

## EFFECT OF CROSSING AND BODY WEIGHT ON PRIME CUTS OF SHEEP CARCASS

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### SUMMARY

Twelve native Ossimi sheep and another twelve suffolk X Ossimi animals were used in the present study. Six animals from each breed were slaughtered either at 35kg or at 55kg livebody weight (LBW). After slaughtering and skinning, the carcasses were chilled and cut. The results showed that the crossing had a marked effect on the relative weights of different prime cuts. The data revealed also that carcasses of the lighter animals had significantly higher percentages of shoulders and legs.

It is concluded that Suffolk sheep can be used for improving meat production from the indigenous Egyptian sheep, and that the heavier animals may have lower yields of prime cuts.

### INTRODUCTION

Suffolk sheep are one of the best British meat-type breeds which is used in different countries in the world as fat-lamb sires. However, this breed was imported and crossed with different Egyptian breeds of sheep in an attempt to increase their productivity.

However, the present investigation was undertaken to study the effect of crossing Ossimi with Suffolk on yield of the prime cuts. These joints which are more desirable by the consumer and subsequently demand a higher price than the coarse ones. The influence of carcass weight was also studied.

### MATERIAL AND METHODS

Twenty-four lambs, twelve local Ossimi and another twelve Suffolk X Ossimi animals, were fed pelleted concentrate mixture and berseem hay. An excess of fresh water was provided. Six animals from each breed were slaughtered either at 35kg or at 55kg LBW. After slaughtering and skinning, the carcasses were chilled for a period of 24hr at an average temperature of 3°C. The procedure adopted in carcass cutting was that described by Kemp (1952). The data were subjected to analysis of variance according to Snedecor and Cochran (1972) by using the statistical package of Perkin Elemer Computer (3220) of NRC.

### RESULTS

Table 1 presents weights of different wholesale cuts expressed as a percentage of carcass weight. Standard errors and the significant effects of crossing and body weight are shown in the same table.

The most interesting feature of the present results is that crossing had a pronounced effect on the relative weights of different prime cuts. These weights were statistically higher for crossbred animals. On the other

hand, the coarse tail joint was significantly higher in the pure Ossimi sheep.

**Table 1** Weights of retail cuts expressed as percentages of cold carcass weight.

Breeds	Ossimi		Suffolk x Ossimi		±SE	Significance
	35	55	35	55		
Body weights (kg)	35	55	35	55	-	-
Prime cuts:						
Shoulders	26.5	25.7	27.9	26.0	0.9	C*, B*
Racks	15.0	16.1	16.2	17.0	0.6	C*, -
Loins	8.6	9.1	9.2	10.0	0.5	C*, -
Legs	31.6	30.0	32.3	31.2	0.7	C*, B*
Coarse cuts:						
Neck	7.0	8.1	6.1	8.0	0.3	-, B*
Flank	6.0	5.1	5.1	4.1	0.2	-, -
Tail	5.2	5.9	3.2	3.7	0.1	C**, B*

- C : Effect of crossing  
 B : Effect of body weight  
 \* : P significant at 5% level  
 \*\* : P significant at 1% level

It is worth noting that carcasses of the lighter animals had higher percentages of the higher priced prime cuts, shoulders and legs.

#### DISCUSSION

It is of special interest, however, to note that carcasses of the crossbred animals had higher percentages of prime cuts. Likewise, worthy of note is that the tail, which is usually considered as fat stores in an animal body of the indigenous Egyptian fat tailed sheep, was found to be affected significantly by crossing with Suffolk sheep. The Suffolk crossbred animals had significantly lower percentages of tail weights. The present results are quite explainable by the fact that Suffolk crossbred animals had a higher blood percent of Suffolk, one of the most important standard mutton breed, compared with the non-improved indigenous Ossimi sheep. However, upon the basis of the present findings, one may suggest that crossing with Suffolk sheep may increase the relative weights of higher priced prime cuts and may improve meat production from the local sheep.

It would be of interest, however, to note that marked differential effects due to body weight differences were observed in percentages of shoulders and legs. These percentages were significantly higher in the lighter animals. That may be due to less trimmable fat (unpublished data). On the other hand, no significant differences were noticed in the racks and loins percentages due to body weight differences. However, absence of this significant effect may be due to great individual variation within each group.

It is worth noting that slaughter weight differences exert significant differential effects on the relative weights of different coarse cuts. The percentages of neck and tail were significantly higher in the heavier animals. On the other hand, when dealing with flank, the picture changes and the reverse is true.

It is worth stating that the primal cuts percentages of the lighter Ossimi and crossbred animals were 81.7 and 85.6, respectively. The corresponding figures for the heavier ones were 80.9 and 84.2, respectively. The pattern of the present finding is compatible with the observation of Jacobs *et al.* (1972) and El Shahat *et al.* (1986) in showing that the lighter animals had higher prime cuts percentages than the heavier ones.

#### REFERENCES

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