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Efficiency of Egyptian Buffaloes As Meat Producted Animals

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AN INVESTIGATION was carried out on four groups of male buffalo calves aging 12, 15, 18 and 24 months, as well as on a similar number of groups of female buffaloes aging 2, 3, 4 and 5 years.

The dressing out percentage, percentage of bone, 1*st* and 2*nd* grade meat cuts together the meat/bone ratio of chilled carcases were estimated.

The dressing out percentage of slaughtered male buffaloes were 48, 38, 50.93, 51.34 and 51.83, while the ratio of meat to bone was. 4.29/1 ; 4.52/1, 4.90/1 and 5.07/1 in groups 1, II., III and IV respectively.

Female buffaloes had a comparatively higher dressing value and lower percentage of bone.

Buffalo carcases possess a high dressing value and lower percentage of bone, hence they are more profitable to breaders and butchers Egyptian buffaloes proved to be an efficient meat producing animal.

Buffaloes are considered the animal of choice by the Egyptian farmers. Their number vastly exceeds that of cows. In 1977 they were 2266 $\times$ 10^3 buffaloes and 2048 $\times$ 10^3 cows (Statistical Hand Book, 1978).

Buffaloes are bred for dual purpose. As a dairy animal, their fresh liquid milk is highly prefered by the public as well as by creameries due to its high fat percent. On the other hand, buffaloes stand first among meat producing animals, 74 $\times$ 10^3 buffaloes and 285 $\times$ 10^3 male buffalo calves were slaughtered in 1977 (Statistical Hand Book, 1978).

Male-buffalo calves are usually slaughtered very early before 6 weeks of age.

Investigations concerning the dressing value of buffalo carcases are very few. Ragab *et al.* (1963) reported that the dressing percentages were 53.67, 57.57 and 52.74 for male buffaloes aging 12,18 and 24 months respectively and subsequently they reported (1966) that the percentages of bone in male buffaloes at ages were 20.45, 18.76 and 16.26 respectively. Charles and Johnson (1972) stated that the meat/bone ratio in buffalo bulls ranged from 3.68/1 to 4.74/1 with a mean value of 4.07/1.

Afifi *et al.* (1974) reported that the dressing percentage of male buffaloes slaughtered at ages 12, 18 and 24 months were 50·8, 55·89 and 53·18 respectively. Ziedan *et al.* (1976) reported that the dressing percentages of male buffaloes at 15, 18 and 24 months old were 48·1, 50·3 and 51·4, while the percentages of bone in carcass were 17·4, 17·5 and 17·1 for the previous groups respectively.

Since production of meat in Egypt is insufficient to meet the consumers demand, and as buffaloes constitute an important source of meat supply in Egypt as they are considered the animal of choice by farmers ; therefore this work has been undertaken to demonstrate the efficiency of buffaloes as meat producers.

As no systematic study has been conducted to investigate the effect of age and sex on the dressing value, percentage of bone and muscle/bone ratio of buffalo carcases ; this work was planned to provide data. The following parameters and effects were examined :

1. Dressing value.
2. Effect of age and sex on carcass yield.
3. Percentage of muscle to bone in the carcass.

Material and Methods

This study was carried out on male and female buffaloes slaughtered in Cairo abattoir. Eighty male animals were divided into four groups ; 20 individuals each of 12, 15, 18 and 24 months old. Twelve female buffaloes were slaughtered at 2, 3, 4 and 5 years of age.

Animals were fasted 12 hr before being weighed separately then slaughtered and dressed in the usual manner. The dressing out percentage was calculated and registered. Dressed carcases were quartered and chilled for 24 hr at 0 - 2° and 85 % relative humidity before being weighed.

The percentages of bones, *1st* and *2nd* grade meat cuts besides the meat/bone ratio of chilled carcases were estimated and recorded.

1st grade meat cuts included psoas, semitendinosus and intercostal muscles. The rest of the carcass meat is considered *2nd* grade cuts.

Results and Discussion

It is evident from the results presented in Table 1, that the dressing value was 48·38 % in males aging 12 months old (group I). Such value was gradually increased in group II, III and IV to reach 50·93 %, 51·34 % and 51·83 % respectively. On the other hand, the average total percentage of bone in group I was 18·56 and decreased to 17·74, 16·63 and 16·15 in group II, III and IV respectively.

TABLE 1. Average dressing value and percentage of meat to bone in male buffaloes.

Group	age in months	Live weight (kg)	Carcass weight (kg)	Dressing value (%)	Carcass weight after chilling	Percentage of meat cuts		Total percentage of meat	Total percentage of bone	The meat /bone ratio
						1st grade	2nd grade			
I	12	387.8	187.6	48.38	186.4	9.22	70.39	79.61	18.56	4.29
II	15	429.4	218.7	50.93	216.1	8.81	71.37	80.18	17.74	4.52
III	18	484.2	248.6	51.34	246.0	8.64	72.85	81.49	16.63	4.90
IV	24	486.8	252.3	51.83	249.05	7.80	74.11	81.91	16.15	5.07

Nearly similar findings were reported by Ragab *et al.* (1966) and Ziedan *et al.* (1976). The carcass yield reported here-in is slightly lower than that reported by Afifi *et al.*, (1974). Such variations in values reported by different workers are expected owing to differences in species, management and state of nutrition.

The meat /bone ratio was 4·29/1 in males aging 12 months old and slightly increased to reach 4·52/1 ; 4·90/1 and 5·07/1 in groups II, III, and IV respectively.

The results recorded in Table 2 reveal that the average dressing percentage was 55·66 in females aging 2 years old (group I), 53·15 in group II, 57·1 and 56·82 in animals in group III and IV respectively.

TABLE 2. Average dressing value and of meat/bone ratio in female buffaloes.

Group	Age in years	Live weight (kg)	Carcass weight (kg)	Dressing value (%)	Carcass weight after chilling	Percentage of meat cuts		Total percentage of meat	Total percentage of bone	Meat/ bone ratio
						1st grade	2nd grade			
I	2	442	246	55.66	242	9.60	73.68	83.46	13.43	6.21
II	3	441	236	53.15	233	7.29	75.85	83.14	15.02	5.36
III	4	500	285.5	57.1	282	7.75	75.49	83.24	13.82	6.02
IV	5	484	275	56.82	272	8.9	72.7	81.6	15.70	5.20

The percentages of bones in the whole carcass in the four groups were 13·43, 15·02, 13·82 and 15·70 respectively, while the ratio of meat /bone was 6·21/1, 5·36/1, 6·02/1 and 5·20/1 in groups I, II, III and IV respectively.

It is evident therefore that the female buffaloes at 2 years old had higher dressing value, lower percentage of bone and consequently a wider meat/bone ratio as compared with male buffaloes at the same age. This may be attributed to the nature of body constitution of females.

Any-how, the results allow us to conclude that as the carcass yield of male buffaloes is comparatively higher than that of balady cattle hence buffaloes can be safely considered as a meat producing animal. Its carcass possess high dressing value and lower percentage of bone which makes it more profitable to breaders. Moreover, these percentages can be improved if buffaloes are reared and managed under certain conditions.

It seems necessary that male buffalo calves should not be slaughtered before being 15 months old to increase their carcass yield. Moreover, at such age and over they proved to be more profitable to breaders as they attain more daily body weight gain.

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كفاءة الجاموس المصرى كحيوان منتج للحم

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