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Review the Productivity of Kampung Chicken with Bangkok Chicken on Extensive System Maintenance

AUTHORS INFO

Junaedi
Universitas Sembilanbelas November Kolaka
junaedi.peternakan@gmail.com
+6285240078133

Khaeruddin
Sekolah Tinggi IlmuPertanian Muhammadiyah Sinjai
erukhaeruddin@gmail.com
+6285241620927

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Abstract

This study aims to determine the ratio of productivity of chicken and Bangkok female maintained on an extensive system. A total of 4 female chickens and using four Bangkok females in this study. Keeping chickens from DOC until first production (± seven months). The maintenance system from DOC for up to 2 weeks is intensified using heating aid after two weeks of extensive maintenance. After the production (layer) is done recording (productivity recording) that is egg weight, number of eggs per period, the age of early parent spawn, and weight of mother early spawn as parameter observed in this research. Data result of the analysis is processed using T-test. The result showed that productivity of chicken and Bangkok female saw from the age of fresh parent eggs and weight of initial parent spawn. Chickens earlier lay eggs compared to chicken Bangkok, but the parent weight at the time of spawning is higher in Bangkok female chickens when compared to females.

Keywords: chicken, Bangkok chicken, productivity, extensive system

A. Introduction

The community's need for animal protein increases every year. Local chicken is one of the potential sources of animal protein in Indonesia. Sidadolog (2007) that utilization and usefulness of local chicken are still traditional as a producer of meat and eggs, so it is often called chicken vegetable. Some other advantages of local chicken can survive and breed well despite low feed quality and resistance to disease. As germplasm of livestock Indonesia, these domestic chickens need to maintain and purified as well as the need to be optimally utilized for the supply of animal protein.

The excellence of local chickens causes local chickens are traditionally maintained generally apply the system extension is removing the chicken just like that regardless of the type and requirement of chicken feed. Extensive system maintenance has several advantages, among

them can save the cost of feed, give an opportunity for the chickens to exercise and given the freedom to do its natural behavior.

Kampung chicken and chicken Bangkok are one of the local chicken which is quite popular in Indonesia. Chicken is a type of local chicken that does not have specific characteristics, in this case, the diversity of phenotype and genotype are quite high. Chickens are easily recognizable because they roam almost in the villages of all regions in Indonesia. The ability of a chicken to produce eggs during a specific period varies greatly depending on its maintenance system. In keeping with a chicken complaint, Bangkok chicken is a type of local chicken. The morphology of Bangkok chicken is usually bigger and heavier than the chicken, so this chicken can also be used to increase the growth of chicken through cross-program (Mokodongan, Nangoy, Leke, & Poli, 2017). This study aims to determine the ratio of productivity of chicken and Bangkok female maintained on an extensive system.

B. Methodology

1. The Material

Chicken Experiments used were four female chickens and four chickens Bangkok female. Keep chickens from DOC until first production (± seven months).

2. Research Procedures

System maintenance from DOC up to 2 weeks intensively by using heating aid after two weeks of excellent system maintenance, the research chicken released (spread) to find their food and at night put in the cage. Doing recording (productivity recording) that is the egg weight, the number of eggs per period after the production (layer), the initial mother's egg laying, and the influence of the initial mother lay eggs.

3. Parameters of Research

Parameters of this study were egg weight (gram), number of eggs per period, the age of first parent egg-laying (weeks), and importance of fresh parent egg (gram).

4. Data Analysis

Using the T-Test compare chicken with chicken Bangkok. With four replies. Test T by using the following formula (Sudjana, 2005).

$$t_{count} = \frac{X1 - X2}{\sqrt{\frac{(n1-1)s_{1^2} + (n2-1)s_{1^2}}{n1+n2-2}\left(\frac{1}{n1} + \frac{1}{n2}\right)}}$$

C. Result and Discussion

Observation result showed that there was no significant difference (P >.05) between egg weight and some eggs produced by chicken with Bangkok chicken. The egg weight from both types of chicken was 50.35-51.37 grams higher than the pressure of chicken eggs in the previous study that was 34,66gram (Ardika, Siti, Sukmawati, & Wirapartha, 2017), 39.33-42.33 gram (Hartono, Puger, & Nuriyasa, 2014), 40.74 grams (Sartika & Gunawan, 2007) and 36.7 grams in domestic poultry maintained on extensive systems.

Tabel 1. Results of observation of chicken breeding productivity with chicken Bangkok on extensive system maintenance

Parameter	Type of Chickens	
	Bangkok	Kampung
Egg weight (gram)	51.37 ± .33	50.35 ± .76
Number of eggs / period (item)	11 ± .64	13.5 ± 0.91
Early motherhood spawn (weeks	24.25 ± 0.41[a]	22 ± .25[b]
The early weight of mother's egg (gram)	2010±36.97[a]	1770 ± 26.46[b]

Description: Superscripts on the same line show significant differences (P <.05)

Some of the main factors that can affect the variation of the number of eggs and the weight of chicken eggs produced are feed, genetic, parentage, and ambient temperature. According to Leeson & Summers (2005) proteins and amino acids (especially methionine) are the most critical dietary substances in controlling egg size, in addition to genetic and poultry body size. In extensive system maintenance, chickens that consume traditional feeds produce lower egg weight when compared to chickens fed with commercial supplements (Barocio-Urue, Juárez-Caratachea, Gutiérrez-Vázquez, Pérez-Sánchez, & Ortiz-Rodríguez, 2017). The egg weight is also affected by the age of the chicken (Padhi, Chatterjee, Haunshi, & Rajkumar, 2013), age affects yellow and egg whites (Ahn, Kim, & Shu, 1997). The weight of poultry eggs maintained in environments with high temperatures is lower than that kept at low environmental temperatures.

Parentage and parent weight at baseline of egg-laying showed significant differences ($P < .05$). At the period of 24 weeks, chicken Bangkok starts laying eggs while the village chickens lay eggs earlier that is at the age of 22 weeks. The chicken reaches the adult for about five months and produces 10-15 eggs per period. The weight of the hen in Bangkok in the early period of egg laying is 2010 gram heavier than the weight of broiler chicken 1770 grams. It is by the opinion of Rahayu, Widodo, & Sarunggalo (2010) which states that the increase in body weight of Bangkok chicken is relatively higher than the chicken in general, so the body weight of Bangkok chicken is generally higher than the chicken.

Early age and weight of the mother spawn in this study was higher than previous studies which found that the importance of broodstock at 1485.2 grams with the first age of laying 174.93 days (Sartika & Gunawan, 2007). According to them that when the first age spawns slowly, the egg production decreases, the parent weight is smaller so that it gets the first egg weight and the average egg weight for six months is smaller. The importance of the first spawning parent is also positively correlated with the first egg weight.

D. Conclusion

The Productivity of chicken and female Bangkok saw from early age of parent in the initial spawn and initial parent's weight of egg-laying, early birds, lay eggs when compared to Bangkok chicken, but the parent weight at the time of layer higher in Bangkok chicken.

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