

Research Article

Effect of breed on carcass traits of Kundhi and Nili Ravi buffalo

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Abstract

Present study was conducted to study the carcass traits of Kundhi and Nili Ravi buffalo. The total 100 animals of Kundhi and Nili Ravi breed were randomly selected and divided into A, B, C and D group. In group A and C there were Kundhi and Nili Ravi male whereas, B and D females of both breeds respectively and the age of animals was around 36 months. The selected animals were slaughtered at slaughter house of Seven Star meat processing company Dhabeji, Thatta. The carcass traits studied including live body weight, carcass weight, dressing percentage and boneless weight. The results revealed that carcass traits live body weight, carcass weight, dressing percentage and boneless weight of Nili Ravi male was significantly higher ($P>0.05$) as compared to the Kundhi buffalo male, while same carcass traits were also observed highly significant ($P>0.01$) in Nili Ravi female than Kundhi buffalo female. It was concluded that carcass traits of Nili Ravi buffalo are better expressed and produces more beef than Kundhi buffalo. Likewise Kundhi buffalo male is better in beef production than the Nili Ravi female and Kundhi buffalo female produces low carcass yield.

Keywords: Carcass traits; Breed; Kundhi; Nili Ravi buffalo

Introduction

Buffalo meat being popular in most of buffalo loving countries around the world as it comes from removed animals or spare males. A well-known Swamp buffalo breed contains average live weight yields 592 kg, 277 kg carcass and 215 kg meat [1]. Meat consumption varies worldwide, depending on cultural or religious preferences, as well as economic conditions. Vegetarians choose not to eat meat because of ethical, economic, environmental, Religious or health concerns

that are associated with meat production and consumption [2]. Meat of Buffalo contains lower fat as matched with beef of cattle [3]. Breed differences in production traits are important genetic resources for improving beef production efficiency, meat composition and quality. The carcass traits are mainly affected by breed, gender, age and nutrition of animal [1]. Pakistan has 33.7 million buffalo heads with approximately 18.01 percent of total world population, it includes Kundhi and Nili Ravi

breeds. Both breeds are renowned for their high milk and meat production. In Pakistan, both breeds have major importance, because they play an important role in the overall economy of country by contributing milk, meat, hides and draft power for various agricultural operations [4]. Therefore, the present study was planned to observe the effect of breed on carcass traits of Kundhi and Nili Ravi buffalo.

Methodology

In this study, 100 animals of Kundhi and Nili Ravi breeds with age of 36 month were selected. The selection was performed on the bases of physical characters, health and age [5]. After the selection, the live body weight of each animal was measured using the digital weighing balance at Seven Star meat

processing company, Dhabeji, Thatta. The animals were slaughtered breed and group wise. The animals were slaughtered, dressed out and skinned into two halves.

Dressing percentage

The dressing percentage was calculated using the formula described by [3].

$$DP = (\text{Total carcass} \div \text{Total LBW}) \times 100$$

Results

Breed and gender comparison between Kundhi and Nili Ravi male

The results revealed that the carcass traits of Nili Ravi breed are better than the Kundhi. It was observed that carcass traits including live body weight, carcass weight, dressing percentage and boneless weight of Nili Ravi are significantly higher than Kundhi breed in details given in Table 1.

Table 1. Live Body weight, Carcass weight, Dressing percentage, Boneless weight of Kundhi and Nili-Ravi male

Carcass Traits	Breeds	
	Kundhi Male	Nili Ravi Male
Live body weight (kg)	544.44* ± 31.76	571.52* ± 41.11
Carcass Weight (kg)	272.68* ± 21.00	314.4* ± 27.62
Dressing (%)	50.07* ± 2.22	54.99* ± 2.45
Boneless weight (kg)	133.05 ± 15.76	148.05 ± 15.76

*Means are significantly different at (P<0.05)

Breed and gender comparison between Kundhi and Nili Ravi female

The results revealed that the carcass traits of Nili Ravi breed are better than the Kundhi. It was observed that carcass traits including

live body weight, carcass weight, dressing percentage and boneless weight of Nili Ravi was significantly higher than Kundhi breed in Table 2.

Table 2. Live Body weight, Carcass weight, Dressing percentage, Boneless weight of Kundhi and Nili Ravi female

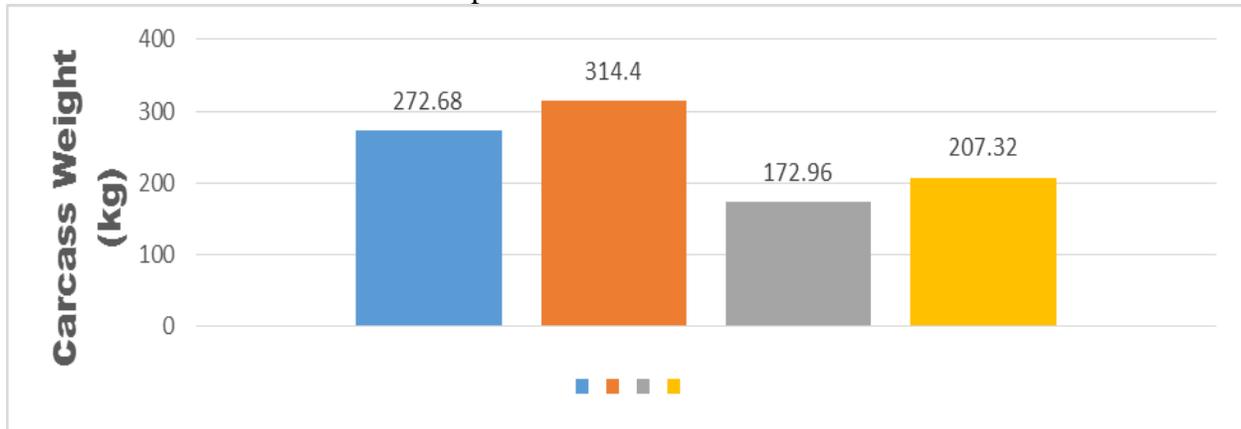
Carcass Traits	Breeds	
	Kundhi female	Nili Ravi female
Live body weight (kg)	363.6* ± 25.98	398.84* ± 22.12
Carcass weight (kg)	172.96* ± 15.40	207.32* ± 23.30
Dressing (%)	47.46* ± 3.30	51.90* ± 4.11
Boneless weight (kg)	130.22* ± 11.93	140.22* ± 11.96

*Means are significantly different at (P<0.05)

Description of carcass weight for Kundhi and Nili Ravi (male and female)

Results for carcass yield of Kundhi male and female was observed lower as compared to

Nili Ravi male and female. The results showed the significant difference ($P > 0.05$) in Graph 1.

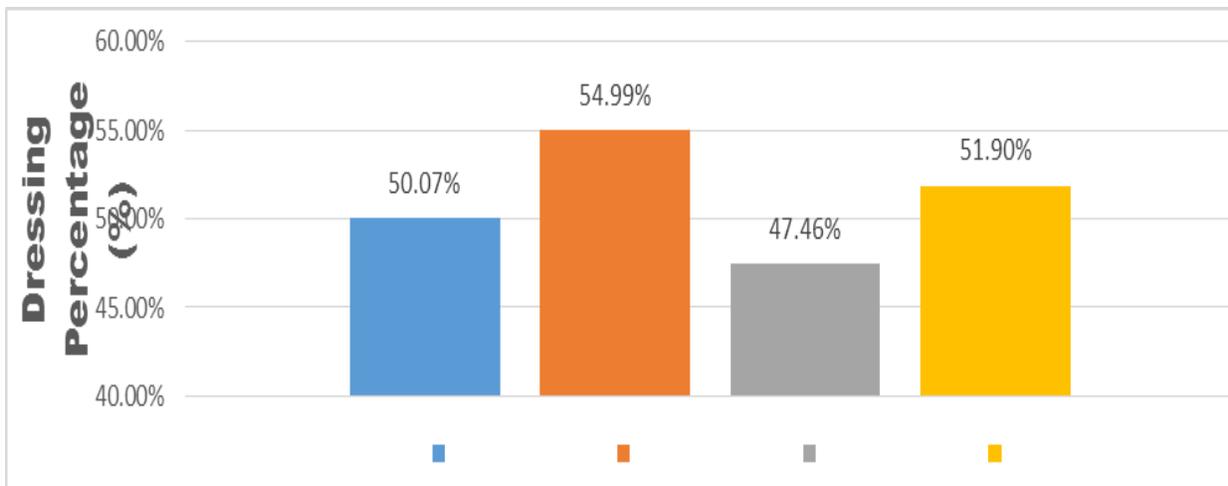


Graph 1. Carcass weight

Description of dressing percentage for Kundhi and Nili Ravi (male and female)

The results for the dressing percentage Kundhi male and female were observed

lower as compared to Nili Ravi male and female. The results showed the linear significant difference ($P > 0.05$) in Graph 2.

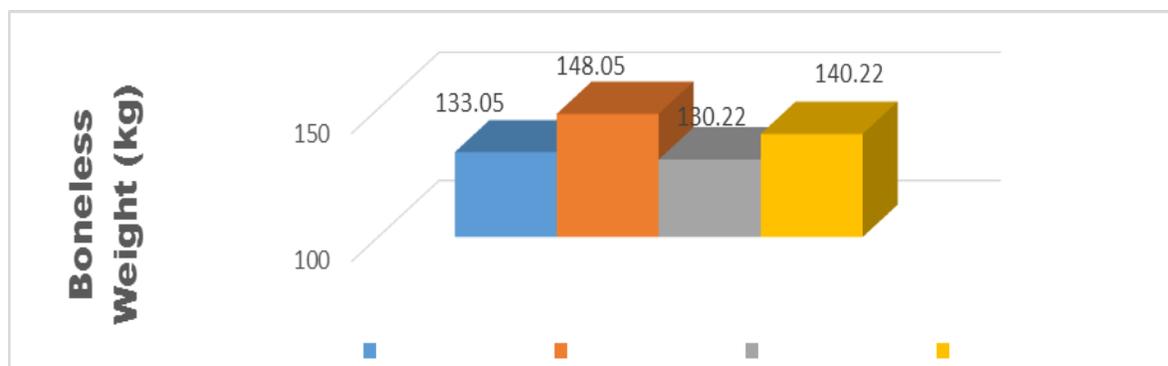


Graph 2. Dressing percentage

Description of boneless weight for Kundhi and Nili Ravi (male and female)

The results for boneless weight of both breeds while in the male of Kundhi and Nili

Ravi was observed non-significant difference ($P < 0.5$) in Graph 3.



Graph 3. Boneless weight

Discussion

In the present study, the average live body weights of Kundhi male was significantly higher than the female buffalo. Similarly, Nili Ravi males were heavier than female animals respectively. Similar results were seen by [6, 7], who have reported that the body weight of male Nili Ravi was higher than the female Nili Ravi. It is natural phenomenon that the live body weight of adult male animals is heavier than that of the female.

Carcass weight

The carcass produced from the male of the two breeds were higher than their respective females, findings of our study are in agreement with the results of [8-10], who reported higher 7-5% higher carcass weight in male of Aryshire cattle, while lower in female of similar age. The results of [7, 11], are also in agreement with results of the current study, they have also reported higher carcass weight in males of Brangus cattle and lower carcass weight in females, that is due to natural phenomenon and may also be due to large amount of food intake by male.

Dressing percentage

The results of dressing percentage was higher in the males than females; however, both the males and females of Nili Ravi. Our results are in agreements with the findings of [12-14], who have reported higher carcass weight in Morucha cattle breed male as compared to female. It is believed that the highest quality beef can be harvested from

animals below 36 months of age. Similarly, old cows yield very palatable beef if properly fattened and processed [7].

Boneless weight

In our study, the boneless weight from the females of the Nili Ravi breed was higher in yield than their males. However, the relations was opposite in Kundhi buffaloes, where the higher boneless weight was derived from males. The results of the current study of Kundhi males are in agreement with the results of [6, 14, 15], who reported reports 2.0-2.4% more boneless weight in males as compared to the female of Hereford cows. A possible explanation of this difference could be addressed to the observations made by [16, 13], who have reported that high bone ratio and muscle thickness in bulls as opposed to the cows that are leaner and have lower bone weight, same statement repeated by [3], who have also reported 20-22% higher bone weight in male of Jersey cattle as compared to female.

Conclusion

It was concluded that carcass traits of Nili Ravi are better expressed and produces more beef in comparison to Kundhi. Kundhi male is better in beef production than the Nili Ravi female and Kundhi female produces low carcass yield.

Authors' contributions

Conceived and designed the experiments: HA Kaleri, Performed the experiments: MS Zardari, RR Kaleri, MA Jalbani & F Ashraf,

Analyzed the data: HA Kaleri, A Kaleri & A H Kaleri, Contributed reagents/ materials/ analysis tools: MS Zardari, Z Qadir & MZ Khan, Wrote the paper: RR Kaleri.

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