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# A STUDY OF SOME CARCASS AND WOOL CHARACTERISTICS OF CULLED OSSIMI EWES

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**SUMMARY**

Twenty nine culled Ossimi ewes were used to evaluate their conformation, tissue distribution, chemical composition and some organoleptic tests of their carcasses. Weights of grease and clean wool per unit area, shrinkage%, staple length, kemp fibres%, fibre diameter and medullated fibres % of such ewes were also determined.

Results indicate that, culled Ossimi ewes which have heavier weight (EC-HW), showed a trend to have a significantly higher dressing percentage (43.39 and 42.09 %) than those have lighter weight (EC-LW) (37.22 and 33.47 %). Also, culled ewes after green fodders season (EC-GF) scored on the average higher values (41.50 and 39.16 %) for dressing percentage as compared to 39.18 % and 36.16 % for culled ewes after dry fodders season (EC-DF). The overall mean estimates of the dressing percentage based on empty body weight for hot and chilled carcasses were 40.40 and 37.74 %, respectively. Fat depth measurements over the longissimus dorsi muscle and area of eye muscle and its shape index expressed higher values in the ewes culled for (EC-HW). The average coefficient of meat in the carcass was 3.47 and 2.21 for (EC-HW) and (EC-LW), respectively. The overall mean of coefficient of meat for all culled ewes was 2.84. There was a significant increase in ether extract percentage of meat from (EC-HW) and (EC-GF) as compared to (EC-LW) and (EC-DF), respectively. Tenderness score of meat followed the same trend. These results suggest that green fodder (berseem)

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tended to improve physical properties of meat from ewes culled and slaughtered without finishing.

Significant differences in grease and clean wool weight per unit skin area /100 $cm^2$, staple length and fibre diameter were found between (EC-HW) and (EC-LW) as well as (EC-GF) and (EC-DF). Staple length values showed similar trends to that reported in grease and clean wool weights. No particular trend was detected for medullated %, shrinkage % and kemp fibre %. Therefore, ewes culled in May after green fodders season had more grease and clean wool weights, longer staple length and greater fibre diameters.

**Keywords:** Sheep, carcass and wool characteristics

## INTRODUCTION

Ossimi sheep are the most popular and widespread breed in Egypt. They are maintained for mutton (lambs) and wool production. Most of studies on carcass characteristics have been conducted on Ossimi males, while wool characteristics were studied on either pregnant or lactating ewes, in relation to nutritional level, age and management systems (Darwish et al., 1982; Shehata et al. 1985 and Saddick, 1988). Sheep herds are subjected to culling process, which attains 20-25 % of the total count of the herd. However, information on carcass and wool characteristics of such culled ewes are scanty. Ewes are usually culled at different weights. Thus, the present study was initiated to investigate the effects of slaughtering weight at culling on wool and carcass characteristics.

Therefore the present work was carried out to study some carcass and wool characteristics of culled Ossimi ewes as affected by pre-slaughter weight and season of culling.

## MATERIALS AND METHODS

The present study was carried out at the Animal Production, Experimental Farm, Menofiya University, Shibin El-Kom, Egypt. Twenty nine Ossimi ewes were culled and used in the present study. Out of them 19 ewes were culled and slaughtered after a green fodder season (EC-GF) in May 1991 the other was after a dry

fodder season (EC-DF) in October 1991. The culled ewes were five years old or older. Ewes were culled for reproductive failures (abortion, poor conception, lambing problems and maiden ewes) or general health disorders (poor appetite, open fleece, low milk production and broken tooth). All culled ewes were allotted to two weight groups, heavier weights (EC-HW) (40-60 kg) and lighter weights (EC-LW) (30-40 kg). The culled ewes were fed according to the nutritional regime of this farm without finishing treatment. Before slaughtering, wool was clipped to skin level from a delineated square (100 $cm^2$) area entered over the last rib on the right side of each culled ewe, and midway along the dorsi-ventral curvature and grease and clean wool per unit area (100 $cm^2$) were determined.

All ewes were fasted 18 hours prior to slaughter and were weighed immediately before and after slaughtering. Blood weight was determined by the difference between such two estimates, and it was expressed as percentages of live body weights. Following slaughtering and dressing, the weight of non-carcass organs (head, hide and legs), edible-offals (heart, liver, kidneys, spleen, lung & trachea and empty digestive tract) and separable fat (kidney, caul and tail fat) was recorded. The weight of offals and organs was converted to percentage of empty body weight. The hot carcass was weighted without any attached offals and tail of each carcass was removed. The hot carcass was then cut longitudinally into two equal halves (left and right sides). The right side was chilled for 24 hours at 4°C, then cold weight was determined to estimate the cooling shrinkage percentage.

Best ribs (9, 10 & 11th) cut was separated from the left side and weighed. The cut was then physically dissected into lean, fat and bone tissues, which were separately weighed. "Coefficient of meat" (meat included fat: bone ratio) was determined. Chemical analysis of the boneless 9-11th ribs cut was carried out according to A.O.A.C. (1980) to determine moisture, protein, fat and ash percentages. Area of ribeye was measured by means of a clean plastic gride placed over the cut surface as described by USDA (1968). Shape index was calculated according to Darwish (1963). Samples from boneless 9-11th ribs cut (longissimus dorsi muscle) were taken to determine the fibre diameter, juiciness,

flavour and tenderness score according to Diord (1962) and Larmand (1977). Wool samples were scoured according to Orlov (1980) and the shrinkage percentage was estimated. To estimate staple length, ten subsamples were chosen at random from the original samples and their length was measured against a ruler. Fibre diameter was microscopically measured according to Orlov (1980). The number of medullated fibre was estimated, while examining the fibre diameter. Kemp fibres were estimated using representative sub-samples of about 500 fibres. Data were statistically analyzed according to Snedecor (1974).

**RESULTS AND DISCUSSION**

Means of slaughter data and major components of empty body are shown in Table 1. All components are expressed as percentage of empty body weight. Pre-slaughter and empty body weights of (EC-HW) were heavier than those for (EC-LW). Content of digestive tract in the former group scored lower values as a percentage than those in the latter one. This in turn increased the empty body weight. The differences in this respect were significant ($P<0.05$). On the other hand, (EC-HW) or (EC-LW) scored almost similar estimates of percentages of offals and organs. However, percentage of separable fat significantly ($P<0.01$) scored greater estimates in (EC-HW). Results in Table 1, further indicate a slight increase of slaughter data for (EC-GF) as compared to (EC-DF). This may be due to the feeding on green fodders (berseem) naturally present during this period before slaughtering. However, differences in this concern were not significant. Generally, the overall averages of pre-slaughter and empty body weight of the culled ewes were 44.42 and 34.90 kg, respectively. Percentages of non-carcass organs, edible offals, and separable fat based on empty weight were 18.83, 13.92, and 5.15%, respectively. The edible meat was 54.32% (hot carcass with edible offals). Table 2 indicates that the tailless hot and cold carcasses followed the same trend of empty body weight (Table 1). The estimate of dressing percentage based on empty body weight for chilled carcass was lower than that of hot carcass in all culled ewes (Table 2).

Table 1. Average slaughter data of culled Ossimi ewes as affected by pre-slaughter weight and season of culling

| Items | Pre-slaughter weight (EC-HW) | Pre-slaughter weight (EC-LW) | Season of culling (EC-GF) | Season of culling (EC-DF) | Overall average |
|---|---|---|---|---|---|
| No of animals | 12 | 17 | 10 | 19 | 29 |
| Pre-slaughter weight, kg | 53.33** | 35.50 | 46.40 | 42.43 | 44.42 |
| Blood, %[1] | 5.75* | 8.17 | 6.00 | 7.92 | 6.95 |
| Digestive tract contents, %[1] | 12.19* | 16.92 | 14.00 | 15.11 | 14.50 |
| Empty body weight, kg | 43.76** | 26.59 | 37.16 | 32.66 | 34.90 |
| Empty body weight, %[1] | 82.06* | 74.90 | 80.08 | 76.97 | 78.54 |
| Components of empty body,%: | | | | | |
| Hide | 10.50 | 8.90 | 10.00 | 9.40 | 9.62 |
| Head | 5.85 | 7.40 | 6.10 | 7.15 | 6.63 |
| Legs | 2.25 | 2.90 | 2.40 | 2.75 | 2.58 |
| Empty digestive tract | 8.84 | 9.76 | 9.00 | 9.60 | 9.31 |
| Heart | 0.45 | 0.59 | 0.53 | 0.51 | 0.52 |
| Liver | 1.45 | 2.19 | 1.90 | 1.74 | 1.82 |
| Kidneys | 0.31 | 0.47 | 0.40 | 0.39 | 0.41 |
| Spleen | 0.13 | 0.16 | 0.15 | 0.15 | 0.15 |
| Lungs and trachea | 1.38 | 2.00 | 1.70 | 1.68 | 1.71 |
| Non-carcass organs[2] | 18.60 | 19.20 | 18.50 | 19.30 | 18.83 |
| Edible-offals [3] | 12.56 | 15.17 | 13.68 | 14.06 | 13.92 |
| Separable fat [4] | 7.51** | 2.71 | 5.80 | 4.42 | 5.15 |
| Tailless hot carcass | 43.39** | 37.22 | 41.50 | 39.18 | 40.40 |

1 Expressed as a percentage of pre-slaughter weight, 2 Non-carcass organs included:head,hide and four legs, 3 Edible-offals included:empty digestive tract,heart,liver,kidneys and spleen, 4 Separable fat included:caul, kidney and tail fat

* Significant at the 5% level, ** Significant at the 1% level

(EC-HW) = Ewes culled at heavier weight (40-60 kg), (EC-LW) = Ewes culled at lighter weight (30-40 kg), (EC-GF) = Ewes culled after a green fodder, (EC-DF) = Ewes culled at a dry lot.

Table 2: Average data of carcass characteristics of culled Ossimi ewes as affected by pre-slaughter weight and season of culling

| Items | Pre-slaughter weight (EC-HW) | Pre-slaughter weight (EC-LW) | Season of culling (EC-GF) | Season of culling (EC-GD) | Overall average |
|---|---|---|---|---|---|
| No of carcasses | 12 | 17 | 10 | 19 | 29 |
| Tailless hot carcass, kg | 18.99** | 9.90 | 15.42* | 12.80 | 14.10 |
| Tailless cold carcass,kg | 18.42** | 8.90 | 14.59* | 11.81 | 13.17 |
| Cooler shrink, % | 3.00** | 10.15 | 5.40* | 7.75 | 6.60 |
| Dressing, 1 | 43.39** | 37.22 | 41.50* | 39.18 | 40.40 |
| Dressing, 2 | 42.09** | 33.47 | 39.16* | 36.16 | 37.74 |
| Forequarter, % | 52.00* | 56.60 | 54.00 | 55.50 | 54.53 |
| Hindquarter, % | 48.00* | 43.40 | 46.00 | 44.50 | 45.47 |
| Ribeye area, $cm^2$ | 11.20 | 9.30 | 10.41 | 10.09 | 10.25 |
| Shape index of eye muscle, % | 70.50 | 61.65 | 67.20 | 64.95 | 66.10 |
| Fat over eye muscle, mm | 3.50* | 1.65 | 2.60 | 2.55 | 2.50 |

1 Tailless hot carcass related to empty body weight, 2 Tailless cold carcass related to empty body weight

** Significant at the 1 % level * Significant at the 5 % level.

It could be suggested that the low dressing percentage for chilled carcass was due to the loss in moisture of carcass during chilling process. Similar results were reported by El-Hommosi and Abdel-Hafiz (1980) on Ossimi lambs and Kandil and Houria (1989) on Baladi kids. On the other hand, (EC-HW) showed a trend to have a significantly higher dressing percentage (43.39% and 42.09%) than (EC-LW) (37.22% and 33.47%). Also, (EC-GF) scored higher values (41.50 % and 39.16 %) for dressing percentage as compared to 39.18 % and 36.16 % for (EC-DF). The differences in this respect were statistically significant ($P<0.05$). The lower estimates of dressing percentage scored by some culled ewes could be attributed to the carcasses of these ewes were contained greater bone and lower lean percentages and less fat (Table 3). The overall average estimate of the dressing percentage based on empty body weight for hot and chilled carcass was 40.40% and 37.74%, respectively (Table 2). Ribeye area, shape index of eye muscle and their thickness of fat followed the same trend of dressing percentage in all culled ewes. Results in Table 2 illustrate that (EC-HW) produced significantly higher percentage of hindquarters than (EC-LW).

Table 3. Carcass composition expressed as mean percentage of lean, fat and bone in the best ribs cut (9-10-11 th) of culled Ossimi ewes

| Items | Pre-slaughter weight | | Season of culling | | Overall average |
|---|---|---|---|---|---|
| | (EC-HW) | (EC-LW) | (EC-GF) | (EC-DF) | |
| No. of ribs cut | 12 | 17 | 10 | 19 | 29 |
| Lean (L): | | | | | |
| Wt. (g) | 357.36** | 240.61 | 309.32 | 288.65 | 298.99 |
| % | 60.75 | 58.00 | 54.56 | 53.76 | 54.17 |
| Fat (F): | | | | | |
| Wt. (g) | 140.19** | 78.16 | 113.90 | 104.45 | 109.20 |
| % | 21.87* | 16.89 | 20.09 | 19.45 | 19.78 |
| Bone (B): | | | | | |
| Wt. (g) | 143.50 | 143.95 | 143.70 | 143.80 | 143.74 |
| % | 17.38* | 26.11 | 25.35 | 26.79 | 26.05 |
| L/F ratio | 2.55 | 3.08 | 2.72 | 2.76 | 2.74 |
| L/B ratio | 2.49 | 1.67 | 2.15 | 2.01 | 2.08 |
| Coefficient of meat[1] | 3.47* | 2.21 | 2.95 | 2.43 | 2.84 |

1 L+F/B ratio, ** Significant at the 1 % level., * Significant at the 5 % level.

The composition of carcass (lean, fat and bone)

The composition of carcass (lean, fat and bone) affects the meat quantity and quality. The best ribs cut (9, 10 and 11th) is widely used for the prediction of the lean, fat and bone percentages in the whole carcass. The percentages of fat significantly varied among culled ewes. In this respect (EC-HW) had significantly higher percentage of fat 21.87 % compared with 16.89 % for (EC-LW). These results may be attributed to: firstly, most of culled ewes for (EC-HW) were maiden ewes, secondly, culled ewes for (EC-LW) had more frequencies of pregnancy and lactation, and consequently became contained greater bone and less fat. Therefore, (EC-HW) significantly higher coefficient of meat (3.47) than that culled for (EC-GH) (2.21). Data in Table 3 shows that season of culling did not significantly affect composition of carcass. The overall mean of coefficient of meat for culled ewes was 2.84.

Table 4 shows that (EC-HW) and (EC-GF) had significantly higher intermuscular fat. On the other hand, moisture, protein and ash percentages were almost similar for all culled ewes. El-Hommsi and Abdel-Hafiz (1979) reported that the increase in the slaughter weight caused an increase in ether extract and a decrease in moisture and protein. In general, the overall average of chemical analysis of longissimus dorsi muscle from culled ewes was 69.80, 19.26, 9.50 and 1.30 % for moisture, protein fat and ash, respectively.

Meat quality is affected by tenderness, and tenderness is affected by the intra-muscular fat (Hammond, 1932). In comparing the chemical composition and organoleptic tests (Table 4), it was noted that meat from culled ewes was not far from that of males in tenderness score (Al-Amin, 1976). Kemp (1970) found that, the meat from ram lambs, was significantly lower than that from heavy wether lambs in tenderness score. Jacobs et al. (1972) added that meat from light wethers was significantly less tender than that from heavy wethers. It is clear from data obtained (Table 4) that ewes fed green fodders before culling (May) expressed an increase in organoleptic tests, than those fed dry ration (October). However, significant differences were only found in tenderness score.

Table 4: Chemical composition and organoleptic tests of boneless 9-10-11th ribs cut of culled Ossimi as affected by pre-slaughter weight and season of culling

| Items | Pre-slaughter weight | | Season of culling | | Overall average |
|---|---|---|---|---|---|
| | (EC-HW) | (EC-LW) | (EC-GF) | (EC-DF) | |
| Chemical analysis: (percentage from fresh weight) | | | | | |
| Moisture, % | 67.00 | 72.60 | 68.10 | 71.50 | 69.80 |
| Protein, % | 20.10 | 18.42 | 19.50 | 19.02 | 19.26 |
| Fat, % | 11.20* | 7.80 | 10.55 | 8.45 | 9.50 |
| Ash, % | 1.50 | 1.10 | 1.61 | 0.99 | 1.30 |
| Organoleptic tests: | | | | | |
| Fibre diameter, microns | 26.15 | 28.10 | 26.80 | 27.55 | 27.20 |
| Flavour | 7.50 | 6.60 | 7.80 | 6.30 | 7.00 |
| Juiciness | 8.01 | 7.50 | 8.40 | 7.11 | 7.80 |
| Tenderness | 9.70* | 6.30 | 9.90* | 6.10 | 8.01 |

* Significant at the 5 % level.
Flavour values on a 15-point scale, 1=lacking flavour, 15=intense flavour
Juiciness values on a 15-point scale, 1= dry, 15=very juicy
Tenderness values on a 15-point scale, 1=very though, 15=very tender

Depression in wool quantity and quality traits due to physiological status and general health of the ewes has been reported by Oddy (1985). Weights of grease and clean wool (100 $cm^2$) of skin, % shrinkage, staple length, % kemp fibre, fibre diameter, and % medullated fibre of culled Ossimi ewes are shown in Table 5. Wool characteristics studied were significantly affected by weights of ewes and season of culling. Culled Ossimi ewes (EC-HW) scored significantly higher values for both grease and clean wool/ 100 $cm^2$ of skin, staple length and fibre diameter than those in the (EC-LW) group. This may explained on the basis that the decrease in the frequency of pregnancy and lactation led to an increase in the body weight and consequently an increase in staple length, grease and clean wool. Corbett and Furnival (1976) reported that these wool characteristics depressed during pregnancy and lactation may be related to lamb birth weight and during lactation to milk production because of competition for available nutrients.

It could be noticed from the present study that, grease and clean wool weights per unit skin area (100 $cm^2$), wool length and fibre diameter were affected by the season of culling. Significant increases in grease and

clean wool weights, staple length and fibre diameter of culled ewes in May, and after green fodders season were observed. This may be attributed to the consideration that berseem is the cheapest balanced feedstuff available. Therefore, ewes fed berssem ad. lib. would cover their energy and protein requirements. Yousef (1978) concluded that available berssem covers 96% and 177 % of the animals requirements for energy and protein, respectively. Abdel-Hafiz and El-Hommosi (1981) added that wool length was more influenced by the level of nutrition than other wool characteristics. In general, the values of wool traits of culled Ossimi ewes were not far from those reported for Ossimi sheep (Ragab et al., 1956; El-Sherbiney et al., 1979; Abdel-Hafiz and El-Hommosi, 1981 and Saddick, 1988).

Table 5: Some wool characteristics of culled Ossimi ewes as affected by pre-slaughter weight and season of culling

| Character | Pre-slaughter weight | | Season of culling | | Overall Average |
|---|---|---|---|---|---|
| | (EC-HW) | (EC-LW) | (EC-GF) | (EC-DF) | |
| No of animals | 12 | 17 | 10 | 19 | 29 |
| Grease wool weight/ $100cm^2$ of skin, g | 10.6±0.5* | 8.2±0.6 | 11.8±0.6* | 7.0±0.4 | 9.4±0.8 |
| Clean wool weight/ $100cm^2$ of skin, g | 8.4±0.5* | 3.3±0.3 | 8.2±0.4* | 3.6±0.3 | 5.9±0.2 |
| Shrinkage, % | 38.5±1.6 | 35.7±1.2 | 36.5±1.1 | 37.7±1.0 | 37.2±1.3 |
| Staple length, cm | 7.8±0.2* | 5.3±0.3 | 8.6±0.4* | 4.5±0.3 | 6.5±0.5 |
| Kemp fibres, % | 1.5±0.1 | 2.6±0.1 | 1.7±0.1 | 2.4±0.1 | 2.1±0.1 |
| Fibre diameter (microns) | 41.6±0.4* | 33.8±0.6 | 42.4±0.5* | 32.0±0.5 | 37.2±0.7 |
| Medullated fibre, % | 3.8±0.6 | 4.2±0.7 | 3.9±0.6 | 4.0±0.5 | 4.0±0.5 |

* Significant at the 5 % level.

Finally, carcass and wool characteristics of culled Ossimi ewes, obtained in this work indicate that, culled ewes for (EC-HW) and the those culled after green fodders season (berseem) produce carcasses of higher quality. Wool characteristics were also affected by feeding season before culling. It could be concluded that lighter ewes at culling might benefit by subjection to a finishing treatment before marketing and heavier ewes at culling probably will not. However, this concept requires further investigation from a cost-benefit standpoint.

**REFERENCES**

Abdel-Hafiz, G.A. and F.F. El-Hommsi, 1981. The efficiency of wool growth and fleece characteristics of Ossimi rams fed different concentrate levels. Assiut, J.Agric. Sci., 12(1):117-127

Al-Amin, S.K., 1976. Evaluation of carcass quality of sheep. M.Sc. Thesis, Fac. of Agric., Cairo Univ.

A.O.A.C., 1980. Association of Official Agricultural Chemists. Official Methods of Analysis. Washington DC.

Corbett, J.L. and E.P. Furnival, 1976. Early weaning of grazing sheep. 2. performance of ewes. Aust.J.Exp. Agric.and Anim., 16:156-166.

Darwish, Y.H., 1963. Meat Production. 1st Ed., Anglo, Egypt, Pub. (In Arabic).

Darwish, A., F.F. El-Hommosi, G.A. Abdel-Hafiz and M.M. Shetaewi, 1982. Effect of plane of nutrition during pregnancy and lactation on wool production of adult Ossimi and Saidi ewes. Assiut J. Agric. Sci., 13, 5: 37-50.

Diord, K., 1962. Practical microtecnique and histochemistry, Academy of science Pub. Hungary, Budapest.

El-Hommsi, F.F and G.A. Abdel-Hafiz, 1979. Effect of different concentrates levels in diets of Ossimi lambs. II- Physical and chemical characters of carcass. Assiut Vet. Med. J., Vol.6., NO 11 & 12, 75-92.

El-Hommsi, F.F and G.A. Abdel-Hafiz, 1980. Mutton production from fat tailed lambs in relation to plane of nutrition. I- Body performance & carcass traits. Assiut Vet. Med.J., Vol.7, NO.13 & 14, 187-200.

El-Sherbiny,A.A., A.M. Aboul-Naga, A.S. El-Sheikh and E.I. Shehata, 1979. Physical evaluation of the fleece of 3/4 Barki and 3/4 Ossimi carcass with merino. Egypt. J. Anim. prod., 19: 121-129.

Hammond, J., 1932. In growth and development of mutton qualities in the sheep. Oliver and Boued. Lond.

Jacob, J.A., 1970. The effects of sex, weight and stress on carcass composition, fatty acid variability and organoleptic evaluation of lamb. Ph.D. Dissertation.univ. of Wyoming, Laramie.

Kandil, A.A. and M.A. Houria, 1989. A study of some carcass characteristics of castrated and non-castrated Baladi goat Kids. Menofiya J.Agric. Res. Vol. 14 NO.1., 215-227.

Kemp, J.D., J.M. Shelly, D.G. Ely and W.G. Moody, 1972. Effects of castration and slaughter weight on fatness, cooking losses and palatability of lamb. J. Anim. Sci., 34:560

Larmond, E., 1977. Laboratory methods for sensory evaluation of food. Res. Branch,can. Dept. of Agric. Pub. NO.1637.pp 74.

Oddy, V.H., 1985. Wool growth of pregnant and lactation merino ewes. J. Agric. Sci., Camb., 105:613-622.

Orlov, E.M., 1980. Wool technology. Moscow. Koloc, 208 pp.

Ragab, M.T., A.A. Asker and K.E. Ghoneim, 1956. Effect of crossing two breeds of Egyptian sheep on wool characteristics. Emp. J. Exper. Agric., 24 (96):307-311.

Saddick, I.M., 1988. Effect of age and management system on some wool characteristics of Egyptian Ossimi sheep. Menofiya J. Agric. Res. Vol,13 NO.1, 133-145.

Shehata, E.I., A.M. Aboul Naga, M.A. El-Ashry and G.A. El-Rahman, 1985. Wool production of Rahmani ewes fed different levels of energy and protein under different production status. Zagazig J. Agric Res., 12 (2): 575-598

Snedecor, G.W., 1974. Statistical methods, applied to experiments in agriculture and biology. The Iowa State Collage Press Amess.

U.S.D.A., 1968. United States Department of Agriculture, Yield grades for beef. Marketing Bulletin No. 45.

Yousef, M.S., 1978. Nutrition status of livestock in Egypt. In symposium of "The role of scientific research in saving feedstuffs" 19-20 Sept., Cairo.

## دراسة على بعض صفات الذبيحة والصوف لنعاج الاوسيمى المستبعدة

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قسم الإنتاج الحيوانى - كلية الزراعة - جامعة المنوفية

استخدم فى هذه الدراسة ٢٩ من نعاج الاوسيمى المستبعدة من قطيع الاغنام بمزرعة كلية الزراعة بشبين الكوم ، لقياس تأثير وزن النعاج عند الذبح وكذلك وقت اجراء الاستبعاد على بعض صفات الذبيحة الكمية والنوعية وكذلك بعض صفات الصوف الطبيعية لها والتى شملت : وزن الصوف الخام والنظيف فى وحدة مساحة الجلد ، طول الخصلة ، قطر ألياف الصوف ، النسبة المئوية للفقد ، النسبة المئوية لالياف الكمب والنسبة المئوية للالياف النخاعية . لقد تم الاستبعاد وذبح النعاج المستبعدة بدون انهاء ( تجهيز ) خلال شهرى مايو ، أكتوبر ١٩٩١ بعد أخذ قياسات وعينات الصوف اللازمة للدراسة .

وقد دلت أهم النتائج المتحصل عليها أن نسبة التصافى لذبائح ( على أساس الوزن الفارغ للحيوان ) النعاج الثقيلة (٤٠-٦٠ كجم ) كانت أعلى معنويا (٤٣,٣٩ ، ٤٢,٠٩ ٪ ) بالمقارنة بنسبة (٣٧,٢٢ ، ٣٣,٤٧ ) لذبائح النعاج التى يتراوح وزنها من ٣٠ الى ٤٠ كجم. أيضا سجلت ذبائح النعاج المستبعدة بعد انتهاء موسم الاعلاف الخضراء أعلى نسبة من التصافى (٤١,٥٠ ، ٣٩,١٦ ٪ ) بالقارنة بنسبة (٣٩,١٨ ، ٣٦,١٦ ٪ ) للنعاج المستبعدة بعد موسم الاعلاف الجافة . كانت قيم كل من مقاييس سمك الدهن فوق العضلة الطولية الظهرية وكذلك مساحة العضلة العينة أكبر فى النعاج الاثقل وزنا (٤٠-٦٠ كجم ) ، نتيجة لذلك سجلت ذبائح هذه الأغنام معامل لحم أعلى (٣,٤٧ ) بالمقارنة بمعامل لحم (٢,٢١) لذبائح النعاج الاخف وزنا. أيضا وجد زيادة معنوية فى مستخلص الاثير للحوم النعاج الثقيلة وكذلك النعاج المستبعدة بعد انتهاء موسم الاعلاف الخضراء مما أدى ذلك الى زيادة معنوية فى طراوة اللحم لهذه النعاج. يتضح مما سبق أن البرسيم الاخضر يحسن من الصفات الطبيعية للحوم النعاج المستبعدة وخاصة المذبوحة بدون انهاء ( تجهيز ).

وقد ظهر أن للوزن عند الاستبعاد ووقت اجراءه تأثير معنوى على كل من وزن الصوف الخام والنظيف فى وحدة مساحة الجلد ، طول الخصلة وكذلك قطر الياف الصوف - حيث وجد أن النعاج الثقيلة وكذلك الاستبعاد فى شهر مايو وبعد التغذية على البرسيم الاخضر تنتج صوف أكثر كما وطولا وسمكا - من ناحية أخرى لم تظهر فروق معنوية بين النعاج المستبعدة فيما يختص بالنسبة المئوية للالياف النخاعية - النسبة المئوية لالياف الكمب وكذلك النسبة المئوية للفقد .