CARCASS YIELD OF NATIVE CHICKENS FED ARACHON OF SKIPJACK TUNA
(Katsuwonus pelamis L.) IN DIET

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ABSTRACT

In the prospect of skipjack tuna (Katsuwonus pelamis L) fish that abundant in Sulawesi Ocean, a study was carried out to determine the effect of arachon of skipjack tuna in diet on carcass yield out to determine the effect of arachon of skipjack tuna in diet on carcass yield of native chickens. The experiment was designed in completely randomized design (CRD) with 5 treatments and 5 replications. A total of one hundred 29 weeks old native chickens were randomly allocated to five dietary treatments, consisting of five replications in each treatments using four birds in each cell. Dietary treatments were basal diet = BD (R0), 94% BD + 6% Arachon (R1), 91% BD + 9% arachon (R2), 88% BD + 12% arachon (R3), and 85% BD + 15% arachon (R4). Feed and water were provided ad libitum. All experimental data were subjected to the analysis of variance test (ANOVA) followed by Duncan’s multi range test. Result showed that dietary arachon of skipjack tuna in diet up to 15% exert no significant difference (P > 0,05) compared to control on final weight, carcass weight, and carcass percentage. It can be concluded that the arachon of skipjack tuna in diet can be substituted to basal diet up to 15%.

Keywords: Carcass, Native chickens, Skipjack Tuna.

INTRODUCTION

Feed is one of basic components of poultry farm industry that play an important role to produce animal protein. About two-third production cost is feed. The increase price of feed stuffs often becomes a problem. There is an alternative methods to solve that problem by using the local feedstuffs in that area (Hafsah et al. 2015).

Nichindo company is a company engaged in the export of wood skipjack fish, located in south Minahasa regency of North Sulawesi Province. Fishery waste generated in large quantities can be bad impact for the environment because it causes a foul odor resulting from the
decomposition of protein materials at a high temperature and humidity and potentially harmful to human health (Margaret et al., 2007).

In the prospect of skipjack tuna (*Katsuwonus pelamis* L.) fish that abundant in Sulawesi Ocean, a study was carried out to determine the effect of arachon of skipjack tuna in diet on carcass yield of native chickens.

**MATERIALS AND METHODS**

A total of one hundred 29 weeks old native chickens were randomly allocated to five dietary treatments, consisting of five replications in each treatment using four birds in each cell. Dietary treatments were basal diet = BD (R0), 94% BD + 6% ASTM (R1), 91% BD + 9% ASTM (R2), 88% BD + 12% ASTM (R3), and 85% BD + 15% ASTM (R4). Feed and water were provided *ad libitum*. All rations were made in 16% - 21% of protein and metabolizable energy of 2740 – 3084 Kcal/kg according to NRC (1994). The nutrients of Skijack gill (Arachon) meal and the composition of feedstuffs and nutrients in diet were shown in the Table 1.

The experiment was designed to completely randomized design (CRD) with 5 treatments and 5 replications. Data obtained was analyzed using analysis of variance (Steel and Torrie, 1993). All experimental data were subjected to the analysis of variance test (ANOVA) followed by Duncan’s multi range test.

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>PO</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME (Kcal/kg)</td>
<td>2740.74</td>
<td>2905.54</td>
<td>2946.84</td>
<td>3015.53</td>
<td>3084.23</td>
</tr>
<tr>
<td>Protein (%)</td>
<td>16.26</td>
<td>18.19</td>
<td>19.16</td>
<td>20.33</td>
<td>21.09</td>
</tr>
<tr>
<td>Crude Fiber (%)</td>
<td>7.10</td>
<td>6.71</td>
<td>6.52</td>
<td>6.32</td>
<td>6.13</td>
</tr>
<tr>
<td>Fat (%)</td>
<td>4.50</td>
<td>5.24</td>
<td>5.61</td>
<td>4.09</td>
<td>6.35</td>
</tr>
<tr>
<td>Calcium (%)</td>
<td>0.79</td>
<td>0.86</td>
<td>0.90</td>
<td>0.94</td>
<td>0.98</td>
</tr>
<tr>
<td>Phosphorus (%)</td>
<td>0.87</td>
<td>0.97</td>
<td>1.01</td>
<td>1.06</td>
<td>1.11</td>
</tr>
<tr>
<td>Lysine (%)</td>
<td>0.97</td>
<td>1.04</td>
<td>1.07</td>
<td>1.11</td>
<td>1.14</td>
</tr>
<tr>
<td>Methionine (%)</td>
<td>0.37</td>
<td>0.39</td>
<td>0.39</td>
<td>0.40</td>
<td>0.41</td>
</tr>
</tbody>
</table>

Notes: PO = Control Diet, P1=94% BD + 6% ASTM, 91% BD + 9% ASTM (R2), 88% BD + 12% ASTM(R3), and 85% BD + 15% ASTM (R4).

At the end of the experiment, two chicken for each plot were weight individually prior to slaughter. After slaughter, feather were removed by dipping the chicken in to the warm water (app.60 – 70 ° C). Carcass yield was weight of dead chickens without feathers, head, neck, legs, and digestive organs. The chickens were cut in to the parts according to the standard procedure of dissection (Jensen, 1989).
RESULTS AND DISCUSSION

The effects variables were subjected to analyzed value growth performance i.e, final weight, carcass weight, carcass percentage as shown in Table 3.

Table 2. Carcass Yield Of Native Chickens Fed Arachon of Skipjack Tuna (*Katsuwonus pelamis* L.) in diet on Final Weight, Carcass Weight, Carcass Percentage.

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Treatments</th>
<th>P0</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Weight (g)</td>
<td></td>
<td>718.98</td>
<td>733.90</td>
<td>734.60</td>
<td>729.99</td>
<td>730.91</td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 18.72</td>
<td>± 15.23</td>
<td>± 16.91</td>
<td>±16.30</td>
<td>±8.85</td>
</tr>
<tr>
<td>Carcass Weight (g)</td>
<td></td>
<td>406.57</td>
<td>414.16</td>
<td>417.36</td>
<td>414.25</td>
<td>421.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 8.31</td>
<td>± 8.63</td>
<td>± 12.52</td>
<td>±13.36</td>
<td>±9.94</td>
</tr>
<tr>
<td>Carcass Percentage</td>
<td></td>
<td>68.94</td>
<td>69.74</td>
<td>69.22</td>
<td>69.26</td>
<td>70.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 0.83</td>
<td>± 1.31</td>
<td>± 1.29</td>
<td>± 0.84</td>
<td>+1.43</td>
</tr>
</tbody>
</table>

Results of t-test value shown no significant effects (P > 0.05) on final weight, carcass weight, carcass percentage. The real final weight results from the experiment with 718 – 730 g. North and Bell (1990) found that increase in body weight gain influenced by feed consumption, if consumption of both the body weight gain would also be good. Rombe (2012) states that be factors that influence weight gain is feed consumption.

However in carcass weight were results in no significant effects. This gives an indicatin that the production of carcass resulting from of ASTM in native chickens has relatively the same quality with nutrients in Arachon Skipjact Tuna Meal (ASTM). The carcass characteristcs of 4 breeds of local chickens whitemini broler (31d) 592 g, Hanhyup 3-ho (37d) 576 (g), Woorimatdag (36 d) 571 (g), Silky fowl (59 d) 394 (g). (Choo et al., 2014). Carcass weight and carcass yield in the present study was relatively lower than those of other breeds such as Padovana (De Marchi et al., 2005) and Tunisian local chickens (Moujahed and Haddad, 2013). Carcass yield is affected by a number of factors including genetic. Feed, slaughtering conditions, live weight and sex (Young et al., 2001; Havenstein et al., 2003; Brickett et al., 2007).

The percentage of carcass based on the administration treatment of Skipjack gill (Arachon) meal in experiment as 68.94 – 70, 17 %. This results to Sarjuni (2011) that found 68.28 – 71.42 %.
CONCLUSION

It can be concluded that the arachon of skipjack tuna in diet can be substituted to based diet up to 15%.

REFERENCES


