# EFFECT OF AGE AT SLAUGHTER ON CARCASS CHARACTERISTICS OF EGYPTIAN BUFFALOES[1]

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SUMMARY

Fifty two buffalo males were slaughtered at the ages of 6,16 , 26,39, 52, 65 and 78 weeks. Least squares means of slaughter weight were 61, 99, 135,157,205,320 and 373 kg. for the seven obovementioned age groups, respectively. Corresponding means of dressing percentage were 50.2, 44.7,44.0, 43.4, 46.1, 50.4 and 50.5%; means of % boneless meat from empty body weight were 37.4, 37.5, 37.4, 34.8, 40.2, 44.7 and 44.3% and means of meat/bone ratio were 2.3, 2.7,2.7, 2.3, 2.8, 3.8 and 3.8 for the seven slaughter age groups, respectively.

Age at slaughter had significant effect on all traits considered, except for percentage hide from empty body weight. Fattening buffalo males up to 18 months doubled meat yield of veals 6 times, reduced % bone in carcass by 10% and increased % of boneless meat from empty body weight by 7%.

## INTRODUCTION

The contribution of buffaloes to red meat output in Egypt is relatively small (about 31%) when compared with the the 50 % contributed by the equal sized population of cattle (A.O.D., 1984). This situation is due mainly to the marketing of suckling buffalo males for slaughter as veal at the age of 40 days. Reasons given for this common practice were :

(1) This work was a part of the joint project between the Faculty of Agriculture, Cairo University and The Egyptian Academy of Science executed for genetic improvement of milk and meat production in the buffaloes.

(1) Saving high priced buffalo milk for marketing;
(2) High rates of calf martality and (3) low carcass characteristic when slaughter is done at older ages.

The present study was designed to investigate the effect of age at slaughter on carcass characteristics of buffalo males slaughtered at 6 to 78 weeks.

## MATERIAL AND METHODS

This work was done on 52 male buffalo calves belonging to the herd of the Faculty of Agriculture, Cairo University, located at Om Saber, South Tahreer. The calves were randomly divided into seven groups to be slaughtered at the ages shown below :

| Age at slaughter (in week) | 6 | 16 | 26 | 39 | 52 | 65 | 78 | Total |
|---|---|---|---|---|---|---|---|---|
| No. of meles | 7 | 8 | 7 | 5 | 5 | 9 | 11 | 52 |

Calves were offered whole milk twice daily at 6 a.m. and 3 p.m. Trifolium alexandrinum was made available from the third week of age together with a growing concentrate mixture offered ad. lib.until calves were weaned at 16 weeks of age. After weaning animals were kept in open sheds and offered standard concentrate mixture at the rate of 2 kg/animal/day in addition to ad lib . green fodder. Animals were weighed every four weeks and the amount of concentrates was increased according to animal age. Body weight (BW) was recorded just prior to slaughter after an 18 hours fasting period.

The weights of the rumen and intestine contents were recorded. Empty body weight (EBW) was calculated by subtracting these weights from body weight. Weights of the following body and carcass components were recorded: head, hide, four legs, heart, spleen, kidney, liver, lungs, testes, full and empty rumen, full and empty intestine, heart fat, kidney fat, caul fat and gut fat. The weight of the hot carcass (HCW) was recorded and the carcass was divided into left and right sides. The left side of each carcass was chilled at 5°C for 24 hours . The Chilled side was then

weighed and cold carcass weight (CCW)was recorded as double the weight of the left side. The side was divided between the 10th and 11th ribs into fore and hind quarters and each quarter was weighed. The fore and hind quarters were dissected into boneless meat (BM) including intermuscular and subcutaneous fat and bone. The weight of the bone was taken as double the difference between the weight of the whole quarter and the weight of boneless meat.

Data were analysed according to the one-way classification ANOVA using the computer program developed by Harvey (1960). Tests of significance for individual means were performed by applying Dunean's Multiple Range Test (Duncan, 1955).

## RESULTS AND DISCUSSION

### Dressing Percentage:

Least squares means and mean squares of body weight (BW), empty body weight (EBW), hot carcass weight (HCW) and dressing percentage expressed as percentage of cold carcass weight from body weight (CCW/BW%) are shown in table 1. Age at slaughter had significant effect on all traits ($P < .01$).

Body weight , empty body weight and hot carcass weight showed gradual increase with advance in age. The mean slaughter weight at 78 weeks was almost six times that of six weeks slaughter age group. This ratio between the two slaughter age group was found to be the same for EBW and HCW.

Dressing percentage was sinificantly higher for groups slaughtered at 78 , 65 and 6 weeks of age (50.5, 50.4 and 50.2%, respectively) than other age groups. More reliable comparisons can be obtained by relating old carcass weight to empty body weight; to avoide the bias caused by the contents of the digestive tract. When this is done, means obtained supported the advantage of slaughtering at the age of 65 and 78 weeks. Estimates were 54.7, 51.9, 52.4, 51.2 , 54.9 , 56.4,and 57.1% , for the seven age groups, respectively. These findings agree with those of Ragab et al. (1966)and Salem et al (1983) who reported that fattening suckling buffaloes to

older ages increased dressing percentage. The relatively high dressing percentage obtained for suckling buffalo carcasses was attributed by Badreldin (1955) to the small contents of the digestive tract and also to the less exposure of calves to parasitic and infectious diseases.

The significant variability observed in this study for dressing percentage can be explained by the developmental changes in the different components of live body weight : (1) Carcass (table 1) ; (2) edible offals (table 2); (3) non carcass fat components (table 3) and non-carcass non edible offals (table 4). The increase in carcass weight and the parallel variation in edible offals, fat components and non-carcass weight and the parallel variation in edible offals , fat components and non-carcass offals as percentages from body weight improved significantly dressing percentage with advance of age after 12 months. Contents of the digestive tract and non-carcass inedible offals (head, hide and feet) were reported to influence, significantly, the dressing percentage (Badreldin, 1955; Ragab et al., 1966; Afifi et al., 1974 ; Mostageer et al., 1981 and Salem et al., 1983).

Carcass Composition:

Means and mean squares of carcass composition traits are shown in table 5. Boneless meat yield increased significantly with advancement of age and reached 147 kg. at 18 months which was seven times the yield obtained by slaughtering veals. Also, the percentage boneless meat from empty body weight increased significantly and was highest at 15 and 18 months of age.

When edible offals were added to boneless meat, edible parts weight and percentage from empty body weight followed the same trend observed in bonless meat and were the highest at 15 and 18 months of age at slaughter.

The percentage of bone from cold carcass weight was almost constant during the first 52 weeks of age and decreased considerably afterwards. The decline was about 10% (from 6 to 78 weeks age carcasses scoring 31 and 21% bone, respectively).

The meat/bone ratio was used to express boneless meat to bone ratio. Table 5 shows that meat/bone ratio (M/B) was significantly higher at 15 and 18 months carcasses (3.8 for both)than corresponding ratios obtained from carcasses of younger ages. This may be due to the early development of bone and later development of muscle and fat components (boneless meat).

The fatness of the carcasses of different ages can be compared by relevant estimates of non-carcass fat percentages from empty body weight (table 3). Percentages of noncarcass fat obtained in the present study (1.0, 1.6 and 1.4%) were much lower than those reported by Mostageer et al. (1982) for Baladi bulls and crosses; 4.03, 4.84 and 5.97% slaughtered at same ages of 12,15 and 18 months, respectively. Surprisingly, fat percent from empty body weight was the highest (1.7%) at 6 weeks buffalo males and declined significantly thenafter but again reached 1.6 and 1.4% at 15 and 18 months old carcasses (not different significantly from veal carcasses).

Traits of Fore and Hind Quarters:

Means and mean squares of traits measured on both Fore quarters (FQ) and hind quarters (HQ) are presented in table 6. In general, hind quarters had approximately 5 to 14% more boneless meat (BB)than fore quarters according to the age at slaughter which showed highly significant effect in both quaters. The percentage of boneless meat in HQ increased gradually with advance in age scoring a difference of about 10% between veal and 18-month carcasses. In both quarters, carcasses of animals slaughtered at 15 and 18 months had the highest percentages of boneless meat ($P<.05$).

Meat/bone ratio was generally higher in hind quaters of animals in all age groups as compared to the fore quarters in corresponding groups. Age at slaughter showed significant effect on M/B in forequarters($p<.01$) and in hind quarters ($P<.05$). In both quarters increasing age at slaughter increased M/B.

The oldest two groups had significantly the highest ratios. These findings is in agreement with the findings of Berg and Butterfield (1966) concerning the effect of age at slaughter on M/B ratio.

In general, the results obtained from the present study demonstrated the advanteges of fattening buffalo males to older ages over marketing them for slaughter as veals. When compared with the farmer common practice of veal production, fattening up to 18 months doubled meat output six times.

Moreover, fattening up to this age improved considerably carcass composition, by reducing bone percentage (10%)and increasing percentage of bonelss meat from body weight (7%). Deposition of non-carcass fat whcih started late in a relatively low rate in buffaloes when compared with cattle indicated the possibility of reasonably efficient fatterning of buffalo males. However, on the national scale, decisions concerning the optimum age for slaughtering buffalo males should consider the aspects of feed availability, economic efficiency of fattening operation beside quantity and quality of produced meat.

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Table (1): Means[1] ($\bar{X}$), standard errors (SE) and mean squares of body weight (BW), empty body weight (EBW), hot carcass weight (HCW) and dressing percentage (CCW / BW %).

| AGE (week) | BW (kg) | | EBW (kg) | | HCW (kg) | | CCW/BW (%) | |
|---|---|---|---|---|---|---|---|---|
| | $\bar{X}$ | SE | $\bar{X}$ | SE | $\bar{X}$ | SE | $\bar{X}$ | SE |
| 6 | 61$^{a}$ | 12 | 56$^{a}$ | 11 | 32$^{a}$ | 6 | 50.2$^{a}$ | 0.88 |
| 16 | 99$^{b}$ | 11 | 85$^{ab}$ | 10 | 45$^{ab}$ | 6 | 44.7$^{b}$ | 0.82 |
| 26 | 135$^{c}$ | 12 | 114$^{bc}$ | 11 | 60$^{bc}$ | 6 | 44.0$^{b}$ | 0.88 |
| 39 | 157$^{c}$ | 14 | 132$^{c}$ | 13 | 69$^{c}$ | 7 | 43.4$^{b}$ | 1.04 |
| 52 | 205$^{d}$ | 14 | 173$^{d}$ | 13 | 95$^{d}$ | 7 | 46.1$^{b}$ | 1.04 |
| 65 | 320$^{e}$ | 10 | 285$^{e}$ | 9 | 162$^{e}$ | 6 | 50.4$^{a}$ | 0.78 |
| 78 | 373$^{f}$ | 9 | 331$^{f}$ | 9 | 189$^{f}$ | 5 | 50.5$^{a}$ | 0.70 |
| Source of Variance | | | MEAN SQUARES | | | | | |
| Age | 118299** | | 95251** | | 32370** | | 77.7** | |
| Error | 958 | | 805 | | 281 | | 5.4 | |

1 Means not followed by the same letter differ significantly ($P<.05$).

** $P < 0.1$.

Table (2): Means (X), Standard errors (SE) and mean squares of weights of edible offals.

| Organ | | Age (Week) 6 | 16 | 26 | 39 | 52 | 65 | 78 | Mean Squares Age | Errors |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Kg | | | | | | | | |
| Heart | $\bar{X}$ | 0.27a | 0.39ab | 0.49bc | 0.67cd | 0.75d | 1.18e | 1.43f | 1.61** | 0.03 |
| | SE | 0.06 | 0.06 | 0.06 | 0.07 | 0.07 | 0.05 | 0.05 | | |
| Lungs | $\bar{X}$ | 1.16a | 1.79ab | 1.87b | 2.21bc | 2.93c | 4.37d | 4.92d | 17.5** | 0.37 |
| | SE | 0.23 | 0.21 | 0.23 | 0.27 | 0.27 | 0.20 | 0.18 | | |
| Liver | $\bar{X}$ | 1.46a | 1.44a | 2.16b | 2.79c | 3.20c | 4.50d | 4.77d | 16.0** | 0.28 |
| | SE | 0.20 | 0.19 | 0.20 | 0.24 | 0.24 | 0.18 | 0.16 | | |
| Spleen | $\bar{X}$ | 0.19a | 0.25a | 0.28a | 0.48b | 0.48b | 0.73c | 0.81c | 0.51** | 0.02 |
| | SE | 0.05 | 0.05 | 0.05 | 0.06 | 0.06 | 0.05 | 0.04 | | |
| Kidneys | $\bar{X}$ | 0.27a | 0.45ab | 0.52bc | 0.71cd | 0.74d | 1.03e | 1.21f | 0.96** | 0.03 |
| | SE | 0.07 | 0.06 | 0.07 | 0.08 | 0.08 | 0.06 | 0.05 | | |
| Testes | $\bar{X}$ | 0.02a | 0.04a | 0.06ab | 0.09bc | 0.13c | 0.23d | 0.26d | 0.08** | 0.01 |
| | SE | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | | |
| Total offals | $\bar{X}$ | 3.4a | 4.4ab | 5.4b | 6.9c | 8.2c | 12.0d | 13.4e | 129** | 2 |
| | SE | 0.49 | 0.46 | 0.49 | 0.58 | 0.58 | 0.43 | 0.39 | | |
| %T.Offals/ EBW | $\bar{X}$ | 6.1 | 5.1 | 4.7 | 5.2 | 4.8 | 4.3 | 4.4 | 3.7** | 0.2 |
| | SE | 0.18 | 0.17 | 0.18 | 0.21 | 0.21 | 0.16 | 0.14 | | |

1 Means not followed by same the letter differ significantly ($P < 0.05$).
Total offals = heart + lungs + liver + spleen + kidneys + testes.
EBW = empty body weight.
** $P < 0.01$.

Table (3): Means[1] ($\bar{X}$) , Standard (SE) and mean squares of the weight of non-carcass fat components.

| Component | | Age (week) | | | | | | | Mean Squares | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 6 | 16 | 26 | 39 | 52 | 65 | 78 | Age | Errors |
| | | Kg | | | | | | | | |
| Heart fat | $\bar{X}$ | 0.07a | 0.07a | 0.08a | 0.10a | 0.17a | 0.35b | 0.33b | 0.13** | 0.02 |
| | SE | 0.05 | 0.05 | 0.05 | 0.06 | 0.06 | 0.04 | 0.04 | | |
| Kidney fat | $\bar{X}$ | 0.41a | 0.25a | 0.30a | 0.48a | 0.41a | 1.08b | 1.31b | 1.57** | 0.10 |
| | SE | 0.12 | 0.11 | 0.12 | 0.14 | 0.14 | 0.11 | 0.10 | | |
| Caul fat | $\bar{X}$ | 0.20a | 0.24a | 0.35a | 0.68a | 0.58a | 1.71b | 1.92b | 4.49** | 0.15 |
| | SE | 0.15 | 0.14 | 0.15 | 0.17 | 0.17 | 0.13 | 0.12 | | |
| Gut fat | $\bar{X}$ | 0.29a | 0.30a | 0.38a | 0.51a | 0.57a | 1.34b | 1.12b | 1.51** | 0.08 |
| | SE | 0.11 | 0.10 | 0.11 | 0.13 | 0.13 | 0.10 | 0.09 | | |
| Total fat | $\bar{X}$ | 0.97a | 0.86a | 1.11a | 1.78a | 1.73a | 4.49b | 4.68b | 24** | 1.00 |
| | SE | 0.33 | 0.30 | 0.33 | 0.39 | 0.39 | 0.29 | 0.26 | | |
| % T.fat/ EBW | $\bar{X}$ | 1.7a | 1.0bc | 1.0bc | 1.3ab | 1.0ab | 1.6 a | 1.4abc | 0.67** | 0.22 |
| | SE | 0.18 | 0.17 | 0.18 | 0.20 | 0.21 | 0.16 | 0.14 | | |

1 Means not followed by the same letter differ significantly ($P < 0.05$).
Total fat = heart fat + Kidney fat + Caul fat + gut fat.
EBW = emply body weight.
** $P < 0.01$.

Table (4): Means[1] ($\bar{X}$), Standard errors (SE) and mean squares of non-carcass offals as percentages from empty body weight.

| Offals | | Age (week) | | | | | | | Mean Squares | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 6 | 16 | 26 | 39 | 52 | 65 | 78 | Age | Error |
| Head | $\bar{X}$ | 9.7a | 8.6ab | 7.9b | 7.3bc | 7.5bc | 6.5c | 6.3c | 11.5** | 1.4 |
| | SE | 0.44 | 0.41 | 0.44 | 0.52 | 0.52 | 0.39 | 0.35 | | |
| Hide | $\bar{X}$ | 11.0a | 9.1a | 9.9a | 9.0a | 8.9a | 10.8a | 10.6a | 6.0NS | 3.3 |
| | SE | 0.69 | 0.65 | 0.69 | 0.82 | 0.82 | 0.61 | 0.55 | | |
| 4 legs | $\bar{X}$ | 6.4a | 6.1b | 4.8c | 4.7c | 4.4cd | 3.8d | 3.7d | 2.53** | 0.42 |
| | SE | 0.17 | 0.17 | 0.19 | 0.22 | 0.23 | 0.16 | 0.15 | | |
| Full Rumen | $\bar{X}$ | 7.9a | 15.6b | 19.5cd | 19.1d | 20.5cd | 13.0b | 13.2b | 135** | 11.1 |
| | SE | 1.26 | 1.17 | 1.26 | 1.49 | 1.49 | 1.11 | 1.01 | | |
| Empty Rumen | $\bar{X}$ | 1.9a | 3.4b | 4.0cd | 4.2c | 4.6c | 3.6bd | 3.2b | 5.18** | 0.29 |
| | SE | 0.20 | 0.19 | 0.21 | 0.24 | 0.24 | 0.18 | 0.16 | | |
| Full Intestine | $\bar{X}$ | 7.7a | 8.0a | 7.6a | 7.8a | 7.0ab | 6.0b | 5.6b | 7.88** | 2.10 |
| | SE | 0.55 | 0.51 | 0.55 | 9.65 | 0.65 | 0.48 | 0.43 | | |
| Empty Intestine | $\bar{X}$ | 4.3a | 3.7bc | 4.1ab | 4.0ab | 3.7bcd | 3.0cd | 2.8d | 10.6** | 0.25 |
| | SE | 0.23 | 0.22 | 0.25 | 0.30 | 0.30 | 0.20 | 0.19 | | |

1 Means not followed by the same letter differ significantly ($P < 0.05$).
** $P < 0.01$.
NS not significant.

Table (5): Means ($\bar{X}$), standard errors (SE) and mean squares of carcass composition traits.

| Age (week) | Bonless Meat | | | | Edible Parts | | | | % Bone/CCW | | M/B in carcass | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kg. | | % from EBW | | Kg. | | % from EBW | | | | | |
| | $\bar{X}$ | SE | $\bar{X}$ | SE | $\bar{X}$ | SE | $\bar{X}$ | SE | $\bar{X}$ | SE | $\bar{X}$ | SE |
| 6 | $21^{a}$ | 5.5 | $37.4^{a}$ | 2.3 | $25^{a}$ | 5.9 | $43.5^{bc}$ | 1.2 | $30.7^{a}$ | 1.9 | $2.3^{a}$ | 0.28 |
| 16 | $32^{ab}$ | 5.1 | $37.5^{ab}$ | 2.2 | $36^{ab}$ | 5.5 | $42.7^{ab}$ | 1.1 | $27.3^{a}$ | 1.8 | $2.7^{a}$ | 0.26 |
| 26 | $43^{b}$ | 5.5 | $37.4^{ab}$ | 2.4 | $48^{b}$ | 5.9 | $42.0^{a}$ | 1.2 | $28.8^{a}$ | 1.9 | $2.7^{a}$ | 0.28 |
| 39 | $47^{b}$ | 6.5 | $34.8^{b}$ | 2.8 | $54^{b}$ | 6.9 | $40.3^{a}$ | 1.4 | $31.9^{a}$ | 2.3 | $2.3^{a}$ | 0.33 |
| 52 | $70^{c}$ | 6.5 | $40.2^{a}$ | 2.8 | $78^{c}$ | 6.9 | $45.0^{ab}$ | 1.4 | $26.8^{ab}$ | 2.3 | $2.8^{a}$ | 0.33 |
| 65 | $128^{d}$ | 4.8 | $44.7^{c}$ | 2.0 | $140^{d}$ | 5.2 | $49.1^{d}$ | 1.0 | $21.1^{bc}$ | 1.7 | $3.8^{b}$ | 0.24 |
| 78 | $147^{e}$ | 4.4 | $44.3^{c}$ | 1.8 | $160^{e}$ | 4.7 | $48.3^{cd}$ | 0.9 | $20.9^{c}$ | 1.6 | $3.8^{b}$ | 0.22 |
| S.V.: | MEAN SQUARES | | | | | | | | | | | |
| Age | 21230** | | 166** | | 24650** | | 139** | | 150** | | 3.20** | |
| Error | 210 | | 13 | | 240 | | 13 | | 26 | | 0.54 | |

(1) Means not followed by the same letter differ significantly ($P<.05$)
Edidble Parts = Boneless meat + Heart + liver + lungs + spleen + testes
CCW = Cold carcass weight ; EBW Empty body weight; M/B = Boneless meat /bone ratio.
** $P<.01$.

Table (6): Means[1] ($\bar{X}$), Standard errors (SE) and mean squares of Fore and Hind Quarters traits.

| Age (week) | % B M | | | | M / B | | | |
|---|---|---|---|---|---|---|---|---|
| | F Q | | H Q | | F Q | | H Q | |
| | $\bar{X}$ | SE | $\bar{X}$ | SE | $\bar{X}$ | SE | $\bar{X}$ | SE |
| 6 | $66.2^{ab}$ | 2.2 | $71.9^{a}$ | 2.2 | $2.0^{ab}$ | 0.23 | $2.7^{a}$ | 0.70 |
| 16 | $70.6^{bcd}$ | 2.0 | $74.5^{a}$ | 2.1 | $2.5^{ac}$ | 0.21 | $3.1^{a}$ | 0.66 |
| 26 | $64.8^{ab}$ | 2.2 | $78.2^{ab}$ | 2.2 | $2.0^{ab}$ | 0.23 | $4.2^{ab}$ | 0.70 |
| 39 | $61.2^{a}$ | 2.5 | $75.1^{a}$ | 2.6 | $1.7^{b}$ | 0.27 | $3.7^{ab}$ | 0.83 |
| 52 | $68.4^{abc}$ | 2.5 | $77.9^{ab}$ | 2.6 | $2.2^{ab}$ | 0.27 | $3.8^{ab}$ | 0.83 |
| 65 | $75.0^{cd}$ | 1.9 | $82.9^{b}$ | 1.9 | $3.0^{c}$ | 0.20 | $5.3^{b}$ | 0.62 |
| 78 | $75.0^{d}$ | 1.7 | $82.7^{b}$ | 1.8 | $3.1^{c}$ | 0.18 | $5.1^{b}$ | 0.56 |
| S.V: | Mean Squares | | | | | | | |
| Age | 197** | | 143** | | 2.13** | | 7.94* | |
| Error | 32 | | 34 | | 0.37 | | 3.45 | |

1 Means not follwed by same the letter differ significantly (P<.05

BM = Boneless meat ; FQ = Fore quarter ; HQ = Hind quarter; M/B = Meat Bone ratio.

* P <.05 ** P <.01.

# تأثير العمر عند الذبح على صفات الذبيحة فى الجاموس المصرى

محمد كمال حامد - وعلى عطيه نجم - وربيع رجب صادق

كلية الزراعة - جامعة القاهرة

ذبح عدد قدره ٥٢ ذكر جاموسى عند أعمار ٦، ١٦، ٢٦، ٣٩، ٥٢، ٦٥ و ٧٨ أسبوعا ، وكانت المتوسطات المحسوبة بطريقة الحد الأدنى للمربعات لوزن الجسم عند الذبح : ٦١ ، ٩٩ ، ١٣٥ ، ١٥٧، ٢٠٥، ٣٢٠ و ٣٧٣ كيلو جراما ، وكانت المتوسطات المناظرة لنسبة التصافى : ٢ر٥٠ ، ٧ر٤٤ ، - ر٤٤ ، ٤ر٤٣ ، ١ر٤٦ ، ٤ر٥٠ و٥ر٥٠٪ بينما كانت متوسطات نسبة اللحم المشفى من وزن الجسم الفارغ: ٤ر٣٧ ، ٥ر٣٧ ، ٤ر٣٧ ، ٨ر٣٤ ، ٢ر٤٠ ، ٧ر٤٤ ، ٣ر٤٤ ٪ وكانت متوسطات نسبة اللحم : العظم فى الذبيحة ٣ر٢ ، ٧ر٢ ، ٢ر٢ ، ٣ر٢ ، ٢ر٨ ، ٣ر٨، ٣ر٨ للمجموعات السبع سابقة الذكر( على التوالى).

كان للعمر عند الذبح تأثير معنوى على جميع الصفات التى درست(على مستوى احتمال ١ ٪ ) ، فيما عدا نسبة اللحم : العظم فى الأرباع الخلفية ( كان التأثير معنويا على مستوى ٥ ٪ ) ونسبة الجلد من وزن الجسم الفارغ ( تأثير غير معنوى ) . وأوضحت الدراسة أن تسمين ذكور الجاموس حتى عمر ١٨ شهرا يضاعف محصول اللحم الناتج من ذبحها بتلو عند عمر ٤٢ يوم ( ٦ مرات ) ، ويخفض نسبة العظم فى الذبيحة (١٠ ٪ ) ويزيد نسبة اللحم المشفى ( بمقدار ٧٪) .

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