

MORPHOLOGICAL STUDY CONCERNING THE REPRODUCTION HORSES FROM ROMANIAN TRĂPAȘ BREED FROM JEGĂLIA STUD

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Abstract

Research was carried out on the herd of 39 horses, respectively 28 mother mares and 11 stallions, which constituted the reproduction nucleus of Romanian Trăpaș breed, from Jegălia Stud, in 2013. Horses were assessed based on data obtained from usual measurements (waist, thoracic perimeter and shinbone perimeter) performed at the annual evaluation. Results obtained regarding waist showed that it had average values of 154.68 ± 0.59 cm at mares, respectively 157.36 ± 1.17 cm at stallions. Thoracic perimeter had an average value of 173.82 ± 1.01 cm at mares, respectively 185.18 ± 3.58 cm at stallions, and shinbone perimeter had mean values of 18.80 ± 0.15 cm at mares and 21.09 ± 0.59 cm for stallions. In light of these results it has been observed that the studied herd is presenting as a homogenous batch concerning the three studied characters. The obtained data gathered after measurements fits into breed standard and justify horses promoting/maintenance into stud breeding nucleus.

Key words: equines, mares, stallions, stud, measurements

INTRODUCTION

Romanian Trăpaș is a breed, whose formation was outlined in the first half of last century, mainly based on American Trăpaș blood (80%) and in a lesser degree blood from Trăpaș belonging to Orlov and french breeds, but also from English purebred [3], [5], [6], [8], [11], [12].

After a periplus on several studs, at present, breeding of the breed in our country is divided between Dor Mărunt and Jegălia Studs, both from Călărași County.

Over time, specialists who have occupied with the Romanian Trăpaș growth, continuously sought to improve the ability of the main characters that influence the main aptitude of the breed namely, speed movement, in the allure of the trot.

Through this study we try to bring a small contribution to the knowledge of morphological aspects with influence over the performances obtained by Trăpaș horses.

MATERIAL AND METHOD

The biologic material was represented by mares' mother and stallions, which constituted the reproduction nucleus of Romanian Trăpaș breed from Jegălia Stud, between 2012 and 2013, according to the data registered in the book of the unit.

Characters that were the subject of the study are: waist, thoracic perimeter, shinbone perimeter. Measurements were effectuated using the usual tools, respectively zoo-meter, and ribbon [2], [4], [7], [9], [10], [13].

Data obtained from measurements were statistically processed [1].

RESULTS AND DISCUSSIONS

Data obtained from measurements were statistically processed and summarized in table 1.

According to these data it can be seen that the waist of the animals taken in study had values which oscillated between 149 and 164 cm, at mares and between 150 and 164 cm, at stallions, with a mean value of the herd of 155.44 ± 0.56 cm, respectively lower in mares case of 154.68 ± 0.59 cm, and slightly higher in stallions case of 157.36 ± 1.17 cm (fig. 1).

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From this point of view the studied batch was homogenous, in all the cases the coefficient of variation being beneath 3%.

Also, these values fit in general, within the limits stipulated for Romanian Trăpaș breed.

Regarding the thoracic perimeter, this one registered absolute values, which ranged between 165 and 187 cm, at mares and between 170 and 210 cm, at stallions. These values fit the breed standard.

Average values of this character were of 177.03±1.47 cm, for the entire population, respectively of 173.03±0.1 cm at mares, and of 185.18±3.58 cm at stallions (fig. 2).

It can be stated that from this point of view, the effective is homogeneous, values of the variation coefficient being under 7%.

Shinbone perimeter had values falling within the standard breed ranging between 17 and 20.5 cm for females, respectively between 19 and 24, at stallions, with a mean of 19.45±0.26 cm, respectively 18.80±0.15 cm, in females case and 21.09±0.59 cm in the males case (fig. 3).

Regarding this character, values of the variation coefficient were small, under 10%, so the studied batch can be considered homogenous.

Table 1 Values of the studied characters at Romanian Trăpaș equines, from Jegălia Stud

Specification	Waist (cm)	Thoracic perimeter (cm)	Shinbone perimeter (cm)	Waist (cm)	Thoracic perimeter (cm)	Shinbone perimeter (cm)
	Mares			Stallions		
n	28	28	28	11	11	11
\bar{X}	154.679	173.821	18.804	157.364	185.182	21.091
s ²	9.634	28.597	0.636	15.055	140.564	3.791
s	3.104	5.348	0.797	3.880	11.856	1.947
$\pm s\bar{x}$	0.587	1.011	0.151	1.170	3.575	0.587
V%	2.007	3.076	4.241	2.466	6.402	9.232
MIN	149.000	165.000	17.000	150.000	170.000	19.000
MAX	164.000	187.000	20.500	164.000	210.000	24.000

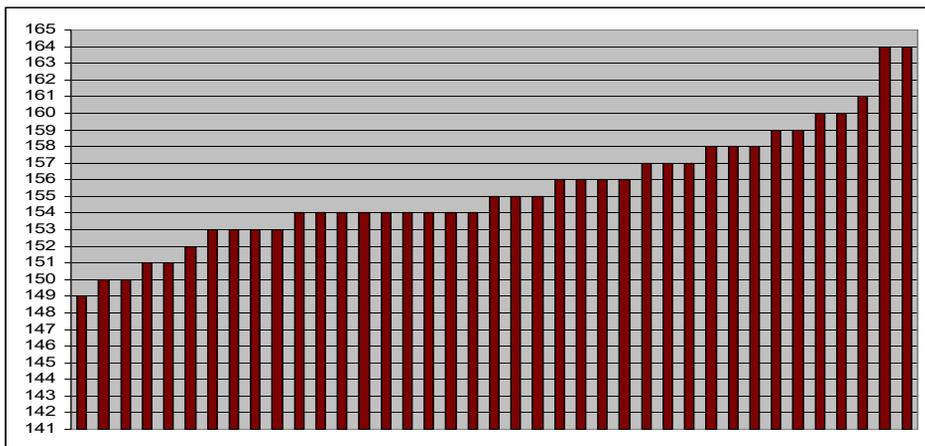


Fig. 1 The mean values of waist within the studied equine population (cm)

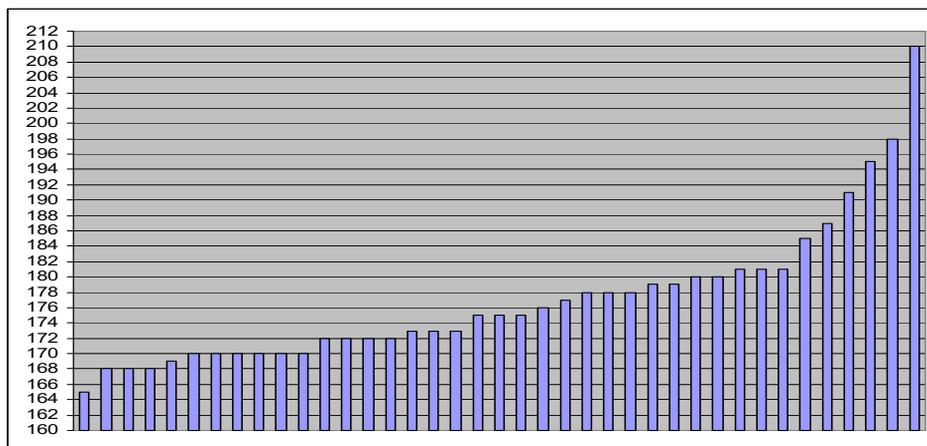


Fig. 2 The mean values of thoracic perimeter within the studied equine population (cm)

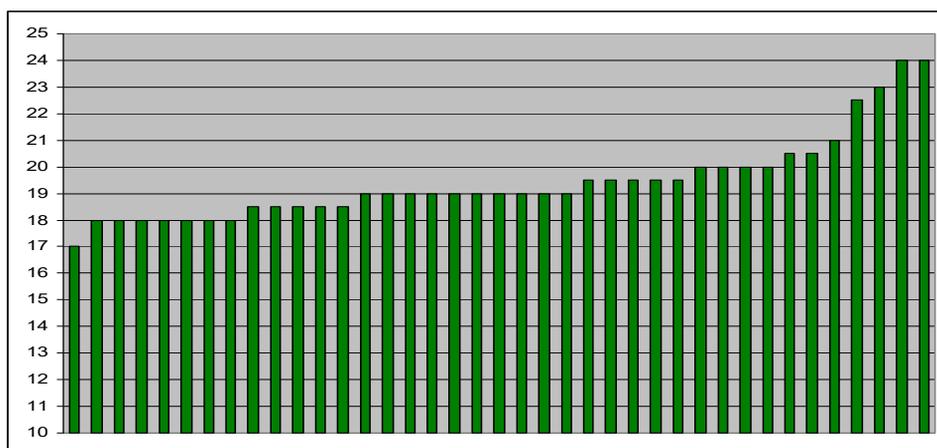


Fig. 3 The mean values of shinbone perimeter within the studied equine population (cm)

Data obtained from body measurements indexes, respectively: dactyl-thoracic index, served for calculation of some corporal body index and massive index (table 2).

Table 2 Mean values of the body indexes calculated for Romanian Trăpaș equines, from Jegălia Stud

Specification	Dactyl-thoracic index	Bone index	Massive index	Dactyl-thoracic index	Bone index	Massive index
	Mares			Stallions		
n	28	28	28	11	11	11
\bar{X}	11.041	13.522	122.519	11.208	13.640	121.710
s ²	0.188	0.358	16.630	0.113	0.245	10.168
s	0.434	0.598	4.078	0.336	0.495	3.189
$\pm s, \bar{X}$	0.082	0.113	0.771	0.101	0.149	0.961
V%	3.927	4.423	3.328	2.999	3.628	2.620
MIN	10.106	12.418	113.924	10.417	12.658	117.500
MAX	11.622	14.765	132.667	11.622	14.286	125.974

The dactyl–thoracic index had similar values for both sexes, ranging between 10.42 – 11.62%, at stallions, and respectively 11.65 – 11.69% for mares, population acting as a homogenous batch.

In comparison, the bone index had similar values at stallions (12.66 - 14.29%) and females (12.42 - 14.77%), the studied population being homogenous from this point of view.

Regarding the massive index, this one had medium values which oscillated, between 117.50 and 125.97% at stallions, respectively between 113.92 and 132.67% at mares.

From this point of view the studied population was homogeneous, the variability coefficient having values under 5%.

In general stallions present a superior body development to mares, being in general more robust.

At the same time, about the analyzed mares it can be stated that they have an adequate development, fact which allowed them to promote in the breeding nucleus.

CONCLUSIONS

Following the study conducted over the effective of mares' mother and stallions, from Romanian Trăpaș breed, from Jegălia Stud the following conclusions were drawn:

- **waist** of the studied stallions had an average value of 157.36±1.17 cm;

- **wais** of the analyzed mares' mother had an average value of 154.68±0.59 cm;

- **thoracic perimeter** at stallions had an average value of 185.18±3.58 cm;

- **thoracic perimeter** at mares' mother had an average value of 173.03±0.1 cm;

- **shinbone perimeter** at stallions had an average value of 21.09±0.59 cm;

- **shinbone perimeter** at mares' mother had an average value of 18.80±0.15 cm;

- for both sexes the three studied characters had values that were usually within the breed standard;

- **dactyl-thoracic index** for the studied population had an average value of 11.01±0.07%;

- **bone index** for the studied population had an average value of 13.30±0.11%;

- **massive index** for the studied population had an average value of 120.87±0.79%;

- the studied herd was homogenous concerning the three studied characters, coefficient of variation being beneath 10 %.

- The obtained data from this study fits within the limits of Romanian Trăpaș breed standard

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