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ABSTRACT

The Ballenger rooster is a long Crower fowl. This rooster always caged by single caging to have good long crowing sound and it isolated to others. This study was carried out to identify the spermatozoa quality of Ballenger rooster. The sperm was collected from isolated caging of Ballenger rooster more or less than three years and un-isolated Ballenger rooster as the control, before and 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 spermatozoa. Parameter observed were spermatozoa number, colors, and sperm consistency. The results show that the sperm quality of Ballenger rooster increased (from 2.6 billion sperm/ml to 3.8 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 decrease the Ballenger rooster spermatozoa quality. The reschedule feeding rooster with supplement 124 ConFed could increased the spermatozoa quality.

Keywords: 124 confed, ballenger rooster, isolated, sperm quality.

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I. ABSTRACT

The Ballenger rooster is a long Crower fowl. This rooster always caged by single caging to have good long crowing sound and it isolated to others. This study was carried out to identify the spermatozoa quality of Ballenger rooster. The sperm was collected from isolated caging of Ballenger rooster more or less than three years and un-isolated Ballenger rooster as the control, before and 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 spermatozoa. Parameter observed were spermatozoa number, colors, and sperm consistency. The results show that the sperm quality of Ballenger rooster increased (from 2.6 billion sperm/ml to 3.8 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 decrease the Ballenger rooster spermatozoa quality. The reschedule feeding rooster with supplement 124 ConFed could increased the spermatozoa quality.

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II. INTRODUCTION

Indonesia is one country that has the greatest biodiversity after Brazil's state including Avifauna. However, biodiversity is threatened by illegal logging in the Indonesian rainforest, causing damage to habitats where live many kinds of animals. Animal habitat destruction was compounded by the 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 plumage and phyllo-plumage), part (beak), scales on the legs and uropygeales glands (Oily Glands) (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 altricial, i.e. 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 birds (fresh water and marine) (Mc Fadden and Keeton, 1995).

Based on the type of sound, there are two types 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 mate. Sound type *Call* found in males and females while the *song* is only in males (Rusfidra 2007).

Ballenger chicken is an 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. The chicken population is very low while the development potential is quite open. Various technologies and means have been tried so far to increase the population. Including to describe the semen quality of Roosters (Shanmugam et al. 2012)

This research aimed to observe spermatozoa quality of Ballenger rooster. Ballenger rooster derived from Solok before and after improvement of feed. Alleged to have decreased sperm quality due to the isolation cock crowing Ballenger 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.

III. METHODS

3.1 Materials Research

Ballenger roosters used in this study are ten chicken, between 4-5 years old, with three or more crowing level. After the initial sperm collection done, then the whole Ballenger rooster given feed pattern with ComFed improvement and in line with spermatozoa quality inspection once a month for three months.

3.2 Research Procedure

In the initial stages of research conducted on the rooster's habituation could ejaculate without copulation. Ejaculation of the cock stimulated by massage on the Ischia-pubic area. The 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 could done.

Chicken sperm ejaculated by massage stimulation results were place in 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 an Improve Neubauer counting chamber, the spermatozoa stained with eosin to count the abnormality sperm (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 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).

IV. 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 found that the number of spermatozoa of Ballenger roosters in the early (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 Ballenger rooster after the improvement of feed.

Table 1: Comparison of Ballenger rooster spermatozoa quality, before (AKBw) and after the improvement of feed (Supplement)

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 necessarily to improve feed. After feeding ComFed sperm quality became better though consistency and smelled just a notch higher than the AKB sperm quality before *treatment*. In general, the AKB isolated males housed separately obtained, isolated from the other chicken's colony and placed on a single enclosure. Factors absence of a meeting between the male and female chicken cused result in the least amount of sperm ejaculated. The absence of stimuli or stimulus around the female presence causes this stud AKB more often crowing for the use of energy, so the longer the crowing 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, Brillard, 2003, and Tarif *et al.* 2013) 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 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 hampered.

The quality and quantity of some stud tail remained unchanged after six weeks of repair feed schedule (Table 1). Although the pattern of feed has repaired without bringing males and females then the result isolated sperm quality AKB still low. Mating will cause the sperm that has

generated issued and produced new sperm. Without mated, sperm will still inhabit spermatheca and prevents the formation of sperm. 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 lower than which are kept together with hens (Table 2). The process of spermatogenesis will stimulated by the activities of mating. Besides the ability to mate the rooster would be better if there are many females (Modupe *et al.* 2013). The rooster can serve 10-12 hens (Obidi *et al.* 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 Ballenger isolated, prior to 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 testes weight before and after the improvement of feed did not show a significantly increase. Possible factors female presence around the cock (rooster) that can increase the activity of spermatogenesis because it can increase the desire to marry at a rooster.

V. CONCLUSION

Based on the results and discussion of this research can be concluded:

1. Ballenger rooster spermatozoa quality after feed reschedule could be increased as long as treatment.
2. Ballenger rooster spermatozoa quality improvement 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 Ballenger rooster.

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