

MORPHOLOGICAL CHARACTERISTICS OF THE CARCASSES AND RESULTS OBTAINED AT SACRIFICATION PREPARATIONS FROM THE MEAT LINE

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Abstract

Somatometry helps characterize morphological carcasses and their commercial classification. Research has revealed differences in age and sex, both in morphological aspects of the carcass and at slaughter. The measurements on the carcass at the 45-day-old youth showed differences in the size of the thigh, forefoot and forearm in favor of the cocks. The other dimensions, namely the length of the clavicular bone, the width of the casing and its angle as well as the perimeter of the casing had values in favor of the pucks. At the age of 60 days, the measurements showed small differences in the main measurements in the two sexes. It is noted the length of the carcass length that recorded different values in the two age periods, respectively in males, the values oscillated between 107.00 ± 0.71 mm at 45 days and at 111.87 ± 1.71 , at 60 days, and in females at 107.43 ± 2.12 mm, at 123.88 ± 2.61 mm, at the same time. Also, the perimeter of the carcass had different values at the two analyzed ages and by sex, so at 45 days the values were in males of 163.50 ± 1.01 mm and 60 days respectively of 170.55 ± 1.11 mm. In females the values were 170.00 ± 1.11 mm at 45 days and 174.75 ± 0.55 mm at 60 days. At sacrifice the differences were determined both the age, sex, and quail weight. Sexual dimorphism is favorable to females, causing the results obtained at slaughter to favor both the weight of the carcasses and its anatomical portions. At the age of 60 days, was determined a higher amount of abdominal fat both females and males, respectively 5.33 ± 0.21 g in females and 3.66 ± 0.11 g in males. In adult quail, carcass dimensions recorded comparable values to those recorded in youth at the age of 60, while gender differences remained. At adult sacrifice, the live weight was over 300g in both genders, so in chickens it was 358.70 ± 7.19 g and in males 316.40 ± 5.01 g. We have determined higher weights at the chest with bone and socket harvested from adults, compared to the youth, both males and females. We note in this category a beautifully conformed carcass, with a fat content of both the subcutaneous and the abdomen in a larger amount in females than in males, the cause being hormonal.

Key words: carcass, quails, morphological characteristics.

INTRODUCTION

In the past 10-15 years, poultry has experienced the greatest development among all branches of animal breeding.

There have been increases in meat and egg production, but the offer for consumers has also varied.

The meat production market offers for consumption turkey, goose, duck, guinea fowl, pheasant, quail, pigeons and ostrich.

Quail meat is produced in Europe and the US, but most consumers are in France, Italy and Spain.

Consumption and production of poultry meat also increased as a result of the health image of meat and its products (Petrac, 2009).

The bird has also the advantage of providing fresh meat because its body weight is low and the time it takes to slaughter is relatively small.

The sensory and dietetic properties of quail are decisive for the consumption of this product. These properties are influenced by many factors including the genotype (Vacaro, 2007), feeding (Ștefănescu, 1960), the age of slaughtering (Minvielle, 2004).

From breeder the point of view, the relationship between the quantity and the quality of the meat is a major problem, because there is not always a positive correlation between these elements (Baston, 2010). Concerning the amount of meat, it results from birds with large muscle mass. Carcasses are sacrificed at the age of 35 days when the average weight is 150-180 g.

Romanian consumers prefer carcasses weighing over 200 g, which means that the age at slaughtering is between 40-45 days.

The quality of quail meat is also influenced by the appearance of the meat, the carcass, and the

freshness of the meat. This depends on the thickness of the muscle fibers and the ratio of the metabolic types of these fibers (Rouvier, 1965).

According to investigations carried out on meat, the pectoral muscles are composed of 97-98% of muscle tissue, connective tissue and fat 1.1-2.1% 0.2-0.6% (Genchev et al., 2008).

A few years ago, the amount of fat in the carcass constituted a restrictive and even rebuttable factor for a particular consumer group (Sarbulescu et al., 1983).

In the case of quail, the presence of high unsaturated fatty acids contributes to their labeling as dietary. The presence of Omega 3 and 6 fatty acids reduces blood pressure, has beneficial effects in cardiovascular diseases, asthma and oncological diseases, etc. (Banu et al., 2010).

The interest of consumers regarding food quality and in our case of meat is a permanent concern for breeders.

The results obtained from our research can be a landmark for quail farmers to introduce these species as a consumer offer. This assortment of meat is recommended for human nutrition due to its special sensory qualities, but also for its nutritional value.

Biological material

The research was carried out on young quails of 45 and 60 days slaughtered for meat and adults who completed their 18-week exploitation cycle.

In order to achieve the proposed goal, two age categories and two sexes were worked out. Measurements have been made on the carcass after sacrifice at which it has been determined both the hot slaughter yield, the edible and inedible parts of the carcass, and the proportion of the valuable anatomical parts of the carcass.

Working method

For the morphological characterization of the carcass and to remove the subjectivity of the free estimation method measurements were made and their landmarks will be presented further. Measurements of length, width, perimeters and angles on dewormed carcasses of young and adult quail were made. The measurements made are:

- the length of the case: measured between the scapular-humeral joint and the posterior prominence of the skull;



- chest length: anterior hip and xenophoid appendix;



- chest width: the distance between two scapular-humeral joints;



- the perimeter of the casing: measured with the underlying ribbon under the wings at the base;

- carcass length: coxo-femoral joint and graft

- the length of the calf: the distal and proximal extremity of the tibia;

- the angle of the chest: with the compass between the clavicular bones;

- the length of the jaw (clavicle): the length of the clavicular bones/

For the quantitative evaluation of the meat weighed both the live animal and the carcass, weighed the edible and inedible organs, the abdominal fat, we determined the slaughter yield and the percentage of the weight of the chest and thigh in relation to its weight.

RESULTS AND DISCUSSIONS

Morphological characterization of the carcass at the youth of the Pharaoh quail line

The casing conformation is objectively characterized by body measurements performed thereon. This aspect is important because it allows the identification of different correlations between the principal measurements.

In birds, part of the conformation measurements indicate either the development of the skeleton (whistle length, clavicular bone, etc.)

or the development of the muscles (chest angle, width and lesser girth perimeter).

Practically, somatometry is of real use in defining the morpho-product type. In the case of measurements on the carcass, they help to characterize it morphologically, aspect related to the commercial classification of carcasses (Boișteanu, 2015).

The results of the measurements on housing youth were conducted at two different ages, respectively 45 days when, according to literature states that achieve sexual maturity for both sexes and 60 days old reflecting somatic maturity. Period of installation coincides with the age of sexual maturity which the first egg, which has limitations 40-60 days according to the literature.

This was the reason why we studied the limits of the two ages. The measurements of the measurements made on carcasses on quails aged 45 days are presented in Table 1.

By analysing the table presented we can draw the following conclusions:

- at the age of 45 days, the carcass length has approximately the same value for the two sexes, from 107.00 ± 0.71 mm in males and 107.43 ± 2.12 mm in females;

- there are differences between the sexes in length and chest lengths respectively, the values obtained being 60.97 ± 0.81 mm in males and 59.35 ± 1.44 mm in females;

- Lengths of the thigh and calf length show that in males the thigh is smaller than the female, but the cocks are longer than the chicks;

- Width measurements are bigger in males compared to those recorded in females;

- The length of the clavicular bone and the peg angle at this age are superior to female sex, comparing with the male.

The results obtained from the slaughtering of the young are shown in Table 2.

Table 1. The main dimensions of the carcass of the females and males of the Faraon line 45 days

No	Specification	UM	Male Youth (N = 35)		Youth female (N = 35)	
			$\bar{x} \pm s\bar{x}$	V%	$\bar{x} \pm s\bar{x}$	V%
1	Length of the casing	mm	107.00±0.71	8.73	107.43±2.12	4.11
2	Chest length	mm	60.97±0.81	7.23	59.35±1.44	7.17
3	Thigh length	mm	48.5±0.63	6.82	52.01±1.11	6.41
4	Length of calf	mm	54.16±1.09	9.51	49.01±1.1	6.46
5	The length of the clavicular bone	mm	31.70±1.81	7.52	34.60±1.61	5.8
6	The forearm length	mm	42.7±1.13	9.03	44.05±0.99	8.72
7	Chest angle	degrees	29.01±0.79	9.72	30.01±0.51	5.81
8	The width of the chest	mm	33.34 ± 0.76	11.63	32.44 ± 1.75	12.71
9	Height of the casing	mm	53.96±.61	5.78	47.5±0.89	4.92
10	Housing perimeter	mm	153.5±1.01	13.55	170.0±1.01	17.59

Table 2. Participation of different anatomical parts in the structure of the quail carcass aged 45 days

No crt	Specification	UM	Female Youth (N = 35)		Youth male (N = 35)		Sex differences
			$\bar{x} \pm s\bar{x}$	V%	$\bar{x} \pm s\bar{x}$	V%	
1	Live weight	g	265.50±23.94	10.23	244.30±7.43	9.76	+ 21.20
2	Carcass weight	g	208.15±10.3	15.01	181.03±11.78	10.18	+ 21.12
3	Chest weight with bone	g	89.79±3.41	15.69	73.01±4.32	15.49	+ 16.79
4	Abdominal fat	g	3.51±0.12	5.73	1.87±0.11	4.66	+ 1.64
5	Meat in the house	g	106.11±19.91	14.69	85.56±6.6	15.52	+ 20.55
6	G. edible parts	g	15.56±0.29	7.51	15.94±0.59	9.84	- 0.38
7	G. non-edible parts	g	14.01±0.91	13.0	12.42±0.78	16.61	+ 1.59
8	Slaughter yield	%	78.39±13.1	9.13	76.56±9.11	11.03	+ 1.83
9	Thigh + thigh	g	87.05±3.61	16.3	61.86±2.26	9.65	+ 25.19

From analyzing the data in table 2 we note the following:

- The live weight of 45 days of quail is different for the two sexes. being in the advantage of the chickens. so the females reach

a weight of 265.50 ± 23.94 g and the males 244.30 ± 7.43 g;

- the weight of the carcass depends on the live weight. so that the females have registered a carcass with a higher muscle mass than the males;

- regarding the carcass weight. the majority its represented by the chest. which in the females was 89.79 ± 3.41 g and 73.01 ± 4.32 g. respectively;
- the weight of the thigh and calf were different for the two sexes with the mention that the females had a higher value, the average of 87.05 g for the females. and for the males of 61.86 g;

- the edible parts of the carcass are close in value for the two sexes. in averaging 15.56 g for females and 15.94 g for males;
- the yield on slaughter differs. being in favor of the chickens. but the differences are small below 1%.

The percentage of participation of the different anatomical parts of the carcase was followed, the data being presented in Table 3.

Table 3. Participation of the various anatomical parts in the structure of the quail carcass aged 45 days

No crt	Specification	UM	Male (N= 35)	Female (N 35)
1	Head + legs	g	4.48	7.65
2	Blood	%	2.71	2.08
3	Edible items	%	8.52	5.51
4	Chest with bone	%	39.34	31.81
5	Hams	%	37.07	30.86
6	Chest box	%	24.79	17.5
7	Abdominal fat	g	0.89	1.24
8	Yield	%	76.56	77.39

- We highlighted some aspects that have not been analyzed so far. namely the percentage of blood that represents 2.71% in females and 2.08% in males of live weight.
- The chest box has a 24.79% female participation percentage. and male 17.5%. This is explained by the fact that organs found in the chest box have a higher weight in females than in males.

- The largest percentage in the carcass is the chest and pulp, which represents 84.95% of the carcass weight in females and 72.1% in males. The same characters were then analyzed on the carcasses from the young slaughtered at the age of 60 days. The data on the measurements made on the carcasses of this age group are presented in Table 4.

Table 4. The main dimensions of the carcass at 60 days old quails

No crt	Specification	U. M	Young quail (60 days)			
			Female (N 35)		Male (N 35)	
			$\bar{x} \pm s\bar{x}$	V%	$\bar{x} \pm s\bar{x}$	V%
1	Chassis length	mm	123.88±2.61	9.09	111.87±1.71	5.73
2	The length of the chest	mm	60.4±3.72	12.73	61.98±0.24	7.08
3	Thigh length	mm	53.97±1.97	7.98	50.53±1.63	5.51
4	Length of throat	mm	49.75±3.05	11.51	54.73±3.15	7.18
5	The length of the clavicular bone	mm	37.62±1.96	10.41	39.03±1.99	8.86
6	The width of the casing	mm	38.6±1.91	4.94	39.26±1.69	7.46
7	Height of the casing	mm	59.97±3.49	13.96	54.06±1.99	6.52
8	Housing perimeter	mm	174.75±0.55	6.73	170.55±0.11	11.76
9	Forearm	mm	48.73±1.03	8.92	46.93±1.11	8.81
11	The weight. housing	g	221.15±10.3	15.01	199.51±3.21	10.18
12	Chest angle	degrees	31.17±0.59	9.17	30.71±0.62	8.73

Analyzing the data. we make the following remarks:

- The length of the casing and the thigh have recorded higher values in the chickens than in the cock;
- Differences obtained for the carcass length were 3.01 mm in favor of the females and 3.44 for the thigh width also for them;

- The length of the chest, calf and clavicular bone recorded close values in males compared to females;
- The dimensions of width, of the shell and the basin have shown values capped at the two genders;
- Thigh and calf dimensions are the same characteristics at the age of 60 days at the age

of 45 days. The drumstick of chicks has a longer thighs and shorter thighs. but these are contrary to the male.

- The height of the carcass is higher in the male, with an average value of 54.6 mm far superior to that of the females that recorded 49.97 mm.

Table 5. Results on slaughter of quails aged 60 days

No crt	Specification	Female		Male	
		$\bar{X} \pm S\bar{X}$	V %	$\bar{X} \pm S\bar{X}$	V%
1	Live body weight (g)	282.25±9.35	10.23	257.66±10.73	12.45
2	Housing weight (g)	232.33±10.3	15.01	204.99±3.21	10.18
3	Chest with bone (g)	89.79±3.41	15.69	83.01±4.32	15.49
4	Thighs (g)	87.05±3.61	16.3	81.86±2.26	9.65
5	Abdominal fat (g)	5.33±0.21	7.09	3.66±0.11	8.33
6	Weight of offal (g)	21.75±0.56	5.19	20.0±0.48	4.28
7	Weight of non-edible parts (g)	14.0±0.91	13.01	14.33±0.87	8.13
8	Slaughter yield (%)	82.39±13.1	9.13	79.56±9.1	11.03

- the young quails aged 60 days. the average weight of the female housing was 10.3 g ± 232.33 and 204.99 ± 99 the male slaughter with a yield of 82.39% hot. female and 79.56% in males.

- the amount of abdominal fat was higher in females than in males. the difference between the two sexes being 1.99g.

- as anatomical parts. the chest and pulp represented 84% of the carcass weight in females and 82.63% in males.

- these values show that the parameters analyzed were influenced by gender. for all the characters being tracked.

Morphological characterization of carcasses obtained from adult quails.

Adults were sacrificed at the end of the operating period. at the age of 1.6 years (78 weeks).

The results obtained from measurements on the housing are presented in Table 6.

Table 6. The main dimensions of the Faraon adult female carcasses

No crt	Specification	UM	Female (N=35)		Male (N=35)	
			$\bar{x} \pm s\bar{x}$	V%	$\bar{x} \pm s\bar{x}$	V%
1	Length of the casing	mm	97.35±0.81	4.39	92.76±1.24	4.84
2	Chest length	mm	61.16±0.68	6.09	62.76±1.73	9.94
3	Thigh length	mm	54.94±0.86	6.47	50.92±10.69	7.83
4	Length of calf	mm	50.05±0.01	8.47	56.61±1.05	6.69
5	Housing perimeter	mm	188.3±0.18	4.14	174.33±1.49	3.22
6	The length of the clavicular bone	mm	31.81±0.2	7.21	34.6±0.59	6.77
7	The width of the chest	mm	42.99±0.96	12.7	39.69±1.56	14.18
8	Chest angle	grade	33.35±0.92	6.06	31.8±0.79	5.73

It was found that:

- the length of the female housing registered a value of 97.35 mm and 92.76 mm from the male;

- thigh and calf length dimensions show that in females, the thigh is longer than the hammer, the average values being 54.94 mm for the thigh and 50.05 mm for the thigh;

- chest width in females was 42.99 mm. and the basin 40.57 mm. and in males the values were close. the carcass width was 39.69 mm. and the basin 38.66 mm;

- the clavicular bone is longer in male than in female. and in chest angle. it is lower in males;

- the highest variability was recorded in chest and basal width of 14.18%. respectively 13.86% in males and 12.77% in chest width in females. and in other sizes the variability was less than 10%;

- the carcasses obtained from adult females were beautifully conformed with average lengths and widths with a short clavicular bone and a chest angle of 33.3 degrees;

- the male casing was characterized by a more elongated appearance, with the widths close in value. the sock had a longer length. which is more obvious in the case;

- as for breast muscles, females are more developed than males;
- the females chest muscles are more obvious, and that of the copan has small differences between the length and width dimensions;

- the male casing has an elongated shape with less obvious pectoral muscle, and the drumstick musculature more developed in the muscles of the gamba.

The results obtained from the slaughter of adult quail are shown in Table 7.

Table 7. Results on the slaughter of adult quail

No	Specification	UM	Female (N=35)		Male (N=35)	
			$\bar{x} \pm s\bar{x}$	V%	$\bar{x} \pm s\bar{x}$	V%
1	Live weight	g	358.7±7.19	11.32	316.4 ±5.01	12.35
2	Carcass weight	g	274.6±5.11	8.82	234.25±7.95	9.09
3	Chest weight with bone	g	113.5±0.62	14.3	92.44±0.17	11.55
4	Thigh + thigh weight	g	87.05±3.61	16.3	85.85±3.04	11.49
6	Weight of edible organs	g	17.54±0.24	6.05	15.36±0.26	4.49
7	Incomprehensible weight	g	27.4±3.24	3.57	28.35±0.26	3.97
8	Abdominal fat	g	6.16±0.11	7.7	2.3±0.27	8.12
9	Slaughter yield	%	76.54±7.11	9.19	74.42±11.3	12.04

Following the analysis of the table presented. we conclude that:

- the average adult female carcass weight was 274.6 g. Of this weight 113.5 g was the chest with bone and the thigh and shank recorded 87.05 g;
- the male yield at slaughter in females was 56.54%, superior to that presented by the literature (Genchev et al. 2010; Jiang et al., 2011; Tilski et al., 2011);
- the average carcass weight in males was 234.25 g, of which the chest was 92.44 g and the 85.85 g;
- the yield at slaughter was 74.12%. the highest value recorded for the biological material on which our researches were

performed, compared to the ones presented by the literature;

- edible organs (liver, heart, lung, rhinoceros) showed small differences (2.18 g) between the two sexes. Bigger differences were registered in inedible parts, here entering ovary weight and the female reproductive system that weighs more than the testes in males;
 - abdominal fat is higher in females. as it has been found that they normally have less metabolic activity than the male, as well as the presence of estrogenic hormones. cause a higher amount of adipose cells (the authors).
- The participation of the various anatomical parts in the carcass structure shows differences in the two sexes as shown in the Table 8.

Table 8. The participation of various anatomical parts in the body structure of adult quail

No crt	Specification	UM	Female	Male
1	Live weight	%	g	g
2	Carcass weight	%	76.54	74.12
3	Head + legs	%	11.35	8.59
4	Blood	%	2.56	2.77
5	Edible items	%	4.89	4.85
6	Incomprehensible parts	%	6.52	5.48
7	Chest with bone	%	41.33	39.50
8	Thigh + thigh	%	31.70	36.68
9	Chest box	%	18.75	17.91
10	Abdominal fat	%	2.24	0.98

By analysing the Table 8, we can highlight some important aspects as follows:

- of live weight. head and legs represent 11.35% for females and 8.99% for males;
- the amount of blood in the two sexes does not show any essential differences. with values

ranging between 2.56% in females and 2.77% in males;

- small differences between genders were recorded in both ofal and non-edible parts;
- over 30% participation in both sexes was recorded at the weight of the thigh and calf. and the bone chest had the highest;

- percentage of participation. with values ranging from 39.5% in males to 41.33% in females.

The following table summarizes the evolution of the carcass dimensions in the three age categories (adults. youth 45 days and 60 days). the two sexes (Table 9).

Table 9. Carcass measurements of studied biological material

Specific-ation	Adult quail				Young quails (45 days)				Young quails (60 days)			
	Female		Male		Female		Male		Female		Male	
	$\bar{x} \pm s\bar{x}$	V%										
Carcass length	97.35±5.81	4.39	92.76±1.24	4.84	87.43±2.21	4.18	87.07±2.71	8.73	93.88±2.61	9.09	90.87±1.71	5.73
Chest length	61.16±0.68	6.09	62.76±1.73	9.94	59.35±1.44	7.17	60.97±0.81	7.23	60.4±3.72	12.73	61.98±0.24	7.08
Thigh length	54.94±0.86	6.47	50.92±0.69	7.83	52.01±1.11	6.41	48.5±0.63	6.82	53.97±1.97	7.98	50.53±1.63	5.51
Length of throat	50.05±0.01	8.47	56.61±1.05	6.69	49.01±1.10	6.46	54.16±1.09	9.51	49.75±3.05	11.51	54.73±3.15	7.18
Long clavicular bone	41.81±0.2	7.12	39.6±0.59	6.77	35.4±1.61	5.81	38.7±1.8	7.52	37.62±1.96	10.41	39.03±1.99	8.86
Large housing	42.99±0.96	12.77	39.69±1.56	14.18	34.44±1.94	14.06	36.62±0.77	10.92	38.6±1.91	4.94	39.26±1.69	7.46
Height of the casing	57.53±0.74	6.81	57.01±1.13	7.15	47.5±0.89	4.92	53.96±0.61	5.78	49.97±3.49	13.96	54.06±1.99	6.52
Housing perimeter	188.3±0.18	4.14	174.33±1.49	3.22	170.0±1.01	17.59	163.5±1.01	13.55	174.75±0.55	6.73	170.55±0.11	11.76
Chest angle	33.35±0.92	6.06	31.18±0.79	5.73	30.01±0.51	8.17	29.01±0.79	9.72	-	-	-	-
Live weight	358.7±7.19	11.32	316.43±5.01	12.35	265.5±23.94	18.01	244.7±7.43	12.95	282.25±9.35	10.23	257.66±10.73	12.45
Carcass weight	274.6±5.11	8.82	234.25±7.95	9.09	208.15±10.3	15.01	189.51±15.78	10.18	221.15±10.3	15.01	199.51±3.21	10.18

From the analysis of the table. we highlight some interesting aspects:

- from the young we can conclude an increase in all dimensions. with age. the changes are different depending on sex;
 - the length dimensions of the casing and the chest achieve at the age of 60 days values close to those of the adult. both sexes;
 - the length of the thigh and calf have reached 99% in the adult at the age of 60 days. both the male and the female;
 - males at the age of 60. it is found that the length of the clavicular bone and the width of the carcass have the same values (with small differences) compared to adult males;
- differences between the two sexes occur from the age of 45 days and continue until the adult age. the obvious gender differences are in the chest and limbs.

CONCLUSIONS

Main characteristics. something that must be used to characterize them frequently.

The dimensions of the housing determine the size of its own weight and of the various portions of commercial

The male and female youth of quails from the pharaoh meat line were analyzed at two different age groups. namely 45 and 60 days. coinciding with the installation of sexual maturity.

At the age of 45 days it was found that measurements of the length of the casing in the

two sexes are favorable chicks. with the exception of the length of the carcass. and the length of the forearm which favors the male.

At the age of 45 days the dimensions show great differences between genders. the values oscillate between 34.44 mm in the females and 36.62 in the males. and the basin was 32.44 in the chicks and 33.44 in the cocks.

Elevation. angles and perimeter measurements were favorable for females.

Sacrifice at the age of 45 showed that carcasses are obtained whose weight was 208,5±15g for females and 181,03 for males.

The slaughter yield was 78.39% in females and 77.56 in males.

The anatomical parts with the highest participation in the carcass structure were the chest and the drumstick with different values for the two sexes. being of value to the puppies. They represent 62.67% in males and 71.35% in females.

Measurements on the sacrificial quail housing at the age of 60 showed that they tended to grow in both females and males.

The length measurements had a larger increase compared to the width. which is closer to the adult value.

In females there is a higher weight gain of non-edible organs and abdominal fat. and in the rest of the components the changes are smaller.

The slaughtering results analyzed on anatomical portions show that the growth tendency is maintained in all carcass components. with the indication that in males

the differences between muscle masses from one period to another are more pronounced than in chickens.

In the population of adult quail, it was found that the chickens achieved higher chest and chest lengths than males. and the width of the basin and chest is superior to the cocks.

The clavicular bone was shorter in adult quail and defines a broader angle. and the male bone is longer. the angle of the chest is sharper, causing the pectoral muscles to change.

Adult slaughtering results show that carcass weight was higher in females than in males, and all the other components analyzed were in favor of females.

Research has shown that there are gender and age differences in all aspects investigated. starting with carcass morphology and ending with slaughtering results.

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