

PRELIMINARY STUDY ON THE LIVE WEIGHT GAIN OF CASTRATED AND UNCASTRATED KANO BROWN BUCKS.

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ABSTRACT

This preliminary study was conducted to determine the live body weight gain of Kano Brown Bucks. Eight Kano Brown Bucks were used to compare the live weight gain of castrated and uncastrated bucks. This research was conducted at Audu Bako College of Agriculture Dambatta, Kano State. The bucks were sourced from small ruminant unit of the college and they were allotted into two treatments with four bucks per treatment, that is Treatment A for castrated bucks and B for uncastrated bucks. The animals were subjected to the same experimental diet which lasted for ten weeks during this period two week were used for rumen adaptation and to recover from wound healing and pain of castration. The initial individual weight was recorded along with cumulative and average weight for both treatments. Average initial body weight for castrated bucks was 75.8kg and a mean weight of 18.9kg, final average weight was 86.7kg and a mean weight of 21.7kg. Average initial weight for uncastrated Kano brown bucks were 71.8kg with a mean weight of 18.0kg, final body weight 80.5kg and a mean weight of 20.1kg. Treatment A had more weight gain than treatment B due to the removal of sexual function. It was found that castration has positive effect on weight gain on castrated Kano Brown bucks fed with molasses and cotton seed cake. Hence, it is recommended that Kano Brown bucks should be castrated before embarking into fattening.

Key words: Live Weight, Gain, Castrated, Uncastrated and Kano Brown Buck.

INTRODUCTION

Castration is a process of removing testicles or crushing of spermatic cord that subsequently leads to the atrophy of the testicle (Kesler, 1992). It could be done either as open or close castration. It also involves the removal or destruction of the testes, epididymis and a portion of each spermatic cord from a male domestic ruminant. In most cases, non-breeding and breeding males not slaughtered at a young age should be castrated. Traditionally, farmers do not castrate animals and both males and females are allowed to roam together. The result is that inferior males mate with females passing on undesirable traits and the young stock produced are not very productive, which can result in genetic defects, poor growth rate, and other problems. Castration is also carried out to reduce goatly smell or tainted odor in the meat from slaughtered bucks. Castration of normal goat kids is one of the commonly performed routine surgical procedures in small ruminants in the tropic. Goat kids are castrated for management and production reasons. Castrated goat kids fed to slaughter age show changes in carcass weight, dressing percentage and tissue fat scores (Gyang, 1990).

MATERIALS AND METHODS

Experimental Location

The study was conducted at teaching and research farm of Audu Bako College of Agriculture, Dambatta. The college is located between Dammarke and Shantake villages of Makoda Local Government of Kano State. Kano State is in the northern part of Nigeria, located within latitude of coordinates $12^{\circ}40'N$ and $10^{\circ}30'N$, longitudes $7^{\circ}40'E$ and $9^{\circ}30'E$ (Mustapha *et al.*, 2014). The state has an elevation about 472.45 metres above sea level, and is characterized by a hot, semi-arid climate that allows an average annual rainfall of 690mm. it is considered a wet and dry tropical climate based on Koppen Geiger classification (Mustapha *et al.*, 2014).

Experimental Animals and Management

Eight Kano brown bucks aged between (2-4 years) with an average body weight of 17.6-21.6kg were used for this experiment and they were obtained from Small Ruminant Unit of Audu Bako College of Agriculture, Dambatta. Immediately after arrival of the experimental animals, four of them were randomly selected and castrated using open castration. The experimental animals were allotted into two treatments as A (castrated bucks) and treatment B (uncastrated bucks) with four bucks per treatment. They are individually identified using ear tag; treatment A as 1, 6, 7 and 3 and treatment B as 8, 11, 5, and 2. The experiment lasted for ten weeks during which two weeks were used for rumen adaptation and wound healing from castration and the remaining eight weeks for data collection. The bucks were housed in college pen designed for small ruminant with a buck per pen with dimension of (3x3m). The Management practices that were carried out during this research work are; daily feed offered twice (morning and evening), record of leftover feed, daily sweeping, clean portable water *ad libitum* is given. Experimental Animals were given antibiotic prophylaxis using 20% Oxytetracycline (Long acting) at the dose rate of 10ml /kg body weight. They were also dewormed with albendazole suspension at 7.5mg per kg body weight and also mineral lick.

Experimental Diet

The feed used for this experiment was formulated with cotton seed cake, molasses and other feed ingredients as presented in Table 1.

Data Collection and Analysis: The data collected in this experiment involved the initial live weight and weekly weight gain of each buck. Data collected was managed and analysed using Microsoft excel(year)

Table 1: Composition of Experimental Diet

Ingredients	Treatments	
	Trt A	Trt B
Molasses	10	10
Maize offal's	20	20
Sorghum haulm	20	20
Cotton Seed Cake	20	20
Salt	0.4	0.4
Bone meal	0.6	0.6
Rice husk	17	17
Wheat offal's	12	12
Total	100	100

RESULTS AND DISCUSSION

Results obtained were presented in Table 2 and 3. Table 2 represents the final body weight gain along with initial body weight for both castrated and uncastrated Kano brown bucks. At initial stage, body weight ranged from 17.6kg-19.8kg for castrated bucks with tag number 7 and 3 respectively and at final stage, final body weight ranged from 20.4kg-22.3kg for animals 7 and 3 respectively. This shows a significant ($p<0.05$) and consistent body weight gain among castrated Kano brown bucks than the uncastrated ones. This is similar with the findings of Kelser (1992) who reported that orchidectomized bucks had significantly higher ($p<0.05$) body weight. This is probably due to low hormonal effect (Low androgen production) that causes sexual arousal in male, as a result the bucks had more time to feed than be involved in sexual activities. Initial body weight of uncastrated Kano brown bucks ranged from 17.5kg-19.2kg for bucks with tag number 8 and 3 and final body weights were between 18.4kg-21.6kg for bucks with tag number 5 and 2 respectively. Table 3 represents average or mean weight gains for both castrated and uncastrated at initial and final stages. Average initial body weight for castrated bucks was 75.8kg with an average mean weight of 18.9kg, final average weight was 86.7kg with an average mean weight of 21.7kg. Average initial weight for uncastrated Kano brown bucks was 71.8kg with an average mean weight of 18.0kg and final average weight gain was 80.5kg with an average mean weight of 20.1kg. This is in contrast with the findings of Solomon *et al.* (1991) who reported that the effect of castration on average daily weight gain in goats were inconsistent. Daily weight gains of castrated goats were either lower Belanger and Breedensen, (2010) compared to intact goats. The effect of castration on feed conversion ratio in goats has also been inconsistent cumulative final body weight 80.5 and mean 20.1kg. This is similar with the report of Ahamd *et al.* (1995) reported a better feed conversion ratio in castrated Sannen goats, than intact ones. But Devendra (1970) reported a non-significant variation in feed conversion ratio of castrated and intact Arhdi goat.

Table 2: Body Weight Gain (kg) of Castrated and Uncastrated Buck

Parameter	Treatment				
Tag Number		1	6	7	3
Initial Body Weight	A	19.5	18.7	17.6	19.8
Final Body Weight	A	22.4	21.6	20.4	22.3
Tag Number		8	11	5	2
Initial Body Weight	B	15.2	17.5	16.9	19.2
Final Body Weight	B	20.7	19.8	18.4	21.6

Table 3: Mean Weight (kg) gain performance of castrated and uncastrated bucks.

Treatments	Initial Weight	Mean	Final Weight	Mean
A	75.8	18.9	86.7	21.7
B	71.8	18.0	80.5	20.1

CONCLUSION

The study shows that castration had positive effect on weight gain on castrated Kano brown bucks. Hence, it is recommended that Kano brown bucks should be castrated before embarking into fattening.

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