooster derived from Solok before and after improvement of feed. Alleged to have decreased sperm quality due to the isolation cock crowing Balenggek rooster maintenance study with this melodious voice on a single type of decorative cage. In general, pet owners also objected if the chicken is left free along with other chickens for fear of lowering the quality of their voice.

MATERIAL AND METHODS

Materials research: Balenggek roosters used in this study are 10 chicken, between 4-5 years old, with three or more kukuak (crowing) level. After the initial sperm collection is done, then the whole Balenggek roosters given feed pattern with ComFed improvement and in line with spermatozoa quality inspection once a month for three months.

Research procedure: In the initial stages of research conducted on the rooster's habituation could ejaculate without copulation. Ejaculation on the cock stimulated by doing massage on the Ischia-pubic area. Contraction in the muscles that cause the feathers stand posterior ornament is a signal of impending ejaculation (Obidi et al, 2008). Once the chicken is trained to ejaculate the sperm preparation the massage stimulation can be done.

Chicken sperm ejaculate massage stimulation results were accommodated in special glass containers to accommodate spermatozoa rooster. At any time the shelter sperm recorded number ml, consistency (viscosity), and color. After the calculation of the number of spermatozoa /ejaculate using a Improve Neubauer counting chamber (Kiernan, 1990; Junquera and Corneiro, 1991; Winarto, 2003).

The observed data such as parametric data, the number of spermatozoa per ml at the

beginning and end of observation were compared and analysis by Student's t-test, whereas nonparametric data in the form of a score of viscosity or consistency and color of the sperm are described and compared with the control (Steel and Torrie, 1993).

RESULTS AND DISCUSSION

At the start of the study is the determination of the male reproductive profile by measuring the quality of spermatozoa quality. Spermatozoa quality described to determine their reproductive ability. The observation of the parameters of the spermatozoa was found that the number of spermatozoa of Balenggek roosters in the early observations (AKBw) is lower than the number of spermatozoa rooster after being treated ComFed (AKBp). Likewise with other criteria such as the number of the consistency and color of the sperm (Table 1) showed an increase in spermatozoa quality in Balenggek rooster after the improvement of feed.

Table 1. Comparison of Balenggek rooster spermatozoa quality, before (AKBw) and after the improvement of feed (Suplement)

No	Source	Mean Weight (kg)	Circumstances spermatozoa			
			Spermatozoa collected (ml)	Number of spermatozoa billions/ml	Consistency	Odor
1	AKBw	1.9	0,35	2.6[a]	+	+
2	AKBp	2.2	0.55	3.8[b]	++	++

Description: the numbers in the same column followed by different letters are significantly different p <0.05 in Student's t-test

Lower quality of sperm AKB insulated feed only rely on rice alone leads necessary to improve feed. After feeding ComFed sperm quality became better though consistency and smell just a notch higher than the AKB sperm quality before *treatment.* In general, the AKB isolated males housed separately obtained, isolated from the other chickens colony and placed on a single enclosure. Factors absence of a meeting between the male and female chicken is probably also result in the least amount of sperm ejaculated. The absence of stimuli or stimulus around the female presence causes this stud AKB more often crowed for the use of energy, so the longer the crower sound which will be tunable (Piccione and Caola, 2002). Another possibility is that the longer the isolated will further lower male sperm quality chicken AKB and vice versa will have a better voice.

According to Penfold *et al* (2000) and Brillard (2003) the tendency of the frequency of meetings between male and female chickens that higher spur rooster libido and stimulate spermatogenesis process more continuous activation. Moreover, if it is followed by mating between males and females, then the process of spermatogenesis will run an intensive and

constant. In contrast to the roosters were never married the spermatogenesis process will be hampered.

The quality and quantity of some stud tail remained unchanged after six weeks of repair feed patterns (Table 1). Although the pattern of feed has been repaired but without bring males and females then the result will remain isolated sperm quality AKB kept low. Mating will cause the sperm that has been generated issued and produced new sperm. Without mated, sperm that has been generated will still inhabit spermateca and prevents the formation of new sperm. In Avian generally does not happen sperm masturbation compensation expense as well as in mammals (King *et al,* 2002).

IMR decreased sperm quality insulated allegedly also closely associated with the average weight of the testes AKB isolated under the average weight of the testes AKB which are kept together with hens (Table 2). The process of spermatogenesis continuous activity will be stimulated or stimulated by the activities of marriage. Besides the ability to marry the rooster would be better if there are many females. The rooster are able to serve 10-12 hens (Obidi *et a*l, 2008). It also shows that the activity of spermatogenesis in the testes isolated IMR less than spermatogenesis in the testis AKB activities freely.

Table 2. The weight average testes of Balenggek isolated, prior and after the improvement of feed.

Rooster	Average weight of a pair of testes (grams)	
	Initial	After rescedul of feed
AKBw	12.2 ± 0.35	12.5 ± 0.30
AKBp	19.8 ±0.29 *	21.5 ±0.42 *

Description: The numbers in the columns each followed * significantly different at p <0.05

Improved feed pattern for six weeks was not able to increase the activity of spermatogenesis in IMR isolated. The mean of testes weight before and after the improvement of feed did not show a significant increase. Possible factors female presence around cock (rooster) that can increase the activity of spermatogenesis because it can increase the desire to marry at a rooster.

CONCLUSION

Conclusion: Based on the results and discussion on this research can be concluded: (1) Balenggek rooster spermatozoa quality after feed reschedul could increased as long as treatment, (2) Balenggek rooster spermatozoa quality improvement is not followed by an increase in the average weight of the testes. **Advice:** Need to do research on the effect of the presence of hens and feed to the recovery repair activity patterns of spermatogenesis in Balenggek rooster.

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