

# A REPORT ON GROWTH PERFORMANCE AND CARCASS CHARACTERISTICS OF 'GRAMASREE' COCKERELS FED ON COMMERCIAL BROILER DIETS

P.G. Vineetha, T.P. Shamna and B. Ajith Babu

College of Avian Sciences and Management, Thiruvazhamkunnu,  
Palakkad, Kerala - 678 601

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## ABSTRACT

Gramasree chicken is a dual purpose backyard breed of Kerala, which is preferred more by the local consumers for its gamy flavour and texture. The present study was aimed at investigating the growth rate and carcass characteristics of Gramasree cockerels reared under intensive system and fed with commercial broiler diet. A total of 100, day-old male Gramasree chicks were randomly distributed to four replicates and reared under intensive system up to 10 weeks of age and fed with commercial broiler diets. Parameters recorded were feed intake, body weight (BW), body weight gain (BWG), feed conversion ratio (FCR), dressing percentage and percentage cut up parts. A mean body weight of  $1164.86 \pm 2.29$  kg was attained at 10 weeks of age with an FCR of 3.8 and the dressing percentage was found as  $62.63 \pm 2.84$  with cut up parts percentage comparable with commercial broilers.

**Keywords:** Gramasree chicken, growth performance, carcass traits

## INTRODUCTION

Gramasree is a synthetic backyard

chicken breed of Kerala, having genetic inheritance from Barred Plymouth Rock, New Hampshire, Desi Naked neck and Rhode Island Red. Gramasree males attain a body weight of 2.2 kg in five months on scavenging feed resources in backyard and are popular for their meat, which is low in fat content compared with present day broilers. It fetches almost thrice the price of broilers because of its taste and flavour. Besides providing food security and women empowerment, it also fetches a good price from the sale of birds and eggs that improves the economy of rural farmers. The birds are hardy and require little care and can be reared in the open. In addition to farm and kitchen wastes, if they are provided with small quantity of balanced feed, they will meet their nutrient requirement and reach reasonable body weight at an early age. When commercial broiler meat cost varies from Rs.65 to Rs.110 per kg live weight depending upon the season, the colored chicken meat rate has been found as unchanged at around Rs.175/-per kg live weight. Since Gramasree are fast fleshing birds with coloured plumage, they easily get accepted in market as desi birds.

Feeds defined in terms of protein and energy density exhibit varying effects on the growth parameters such as weight gain, feed conversion rate and growth rate in chickens (Kuietche *et al.*, 2014). Present study was aimed at investigating the growth rate and carcass characteristics of Gramasree chicken reared under intensive system and fed on commercial broiler diet.

#### MATERIALS AND METHODS

The experiment was conducted at Avian Research Station, Thiruvazhamkunnu, Palakkad. A total of 100, day-old Gramasree male chicks were randomly allotted into four replicates with 25 birds per replicate. Birds were reared in deep litter under standard uniform management conditions up to 10 weeks of age. In this feeding trial, three phase feeding program was adopted with a broiler pre-starter diet in first two weeks, broiler starter diet from third week to eighth week and broiler finisher diet in last two weeks. The different broiler diets used in the study was purchased from the brand SKM poultry feeds (SKM animal feeds and foods India Ltd, Tamilnadu). The weekly body weight and feed intake were recorded and the weekly body weight gain and FCR were determined using above data.

At the end of 10 weeks of age, two birds per each replicate were starved for 12 hours with access to water and then slaughtered by humane method and parameters like pre-slaughter weight, dressing percentage, per cent carcass yield were calculated as per the standard formula. The carcasses were cut into neck, wings, thighs, drumsticks, breast and back for recording the percentage of cut up parts. Yield of cut up parts was calculated as the ratio between the part

weight and the carcass weight (eviscerated weight without giblet weight).

#### RESULTS AND DISCUSSION

In the present study, the average body weight at 10 weeks of age was found as  $1164.86 \pm 2.29$  with an FCR of 3.8 (table 1), which was definitely a promising body weight when compared to the corresponding body weights of other local desi birds as reported by Singh and Pathak, 2016. There was an exponential pattern of growth up to eight weeks of age, later weight gain got decreased. It may be due to the decreased intake of the high energy finisher feed offered in peak summer. Similarly, Nahal (2015) attained a body weight of 1208.09 gm at 10 weeks of age with the FCR of 2.64 in Gramasree cockerels when fed with the diet containing 20% CP and 3100 Kcal ME /kg. According to Divya (2014), Gramasree cockerels got a body weight of  $1097.20 \pm 11.30$  gm at the age of 10 weeks fed with diet containing 22% CP and 3100 Kcal ME /kg and the weight was only  $877.80 \pm 12.55$  when fed with normal chick mash.

The carcass traits mentioned in the table 2, reveals that the eviscerated yield of Gramasree cockerel was  $62.63 \pm 2.84$  % which is comparable to that of modern day broilers. The result was in agreement with the findings of Divya (2014), who got a dressing percentage of 61.09 and she also found that the processing loss was less at the age of 10<sup>th</sup> week when compared to 8<sup>th</sup> week. The percentage of various cut up parts were quite comparable to that of commercial broilers (Neck - 6.36%, Wing - 12.39%, Breast - 26.82%, Back - 16.89%, Thigh - 16.51%, Drumstick - 16.43% and Giblet - 7.5%).

**Table 1.** Weekly growth performance and feed consumption of Gramasree cockerels

Age in weeks	Mean Body weight (g)	Body weight gain (g)	Mean feed consumption(g)	FCR
0 <sup>th</sup> day	33.37±1.01			
1	62.35±1.93	28.73±2.07	54.27±2.06	1.90
2	144.00±0.98	81.65±1.91	155.01±2.25	1.90
3	220.87±1.99	76.87±2.18	158.53±2.90	2.10
4	358.33±1.67	137.46±2.63	319.94±2.26	2.30
5	489.42±2.40	131.09±3.39	339.55±2.47	2.60
6	642.95±1.24	153.53±2.91	451.19±1.80	2.94
7	804.27±1.76	161.32±2.03	535.21±3.31	3.30
8	943.65±1.94	139.38±3.17	510.48±4.70	3.70
9	1063.26±1.38	119.61±2.64	455.51±3.49	3.80
10	1164.86±2.29	101.6±2.06	386.72±3.18	3.80

**Table 2.** Carcass traits in Gramasree cockerels (n=8)

Para- meters	Pre-slaughter weight (g)	Evisce- rated yield (%)	Neck (%)	Wing (%)	Breast (%)	Back (%)	Thigh (%)	Drum- stick (%)	Giblet (%)
Values	1535.33± 0.09	62.63± 2.84	6.36± 0.56	12.39± 0.53	26.82± 1.12	16.89± 0.78	16.51± 0.70	16.43± 1.29	7.50± 0.80

## SUMMARY

The preference from consumers are making a perception among the farmers for the emergence of Gramasree cockerel rearing for meat. The result of this study shows that these colored birds have excellent fleshing characters with a reasonable FCR when reared with commercial broiler diet under intensive condition. Hence the study output may be used for educating the farmers, so that they can adopt colored chicken farming for meat purpose, which in turn ensures them sustainable income.

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