DIFFERENCES BETWEEN POSTAL AND STAGE CAGE FOR PEKING DUCKS PERFORMANCE

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ABSTRACT

This study conducted to determine the differences of Postal cage and Stage cage on the performance of Peking Duck in Body Weight, feed conversion, and mortality. The material used in the study was 600 Peking ducks were raised separately in postal cage and stage cage with common diet from DOD (Days Old Duck) to 35 day of age. This research was a quantitative descriptive research that interpreted data from research samples, analyzed by student T test that is used to compare the means of two groups that is Peking ducklings were raised in postal cage and stage cage. The results showed that the Body Weight, FCR, and Mortality of Peking Ducks were reared in Postal Cage is 1,54, 1,94 and 1,5% while the ducks that were kept in Stage Cage is 1.53, 1,95 and 2,5%. The results indicated that there was no difference in the performance (Body weight, FCR, and Mortality) of Peking ducks housed in postal and stage cage. However, based on the average values for body weight, FCR, and mortality, the postal cage provides the best results.

Keyword : Peking Ducks, Postal Cage, Stage Cage, Performance.

1. INTRODUCTION

The growing income per capita in recent years has affected people's consumption patterns of poultry meat such as local chicken meat, broiler commercial meat, laying hens and ducks (Nurlaelah et al., 2022). This growing consumption pattern has caused poultry farming, especially duck farming, to be increasingly in demand and used as a source of income for both rural and urban communities. In addition, the market for duck meat is starting to widely open and able to encourage the development of duck farming in Indonesia (Taufik et al., 2023). This is evidenced by an increase in duck meat production, especially in East Java. Duck meat production in 2022 was 7,148.04 tons, while it was 6,973.70 tons in 2021 (BPS, 2023). Increasing duck consumption patterns encourage breeders to maintain the productivity and health of the poultry they keep (Brata et al., 2020).

The productivity of broiler ducks is determined by genetics and it life environment. The environment includes maintenance management. Genetic improvements and maintenance management environment can increase the productivity of broiler ducks (Brata et al., 2020). According to Nova et al. (2019) The body weights of Lohman strain roosters can be affected by different types of cages (postal cages and stage cages), with postal cages being lower than stage cages. This is due to the effect of the temperature in the stage cage being cooler than the postal cage during the day.

The postal cage is a solid cage with flooring litter system. The walls of the cage are cemented to a height of 75 centimetres from the top of the ground floor, the temperature of
the cage is high due to a lack of air circulation, the cost of making the cage is lower, but it is less comfortable for the birds because chickens are easily stressed by the heat of the litter once they are no longer in the brooding phase (Nova et. al., 2019). Alternatively, stage housing consists of cages with a floor made of bamboo or wood, slat that are spaced apart to enable for litter disposal. The litter or coop floor serves as a floor mat for the broiler (Tammaludin, 2012). Rice hulls, sawdust, wood shavings, sections of straw, and dried grass can be utilised as litter materials.

Cage management, particularly the type of floor, can have an impact on the performance of hybrid Peking ducks. Mesa et al. (2017) noted that the cFCR (corrected feed conversion ratio) of broilers kept on a concrete floor is superior to that of broilers kept on a soil floor. Bai et al. (2022) found that rearing broiler ducks in flooring cages resulted in a lower body weight of 1914.89 g compared to rearing broiler ducks in furnished cages, which resulted in a body weight of 1968.41 g.

The purpose of this study was to compare the effect of postal cages and stage cages on Peking duck performance (body weight and FCR) based on the description provided.

2. RESEARCH METHODS

600 of 1-day old Peking ducklings were raised separately in postal cage and stage cage with common diet from hatch to 35 day of age. During this period, water and feed were provided ad libitum, and lighting was continuous. The ducks were raised with feed and water provided ad libitum from dod to 35 day of age. At 35 day of age, weight gain, feed intake, and FCR were measured. Feed intake and feed: gain were all corrected for mortality.

Table 1. Duck feed obtained from PT Sreya type number B401.

<table>
<thead>
<tr>
<th>Feed nutrient content</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water content (maks)</td>
<td>14 %</td>
</tr>
<tr>
<td>Ash (maks)</td>
<td>8%</td>
</tr>
<tr>
<td>Crude protein (min)</td>
<td>22%</td>
</tr>
<tr>
<td>Crude fat (min)</td>
<td>3%</td>
</tr>
<tr>
<td>Crude fiber (maks)</td>
<td>5%</td>
</tr>
<tr>
<td>Calsium (Ca)</td>
<td>0.8 – 1.2%</td>
</tr>
<tr>
<td>Phosphor (P)</td>
<td>0.5%</td>
</tr>
<tr>
<td>Aflatoxin total (maks)</td>
<td>25µg/kg</td>
</tr>
<tr>
<td>Amino acid</td>
<td></td>
</tr>
<tr>
<td>-Lysin (min)</td>
<td>1%</td>
</tr>
<tr>
<td>-Metionin (min)</td>
<td>0.37%</td>
</tr>
<tr>
<td>-Metionin + Sistin (min)</td>
<td>0.7%</td>
</tr>
<tr>
<td>-Treonin (min)</td>
<td>0.6%</td>
</tr>
<tr>
<td>-Triptofan (min)</td>
<td>0.16%</td>
</tr>
</tbody>
</table>

Data were analyzed as a t test that is used to compare the means of two groups that is peking ducklings were raised in postal cage and stage cage. It is used in testing to determine whether a treatment actually has an effect on the population of interest, or
whether two groups are different from one another. If a p-value reported from a t-test is less than 0.05, then that result is said to be statistically significant.

3. RESULT AND DISCUSSION

Body weight, FCR and mortality of duck rearing separately in postal cage and stage cage attached in the table below:

Table 2. Body weight, FCR and mortality of duck rearing separately in postal cage and stage cage

<table>
<thead>
<tr>
<th>Number</th>
<th>Variable</th>
<th>Treatment 35 days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Postal cage</td>
</tr>
<tr>
<td>1</td>
<td>Body weight (kg)</td>
<td>1.54 ± 0.03</td>
</tr>
<tr>
<td>2</td>
<td>FCR</td>
<td>1.94 ± 0.14</td>
</tr>
<tr>
<td>3</td>
<td>Mortality (%)</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Means with different superscripts within the same column are not significantly different (P>0.05).

Results are means with n = 30 per treatment

Body Weight of Duck.

Our study showed that body weight of duck rearing separately in postal cage and stage cage were not significantly different (P > 0.05). The results of the study were body weight maintained in the postal cage with a value of 1.54 and stage cage with a value of 1.53. The results of the study were not much different from the study of Liu et al. (2019) which stated that peking ducks kept for 40 days with dietary energy treatment showed an average body weight of 1.58 to 1.60 kg.

The body weight of peking ducks is also influenced by other factors. According to Fenita et al. (2010) the substitution of amino acids lysin, methionine and tryptopan tends to increase ration consumption in purebred chickens although it is not yet real. The level of ration consumption can also be influenced by environmental conditions, as well as ambient temperature. In addition, environmental factors such as health, ration quality, temperature, ration feeding system and genetic traits can also affect duck ration consumption (Ismoyowati et al., 2018).

Feed Conversion Ratio (FCR)

On the basis of the FCR value, there was no significant difference (P>0.05) between Peking ducks raised in stage cages and those raised in postal cages. This is supported by table 2, which indicates if the t statistic value is less than the table t value. The FCR value of ducks housed in the postal cage was 1.94, and the FCR value of ducks housed in the stage cage was also 1.94. According to Nova (2019), the average FCR in stage cages is lower than in postal cages because the stage cage is cooler because air circulates from all sides of the cage and from under the cage due to the cage's perforated floor.

In this study, the same FCR was affected not only by rearing management, but also by feed type, feed consumption, temperature, gender, and body weight. This is consistent
with Siregar’s (2005) assertion that FCR is affected by a variety of factors, including genetics, feed form, temperature, environment, feed consumption, body weight, and sex.

The FCR value of Peking ducks in this study was lower than the FCR value of Peking ducks found in the NRC (1994) study at the same age, which was 2.80. The lower the FCR value, the more efficiently poultry feed can be utilised. According to Risnajati (2012), a high FCR value is linked with economic value. The greater the quantity of feed given, the greater the reduction in profit. According to Adi et al. (2019), the FCR of female tegal ducks reared in a semi-intensive system is 1.43. The FCR in this study was greater than 1.43.

Mortality

Our study showed that mortality of duck rearing separately in postal cage and stage cage were not significantly different (P > 0.05). The results of the study were mortality maintained in the postal cage with a value of 1.5% and stage cage with a value of 2.5%. The results of the study were not much different from the study of Kunharjanti and Sujani (2016) which stated that laying hens with postal and battery cage treatment showed that mortality not significantly different (P > 0.05). According to Bai et al. (2022) the study showed that mortality of duck rearing cage and floor were not significantly different (P > 0.05). The mortality rate in the cage rearing system is 2.38% and in the floor rearing system is 2.86%.

4. CONCLUSION

The results indicated that there was no difference in the performance (Body weight, FCR, and Mortality) of Peking ducks housed in postal and stage cage. However, based on the average values for body weight, FCR, and mortality, the postal cage provides the best results.

5. SUGGESTION

The feeding of Peking ducks in each cage requires additional testing and determine feed metabolism in peking ducks in different cages.

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REFERENCES


