**Journal of AgriSearch, 9 (2): 163-167**
An Open Access International Peer Reviewed Quarterly

**ISSN : 2348-8808 (Print), 2348-8867 (Online)**
**https://doi.org/10.21921/jas.v9i02.10125**

# Effect of Age on Sensory Characteristics and different Cuts of Black Bengal Goat Carcasses in different agro-climatic Conditions of West Bengal

**S KUMAR[1], AK SAREN[2], RK CHOUDHARY[3], N MANDAL[4], A SHEE[5], G PATRA[1] AND A ROY[6]***

**ABSTRACT**

The study was conducted on sixteen numbers of castrated male Black Bengal goats from four different agro climatic zones of west Bengal at the age group of 6–9-month, 9-12 month and above 12-month age were selected from registered farmer under "AICRP on goat improvement, Black Bengal field unit-Kolkata" to compare the sensory characteristics and different cuts of Black Bengal goats' carcasses. The present study, represented colour, flavor, texture, tenderness and overall acceptability of Black Bengal goats of different age groups and different clusters. There was significant variation in different ages has been observed for colour, flavor, tenderness and overall acceptability of chevon but no variation was recorded for colour, flavor, tenderness and overall acceptability of chevon among different cluster. But in case of texture at above 12-month age group lower values were observed in Nadia district. There was significant variation in different ages has been observed for Rack, Breast and Shank of chevon but no variation was recorded for Rack, Breast and Shank of chevon among different cluster. Sensory quality of the selected goat meat samples was affected by the age but not by the sex and zones.

**Keywords:**
Black Bengal goat, age, agro-climatic zones, sensory Attributes and different Cut-up-parts

**ARTICLE INFO**

| | | |
|---|---|---|
| Received on | : | 16.09.2021 |
| Accepted | : | 09.04.2022 |
| Published online | : | 16.06.2022 |



## INTRODUCTION

Goats are among the main meat-producing animals in India and goat meat is a rich source of nutrition and is consumed in large quantities through worldwide, especially in the tropics and developing countries, (Park 1988, 1990). Despite the popularity of goat meat, goat rearing has not been conducted as either a large or a small-scale industry in the state of West Bengal or in India as a whole (Biswas 2010). Black Bengal goats (*Capra hircus*) are highly prolific and reputed for quality meat and skin production throughout the world (Salim *et al.* 2002). Black Bengal goat comprises more than 85% of the total goat population and 40% of the rural population below poverty line rear their goat with low input cost in diverse agro-climatic condition in West Bengal (Anonymous 2005). In West Bengal, contribution of goat meat is around 0.242 MT (Anonymous 2012) and more than Rs. 106 billion annually to the national economy, providing livelihood to millions of marginal and small farmers and agricultural laborers (Kumar 2007). In order to intensify meat trading, the practice of making the carcass into wholesale cuts had been found supportive towards better marketing. There are five primal wholesale cuts namely- neck & shoulder, breast & shank, rack, loin and leg as per BIS-1963. Consumers prefer meat cuts with high lean meat yield to carcass with higher proportions of fat (Johnson *et al.* 1995). Improving the tenderness of such carcasses may improve their marketing opportunities by increasing the retail price (Yanar and Yetim 2003). Relatively fewer studies conducted on meat production characteristics of Black Bengal goat (Chowdhury and Faruque 2004). In this context, the present study had been carried out in four different agro-climatic zones of West Bengal to compare the sensory attributes and different cut-up-parts of goat carcasses at different age groups under field condition at farmers door step.

## MATERIALS AND METHODS

A pilot survey for designing data collection format was conducted during the month of September, 2017 to March, 2018. All Parameters were studied at the Department of Livestock Products Technology, F/O-Veterinary and Animal Sciences, West Bengal University of Animal and fishery Sciences. The research programme was carried out in four adopted clusters of the ongoing project "AICRP on Goat Improvement, Black Bengal Field Unit - Kolkata" distributed in four agro-climatic zones (Coastal Saline Zone: Sundarban; Gangetic Alluvial Zone: Nadia; Undulating Red and Lateritic Zone: Jhargram and Old alluvial zone: Murshidabad) of West Bengal. In the present study, 6 nos. of castrated male Black Bengal goats from each agro climatic zone at the age group of 6-9 month, 9-12 month and above 12 month age were purchased from registered farmer under AICRP. Goats were weighted and kept off-feed overnight with free access to water and were slaughtered and dressed by the halal method in different local slaughter booths in the study areas. Immediately after dressing, chest circumference, carcass length and leg circumference of the carcass hanging with Achilles tendon were recorded using a measuring tape in centimetre. Carcasses were sectioned down the vertebral column with a band saw and then divided into 5 primal

[1] Deptt. of LPT, WBUAFS, Kolkata, West Bengal, India
[2] Deptt. of VGO, WBUAFS, Mohanpur, West Bengal, India
[3] Krishi Vigyan Kendra, Araria, Bihar, India
[4] Office of BLDO, Bhagwangola-1, Murshidabad, West Bengal, India
[5] Dhaanyaganga Krishi Vigyan Kendra, Sargachi, Murshidabad, West Bengal, India
[6] Deptt. of LFC, WBUAFS, Mohanpur, West Bengal, India
*Corresponding Author E-mail: amitavanutri07@gmail.com

**Table 1:** Age wise variation of sensory attributes of Black Bengal goats

| Parameter | Cluster | Age Group | | | |
|---|---|---|---|---|---|
| | | 6-9 month | 9-12 month | Above 12 month | Overall |
| Colour | Nadia | 6.08±0.14$^{r}$ (6) | 6.17±0.14$^{q}$ (6) | 6.92±0.14$^{p}$ (6) | **6.39±0.08 (18)** |
| | Murshidabad | 6.08±0.14$^{r}$ (6) | 6.25±0.14$^{q}$ (6) | 6.75±0.14$^{p}$ (6) | **6.36±0.08 (18)** |
| | Jhargram | 5.91±0.14$^{r}$ (6) | 6.25±0.14$^{q}$ (6) | 6.75±0.14$^{p}$ (6) | **6.31±0.08 (18)** |
| | Sundarban | 6.17±0.14$^{r}$ (6) | 6.25±0.14$^{q}$ (6) | 6.67±0.14$^{p}$ (6) | **6.36±0.08 (18)** |
| | **Overall** | **6.06±0.07$^{g}$ (24)** | **6.22±0.07$^{f}$ (24)** | **6.77±0.73$^{e}$ (24)** | |
| Flavour | Nadia | 5.92±0.12$^{r}$ (6) | 6.25±0.12$^{q}$ (6) | 6.67±0.12$^{p}$ (6) | **6.28±0.07 (18)** |
| | Murshidabad | 6.08±0.12$^{r}$ (6) | 6.33±0.12$^{q}$ | 6.75±0.12$^{p}$ | **6.39±0.07 (18)** |
| | Jhargram | 5.75±0.12$^{r}$ (6) | 6.25±0.12$^{q}$ | 6.92±0.12$^{p}$ | **6.31±0.07 (18)** |
| | Sundarban | 5.75±0.12$^{r}$ (6) | 6.25±0.12$^{q}$ | 6.75±0.12$^{p}$ | **6.25±0.07 (18)** |
| | **Overall** | **5.87±0.06$^{g}$ (24)** | **6.27±0.61$^{f}$ (24)** | **6.77±0.61$^{e}$ (24)** | |
| Texture | Nadia | 6.25±0.14$^{p}$ (6) | 6.25±0.14$^{p}$ (6) | 5.58±0.14$^{q}$ (6) | **6.03±0.08 (18)** |
| | Murshidabad | 6.25±0.14$^{q}$ (6) | 6.50±0.14$^{p}$ (6) | 5.83±0.14$^{r}$ (6) | **6.19±0.08 (18)** |
| | Jhargram | 6.17±0.14$^{q}$ (6) | 6.67±0.14$^{p}$ (6) | 5.75±0.14$^{r}$ (6) | **6.19±0.08 (18)** |
| | Sundarban | 6.33±0.14$^{q}$ (6) | 6.58±0.14$^{p}$ (6) | 5.83±0.14$^{r}$ (6) | **6.25±0.08 (18)** |
| | **Overall** | **6.25±0.07$^{f}$ (24)** | **6.50±0.07$^{e}$ (24)** | **5.75±0.07$^{g}$ (24)** | |
| Tenderness | Nadia | 6.58±0.12$^{p}$ (6) | 6.25±0.12$^{q}$ (6) | 5.75±0.12$^{r}$ (6) | **6.19±0.07 (18)** |
| | Murshidabad | 6.58±0.12$^{p}$ (6) | 6.17±0.12$^{q}$ (6) | 5.67±0.12$^{r}$ (6) | **6.14±0.07 (18)** |
| | Jhargram | 6.75±0.12$^{p}$ (6) | 6.25±0.12$^{q}$ (6) | 5.67±0.12$^{r}$ (6) | **6.22±0.07 (18)** |
| | Sundarban | 6.75±0.12$^{p}$ (6) | 6.17±0.12$^{q}$ (6) | 5.75±0.12$^{r}$ (6) | **6.22±0.07 (18)** |
| | **Overall** | **6.67±0.05$^{e}$ (24)** | **6.20±0.60$^{f}$ (24)** | **5.70±0.05$^{g}$ (24)** | |
| Overall Acceptability | Nadia | 6.25±0.11$^{q}$ (6) | 6.75±0.11$^{p}$ (6) | 5.83±0.11$^{r}$ (6) | **6.28±0.07 (18)** |
| | Murshidabad | 6.25±0.11$^{q}$ (6) | 6.75±0.11$^{p}$ (6) | 5.75±0.11$^{r}$ (6) | **6.25±0.07 (18)** |
| | Jhargram | 6.17±0.11$^{q}$ (6) | 6.50±0.11$^{p}$ (6) | 6.08±0.01$^{r}$ (6) | **6.25±0.07 (18)** |
| | Sundarban | 6.33±0.11$^{q}$ (6) | 6.58±0.11$^{p}$ (6) | 6.16±0.11$^{r}$ (6) | **6.36±0.07 (18)** |
| | **Overall** | **6.25±0.06$^{f}$ (24)** | **6.64±0.06$^{e}$ (24)** | **5.96±0.05$^{g}$ (24)** | |

#Means ± SE brief with super scripts a, b, c, p, q, r & f, e, g, significant within different cluster and different age group

wholesale cuts namely neck and shoulder, breast and shank, rack, loin and leg as per Indian Standard Institution (Anonymous 1963). The right sides of the carcasses were used to determine the physical cut composition. All the samples were weighed by digital weighing balance and covered with plastic wrap to prevent moisture loss and kept in chilled with ice pack and transported to departmental laboratory for storage and further study at 4+1°C.

**Table 2:** Age wise variation of Different Cut-up-parts of Black Bengal goats

| Parameter | Cluster | Age Group | | | |
|---|---|---|---|---|---|
| | | **6-9 month** | **9-12 month** | **Above 12 month** | **Overall** |
| Leg (kg) | Nadia | 1.01±0.04$^{br}$ (6) | 6.17±0.14$^{q}$ (6) | 6.92±0.14$^{p}$ (6) | **6.39±0.08 (18)** |
| | Murshidabad | 1.01±0.04$^{br}$ (6) | 6.25±0.14$^{q}$ (6) | 6.75±0.14$^{p}$ (6) | **6.36±0.08 (18)** |
| | Jhargram | 1.06±0.04$^{ar}$ (6) | 6.25±0.14$^{q}$ (6) | 6.75±0.14$^{p}$ (6) | **6.31±0.08 (18)** |
| | Sundarban | 1.10±0.04$^{ar}$ (6) | 6.25±0.14$^{q}$ (6) | 6.67±0.14$^{p}$ (6) | **6.36±0.08 (18)** |
| | **Overall** | **1.04±0.02$^{g}$ (24)** | **6.22±0.07$^{f}$ (24)** | **6.77±0.73$^{e}$ (24)** | |
| Loin (kg) | Nadia | 0.66±0.03$^{ar}$ (6) | 6.25±0.12$^{q}$ (6) | 6.67±0.12$^{p}$ (6) | **6.28±0.07 (18)** |
| | Murshidabad | 0.65±0.03$^{ar}$ (6) | 6.33±0.12$^{q}$ | 6.75±0.12$^{p}$ | **6.39±0.07 (18)** |
| | Jhargram | 0.64±0.03$^{br}$ (6) | 6.25±0.12$^{q}$ | 6.92±0.12$^{p}$ | **6.31±0.07 (18)** |
| | Sundarban | 0.66±0.03$^{ar}$ (6) | 6.25±0.12$^{q}$ | 6.75±0.12$^{p}$ | **6.25±0.07 (18)** |
| | **Overall** | **0.65±0.01$^{g}$ (24)** | **6.27±0.61$^{f}$ (24)** | **6.77±0.61$^{e}$ (24)** | |
| Rack (kg) | Nadia | 0.75±0.03$^{r}$ (6) | 6.25±0.14$^{p}$ (6) | 5.58±0.14$^{q}$ (6) | **6.03±0.08 (18)** |
| | Murshidabad | 0.74±0.03$^{r}$ (6) | 6.50±0.14$^{p}$ (6) | 5.83±0.14$^{r}$ (6) | **6.19±0.08 (18)** |
| | Jhargram | 0.70±0.03$^{r}$ (6) | 6.67±0.14$^{p}$ (6) | 5.75±0.14$^{r}$ (6) | **6.19±0.08 (18)** |
| | Sundarban | 0.73±0.03$^{r}$ (6) | 6.58±0.14$^{p}$ (6) | 5.83±0.14$^{r}$ (6) | **6.25±0.08 (18)** |
| | **Overall** | **0.72±0.01$^{g}$ (24)** | **6.50±0.07$^{e}$ (24)** | **5.75±0.07$^{g}$ (24)** | |
| Neck and Shoulder (kg) | Nadia | 0.54±0.05$^{cr}$ (6) | 6.25±0.12$^{q}$ (6) | 5.75±0.12$^{r}$ (6) | **6.19±0.07 (18)** |
| | Murshidabad | 0.54±0.05$^{cr}$ (6) | 6.17±0.12$^{q}$ (6) | 5.67±0.12$^{r}$ (6) | **6.14±0.07 (18)** |
| | Jhargram | 0.60±0.05$^{br}$ (6) | 6.25±0.12$^{q}$ (6) | 5.67±0.12$^{r}$ (6) | **6.22±0.07 (18)** |
| | Sundarban | 0.64±0.05$^{ar}$ (6) | 6.17±0.12$^{q}$ (6) | 5.75±0.12$^{r}$ (6) | **6.22±0.07 (18)** |
| | **Overall** | **0.56±0.02$^{g}$ (24)** | **6.20±0.60$^{f}$ (24)** | **5.70±0.05$^{g}$ (24)** | |
| Breast and Shank (kg) | Nadia | 0.76±0.03$^{r}$ (6) | 6.75±0.11$^{p}$ (6) | 5.83±0.11$^{r}$ (6) | **6.28±0.07 (18)** |
| | Murshidabad | 0.77±0.03$^{r}$ (6) | 6.75±0.11$^{p}$ (6) | 5.75±0.11$^{r}$ (6) | **6.25±0.07 (18)** |
| | Jhargram | 0.76±0.03$^{r}$ (6) | 6.50±0.11$^{p}$ (6) | 6.08±0.01$^{r}$ (6) | **6.25±0.07 (18)** |
| | Sundarban | 0.75±0.03$^{r}$ (6) | 6.58±0.11$^{p}$ (6) | 6.16±0.11$^{r}$ (6) | **6.36±0.07 (18)** |
| | **Overall** | **0.76±0.01$^{g}$ (24)** | **6.64±0.06$^{e}$ (24)** | **5.96±0.05$^{g}$ (24)** | |

#Means ± SE brief with super scripts a, b, c, p, q, r & f, e, g, significant within different cluster and different age group

The sensory qualities of samples were evaluated by descriptive analysis method. The goats from different age groups and from different zones were slaughtered by standard humane procedure and meat from each sample was cooked separately. The spice, condiments, oil and other ingredient were fixed for the whole trial and cooking

procedure was the preparation of chevon curry by pure indigenous method. The sensory quality of samples was evaluated using 8 point descriptive scale (Keeton and Foegeding 1984) where 8 denoted extremely desirable and 1 denoted extremely poor. A sensory panel (semi trained) of seven judges drawn from post-graduate students and staff of the University were requested to evaluate the product for different quality attributes *viz*: colour, flavour, appearance and overall acceptability (Sensory Evaluation of Meat Products Scoring guide). All the data which were obtained during the present investigation were analyzed statistically to draw valid conclusion in SPSS (Version 16.0) software.

## RESULTS AND DISCUSSION

In the present study, the colour of Black Bengal chevon obtained from different clusters namely Nadia, Murshidabad, Jhargram and Sundarban under four different agro-climatic zones at different age groups viz. 6-9 month, 9-12 month and above 12 month were recorded as 6.08±0.14, 6.17±0.14 & 6.92±0.14 in Nadia; 6.08±0.14, 6.25±0.14 & 6.75±0.14 in Murshidabad; 5.91±0.14, 6.25±0.14 & 6.75±0.14 in Jhargram; and 6.17±0.14, 6.25±0.14 & 6.67±0.14 in Sundarban cluster respectively. Table 1 represented colour, flavour, texture, tenderness and overall acceptability of Black Bengal goats of different age groups and different clusters. There was significant variation in different ages has been observed for Colour, flavour, tenderness and overall acceptability of chevon but no variation was recorded for Colour, flavour, tenderness and overall acceptability of chevon among different cluster. But in case of texture at above 12 month age group lower values were observed in Nadia district. Adam *et al.* (2010) reported that colour is an important sensory characteristic for the consumer. Carlucci *et al.* (1998) observed that the rearing system affected texture more than odour and flavour, whereas sex had little effect on textural attributes compared with odour and flavour. Adam *et al.* (2010) also reported that the type of diet had no significant effect ($p>0.05$) on the tenderness, juiciness, flavour, colour and overall acceptability of meat from Nilotic kids. Ekiz *et al.* (2009) documented that the effect of breed on flavour quality and overall acceptability scores were not significant. Sikder *et al.* (2013) reported that Colour score increased with advancement of age but flavour score was gradually decreased with the progress of age in all the zones and all the groups exhibited a significant increasing trend ($p<0.05$) in appearance score after 3 months of age except Coastal saline zone. Overall acceptability score of Bengal Goat meat (cooked) in all the zones have got significant highest ($p<0.05$) scores at only "9 months and above" age group. Dhanda *et al.* (2003) stated that the breed and slaughter weight had no effect on flavour and connective tissue. Das and Rajkumar (2010) reported that the no significant difference was found between the breeds with regard to meat tenderness, juiciness and flavour. The deviation of the results of our study may be due to age of the animal as well as geographical location and agro-climatic condition.

In the table 2, the weight of leg cut (kg) of carcass obtained from Black Bengal goatsin Nadia, Murshidabad, Jhargram and Sundarban cluster under four different agro-climatic zones at different age groups viz. 6-9 month, 9-12 month and above 12 month were 1.01±0.04, 1.01±0.04 & 1.01±0.04 kg in Nadia; 1.01±0.04, 1.50±0.04 & 2.13±0.04 kg in Murshidabad; 1.06±0.04, 1.52±0.04 & 1.80±0.04 kg in Jhargram; 1.10±0.04, 1.50±0.04 & 1.87±0.04 kg in Sundarban cluster respectively. At 6-9 month and at 9-12 month age group the weight of leg cuts (kg) was significantly lower ($p<0.01$) in Nadia and Murshidabad cluster. At 6-9 month age higher values were observed in Sundarban cluster. At 9-12 month higher values were observed in Jhargram cluster. At above 12 months higher values were noticed in Nadia & Murshidabad cluster than Jhargram cluster. At 6-9 month age group loin weight (kg) of carcass was found to be lower in Jhargram than Nadia & Sundarban cluster. At 9–12-month age group, significantly higher loin weights were recorded in Jhargram & Nadia than Murshidabad cluster. At above 12 month age lower values were observed in Jhargram and higher values was observed in Murshidabad cluster. The weight of Neck and Shoulder cut (kg) at 6-9 month was found to be higher in Sundarban cluster, whereas lower values were observed in Nadia & Sundarban cluster. At 9-12 month and above 12-month age, higher values were observed in Jhargram & Nadia cluster than Sundarban cluster. There was significant variation in different ages has been observed for Rack, Breast and Shank of chevon but no variation was recorded for Rack, Breast and Shank of chevon among different cluster. Chowdhury and Faruque (2004) reported that the average proportion of different carcass cut of Black Bengal goats, reared under semi-intensive management were - round 27%, rump 7%, loin 10%, ribs (6-12th) 14%, shoulder 21 %, Neck 7%, chest 14%. Thigh and shoulder constituted about 48.3% of the cold carcass weight. Agro-climatic zones have non-significant effect ($p>0.05$) on cut up parts wt. Viz. leg, loin, rack, neck and shoulder and breast and shank but value of all these parameters reveal significant ($p<0.05$) increment with the advancement of age. The deviation of the results of our study may be due to age of the animal as well as geographical location and agro-climatic condition.

## CONCLUSION

There was significant variation in different ages has been observed for colour, flavor, tenderness and overall acceptability of chevon but no variation was recorded for colour, flavor, tenderness and overall acceptability of chevon among different cluster. But in case of texture at above 12 month age group lower values were observed in Nadia district. There was significant variation in different ages has been observed for Rack, Breast and Shank of chevon but no variation was recorded for Rack, Breast and Shank of chevon among different cluster.

## ACKNOWLEDGEMENT

The authors would like to thank the Deptt. Of Livestock Products Technology and AICRP-Goat, Black Bengal field unit –Kolkata, F/O Veterinary and Animal Sciences, West Bengal University of Animal and Fishery Sciences, Kolkata for extending the facilities to carry out this work.

**REFERENCES**

Anonymous.19th Livestock Census.2012. Department of Animal Husbandry Dairying and Fisheries, Ministry of Agriculture.

Adam AAG, Atta M and Ismail SHA. 2010. Quality and sensory evaluation of meat from Nilotic male kids fed on two different diets. *Journal of Animal and Veterinary Advances* **9(15)**:2008-2012.

Anonymous.2005. Annual Report 2004-2005. Department of Animal Husbandry and Dairying, Ministry of Agriculture. Government of India. New Delhi.

Biswas S. 2010. The Black Bengal Goat as a Tool to Promote Sustainable Livelihoods in Rural West Bengal. Food Policy for Developing Countries 1–12.

Carlucci A, Girolami A, Napolitano F and Monteleone E. 1998. Sensory evaluation of young goat meat. *Meat Science* **50**:131-136.

Chowdhury SA and Faruque S. 2004. Meat production characteristics of Black Bengal goat. *Asian-Australian Journal of Animal Science* **17**:848-856.

Das AK and Rajkumar V. 2010. Comparative study on carcass characteristics and meat quality of three Indian goat breeds. *Indian Journal of Animal Science* **80(10)**:1014-1018.

Dhanda JS, Taylor DG and Murray PJ. 2003. Carcass composition and fatty acid profiles of adipose tissue of male goats: effects of genotype and live weight at slaughter. *Small Ruminant Research* **50**:67-74.

Ekiz B, Yilmaz A, Ozcan M, Kapta DC, Baaogiu H, Erdogan I and Yalcintan H. 2009. Carcass measurements and meat quality of Turkish Merino, Rarnlic, Kivircik, Chios and Imroz lambs raised under an intensive production system. *Meat Science* **82**: 64-70.

Anonymous.1963. Indian Standard Institution. Bureau of Indian Standards, New Delhi. 8.

Johnson DD, McGowan CH, Nurse G and Anous MR. 1995. Breed type and sex effects on carcass traits, composition and tenderness of young goats. *Small Ruminant Research* **17(1)**:57–63.

Keeton JT and Foegeding EA. 1984. Patina AC. A comparison of non-meat products, sodium tripolyphosphate and processing temperature effects on physical and sensory properties of frank furthers. *Journal of Food Science* **49**:1462-1474.

Kumar S. 2007. Commercial goat farming in India: An emerging agri-business opportunity. *Agricultural Economics Research* Review **20**:503–20.

Park YW. 1988. Trace mineral contents and Fe/Zn ratio in goat meat. *Journal of Food Composition and Analysis* **1**:283.

Park YW. 1990. Effect of breed, sex and tissues on concentrations of macrominerals in goat meat. *Journal of Food Science* **55**:308.

Salim HM, Shahjalal M, Tareque AMM and Kabir F. 2002. Effects of concentrate supplimentation on growth and reproductive performance of the female sheep and goats under grazing condition. *Pakistan Journal of Nutrition* **1(4)**:191-193.

Sikder SK, Chatterjee JK, Das SK and Biswas S. 2013. Effect of agro-climatic zones on keeping quality and sensory attributes of Black Bengal goat meat. *Indian journal of animal health* **52(1)**:43-54.

Yanar M and Yetim H. 2003. The effects of electrical stimulation on the sensory and textural quality properties of mutton carcasses. *Turkish Journal of Veterinary and Animal Sciences* **27**:433-438.

**Citation:**

Kumar S, Saren AK, Choudhary RK, Mandal N, Shee A, Patra G and Roy A.2022. Effect of age on sensory characteristics and different cuts of black bengal goat carcasses in different agro-climatic condition of West Bengal. *Journal of AgriSearch* **9**(2):163-167