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Outputs carcass of the small ruminants at the Slaughter-house of Abéché (Chad)

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Abstract

Objective: To evaluate the outputs carcasses of the small ruminants in order to direct development actions of the production of meat of the small ruminants with Abéché in Chad.

Methodology: the weights of the small ruminants before and after demolition were measured. The weighings were carried out each two (2) days during 45 days. The study related to a herd of 3748 small ruminants shot down at the slaughter-house of Abéché.

Results: the results show that on the level of the slaughter-house the males are cut down compared to the females, the age of the shot down animals, the age of the sheep is higher

has those of caprine ($p < 0.05$). The live weights of the animals are not significantly different, as for the weights carcasses of the animals, the sheep have a weight definitely higher than the caprine ones ($p < 0,05$). The ewes have outputs carcasses superiors with the rams ($p < 0.05$). In caprine the males good outputs carcasses compared to the females ($p < 0.05$) present.

In conclusion the ewes and the goats have a good predisposition for the production of the meats in the zone of study. And being able to be developed very well in workshops of fattening.

Keywords: Small Ruminants, Weight, Carcasses, Abéché Chad

1. Introduction

Chad, is a country sahélien with vocation agropastorale, whose economy rests on the valorization of the livestock products. This branch of industry makes live 40% of the rural population, and represents 53% of the GDP and use 80% of the active population of which more half is made up women ^[1]. The Chadian livestock is especially made up of bovines, sheep, caprine and camélidés for a manpower of 93.803.192 heads according to the general census of the cattle ^[2]. The small ruminants are estimated at more than 56 million heads (26 436.170 sheep and 30.519.349 caprine). The small ruminants and more particularly the sheep are the highest animal species in zones tropical and sahélienne. They play a very important part in food safety; and strongly contribute to the family economy and the reduction of poverty in rural environment ^[3]. The breeding of the small ruminants constitutes an important source of subsistence for the rural population and plays an economic and social part very significant. Indeed, the small ruminants have, compared to the other animal species, a good resistance to the difficult conditions of the natural environment (climate, affections, nutritional requirement) and a high productivity (short lifespan of gestation, good prolificity) ^[4]. Lastly, the livestock productions play a part in food safety thanks to the protein contributions coming from milk, and the meat ^[5]. The demographic strong growth of the population of the town of Abéché to involve an exponential meat strong demand on the market of the city. This accordingly study was undertaken to know the outputs carcass of the small ruminants at the slaughter-house of abéché. In order to answer this strong demand of the population of the town of Abéché.

2. Materials and methods

Description of the zone of study

The study was carried out in the town of Abéché. The town of Abéché is the capital of the province of Ouaddaï and located at the East of Chad between the 13° 48' 584" of Northern latitude and the 20° 50 ' 139" of longitude Is. The zone of study is under the influence of the intertropical climate with one dry season 9 months and a rainy season 3 months. The mode of these two seasons is defined by the fluctuations between the masses of dry air of North (the harmattan) and the masses of maritime

humid air of South-west (monsoon). This city knows a climate of the sahélien type, characterized by one dry season and rain season which is spread out over three months (July at September) which extends over nine months (October at June). Relatively weak precipitations, variable between 500 and 600 mm per annum, with an annual average temperature of 32°C [6].

Sampling and methods of data acquisition

The study related to a herd of 3748 small ruminants. Whose distribution of the animals according to sex is described in table 1.

Table 1: Set out again of the animals according to sex

Parameters	Male	Female	Total (NR)
Ovine	1312	784	2096
Caprine	887	765	1652
Total (NR)	2199	1549	3748

Method of investigation

The study was undertaken by investigation using a questionnaire near the butchers of the small ruminants to the slaughter-house of Abéché. Required information related primarily to: the sex and the age of the animal, the age was to determine by the method of teeth, and finally the weighings of the animals (sheep-caprine) were carried out before and after demolition using the balances each two (2) days during 45 days. The output carcass was calculated by the formula:

$$R = \frac{\text{Weight of the carcasses in (kg)}}{\text{Live weights before demolition (kg)}} \times 100$$

Data Analysis

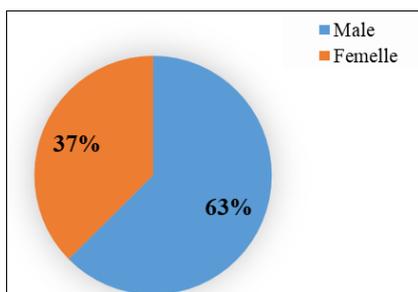
The collected data were seized under Excel then software XL-STAT (6.1.9) was used for the data processing. The descriptive statistics made it possible to have the parameters of dispersion (average, standard deviation, extremes and frequency) and analyze it variance (ANOVA) was carried out in order to compare the averages. The comparison of average was made using the test of Newman kheuls to the threshold of 5%.

3. Results and discussion

Results

Proportion of the sexes of the animals shot down at the slaughter-house of Abéché

On the level of the slaughter-house of Abéché, the rams were cut down compared to the ewes with a significant difference ($p < 0,05$). Fig 1



Sex of the animals shot down at the slaughter-house of Abéché

Fig 1: proportion of the sexes of the animals shot down at the slaughter-house of Abéché

On the whole of the animals shot down on the level of the slaughter-house of Abéché, the proportion of the shot down males is more important 59% compared with 41% for the females.

Manpower, sex of the animals shot down on the level of the slaughter-house of Abéché

The Proportion of the animals shot down according to the sex on the level of the slaughter-house of Abéché is consigned in fig 2 and 3.

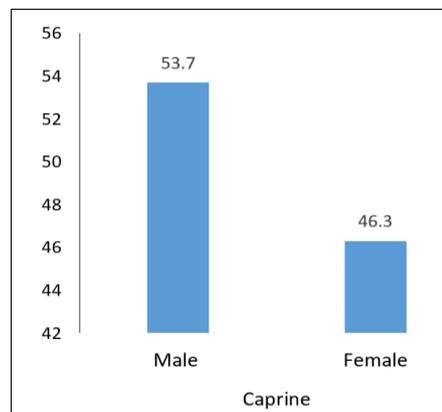


Fig 2: Proportion of the sheep

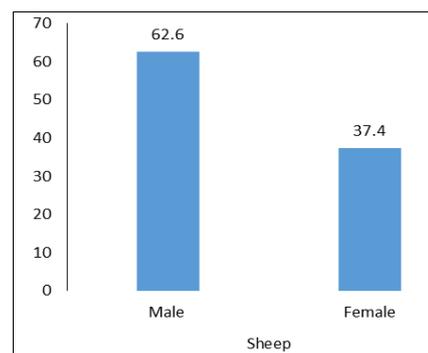


Fig 3: Proportions of the caprine ones

Old and live weights of the animals

The age and live weights averages of the animals shot down according to the sexes on the level of Slaughter-house of Abéché are consigned in table 2.

Table 2: Old (Years) and Live weights (kg) average of the animals shot down according to the sex on the level of Slaughter-house of Abéché

Species	Male		Female	
	Live weight (kg)	Old (years)	Live weight (kg)	Old (years)
Ovine	52.48±5.14 ^a	2.65 ±0.52 ^a	47.51 ±2.75 ^a	2.48 ± 0.42 ^a
Caprine	53.30 ±0.53 ^a	1.20± 0.95 ^b	46.30 ±2.11 ^a	1.98±0.55 ^b

The affected columns of the different letters are significantly different ($p < 0,05$).

The average live weight of the sheep was higher than that of caprine in the males whereas in the females that of caprine was higher without significant difference ($p > 0,05$). With regard to the age, the Middle Age of the sheep was higher than that of the caprine ones.

Weight carcass of the animals

The average Weight of carcass of the animals on the level of

Slaughter-house of Abéché is represented in the table 3.

Table 3: Weights carcass of the animals

Species	Male	Female
Ovine	36.44±1.97 ^a	43.44±2.05 ^a
Caprine	24.69±1.40 ^b	21.75±1.44 ^b

The affected columns of the different letters are significantly different ($p < 0.05$).

The weights averages of the carcasses of the sheep on the level of slaughter-house of abéché were higher than that of caprine ($p < 0.05$).

Output carcass of the animals

The Output carcass of the animals shot down on the level of slaughter-house of Abéché is consigned in table 4.

Table 4: Output carcass means (%) of the animals

Species	Male	Female
Ovine	68.43±5.35 ^a	85.22±4.66 ^a
Caprine	47.98±3.52 ^b	44.97±4.55 ^b

The affected columns of the different letters are significantly different ($p < 0.05$).

The sheep had an output carcass superior compared to the caprine ones with a significant difference for both sex ($p < 0,05$).

Discussion

The outputs carcass of the small ruminants, in the city of abéché were regards. According to the sexes, the ewes represented a part more significant than the rams. The same observations on the high demolition of the ewes compared to the rams were reported at caprine [7]. The What to let predict of an enormous loss in reproduction of the ewes and lambs. It would be necessary to make provision being able to limit the demolition of the ewes except for those of reform. Concerning the age of demolition of the animals in the zone of study, the age of the sheep in city of abéché was 2 years with a live weight of approximately 52.48±5.14kg at the male and 47.51 ±2.75kg in the females. The weight with demolition was higher than that reported by DSPA [8]. is 43,94 kg in the sheep sahéliens and higher than 23.43 kg at Djallonké brought back to Benign [9]. Considering the sex of the animals, the ewes were oldest and more doors with demolition compared to the caprine ones. The difference in weight of the sheep to demolition compared to the caprine ones was not significant the weight carcass of the sheep à be higher than that of caprine, is explained by the fact why the rams are cut down at an age higher than the caprine ones. Those results are different with 12.87 ± 3.33 kg at Djallonké in Niger [10]. And different from has 33.89 ± 1.61kg, 26.64 ± 1.15kg respectively in the male and female of the sheep of Arab race obtained in Oum-Hadjer in Chad [11]. Output carcass: The output carcass of the small ruminants in the zone of study was appreciable. The goats had a weak output carcass compared to the males. This result confirms the reported observations different from 53.96% reported to Nigeria in the goats sahéliennes [12]. It is contrary with the observation [13]. Which announced that the output of carcass tends to increase with the weight of demolition in the creole goat's milk cheeses. This average output closer with those was reported in the tropical sector 46.1 ± 5.7% [14]. Thus, it

is necessary to cut down the males for their best output carcass compared to the females. Concerning the sheep, the ewes have an output higher than the rams those results are different from those obtained in Oum-Hadjer [11]. The output carcass was slightly higher than 55.04 ± 0.87kg than that of the sheep sahéliens obtained than Benign [15]. Moreover, the demolition of the females can have a negative impact on the renewal of the sheep and negatively assign the durable production of meat of the small ruminants to long terms [7, 16, 17, 18]. Moreover [15] specify that if the pregnant females are saved demolition, the manpower of the small ruminants could increase by 3.2%. This variation enters the sex places the output carcass of the males above that of females.

4. Conclusion

The study made it possible to determine the sexes and the age of the animals shot down on the level of the slaughter-house of Abéché, it arises that the males are cut down to 63% compared to the females 37%, the age of the animals is of more than two years in the sheep is less than two years at the caprine ones. The outputs carcasses were better for the sheep and more particularly for the ewes than the rams. Thus, the demolition of the ewes is not with encourages for limits enormous in reproduction of the females. It is preferable to improve demolition of the rams for a good supply meat of the sheep in the zone of study. This result suggests directing and to encourage the stockbreeders in the production of caprine of butchery for that a mode of intensive and specialized breeding is advised. This mode of breeding will also make it possible to better develop the local food resources, to improve quality of the meat produced of caprine in the city.

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