EFFECT OF DISTRICT ON CARCASS TRAITS AND BONE MEAT RATIO IN NATIVE CHICKEN

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ABSTRACT

Indigenous chicken have their own importance, hence, a study was conducted to evaluate their carcass traits. Significant ($P \leq 0.05$) differences were noticed between the districts in per cent dressed and eviscerated weight traits. Significant ($P \leq 0.05$) differences were noticed in blood, heart, gizzard and giblet per cent weight as well as cut up parts like, drumstick, thigh and neck per cent weight between the districts. The average Bone : Meat ratio recorded was 1: 3.53, 1: 3.54 and 1: 4.08 in birds of Chamarajanagar, Mysore and Mandya districts, respectively.

KEYWORDS : Indigenous chicken. Carcass, Intensive system, Bone meat ratio.

INTRODUCTION

Poultry meat is an important cheaper source of animal protein and is considered to be the cheap one compared to any other meat source for human consumption and is easily available in all seasons throughout the country. With the growth of poultry industry, demand for various cut up parts like, breast meat, drumsticks, thigh meat and so on has created interest in consumers. In respect to native chicken reared under intensive system, literature is very scanty. Therefore, an attempt was made to study the various carcass qualities and Bone- Meat ratio, of native chicken of Karnataka reared under intensive system.

MATERIALS AND METHODS

The chicks hatched out of eggs collected from Chamarajnagar (D1), Mysore (D2) and Mandya (D3) districts of Mysore division of Karnataka, were reared under deep litter system . At the age of seventeen weeks, 20 birds from each district were randomly chosen and starved for 12 hours before being slaughtered , drinking water was provided *ad libitum* during starvation period. The live body weight was recorded after slaughter

The birds were slaughtered by Halal method (by cutting the jugular vein), bled for 1.5 to 2 minutes, then scalded at 137^0F for 2 minutes and manually defeathered. The bled weight and weight after defeathering were recorded. After separating the head and shank form the carcass and dressed weight was recorded. Then evisceration was done and eviscerated weight was recorded. Feather weight was computed by subtracting bled weight from defeatherd weight, Later on the legs at hock joint, wings at shoulder joint and neck were separated and weighed. Each of the legs was cut into two parts viz., drumstick and thigh. The breast and back was separated, and the weight of all the cut up parts were recorded. Heart, liver and gizzard were separated and cleaned. Pericardium from the heart, gallbladder from the liver and internal layer of gizzard lining were removed before recording their individual weight and also the weight of them together ie., giblet weight. The per cent weight of all carcass quality parameters to their live weight was also computed. The bone-meat ratio was assessed by separating meat from bone in left leg of all birds slaughtered and weighed individually to record their weight as well as ratio. The data obtained in the study was subjected to one way analysis using SPSS Statistics 17.0 software.

RESULTS AND DISCUSSION

The mean live weight recorded just before slaughter of birds did not vary significantly between three districts. However significant ($P \leq 0.05$) difference was noticed in per cent dressed weight between the districts D1 and D2, D1 and D3; in eviscerated weight between D1 and D3, while edible weight did not show any significant difference between the districts (Table 1). The values obtained with respect to per cent dressed weight; eviscerated weight and edible weight in the present study are higher than those reported in Aseel by Mohapatra et al. (1982) and Sharma (1995) in Mizoram native chicken under confinement. Per cent dressed weights obtained in the present study were lower compared to those reported by Sharma and khedkar (2005) for Kadaknath under confinement. The differences observed in the results of various investigators are attributable to the differences in genetic constitution of the chicken evaluated.

Table 1. Performance of native chicken reared under intensive system for carcass traits and percent organ weights

Districts	Live wt	% Dressed wt	% Eviscerated wt	% Edible wt	% Blood wt	% Feather wt	% Liver wt	% Heart wt	% Gizzard wt	% Giblet wt
D1	1001.90 ±54.10	79.97^{a}± 0.61	69.12^{a} ± 0.50	74.43 ±0.47	5.69^{b}± 0.36	6.61± 0.36	1.97± 0.04	0.41^{b}± 0.06	2.92^{b}± 0.10	5.31^{b}± 0.12
D2	990.90 ±59.64	81.81^{b}± 0.52	69.76^{a} ^{b}±0.60	75.06 ±0.55	3.17^{a}± 0.16	6.76± 0.33	1.97± 0.16	0.39^{b}± 0.08	2.93^{b}± 0.24	5.30^{b}± 0.41
D3	1045.25±70.77	82.19^{b}± 0.58	71.70^{b} ± 1.03	76.03 ± 0.99	4.06^{b}± 0.38	7.43± 0.33	1.76± 0.06	0.27^{a}± 0.11	2.93^{b}± 0.24	4.33^{a}± 0.14

Values having at least one common superscript in a column do not differ significantly (P = 0.05) , D1- Chamarajanagar district,D2- Mysore district, D3- Mandya district.

No Significant ($P \leq 0.05$) differences were noticed between different districts with respect to liver weight, whereas, significant ($P \leq 0.05$) differences were noticed between D1 and D3, D2 and D3 in heart weight, gizzard weight, and giblet weight. The values obtained in this study for liver, heart, and gizzard weight are slightly higher than those reported by Sharma and khedkar (2005) in Kadaknath. Values of giblet are lower than values reported in Aseel and Mizoram native chicken. By Mohapatra et al. (1982) and Sharma (1995) respectively , the variations observed are due to differences in the live weight of different genotypes.

A Significant difference ($P \leq 0.05$) in per cent blood weight was noticed between D1 and D2 and D1 and D3 whereas no significant difference between districts was observed in the case of feather per cent weight. The per cent blood weight values recorded were similar while feather weights were

higher than those reported by Mohapatra et al, (1982) in Aseel breed. .

Significant ($P \leq 0.05$) differences were noticed between different districts with respect to cut up parts viz., in drumstick (between D1 and D3), in thigh (between D1 and D2 and D1 and D3), and in neck (between D1 and D3). No significant differences were noticed in breast, back and wing weight between districts, (table 2). The values obtained in the present study for all cut up parts were lower compared to those reported by Mohapatra et al. (1982) in Aseel breed and Sharma (1995) in Mizoram native chicken.

Table 2. Performance of Native chicken reared under intensive system for carcass cutup parts

Districts	%Breast wt	%Back wt	%Drumstick wt	%Thigh wt	% Wing wt	%Neck wt
D1	15.75 ± 0.38	15.55± 0.22	11.57^{b} ± 0.21	10.22^{a}±0.29	9.61± 0.19	5.11^{a}± 0.12
D2	14.88 ± 0.53	15.74± 0.21	11.15^{ab}± 0.18	11.44^{b}±0.29	9.23± 0.33	5.62^{b}± 0.13
D3	15.97 ± 0.45	16.56± 0.73	10.84^{a} ± 0.30	11.43^{b}±0.21	10.57± 0.72	5.22^{ab} ± 0.17

Values having at least one common superscript in a column do not differ significantly (P = 0.05) , D1- Chamarajanagar district,D2- Mysore district, D3- Mandya district.

The average Bone to Meat ratio recorded were 1: 3.53, 1: 3.54 and 1: 4.08 in indigenous chicken of Chamarajanagar (D1), Mysore (D2) and Mandya (D3) districts, respectively. These values are lower compared to those reported in Aseel by Mohapatra et al. (1982).

The results of the present study indicated that the carcass quality parameters recorded in the indigenous chicken pertaining to different districts of Karnataka reared under intensive system are comparable to those reported in the literature for other indigenous chicken reared under intensive system.

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